Changing Cultural Dynamics in Prehistory on the Yorkshire Wolds

Volume II of II

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Appendix A: Site Gazetteer

A.1 Introduction

This appendix provides synopses of all prehistoric sites on the Yorkshire Wolds that have produced human remains and are being directly used for this thesis. The overview provides details of the history of the site in terms of who excavated it and what was found. The information that has been compiled is as a result of a desktop assessment of the available publication data from academic and scholarly resources, in addition to a number of unpublished sources provided by excavators. Beyond the sites described below, several additional prehistoric sites have been proposed by Chris Collyer of the website www.stone-circles.org.uk, however there are no published sources or records to validate these sites, and as such they have not been included in this gazetteer. The purpose of this extensive analysis is to illustrate the range and depth of prehistoric data available for the Yorkshire Wolds as a result of hundreds of years of antiquary and archaeological interest. Although there has been a massive amount of fieldwork on the Wolds with a particular focus on funerary monuments, no one has previously collated all of the data into one place. This data should be seen as comprehensive information for other scholars who might be interested in further analysis in the future, as well as a testament to the number of individuals and groups who have spent their lives exploring the Yorkshire Wolds.

A.2 The Greenwell and Mortimer Collections

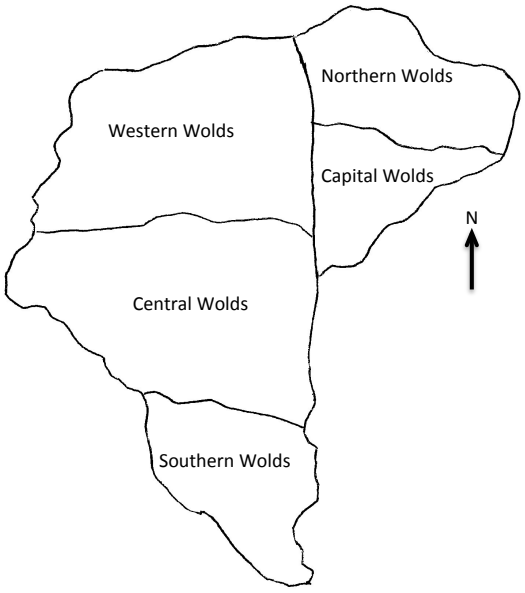
As will be clearly evident, both JR Mortimer and Canon Greenwell were the most prolific antiquarian excavators and as such they left behind extensive collections attributed to the various sites they examined. These collections are in the form of human remains, animal remains and artefacts with the Greenwell Collection housed at the Natural History Museum and the JR Mortimer Collection at the Hull and East Riding Museum. Unfortunately and as a result of a number of contributing factors beginning with the excavation and ending with the curation of these remains, neither collection is complete. Although it was endeavoured to determine the current make-up and preservation levels of the human remains from each site, due to museum access limitations at both institutions it was not possible to assess every site. Therefore, the information that is presented below is based on the original excavation reports as well as any supplementary data that may have contributed to the understanding of the current state of the collection. As Gibson and Bayliss (2009) confirmed with their reanalysis of the Neolithic Duggleby Howe remains, the collections have lost a considerable amount of the individual bones, and in some cases multiple individuals since their discovery over a century ago. Unless explicitly stated, the sites should not be considered complete. Finally, the location of the remains is also quite varied, owing to the multitude of individuals

whom have participated in fieldwork. Therefore, although certain institutions are suggested, their actual presence has not been independently verified.

A.3 Site by Site Analysis

A.3.1 The Yorkshire Wolds

The region, encompassing an area of over 1350 km^2, contains a mixture of landscapes, land uses and material remains spanning the Mesolithic to the modern period. As a result of early land use and modern agricultural practices, many of the once prominent funerary monuments have suffered irreparable harm and in many cases complete obliteration. What follows is a comprehensive site by site analysis exploring the range of prehistoric sites with human remains. As the area is so large, it was felt that dividing it up into five regions (northern Wolds, capital Wolds, western Wolds, central Wolds and southern Wolds) would be the most straightforward methodology to assess and report on the finds, though the division was largely arbitrary and in no way denotes real cultural, ecological or geographic differences (Map A.1).



Map A.1: Regional divisions of the Yorkshire Wolds.

At every opportunity it was endeavoured to include detailed information regarding the excavators, the nature of the operation and the human remains uncovered. If any details within these respects are lacking, it is due to an incomplete publication or excavation record. Additionally, where the data allowed, charts were created to detail the demographics, burial form and burial mode for each site. As a result of the combination of a variety of types and qualities of excavations it was decided to include four demographic categories, unsexed adults for all of those listed as such or simply referred to as adults within the texts, adult males, adult females and subadults which includes birth to approximately age eighteen, when

such details are noted. In the absence of specific information, if an individual was referred to as young person or youth, it is assumed they were not adults. Burial form was determined to be single or multiple, as often the publications did not provide more detail. Finally, burial mode included inhumations and cremations. Inhumations were identified based on the presence of skeletal elements, however, if there was a reference to bones being burned or affected by fire, they were placed in the cremation category. If however, they were recorded as being adjacent to fires or burning embers but not specifically identified as being burned themselves, they were noted as inhumations.

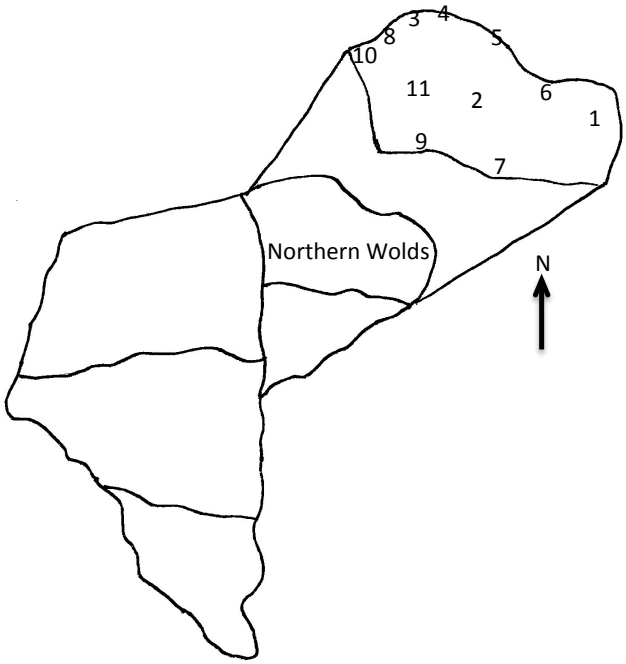
Beyond the charts, every attempt was made to provide a schematic of each site with more than two barrows, if enough information was available, in order to convey the spatial relationship of the barrows to one another, these however are not to scale. Long barrows are represented by rectangles, round barrows by circles, and square barrows by squares. If specific barrows or portions of the site were detailed as being on certain named lands, they were identified as such with opaque demarcations. Finally, as each barrow was customarily numbered, those identifiers were labelled for each barrow and the corresponding table identifies the demographic and burial methods for each. In some instances, such as at Danes Graves, the dominant burial, a single unsexed adult, applied to a majority of the barrows and as such they were left out of the table to conserve space, but were identified in the schematics in green. In lieu of these barrows, those listed in the table are the barrows that differed from the norm. More recent excavations, such as those conducted by Stead and Brewster did not detail the exact finds for each individual barrow, therefore that information was not available to convey. In addition, the modern excavations that were published, or made available, generally, as a rule were accompanied by site plans and they have been reproduced here instead of recreating the same information with schematics.

Where available, radiocarbon dates are presented to provide absolute dates to sites. Due to the varied nature with which these are presented, where data, including sample number or material, is not listed, it was not provided in the publication. Often it was necessary to calibrate various dates including those presented as BP and those as bc, and this was done through the University of Oxford OxCal 4.1 online application. In each case they are clearly labelled in each table. In several instances additional bioarchaeological work has been conducted on a number of sites, this information is also presented as published and adds to the overall prehistoric human remains record available for the Yorkshire Wolds.

A.3.2 The Northern Wolds

The northern Wolds are bordered to the north by the edge of the upper hills of the Wolds before it drops down into the Vale of Pickering, the east by the coast, the south along the villages of Swaythorpe, Rudston and Bridlington and the west by Foxholes and Willerby Wold.

Eleven sites in the area have prehistoric human remains including three multiphase sites of Caythorpe (Bronze Age to Iron Age), Rudston (Neolithic to Iron Age) and Willerby Wold (Neolithic to Bronze Age) and the Neolithic site of Wold Newton. Six of the sites date to the Bronze Age (Bempton, Flixton, Folkton, Hunmanby, Staxton Beacon and Thwing) and one, Burton Fleming to the Iron Age (Map A.2).



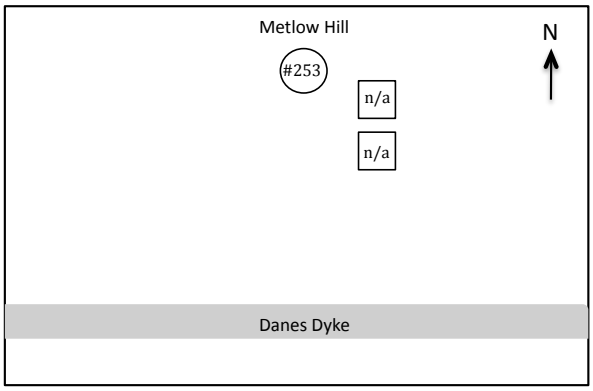
Map A.2: Map of northern Wold site locations.
Sites: 1: Bempton, 2: Burton Fleming, 3: Flixton Wold, 4: Folkton Wold, 5: Hunmanby, 6: Reighton, 7: Rudston, 8: Staxton Beacon, 9: Thwing, 10: Willerby Wold, 11; Wold Newton.

A.3.2.1 Bempton

The site is located on the far eastern edge of the northern Wolds and was explored by Greenwell prior to 1890. Only one Bronze Age round barrow, named Metlow Hill and numbered 253, was visible and upon excavation, one young subadult was discovered along with the disarticulated remains of at least one additional unsexed adult spread throughout the mound (Table A.1; Greenwell 1890: 29). As Greenwell excavated this site it is assumed the skeleton became a part of the Greenwell Collection. More recently, in a coastal assessment, Brigham and co-workers (2008) reported that in addition to the single barrow at Metlow that Greenwell examined were two Iron Age square barrows. They also stated, in an adjacent area four further round barrows were visible, however none of these have been excavated further as they are currently not under threat (Brigham *et al* 2008: 32). As these barrows have not been opened, they have not been assigned barrow numbers. Therefore in Map A.3 they remain unnumbered.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
253	1	0	0	1

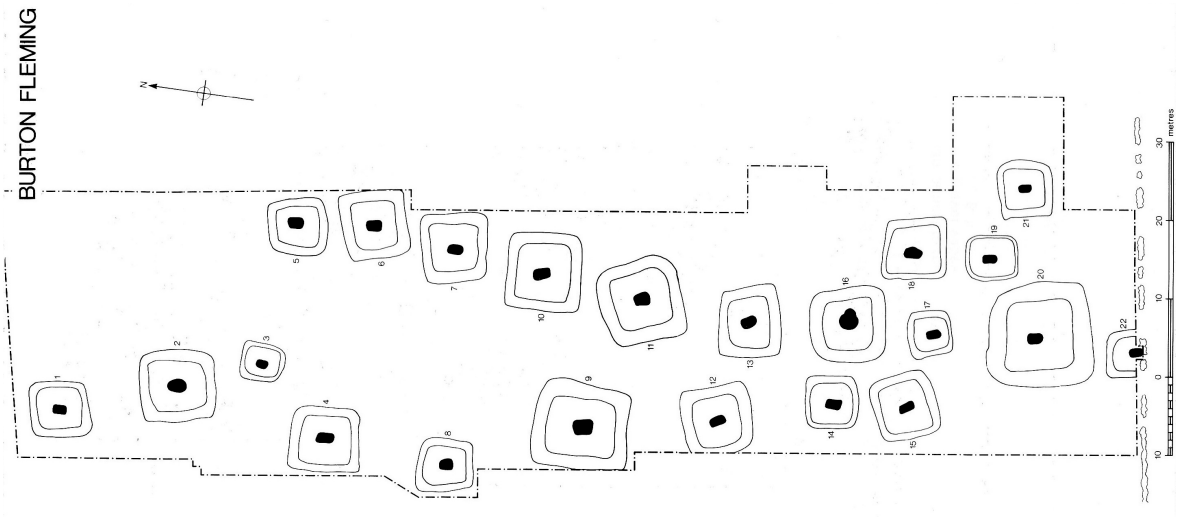
Table A.1: Osteological findings at Bempton.



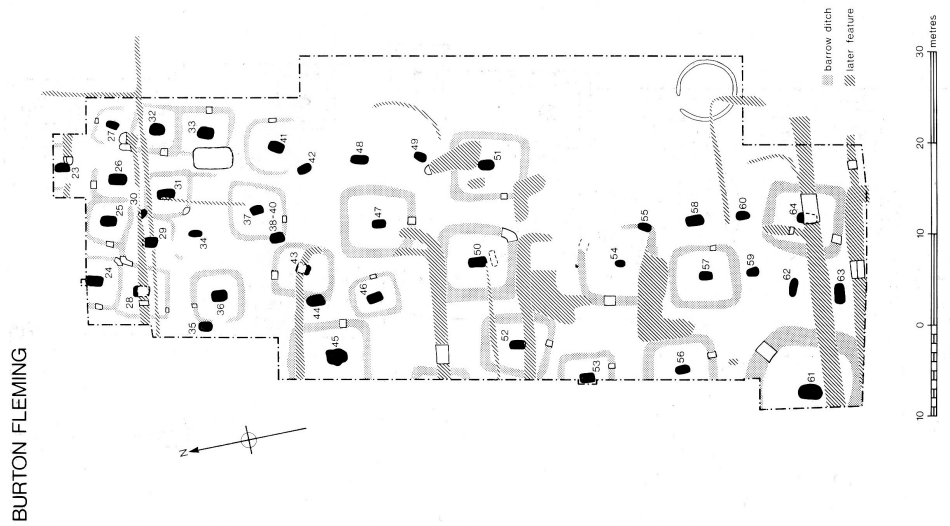
Map A.3: Schematic representation of barrows at Bempton.

A.3.2.2 Burton Fleming

The site was discovered by aerial reconnaissance of the lower slopes of the northern Wolds in 1964 (Whimster 1981: 77). Three years later Stead began an extensive excavation that lasted until 1978. The area was separated into two sites, Burton Fleming with 21 burials (Map A.4) and Bell Slack with 43 burials (Map A.5) respectively.



Map A.4: Site plan of Burton Fleming (Stead 1991: 18).



Map A.5: Site plan of Bell Slack at Burton Fleming (Stead 1991: 19).

With the exception of a double female burial at Bell Slack, all of the individuals were given single, discrete inhumation burials. Although the two Iron Age cemeteries were distinct from one another, in her analysis, Sheelagh Stead considered both populations together, largely due to their small sample numbers (Stead 1991: 126). Through an osteological examination by Sheelagh Stead it was found the total population of the two amalgamated sites was 62 individuals (Stead 1991: 128; Figure A.1) though a barrow by barrow breakdown of discoveries was not published, and therefore it was not possible to detail the findings further.

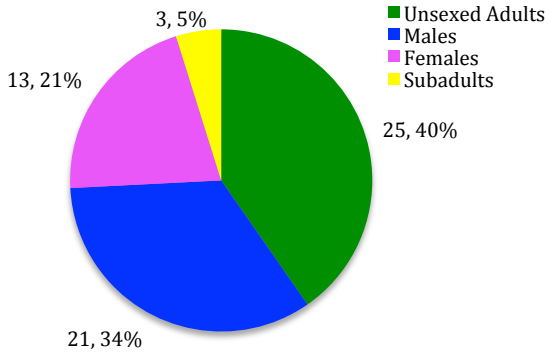


Figure A.1: Demographic profile of Burton Fleming.

Overall the preservation levels of this population were less then ideal with every skeleton missing multiple skeletal elements, which can be illustrated by the number of non-sexed adults. Generally the dental health of the group was better then average with only a few individuals with caries and only one individual exhibiting LEH (Stead 1991: 128). Pathologically, two individuals demonstrated the partial sacralisation (or fusion) of their fifth lumber vertebra to their sacrum, one male had a healed clavicle fracture, and a female may have had an infection in her palate. Additionally, one young male may possibly have had polio, a female may have had a benign cranial tumour and one female displayed extensive osteoarthritis throughout her entire skeleton (Stead 1991: 135-9). Overall this population of

62 did not exhibit high incidences of any pathologies or traumas. Stead's collection is currently housed at the BM.

A.3.2.3 Caythorpe

Due to the construction of a gas pipeline along a section of the northern Wolds, it was necessary in 1992 for the Northern Archaeological Association (NAA) to conduct an archaeological assessment of an area now known as Caythorpe. Although it crossed three parish boundaries (Boynton, Rudston and Burton Agnes) and included portions of both the Great Wold Valley and the Wolds summit, the assessment and findings were treated as one site (Abramson 1996: 1). Seven prehistoric skeletons from seven different areas along the pipeline were discovered; two belonged to the Bronze Age (a subadult and a possible female), while five were attributed to the Iron Age (Figure A.2).

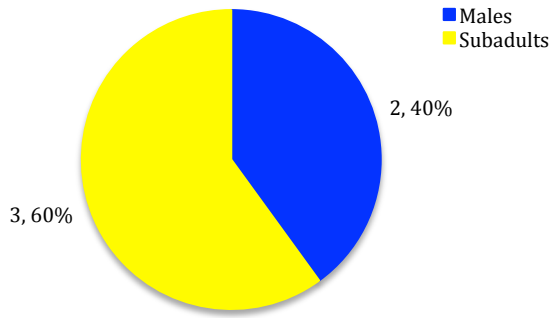


Figure A.2: Demographic profile of Iron Age Caythorpe.

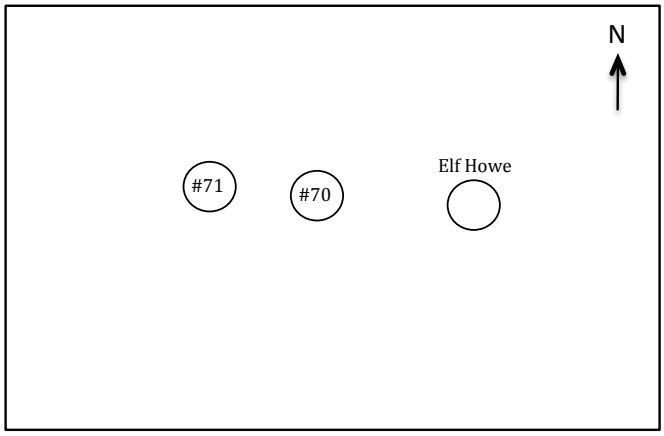
The skeletons were analysed by Boylston and Roberts (in Abramson 1996: 68) and they determined for the Bronze Age the subadult was an adolescent aged between 14 and 16 years, while the other was a possible young adult female. The adolescent exhibited dental hypoplasia, while the female had a number of small occlusal caries. Among the Iron Age sample, the subadults included an infant, a child aged between six and nine and an adolescent who was approximately 15 years, the later two of which had evidence of hypoplasia. There was also a middle adult male who presented with hypoplasia and a young or middle adult male with relatively clean and healthy teeth whose stature was estimated at 166.1 cm ± 3.37 cm (5ft. 5in.) (Abramson 1996: 69). The middle adult male was also the only skeleton complete enough for a paleopathological assessment and Boylston and Roberts theorised he may have been involved in demanding physical labour based on the compression of three cervical vertebrae and Vertebral Joint Disease (VJD) throughout the spine, while the fractured left fibula was properly aligned and healed suggesting an injury earlier in life (Abramson 1996: 71).

A.3.2.4 Flixton Wold

The site, located within the parish of Folkton, adjacent to Willerby Wold, caught the attention of Greenwell prior to 1877 and resulted in a total population of 36 people (Table A.2, Map A.6 and Figure A.3). Upon his initial inspection of three round Bronze Age barrows, he found the first, named Elf Howe was previously opened; however the nature and findings of that excavation were unknown to him (Greenwell 1877:271). In the barrows he uncovered the remains of between five and 16 people.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
Elf Howe	1:1	2	0	1
70	2	3	3	7:1
71	2:1	6	1	5

Table A.2: Osteological findings at Flixton Wold.



Map A.6: Schematic representation of Flixton Wold.

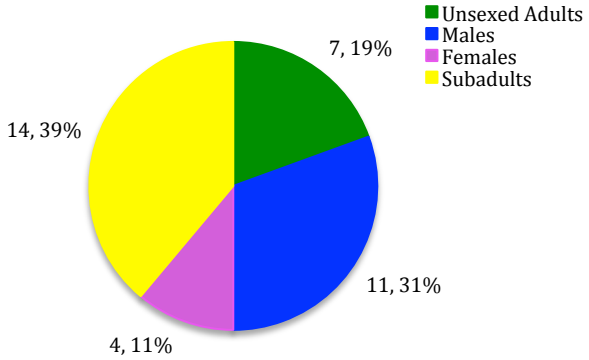


Figure A.3:Demographic profile of Flixton Wold.

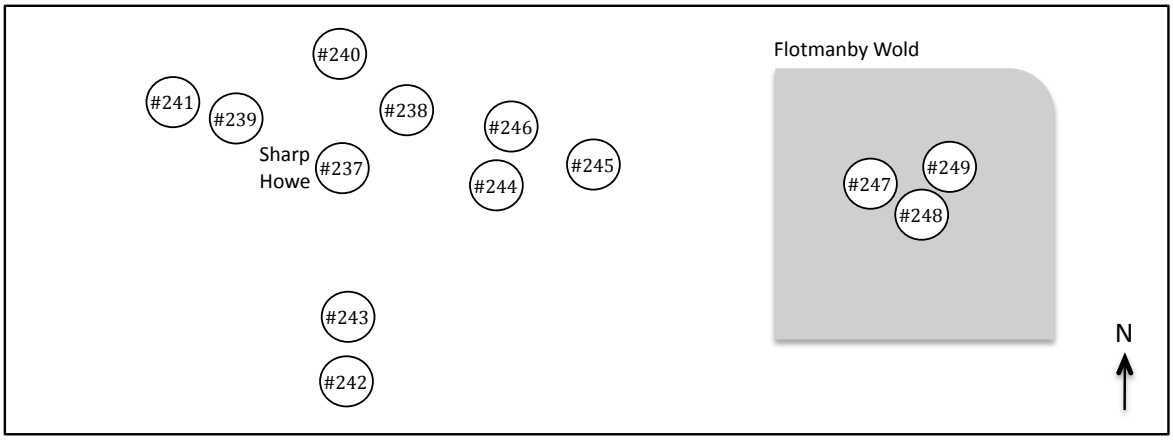
Rolleston only examined two individuals, both from barrow 71 and provided basic details. A fourteen-year-old child retained their deciduous second premolar and a female that Greenwell had aged to between 18 and 20 years was determined to actually be between 20 and 24 and 5ft. 1in. (155 cm) tall (Greenwell 1877: 705; 575). The remains are a part of the Greenwell Collection housed at the NHM.

A.3.2.5 Folkton Wold

In 1890 Greenwell published an account of his return to Folkton parish to the site he named Folkton containing 13 Bronze Age round barrows (Greenwell 1890: 5) and resulting in the discovery of 32 people (Table A.3, Map A.7 and Figure A.4). He found that three were empty; four contained the inhumed remains of singly buried individuals and the remaining seven contained multiple inhumations and cremations of between two and eight individuals (Figures A.5). Additionally, in late 1967, Brewster excavated three Bronze Age barrows, however it is unclear whether these were previously opened by Greenwell (Rutter 1968: 241), and no further information is available.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
237 (Sharp Howe)	0	0	1	0
238	1	1	0	0
239	3:1	1	0	0
240	0	1	0	0
241	1:1	0	0	1
242	4	1	0	2
244	2	0	0	1
245	2	3	1	2

Table A.3: Osteological findings at Folkton Wold.



Map A.7: Schematic representation of Folkton Wold.

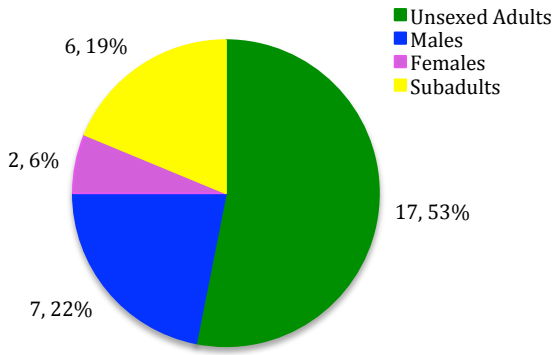


Figure A.4: Demographic profile of Folkton Wold.

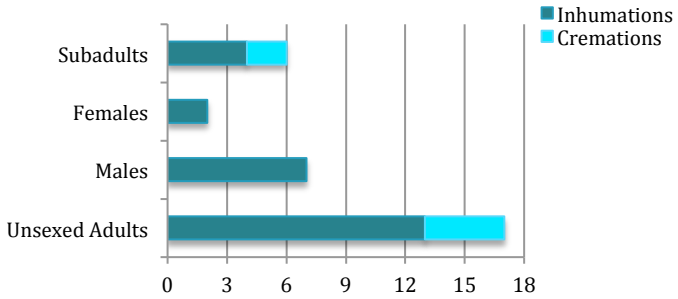


Figure A.5: Burial mode at Folkton Wold.

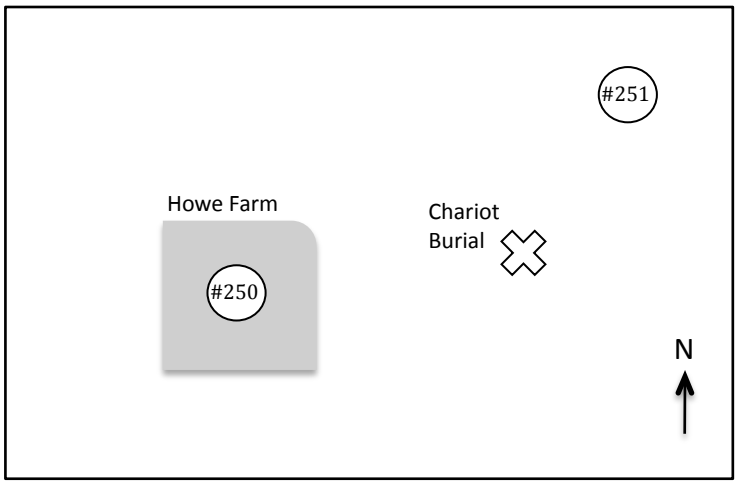
Rolleston examined one adult male from barrow 245. He determined this individual had suffered from a fracture to the left radius earlier in life and noted it had been adequately reset and healed at the time of his death (Greenwell 1890: 15). One other burial worth a special note also from barrow 245 was a five-year-old subadult. Although grave goods were very limited in all three barrows, this particular child was buried along with the now famed three Folkton 'drums' made of chalk on display at the BM. Modern osteological assessment has not been carried out for the 26 inhumations from this site though it should be housed with the Greenwell Collection at NHM.

A.3.2.6 Hunmanby

The site is located along the northern-most ridge of the northern Wolds and has garnered attention from antiquaries during the late 19th and early 20th centuries. Greenwell first noticed the presence of two barrows within the vicinity of Sharpe Howe and in 1889 opened both Bronze Age round barrows resulting in a total population of 20 people (Table A.4, Map A.8 and Figure A.6). The first, numbered 250 contained fifteen inhumed individuals and the second, numbered 251, had five (Greenwell 1890: 21). Several years later in 1907 Sheppard reported on his discovery of a chariot burial found nearby to the round barrows, however human remains were not found in the grave (Sheppard 1907). None of the individuals were osteologically assessed and it is assumed that the 20 individuals excavated by Greenwell are a part of the Greenwell Collection at the NHM.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
250	4	4	2	5
251	4	0	0	1

Table A.4: Osteological findings at Hunmanby.



Map A.8: Schematic representation of Hunmanby.

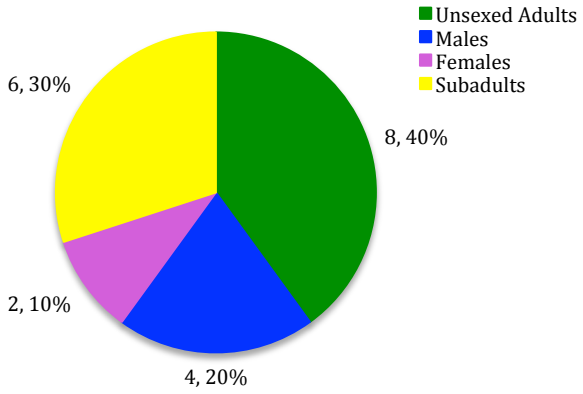


Figure A.6: Demographic profile of Hunmanby.

A.3.2.7 Reighton

In 2004 the Reighton Bypass, located in the town of Reighton on the northeast coast of the Wolds, was excavated by Archaeological Services WYAS, which led to the discovery of a single prehistoric skeleton. Radiocarbon dating was performed on the remains and they corroborated the archaeological evidence that suggested a Late Iron Age provenance (Table A.5; Holst 2004: 2).

Sample Number	Material	Date	Calibrated Date	Reference
?	Human remains	?	10 BC – AD 140 cal	Holst 2004: 1

Table A.5: Radiocarbon findings at Reighton.

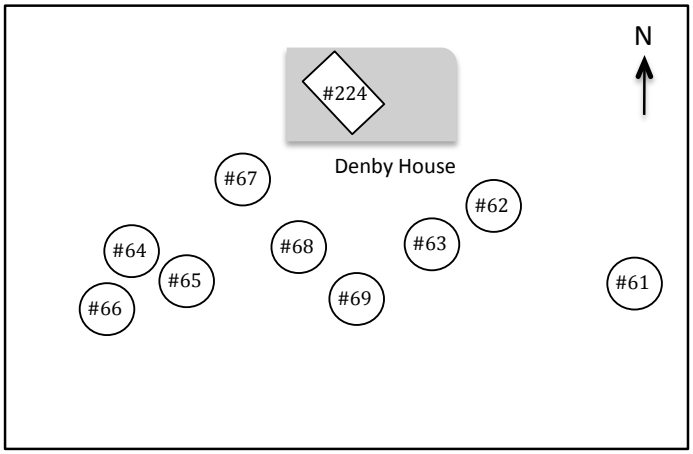
Holst examined the remains and determined them to be that of a female aged above 46 in good overall health with moderate Degenerative Joint Disease (DJD) throughout her joints and considerable Ante Mortem Tooth Loss (AMTL) earlier in life resulting in only two remaining at the time of her death (Holst 2004: 4). Holst concluded the female would have been unable to eat tough foodstuffs, suggesting a certain amount of family or community involvement in her well-being (Holst 2004: 6).

A.3.2.8 Rudston

The site is situated on the south side of the Great Wolds valley, and though well known for having the tallest standing monolith in the United Kingdom, the area has received a lot of archaeological attention and has been found to contain barrows belonging to multiple prehistoric time periods. Greenwell first excavated the site for three field seasons from 1868-70, which was followed less than a century later by several years of surface collection and field walking by the Grantham brothers between the 1950s and 1970s. During this time (1967) Stead also began opening an area adjacent to Greenwells', which lasted on and off until 1979 with the aim of determining if there were any marked differences in burials and grave goods throughout the site (Stead 1991: 17). Additionally, Pacitto re-excavated Greenwell's barrow (63), located near the end of the cursus in 1968 on behalf of the Ministry of Public Buildings and Works (MPBW), (Pacitto 1968: 246). All of these excavations resulted in a total population of 271 people; ten unsexed adults belonging to the Neolithic, and 77 individuals ascribed to the Bronze Age (Table A.6, Map A.8 and Figures A.7 to A.9), all excavated by Greenwell, and 188 attributed to the Iron Age and unearthed by Stead (Map A.10 and Figures A.10 and A.11). Most recently, Gibson (2011) undertook a geophysical survey of the Neolithic long barrow in order to deduce the location and current state of the mound. Unfortunately, although it was located, it has decreased in size as a result of plough activities which are still ongoing (Gibson 2011: 10).

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
224	2:8	0	0	0
61	1	3	2	1
62	1	4:2	5	4
63	2	4	4:1	2
64	0	1	1	0
65	0	1	0	0
66	2	0	2	3
67	1	6	4	11
68	1	4	0	2
69	0	1:1	0	0

Table A.6: Osteological findings at Bronze Age Rudston.



Map A.9: Schematic representation of Bronze Age Rudston.

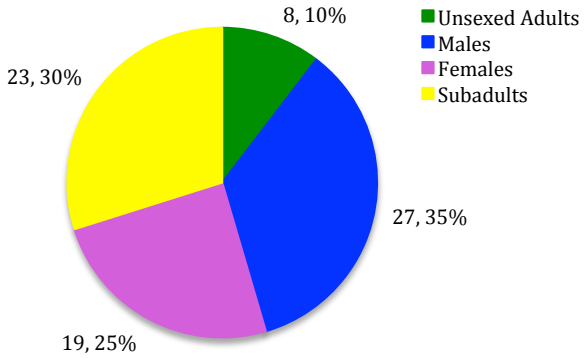


Figure A.7: Demographic profile of Bronze Age Rudston.

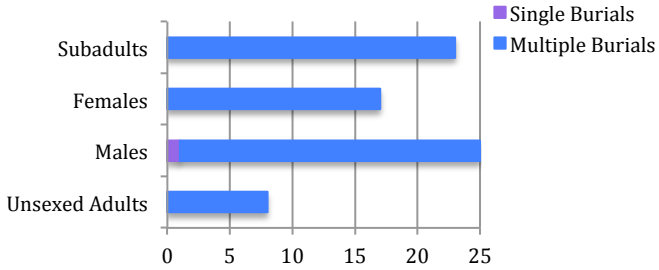


Figure A.8: Burial form at Bronze Age Rudston.

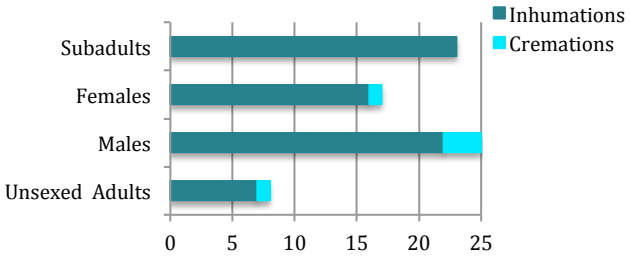
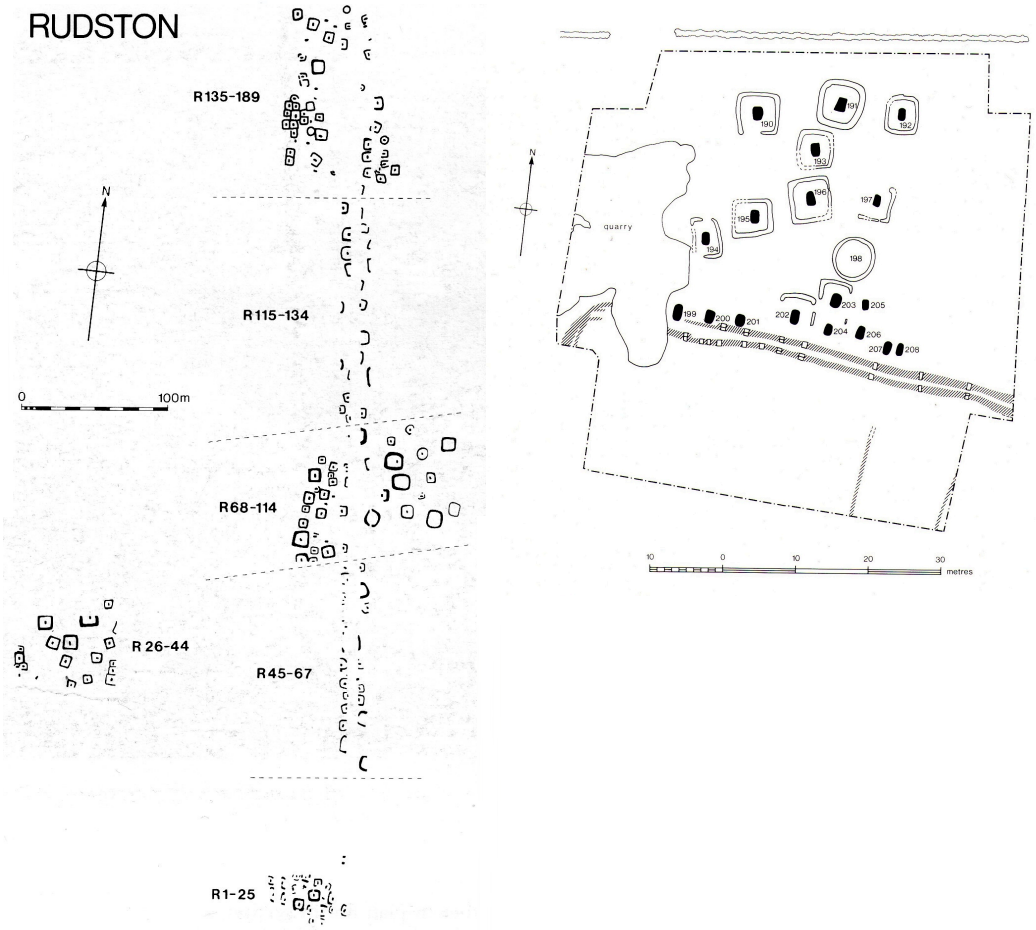


Figure A.9: Burial mode at Bronze Age Rudston.

In 1868 Greenwell found and uncovered the remains of a large Neolithic long barrow (224), named for the adjacent Denby House, with ten unsexed adults. Burnt post-holes were located, which was suggestive to him of a mortuary enclosure, as it may have been a long barrow crematorium (Greenwell 1877: 498). In 1869 Greenwell opened six round barrows, with the remains of between one and 13 individuals. In 1870 Greenwell opened three additional round barrows with between two and 17 individuals. Although Pacitto's excavation determined Greenwell had cleared the centre grave, he missed three secondary inhumations buried without grave goods as well as a cremation burial which Pacitto suggested followed the continental Bell Beaker custom as opposed to the indigenous practices from the earlier period (Pacitto 1972: 21).

Between 1969 and 1974 Stead excavated 149 barrows within the Rudston site known as Makeshift Cemetery and in 1976 he opened another section named Argham Lane exposing 18 graves resulting in a total of 188 inhumations. As a complete report detailing every find was

not published, it was not possible to create a demographic breakdown by barrow, however, 27 barrows were found to be empty or were not excavated to a sufficient depth to uncover a burial, four contained double burials, and it is believed the remaining contained single inhumations (Stead 1991: 7).



Map A.10: Site plans of Iron Age Rudston with Makeshift on the left and Argham Lane on the right (Stead 1991).

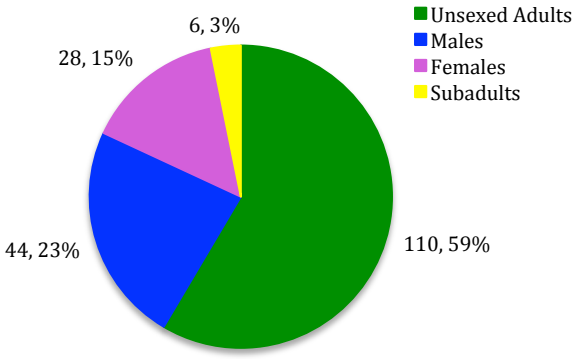


Figure A.10: Demographic profile of Iron Age Rudston.

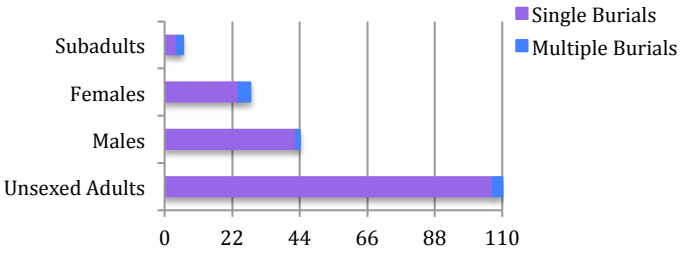


Figure A.11: Burial form at Iron Age Rudston.

Rolleston examined four individuals out of a total of 61 inhumations unearthed by Greenwell. The first was a Neolithic individual from barrow 224 and he concluded it was a male past the middle period of life with a possible premature sagittal sutural synostosis (early closure) making the skull appear longer than would have been normal for this individual (Greenwell 1877: 613). Beyond this, the male had very decayed teeth with several alveolar abscesses above his left upper premolars and third molar (Greenwell 1877: 615). The remaining three skeletons were Bronze Age in date including one from barrow 63 who was determined to be a male past the middle period of life, standing 175.2 cm (5ft. 9in.) tall with the congenital absence of a lower third molar (Greenwell 1877: 591). He further commented that the male's teeth were so worn that "in an ill-nourished individual [they] would have produced alveolar abscesses", however Rolleston did not discuss any, suggesting he believed the individual was in relatively good health (Greenwell 1877: 592). The third skeleton, from barrow 68, was also a male past the middle period of life estimated to be 172.7 cm (5ft. 8in.) tall. The final skeleton, from barrow 63 was a probable female in old age and Rolleston believed, based on the large size of the cranium relative to the face and lower jaw that she may have suffered from osteomalacia (adult rickets) (Greenwell 1877: 700). Additionally he cited the absence of all permanent molars with the exception of two on the right and one on the left side, though he did not mention whether these were lost ante or post mortem.

The secondary inhumations exhumed by Pacitto (1972) were also analysed by the author and he determined that the first, a young adult, did not exhibit any pathologies, while the second, a middle or older aged male presented with moderate to severe VJD in his spine leading to the fusion of two cervical vertebrae, along with osteoarthritis (OA) in the right elbow and shoulder joints. Pacitto (1972: 10) concluded the major joint alterations would have led to severely limited movement. The third burial was that of a female without any pathological alterations and the last, also a female, was decayed but had evidence of a small caries.

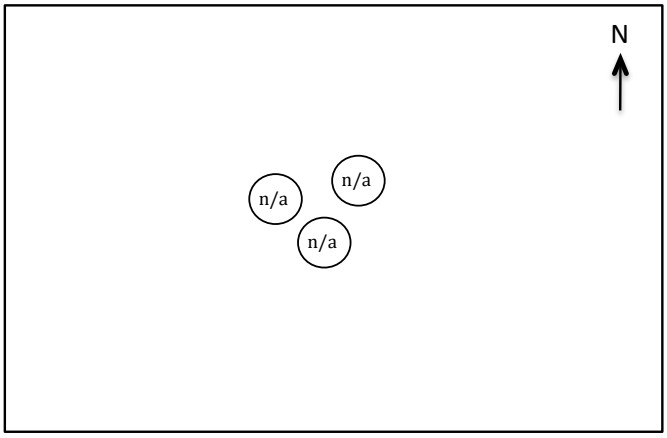
The 188 inhumations excavated by Stead were osteologically and paleopathologically analysed by Sheelagh Stead. Overall the general health of the population was average, however there were a number of pathologies that stood out. Four males had healed clavicle fractures, one female had a healed cranial fracture and one female had healed soft tissue trauma to her left femur (Stead 1991: 133-36). Two adults (one male and one female) had

fusions involving two vertebrae, one female had spina bifida occulta, while four individuals had evidence of LEH (Stead 1991: 139, 132). The skeletons from the two sites were estimated for stature separately and at Makeshift the males, based on 36 individuals had an average height of 171.57 cm (5ft. 7.5in.), while the 26 females had an average of 157.4 cm (5ft. 2in.). At Argham Lane, eight males produced an average stature estimate of 167.12 cm (5ft. 5.8in.) and two females had an average height of 159.69 cm (5ft. 2.8in.) (Stead 1991: 128). Overall the dental pathologies were at a minimum with only five individuals with AMTL and only three with abscesses, suggesting the dental health was actually above average. Stead did not offer any conclusions regarding the general well-being and quality of life for the population.

The entire collection is housed at the NHM, however it is known that all of the remains excavated from the Neolithic long barrow are no longer part of the collection (Kinnes and Longworth 1985: 108). The finds associated with the Grantham excavations are unknown and as such cannot be commented upon. Stead's finds are currently at the BM.

A.3.2.9 Staxton Beacon

The site contains a Bronze Age barrow group located along the northern Wolds. It is believed it was part of a cluster of barrows (with only crop marks now remaining; Stoertz 1997) that were first identified in the 1850 Ordinance Survey. In 1957 for five weeks, Stead excavated what he theorised was a Bronze Age flat cemetery on behalf of the IAM and MPBW during the construction of an adjacent filling station (Stead 1959: 129). He discovered twelve poorly preserved inhumation burials, two with Beakers. Eleven were singly buried inhumations, while two infants (under age three) were buried alongside one another in one barrow (Stead 1959: 141). In the summers of 1958 and 1959 an upstanding barrow was excavated by Manby [although it is not clear where this was in relation to those Stead opened]. The barrow was found to have ten inhumations and a cremation along with the remains of a partially burnt wooden structure (Manby 1998: 5), resulting in a total Bronze Age population at Staxton Beacon of 23 people (Map A.11 and Figure A.12).



Map A.11: Schematic representation of the Staxton Beacon barrows excavated by Stead and Manby. The barrows were not numbered.

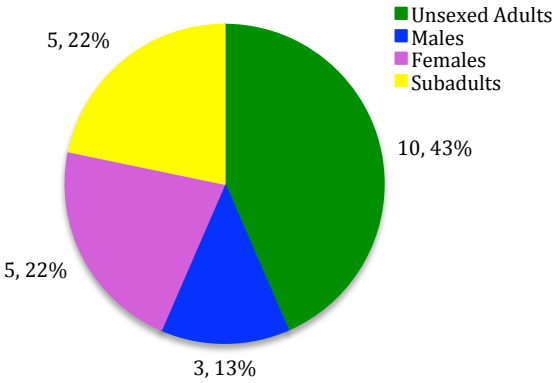


Figure A.12: Demographic profile of Staxton Beacon.

The remains excavated by Stead (1959) were analysed by CB Denston from the Duckworth Laboratory of Physical Anthropology at the University of Cambridge and it was determined there were three late young or middle aged adult males, one of whom had several caries, one with a single abscess and a third whose stature was estimated to be 177.8 cm (5ft. 10in.). Among the females, two could not be aged beyond adult; one was a young adult whose tibiae appeared flat and bowed, which suggested to Denston that she may have had poor nutrition and was estimated to stand 154.3 cm (5ft. 0.75in.) tall. A middle adult female presented with two abscesses as well as a large caries and stood at an estimated 160.1 cm (5ft. 3in.). The final female, an old adult was approximately 153.7 cm (5ft. 0.5in.) tall, had lost at least five teeth earlier in life and exhibited VJD in her lumbar vertebrae (Stead 1959: 141-2). Manby did not analyse the skeletons he unearthed, however he believes one of the inhumations was previously defleshed through excarnation before burial (Manby 1998: 7). Radiocarbon dating has not been undertaken with this site, however as a result of the funerary architecture and the grave goods, Manby believes the barrow dates to the Bronze Age. A detailed osteological, paleopathological and bioarchaeological study was conducted on the inhumations unearthed by Manby, by the present author for this thesis. The skeletal remains unearthed by Manby are located at Sewerby Hall, Beverley, however it is unclear where those excavated by Stead were stored.

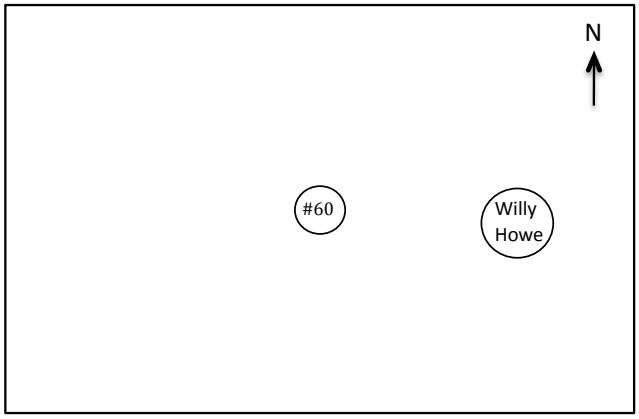
A.3.2.10 Thwing

Thwing, or Paddock Hill as the site area is also referred, is situated high on the hill in the northern Wolds overlooking the Gypsey Race. Although better known for its enclosed settlement, which was discovered by aerial reconnaissance in 1967 (St Joseph 1968: 130), Greenwell had in fact explored the area almost one hundred years earlier and Manby re-excavated for four seasons resulting in a total population of four including three unsexed adults and a male (Table A.7 and Map A.12). Greenwell found and opened one barrow

containing three inhumations along with the disarticulated remains of one unsexed adult (Greenwell 1877: 227). None of the remains were osteologically analysed.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
60	3	1	0	0

Table A.7: Osteological findings at Thwing.



Map A.12: Schematic representation of Thwing.

More recently in 1976 Manby and the Yorkshire Archaeological Society (YAS) excavated the hillfort and although no additional human remains were uncovered, he obtained a number of C^{14} dates (Table A.8) including those derived from the charcoal level of the occupation area, suggesting the site had been occupied from the Middle Bronze Age to the Late Bronze Age (Moorhouse 1976: 5). Although Greenwell's collection is housed at the NHM, the whereabouts of the four individuals excavated by Manby is unclear.

Sample Number	Material	Date	Calibrated Date	Reference
HAR-4530	Charcoal	3400 ± 130 BP	2032-1423 cal BC KW	Hedges *et al.* 1993: 160-1
OxA-2990	Charcoal	2860 ± 80 BP	1266-836 cal BC KW	Hedges *et al.* 1993: 160-1
OxA-25819	Charcoal	2590 ± 90 BP	1000-800 cal BC	Manby *et al* 2003: 68

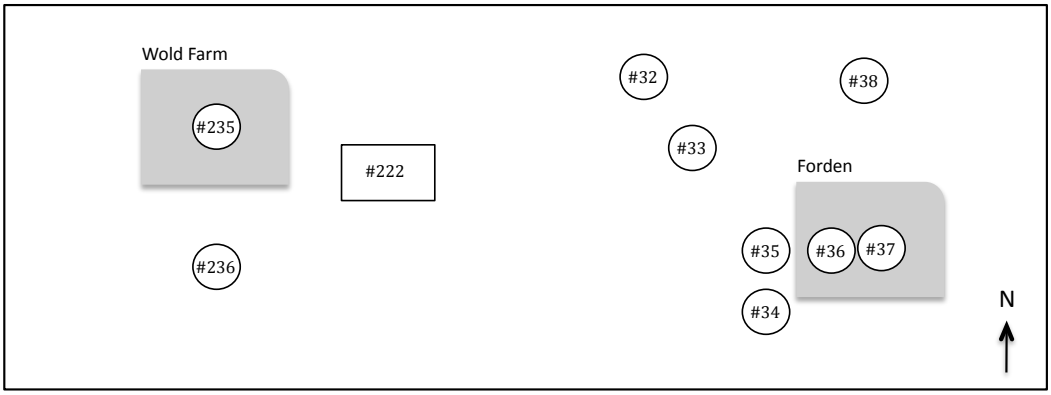
Table A.8: Radiocarbon findings at Thwing.

A.3.2.11 Willerby Wold

The site is situated on the northern scarp of the Wolds and overlooks the Great Wold Valley (Muir 1997). Willerby Wold was first excavated by Greenwell in 1865 followed, almost a century later by Manby in 1958 and 1959 and is composed of a total population of 27 individuals (Table A.9, Map A.13 and Figures A.13 to A.15).

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
222	0	1:1	0	0
235	3	1	0	0
236	0	1	0	0
32	1	0	0	0
33	1	2	2	5
34	1	0	1	2
38	1	1	0	0

Table A.9: Osteological findings at Willerby Wold.



Map A.13: Schematic representation of Willerby Wold.

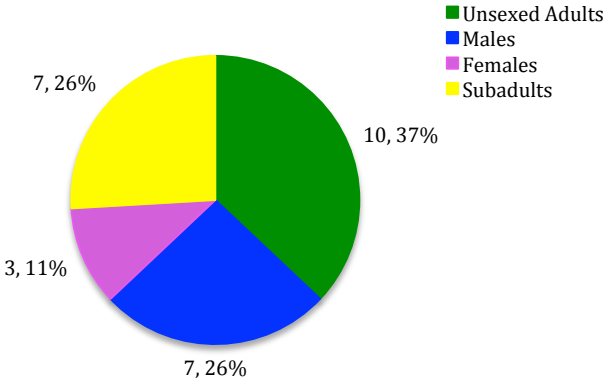


Figure A.13: Demographic profile of Willerby Wold.

In 1865 Greenwell opened a long barrow (numbered 222), within which he found two individuals, while between 1866 and 1868 he opened two additional barrows (numbered 235 and 236), however despite the use of barrow numbers beginning with 200 (which Greenwell most often used to denote Neolithic long barrows), these were in fact round barrows (Greenwell 1890: 4). In subsequent years Greenwell found nine more round barrows, of which he opened seven; four contained single burials and in the remaining three he unearthed the remains of between two and nine individuals (Greenwell 1877: 180-86).

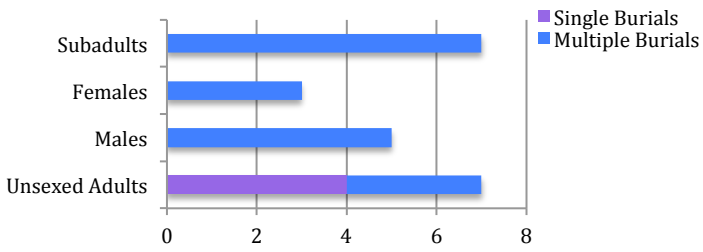


Figure A.14: Burial form at Willerby Wold.

More than 80 years later, in 1958, Manby began what would become two years of fieldwork at Willerby Wold. He opened the western end of the long barrow (an area left intact despite Greenwell's prolific digging) and found the fragmentary remains of three individuals (Manby

1963: 182). Beyond this, however, he noticed roughly parallel trenches and a burnt timber trapezoidal mortuary enclosure that was employed in cremation burials (Manby 1963: 183). In 1967 Manby published radiocarbon dating for two samples of charcoal, one, taken from the eastern end of the cremation pit and the second from the west end of the cremation deposit (Table A.10; Manby 1967: 306).

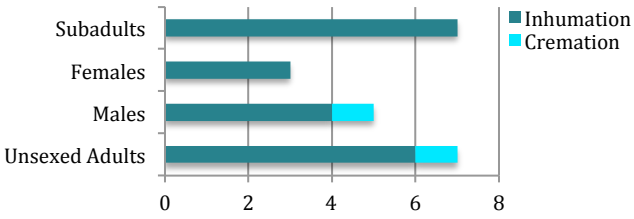


Figure A.15: Burial mode at Willerby Wold.

Sample number	Material	Date	Calibrated Date	Reference
BM-188	Charcoal	4900 ± 150 BP	2800 – 3100 cal BC	Manby 1967: 306
BM-189	Charcoal	4960 ± 150 BP	2960 – 3160 cal BC	Manby 1967: 306

Table A.10: Radiocarbon findings at Willerby Wold.

None of the remains from Willerby Wold that were excavated by Greenwell were examined by Rolleston, however these remains are held at the NHM. It is unknown where the remains uncovered by Manby have been placed, though Sewerby Hall may be one possible location.

A.3.2.12 Wold Newton

The site, located on the floor of the Great Wolds Valley, was identified and excavated by Mortimer in 1894. The Neolithic round barrow, numbered 284 was found to contain the remains of eight individuals (Table A.11; Figure A.16) (Mortimer 1905: 350-1). None of the seven inhumations have received osteological attention and at this time it is unclear if they are part of the Mortimer collection housed at HERM.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
284	1	2	2	2:1

Table A.11: Osteological findings at Wold Newton.

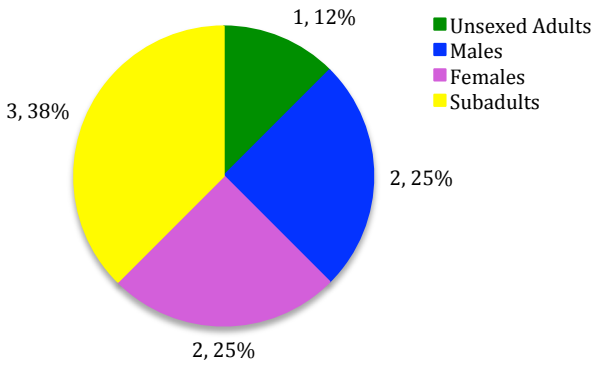
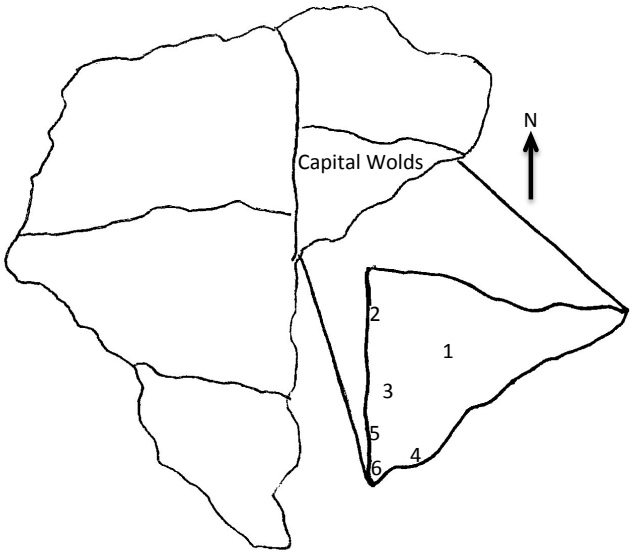


Figure A.16: Demographic profile of Wold Neuton.

A.3.3 The Capital Wolds

The area extends to the north from the villages of Swaythorpe, Rudston and Bridlington and diagonally south from Bridlington to Driffield and to the west up to Langtoft. Six sites stand out with prehistoric human skeletal remains including the multiphase Neolithic and Bronze Age site of Kilham, the Bronze Age site of Langtoft and the Iron Age sites of Danes Graves, Driffield, Garton Station and Kirkburn (Map A.14).



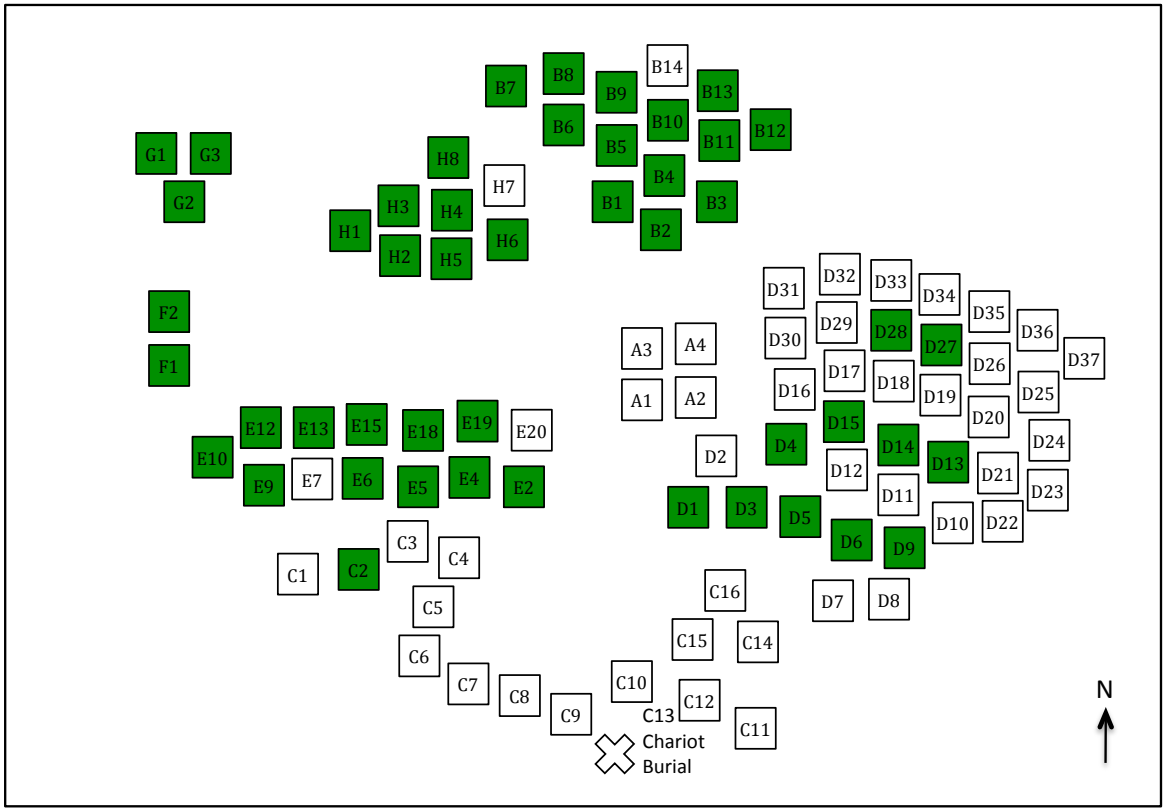
Map A.14: Map of sites located on the capital Wolds.

Sites: 1 Kilham, 2 Langtoft, 3 Danes Graves, 4 Driffield, 5 Garton Station and 6 Kirkburn.

A.3.3.1 Danes Graves

The site is located on the eastern side of the Wolds, and is spread across what is now (and during Victorian times) forested areas and open fields (Greenwell 1906: 255). As the area attracted considerable antiquarian barrow digging attention, each excursion resulted in the restarting of a number system. In order to clearly set out the order and magnitude of the work, each excavation is attributed to a letter from A to H followed by the antiquary-provided barrow numbers in Table A.12, as the majority were individual unsexed adults, these have been left out of the table however, they are coloured in green in Map A.15. Danes Graves has been excavated a number of times, beginning in 1849 (referred to excavations A1-4) by the YAC, followed by Greenwell in 1864 (referred to as excavations B1-14). In 1897 (excavations C1-16) and 1898 (D1-37) Mortimer dug with Greenwell and Boynton, while in 1899 he went out on his own (excavations E1-20). During the first decade of the twentieth century Mortimer excavated three more times including in 1900 (excavations F1-2), 1902 (excavations G1-3)) and in his final dig at Danes Graves in 1909 (excavations H1-8), two years before his death resulting in a total population of 111 (Figure A.17 to A.19).

Mortimer reports that earlier accounts put the number of barrows at over 300 based on an estimate by Sir William in a memorandum in his Book of Arms at Herald's College in 1666 (Mortimer 1897: 286-7), however, by the 1890s, according to the Ordinance Survey, that number had decreased to 197 as a result of intensification in agricultural practices. Those barrows that have remained have only managed to survive as a result of their concealment under old woods, as Mortimer believed they probably once extended out into what are now open fields on at least two sides of the site (Mortimer 1897: 286).



Map A.15: Schematic representation of Danes Graves.

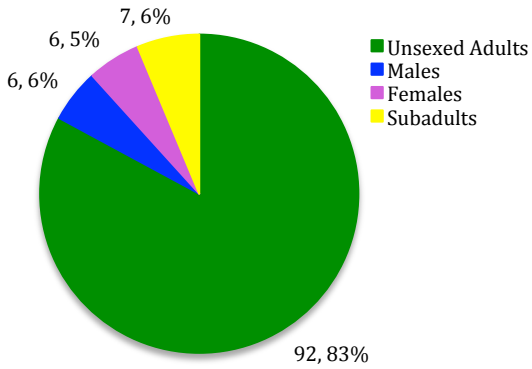


Figure A.17: Demographic profile of Danes Graves.

Dr. Thurman and the YAC officially excavated Danes Graves for the first time in 1849, in which they opened six mounds, two that proved to be empty, three that contained single inhumations and one (numbered A4) with a double inhumation (Greenwell 1865a: 109).

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
A4	1	1	0	0
B14	0	1	0	1
C7	0	2	0	1
C13	0	2	0	0
C16	0	1	2	3
D10	2	0	0	0
D23	2	0	0	0
D26	0	0	0	1
E7	1	0	0	1
E20	2	0	0	0
H7	0	0	0	1

Table A.12: Osteological findings at Danes Graves.

In 1864 Greenwell examined 14 barrows and found 13 to contain a single adult interment, while the 14th (numbered B14) contained the remains of an adult male and a subadult (Greenwell 1865: 110). In 1897 Mortimer, along with Greenwell and Mr. Thomas Boynton found and excavated 16 mounds, with one having been previously opened and found to contain nothing, five with single males, six with single females, one unsexed adult, one (numbered C7) with a subadult and adult male and two mounds that require additional descriptions. Mound C13 produced two adult inhumations (one with two iron articles and pig bone fragments) as well as two iron tires, iron snaffle-bridle bits, bronze rings and ornaments for horses, which have all been attributed to a chariot burial. The two adults, according to Mortimer, are proposed to be the chariot owner (who was buried with grave goods) and the charioteer (without grave goods) (Mortimer 1898: 121). The final mound C16 held the remains of three juveniles and two females and one male whom Mortimer suggests, based on their relative position to one another, were all interred together, at the same time (Mortimer 1898: 124).

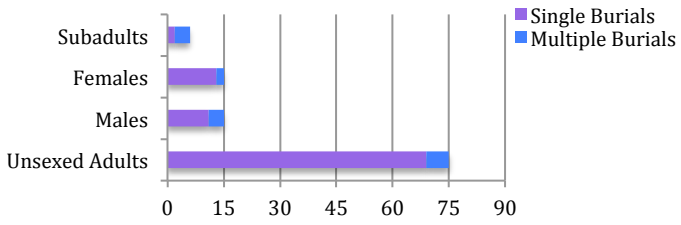


Figure A.18: Burial form at Danes Graves.

In the following year, together as a team again, Mortimer, Greenwell and Boynton examined 37 mounds. One proved to be empty, two were disturbed, 30 had single adult inhumations, two (numbered D10 and D23) had double unsexed adult inhumations and one (numbered D26) had a single subadult. In 1899 Mortimer excavated an additional 20 mounds, seven of which had previously been opened or found to be void of human remains (Mortimer 1911b:

37). Eleven had single unsexed adult inhumations, one (numbered E7) contained one unsexed adult and one very young subadult and another (numbered E20) held two unsexed adult inhumations.

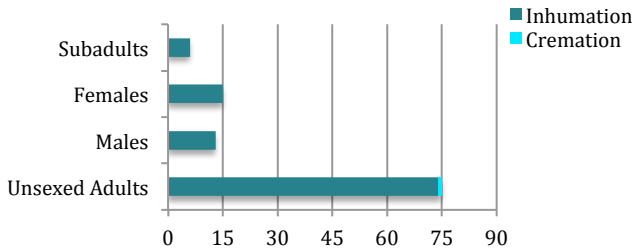


Figure A.19: Burial mode at Danes Graves.

In 1900 "by means of probing with a crowbar" Mortimer assessed an area of land adjacent to the previous mounds, as he believed the barrows once extended into the open fields (Mortimer 1911b: 42). He found, and excavated two mounds and uncovered the remains of two singly buried unsexed adults. In 1902, Mortimer, once again on his own, found three additional mounds with the remains of three adult individuals singly buried. Finally, in 1909 Mortimer excavated eight mounds and found seven singly buried unsexed adults and one (numbered H7) with a single subadult inhumation (Mortimer 1911b: 48).

In 1865 Thurman examined five skulls from the YAC excavation and determined they were all adults; three females and two males. He also analysed six from Greenwell's 1864 excavation, which produced five adults (three males and two females) and a five year-old juvenile (Greenwell 1865: 264). During his 1897 excavation, Mortimer stated that if good teeth were an indication of a "sound constitution" the Danes Graves population must have been healthy (Mortimer 1898: 126). In 1906 Wright examined "no less than 60 skulls" from the site, that were spread out among the Mortimer Museum, Driffield (n=25), Museum of the Yorkshire Philosophical Society at York (n=2), the University Museums of Cambridge (n=4) and Oxford (n=10) and the Royal College of Surgeons in London (n=19) (Greenwell 1906: 313). Unfortunately, in his analysis Wright renumbered all of the skulls he examined without providing the corresponding barrow or burial numbers, therefore what follows is his analysis, however, his findings cannot be connected to any specific skeletons unearthed at Danes Graves.

Wright supposed the skulls he examined were all from the same race, though they were varied. Overall the dental health of the group was adequate with only two individuals with AMTL and four people with the congenital absence of at least one permanent molar (Greenwell 1906: 318). Overall Wright felt the Danes Graves people were generally of slight physique, with a few robust exceptions and of low to medium stature (Greenwell 1906: 323).

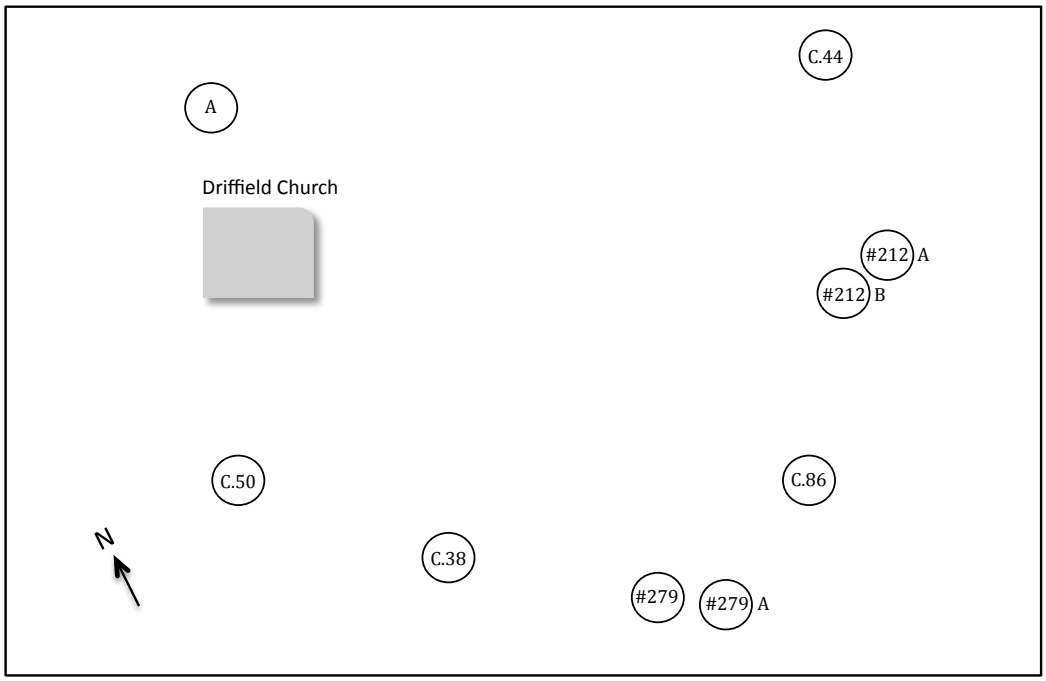
The location of the remains uncovered by the YAC is unknown. Greenwell's collection is held at the NHM, while the remains excavated by Mortimer are currently at the HERM. The skull of the chariot owner excavated in 1897 is presently at the YM.

A.3.3.2 Driffield

The site of Driffield, located at the southern edge of the capital Wolds, once contained more than nine barrows, that were all lowered as a result of the plough by Mortimer's (1905: 271) time. The area was excavated by early antiquaries and it was also the more modern focus of a rescue operation, which led to a Bronze Age population of six (Table A.13, Map A.16 and Figure A.20), and a single Iron Age inhumation. In 1851 Lord Londesborough opened two barrows, one proved to contain three inhumations, while another contained an adult. When Mortimer arrived in 1870 he opened three barrows, which included a re-excavation of Londesborough's barrow 138 but only found Anglo-Saxon remains, while in 1872 Mortimer examined his barrow 150 and although he did not find any additional burials, he noted that the base of the burial form resembled a long barrow, suggesting it had been reused in the Bronze Age (Mortimer 1905: 284). A third, previously unexplored barrow (186) was explored in 1875 and produced two adult inhumations.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
138	2	1	0	0
186	2	0	0	0

Table A.13: Bronze Age osteological findings at Driffield.



Map A.16: Schematic representation of Driffield.

Those barrow numbers preceded by a C denote Mortimer's barrow numbers above one hundred.

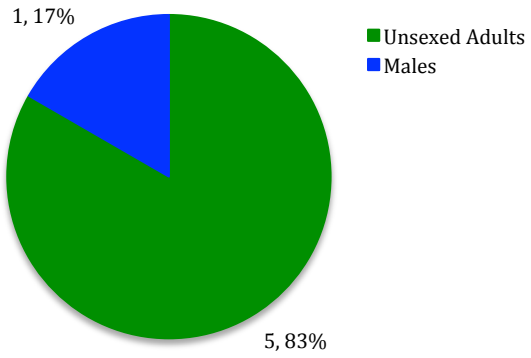
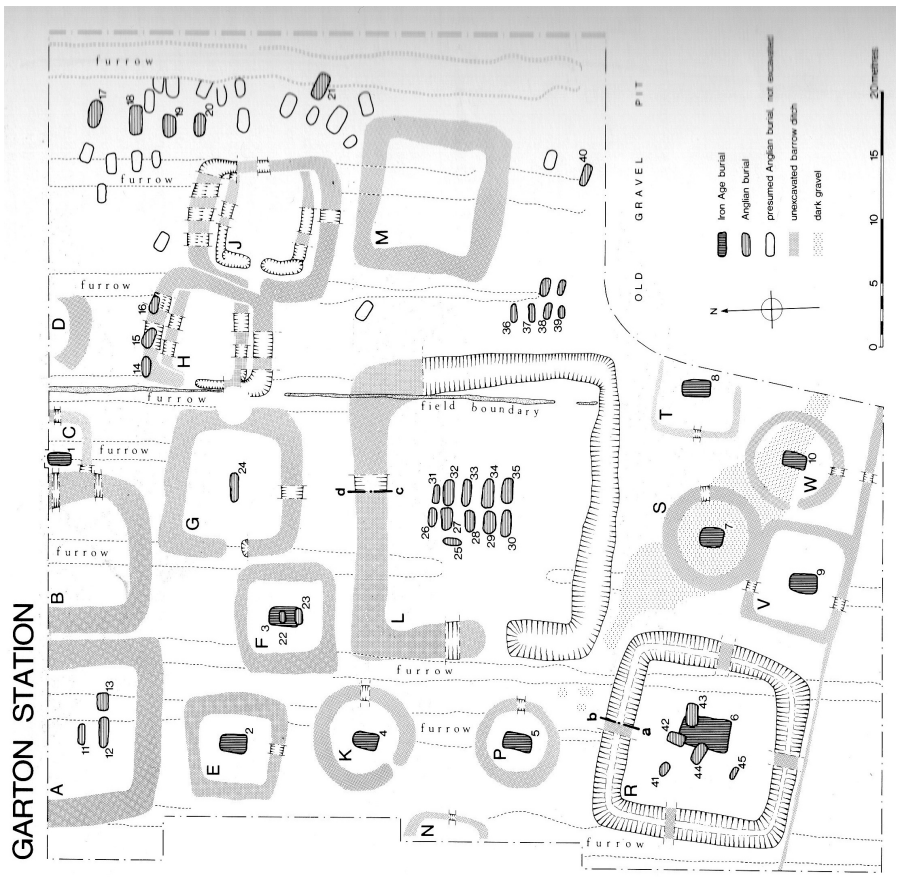


Figure A.20: Demographic profile of Bronze Age Driffield.

Prior to 1952, on the property of the Driffield RAF station and on behalf of the Ministry of Works, during the digging of trenches for service drains workers found a skeleton, which was reported to Messrs' C and E Grantham (Philips 1960: 183). They excavated and found a crouched burial without any grave goods and attributed the find to the Iron Age. It is however, unclear where the excavation was in relation to previous work, what the time period designation is based on, what, if any additional information was gleaned from the skeleton and where the remains are today. Mortimer's discoveries are at the HERM.

A.3.3.3 Garton Station

In 1984 Dent took aerial photographs and recognised crop marks denoting prehistoric barrows, which led to an extensive excavation over two years of the site of Garton Station by Stead (1991: 17; Map A.17). This excavation produced a number of burials spanning prehistoric and historic times and those attributed to the Iron Age included ten inhumations including a cart burial, five square and four round barrows, the later of which each contained a *ritually* speared corpse (Stead 1991: 17).



Map A.17: Site plan of Garton Station (Stead 1991: 22).

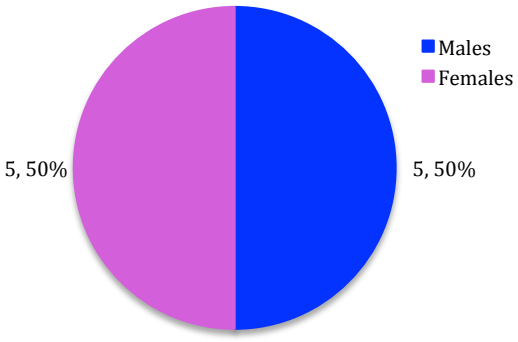


Figure A.21: Demographic profile of Garton Station.

Sheelagh Stead analysed the remains in conjunction with those excavated from Rudston, Kirkburn and Burton Fleming, however it was possible to determine the demographic profile (Figure 1.21) as well as the determination that the skeleton buried along with the cart burial (GS6) was that of a male with pronounced inflammation in one of his tibiae, which was likely to be the result of a soft tissue injury that had healed (Stead 1991: 36). Additionally it was possible to derive stature estimations for a number of individuals with the male average (based on five) at 175.31 cm (5ft. 9in.), while for three females, their average stature was

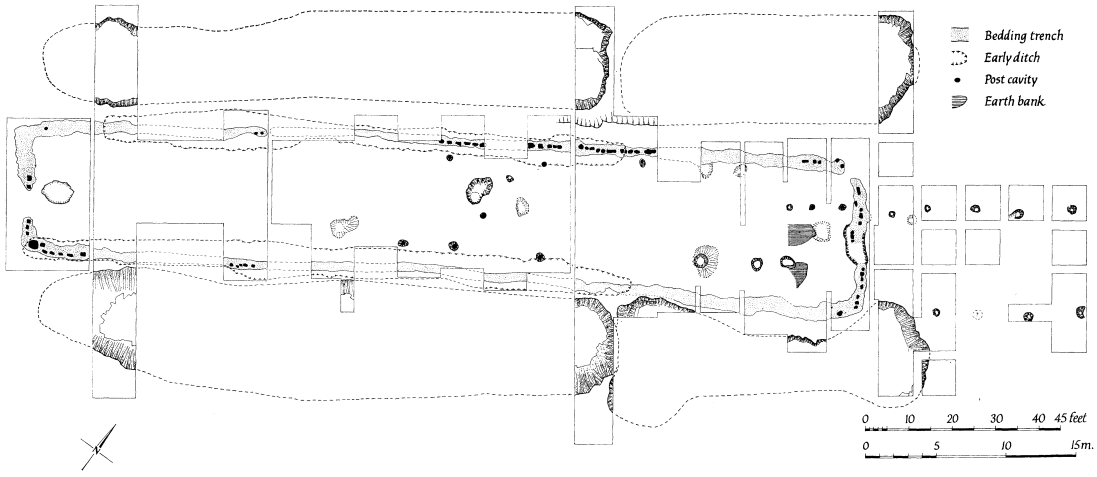
estimated at 163.77 cm (5ft. 4.4in.). It is understood that the remains from Garton Station became the responsibility of the BM after the excavation (Stead 1991: 4).

A.3.3.4 Kilham

The site is situated in the northeast area of the Yorkshire Wolds. In 1868 Greenwell opened the Neolithic long barrow (numbered 235) and found the remains of eleven individuals (Greenwell 1877: 555-6). At the west end of the long barrow Greenwell also found a superimposed small round barrow (which was not numbered) containing a single inhumation of a subadult (Table A.14; Greenwell 1877: 556).

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
235	1:1	2	4	3
Unnumbered Bronze Age barrow	0	0	0	1

Table A.14: Osteological findings at Kilham.



Map A.18: Site plan of Kilham (Manby 1971: 50).

Manby re-excavated the site in 1965 and 1969 and found a façade bedding trench and timber structures synonymous with a mortuary enclosure of a long barrow (Map A.18; Manby *et al*. 2003: 72). The eastern end of the long barrow, however, could not be fully explored as Manby also uncovered evidence of a Bronze Age ring ditch suggesting another barrow, however it also was not fully explored. Charcoal was sampled from the burial chamber of the long barrow while a wooden plank was sampled from the mortuary enclosure for radiocarbon dating (Table A.15; Manby *et al* 2003; Manby 1971: 53).

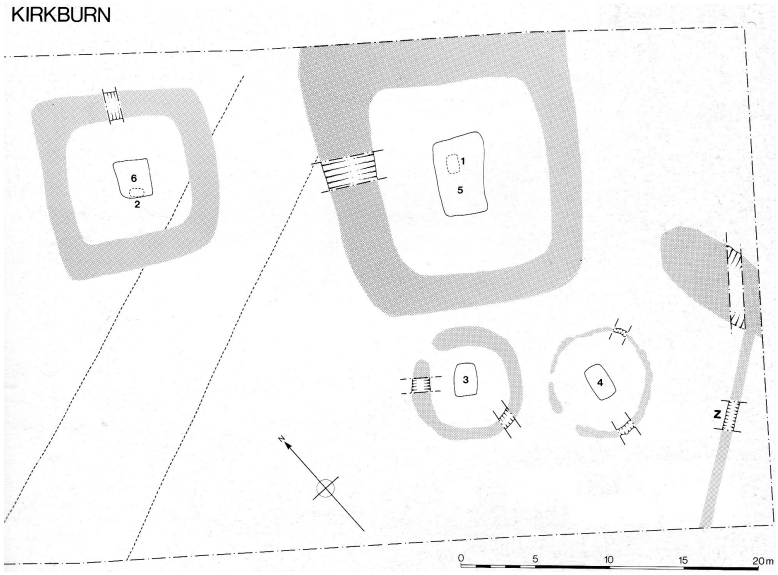
Sample number	Material	Date	Calibrated Date	Reference
BM-293	Charcoal	4830 ± 125 BP	3943-3362 cal BC KW	Manby 1967: 306
?	Wooden plank	2880 ± 125 bc	3943-3362 cal BC KW	Manby 1971: 53

Table A.15: Radiocarbon findings at Kilham.

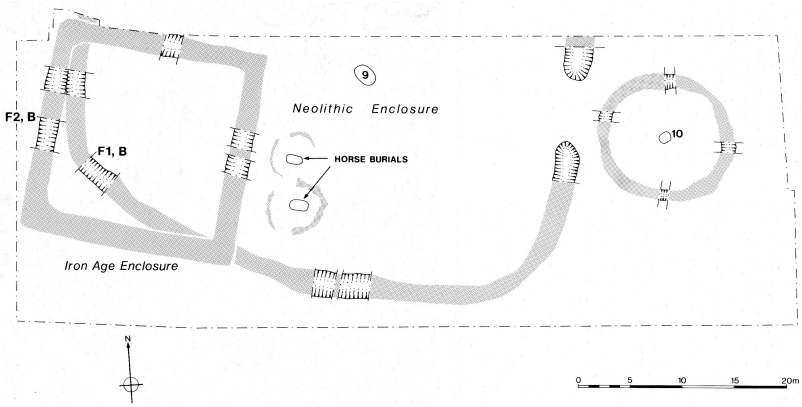
The site is considered a type-site as the best example of a long barrow on the Wolds (Stoertz 1997: 21). None of Greenwell's eleven inhumations were osteologically assessed and it is believed they are a part of the Greenwell Collection housed at the NHM.

A.3.3.5 Kirkburn

The site was first photographed from the air in 1980 by Dent and a decision was made for Stead (1991: 24) to excavate in 1987 across two fields (Maps A.19 and A.20). This work led to the discovery of a Neolithic enclosure, a cart burial, and round and square barrows attributed to the Iron Age and resulted in a sample of nine individuals (Figure A.22).



Map A.19: Site plan from Site 1 at Kirkburn (Stead 1991: 25).



Map A.20: Site plan of Kirkburn Site 2 (Stead 1991: 26).

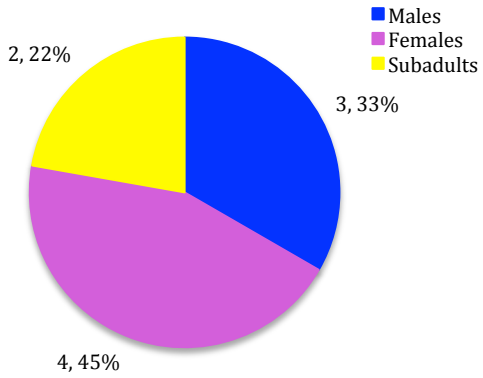


Figure A.22: Demographic profile of Kirkburn.

Although a majority of the findings from this site were incorporated into a wider Iron Age cemetery sample, several interesting pathologies were possible to elucidate from Stead's (1991) publication. Two females (K2 and K6) appeared to have died as a result of childbirth or its related complications and they were buried along with their foetus and possible still born respectively. Additionally, an old adult female exhibited a collapsed final thoracic vertebrae as well as VJD throughout the spine which may, initially, have been triggered by a traumatic incident. Among the males, four were found *ritually* buried with iron spears thrust in and around their graves, while the presence of the only example of chainmail with the cart burial (K5) along with additional spearheads, bone missile points and a shield in amongst these burials is considered unusual for both the Early Iron Age in Britain and Europe, when, traditionally, only one form of weapon was usually left as a grave good (Stead 1991: 33). Finally it was possible to determine average stature estimations for three males of 172.56 cm (5ft. 8in.), and for four females at 160.37 cm (5ft. 3.2in.) (Stead 1991: 128). Stead (1991: 4), stated this site was also the responsibility of the BM post-analysis, and it is to be understood the remains are still present at the museum.

A.3.3.6 Langtoft

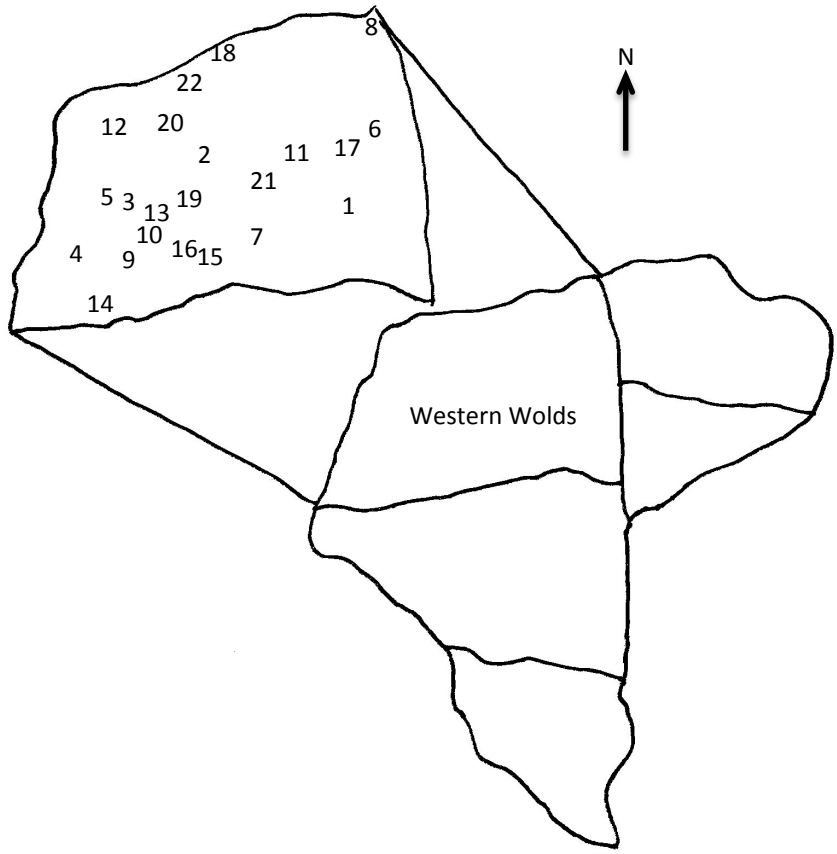
Prior to 1877 Greenwell came across the site in a narrow chalk valley in the middle of the capital Wolds. He excavated one Bronze Age round barrow (numbered 48) and found the disturbed remains of one unsexed adult, one adult male and one sixteen year old (Table A.16; Greenwell 1877: 204). None of the remains were osteologically assessed. Although this site would be a part of the Greenwell Collection housed at the NHM, due to the disturbed nature of the finds, it is doubtful that they were collected and kept by Greenwell.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
48	1	1	0	1

Table A.16: Osteological findings at Langtoft.

A.3.4 The Western Wolds

The area is bordered to the north by the edge of the high chalk hills of Ganton and Staple Howe, to the east by Foxholes, Langtoft and north of Driffield, to the south by Bleadlands Nook and Kirby Underdale and in the west along the edge of the chalk escarpment. The western Wolds also has the highest concentration of prehistoric sites with human remains at twenty-one. Two are multiperiod with Cowlam spanning the Neolithic to the Iron Age; Towthorpe from the Neolithic to the Bronze Age and one, Birdsall Brow, attributed to the Neolithic. Sixteen sites date to the Bronze Age; Acklam, Aldro, Butterwick, Fimber, Ganton, Garrowby Wold, Hanging Grimston, Helperthorpe, Langton, Life Hill, Painsthorpe, Riggs, Thixendale, Weaverthorpe, West Heslerton and Wharram Percy. Finally three sites date to the Iron Age; North Grimston, Kirby Grindalyth and Staple Howe (Map A.21).



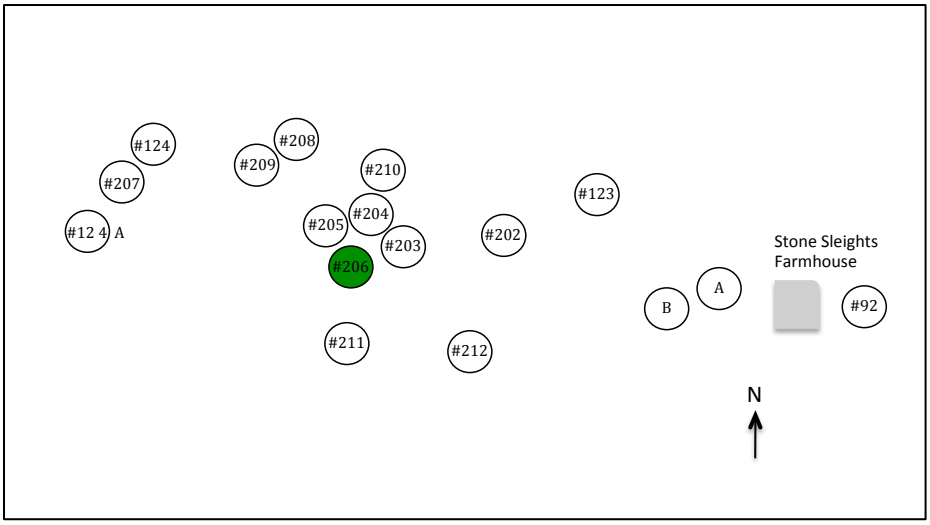
Map A.21: Map of western Wolds site locations

Sites: 1 Cowlam, 2 Towthorpe, 3 Birdsall Brow, 4 Acklam, 5 Aldro, 6 Butterwick, 7 Fimber, 8 Ganton, 9 Garrowby Wold, 10 Hanging Grimston, 11 Helperthorpe, 12 Langton, 13 Life Hill, 14 Painsthorpe, 15 Riggs, 16 Thixendale, 17 Weaverthorpe, 18 West Heslerton, 19 Wharram Percy, 20 North Grimston, 21 Kirby Grindalyth, and 22 Staple Howe.

A.3.4.1 Acklam Wold

The site is located in a narrow valley in the foothills of the western Wolds. In 1849 the YAS excavated 11 barrows, while in addition to re-excavating three, Mortimer opened a further 12 barrows between 1867 and 1878 and attributed all of the round barrows to the Bronze Age

(Map 1.22; Mortimer 1905: 84) and resulted in a total population of 37 (Table A.17 and Figure A.23). One of Mortimer's barrows was devoid of remains, seven contained single burials, three had double graves and the remaining six barrows contained inhumations and cremations of between three and six individuals (Figures A.24 to A.25). Mortimer did not discuss the osteology or the paleopathology of the 26 inhumations from Acklam.



Map A.22: Schematic representation of Acklam Wold.

The green circle represents a single unsexed adult inhumation.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
1	1	1	0	0
2	3	0	0	0
4	1:1	0	0	1
5	1	0	0	0
92	1	0	0	0
202	1	0	0	0
204	1:1	0	0	3
205	3	2	1	0
208	3	0	0	0
210	1	0	0	0
124	0	2	1	1
211	0	0	0	1
212	2	0	0	0

Table A.17: Osteological findings at Acklam Wold.

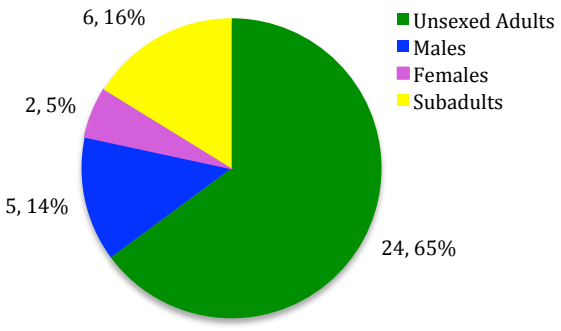


Figure A.23: Demographic profile at Acklam Wold.

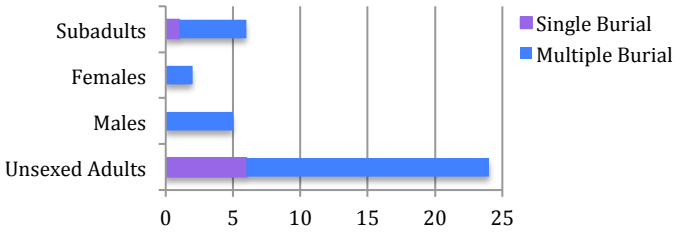


Figure A.24: Burial form at Acklam Wold.

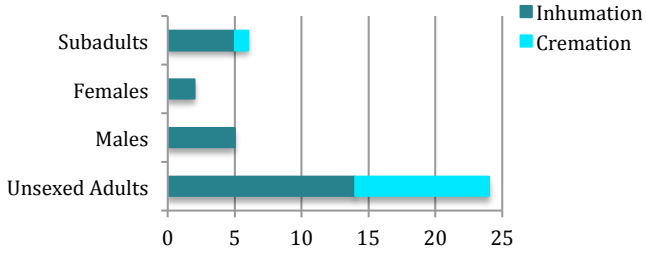


Figure A.25: Burial mode at Acklam Wold.

In 1980 members of the Regular Army were put in charge of clearing the land in Acklam as a result of its use during World War II as an assault course and stumbled across the remains of a sword (Dent 1983b: 120). Dent, through the Humberside Archaeological Unit (HAU) was brought in to assess the find and subsequently uncovered the inhumation grave with which the sword belonged, though a site plan in relation to Mortimer's discoveries was not published. He determined it to belong to the Iron Age and the grave that of a male aged approximately thirty years. He established the individual had died as a result of severe blows to the back of the head, most likely caused by a sword (Dent 1983: 122).

According to currently available literature, none of the Acklam Wolds remains have been examined by modern osteologists and the remains excavated by Mortimer should be a part of the Mortimer Collection housed at the HERM. It is also not known where the individual excavated by Dent was housed.

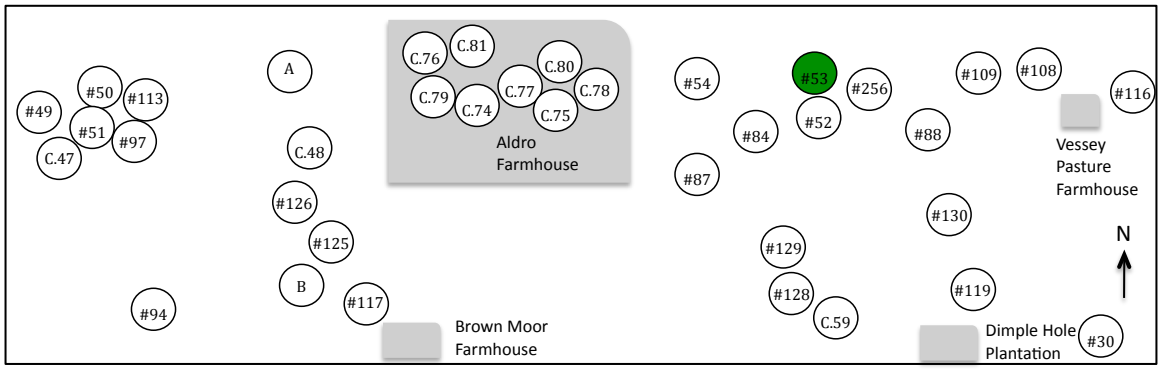
A.3.4.2 Aldro

The Bronze Age site of Aldro is located on the northern edge of the chalk escarpment of the western Wolds and was excavated several times in the 19th century. In 1853 the YAC excavated three barrows finding one of them to be empty, a second to contain a cremated adult and a third disarticulated human remains (Mortimer 1905: 53). When Mortimer began excavating the area in 1865, he found 37 round barrows arranged in distinct clusters throughout the site. These five groups were systematically opened over the next 18 years and resulted in the discovery of 89 individuals (Table A.18, Map A.23 and Figure A.26).

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
116	3	0	0	3
108	1	0	0	0

109	1	0	0	2
88	2:2	1	0	4
256	1	0	0	0
52	4:1	0	0	0
54	3	1	1	9
87	1:1	0	0	0
130	1	0	0	0
159	1:1	1	0	4
128	1	0	0	0
176	1	0	0	1
181	2	0	0	0
177	2	0	0	0
180	1	0	0	0
178	0	0	0	1
175	2:1	0	0	0
174	1	0	0	0
179	1	0	0	1
113	2:1	0	1	1:3
97	1	0	1	1
50	2	0	0	0
51	0	0	0	2
147	1:1	0	1	0
49	0	0	0	1
126	2	0	0	0
148	2	0	0	0
94	2	0	0	0

Table A.18: Osteological findings at Aldro.



Map A.23: Schematic representation of Acklam Wold.

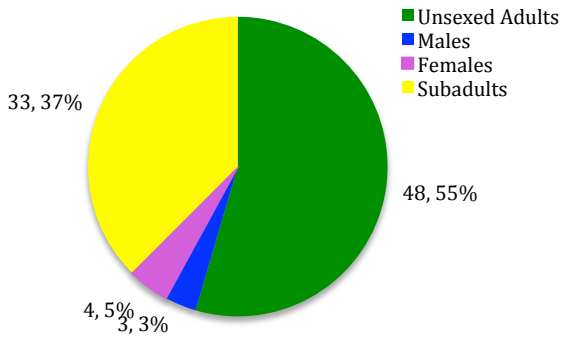


Figure A.26: Demographic profile of Aldro.

Of the 34 barrows he opened, Mortimer found four to be empty, eight to contain a single inhumation or cremation and the remainder multiple burials with between three and nine individuals with barrow 54 being the most populated containing 14 interments (Figures A.27 and A.28; Mortimer 1905: 55-82).

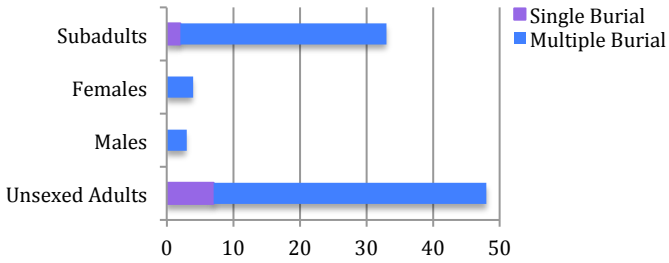


Figure A.27: Burial form at Aldro.

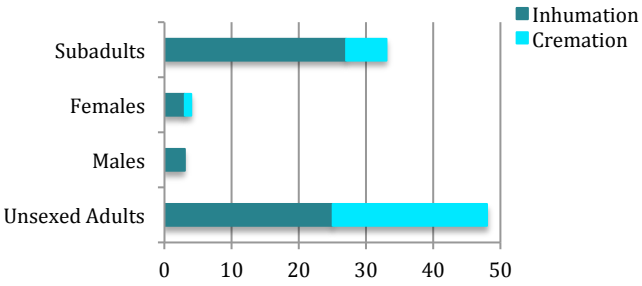


Figure A.28: Burial mode at Aldro.

Although he unearthed 58 inhumations, Mortimer only commented on two skeletons from barrows 88 and 116 respectively. Body B, barrow 88, was too decayed to be sexed or measured, however upon inspecting the mandible he noticed that most of the molars were gone and their dental crypts closed, while those teeth that remained were "ground down to their fangs" suggesting to him their owner was of great age (Mortimer 1905: 59). Within barrow 116 Mortimer commented on the remains of a small middle-aged individual who had been mutilated. He suggested this person had their leg and partial pelvis amputated before being interred (Mortimer 1905: 55). Whether this implies a pathology or a funerary method remains unclear.

In 2004, Cooper's Masters thesis explored the mobility involved in food procurement using strontium ratios from individuals from a number of sites on the Yorkshire Wolds including five Early Bronze Age individuals from Aldro barrow 116. The two juveniles and three adult males (whom Cooper sexed as Mortimer had recorded them as adults) were found to have a range of values from 0.708301 to 0.709820 suggesting to Cooper that there were two possible food zones on the Wolds. She offers the possibility that plants were obtained from one area, while animals were grazed on, or procured from, another (Table A.19, Figure A.29; Cooper 2004: 75).

Sample No.	Burial No. (Mortimer)	Sex	Tooth	Sr ratio
AL19	4	Subadult	RC^1	0.708301
AL20	6	Male	LPM_2	0.709820
AL21	2	Male	RPM^1	0.708514
AL22	5	Subadult	LM_1	0.708590
AL23	3	Male	LPM_2	0.708363

Table A.19: Strontium results from Aldro individuals (Cooper 2004: 44).

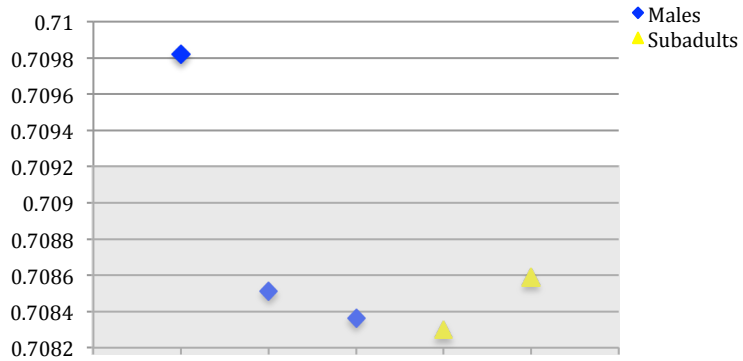


Figure A.29: Strontium results at Aldro.

The shaded box represents the local signal attributed to the Yorkshire Wolds, as determined by Montgomery and colleagues (2005).

As Mortimer excavated the remains it is believed they form part of the Mortimer Collection housed at the HERM.

A.3.4.3 Birdsall Brow

Prior to 1877 Mortimer explored and opened one round barrow at the site of Birdsall Brow that he believed dated to the Neolithic (Mortimer 1905: 329). Barrow 65 contained two probable adult male inhumations (Table A.20), one of which Mortimer observed had a skull cleft (Mortimer 1905: 332). It is unclear if Mortimer was referring to a cleft lip, palate or some other abnormality that is no longer termed cleft skull in diagnostic medicine today. It is believed this site formed part of the Mortimer Collection, however whether it is still part of that collection at the HERM is unclear.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
65	0	2	0	0

Table A.20: Osteological findings at Birdsall Brow.

A.3.4.4 Butterwick

The Bronze Age site of Butterwick was rediscovered in 1967 as a result of aerial reconnaissance on the valley floor of the north end of the western Wolds (St. Joseph 1971: 48). Preceding this discovery, and prior to 1877, Greenwell explored the site and found a single barrow containing a single decaying adult male inhumation (Greenwell 1877: 186). Due to the preservation level of the inhumation it is very unlikely the skeleton was exhumed and as such it, and the site are probably not a part of the Greenwell Collection.

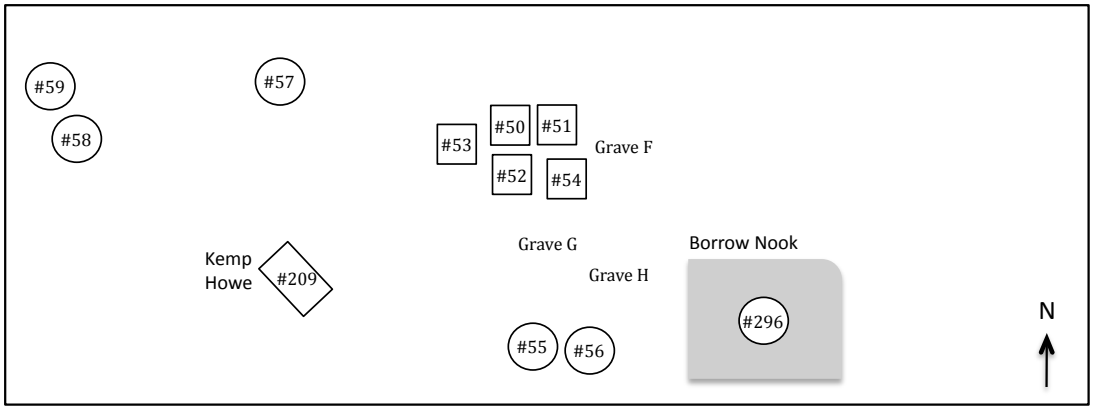
A.3.4.5 Cowlam

The site is situated on a ridge near the northern Wolds and is composed of eleven barrows dating from the Early Bronze Age to the Iron Age (Stoertz 1997: 6). Greenwell excavated the area in 1867, Mortimer opened barrows in 1878 and 1909, the MPBW (in conjunction with

the Department of the Environment, University of York) excavated in 1968 and Stead along with the IAM visited the area for one more set of scheduled excavations of plough threatened barrows in 1969 and 1972 (Stead 1986: 5). The entire sample is composed of 63 individuals, 3 cremations belonging to the Neolithic, 44 belonging to the Bronze Age and 10 to the Iron Age (Table A.21, Map A.24 and Figures A.30 to A.35).

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
55 (2)	1:1	1	1	2
56 (3)	2	3	1	4
58	2:2	1	1	0
59	2	2	0	1
50	0	0	1	0
51	0	0	1	0
52 (C)	0	0	2	0
53	0	0	1	0
54 (A)	0	1	1	0
57	5	5	4	3
209 Kemp Howe	3	0	0	0
296 (1)	0	3:2	1	0
Grave F	0	0	0	1
Grave G	0	1	0	0
Grave H	0	0	1	0

Table A.21: Osteological findings at Cowlam.



Map A.24: Schematic representation of Cowlam.

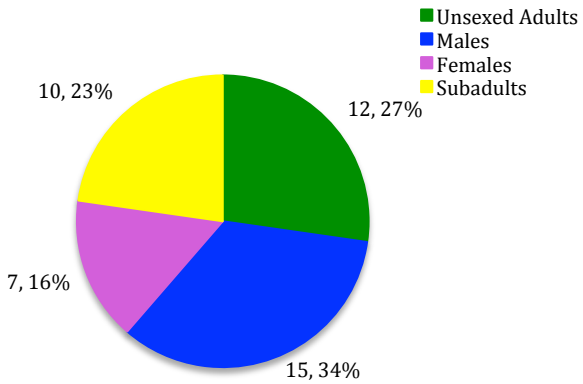


Figure A.30: Demographic profile of Bronze Age Cowlam.

In 1867 Greenwell opened five round barrows (55 – 59), which contained between three and 17 individuals (Greenwell 1877: 226). During this same field season Greenwell also found and excavated five square-ditched barrows (50 – 54), which were all individual,

unsexed adult inhumations ascribed to the Iron Age as a result of barrow morphology (Kinnes and Longworth 1985: 51-55).

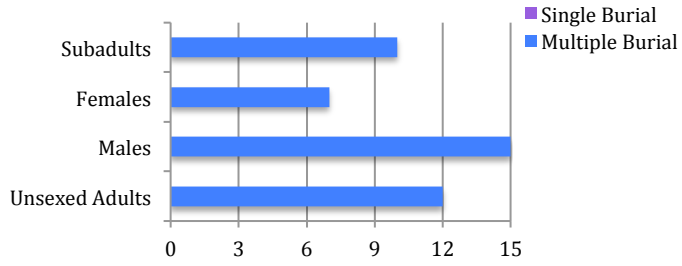


Figure A.31: Burial form at Bronze Age Cowlam.

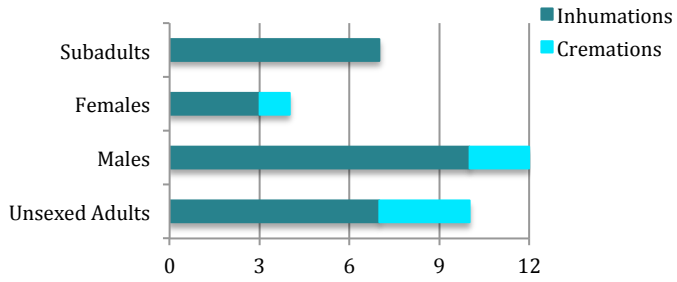


Figure A.32: Burial mode at Bronze Age Cowlam.

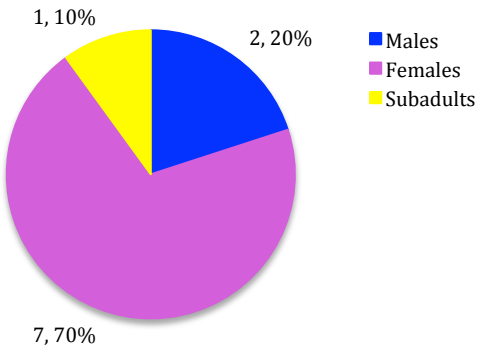


Figure A.33: Demographic profile of Iron Age Cowlam.

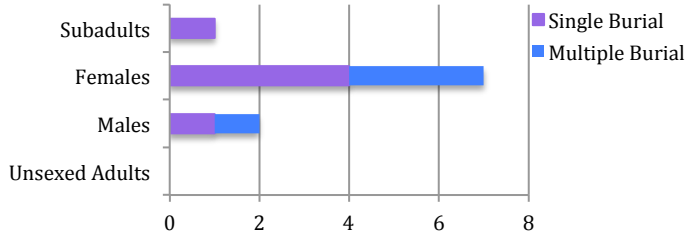


Figure A.34: Burial form at Iron Age Cowlam.

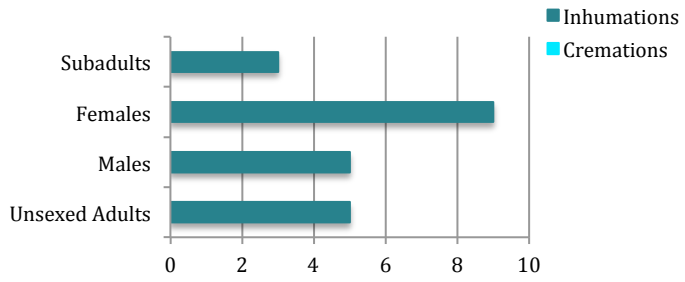


Figure A.35: Burial mode at Iron Age Cowlam.

In 1878, "for three weeks free use of the pick and shovel" Mortimer opened what he determined to be a long barrow (numbered 209) which he named Kemp Howe (Mortimer 1880: 394), containing three unsexed adult cremations as well as remnants of a burnt timber structure (Mortimer 1905: 337), suggesting a Neolithic crematorium. In 1909 Mortimer examined one of three barrows in a group (the other two being Greenwell's barrow 55 and 56; Greenwell 1877: 213), which he identified as barrow 296 in an adjacent area on Cowlam Wolds called Borrow Nook. He excavated the skeletons of three adult males and within the mound Mortimer also discovered disarticulated bones of two adults and one child (Mortimer 1909: 491-2). He analysed all three of the inhumed individuals and, without providing methodologies, concluded they were all males, with "the same type of head", in their middle period of life and nearly 183 cm (6ft) tall (Mortimer 1909: 492). There was no discussion regarding any skeletal anomalies or pathologies.

Brewster and Finney re-excavated Kemp Howe in 1965, and though it is unclear what they found as only an interim report was ever published (Brewster 1969). They radiocarbon dated a large post hole (which Manby and colleagues proposed was of mature timber and therefore why there was such an old date; Manby *et al* 2003: 46; Table A.22) and the upper level of the façade bedding trench of the mortuary enclosure which concurred with the archaeological evidence for a Neolithic date (Manby *et al* 2003: 46).

Sample number	Material	Date	Calibrated Date	Reference
NPL-140	Post hole timber	5505 ± 145 BP	4684-3999 cal BC KW	Manby *et al* 2003: 46
HAR-8783	Façade bedding trench	5070 ± 60 BP	3974-3712 cal BC KW	Walker *et al.* 1991: 107

Table A.22: Radiocarbon findings at Cowlam.

In 1968 Borrow Nook was re-examined by the MPBW in order to "add considerably to the meagre information recorded by earlier excavations" (n.a. 1984: 32). Although there was an interest in excavating the entire site, resources at the time only allowed for an examination of three barrows that had recently been ploughed away (n.a. 1984: 32). Greenwell previously opened two of the barrows within the three barrow group in 1867 (his barrows 55 and 56), while Mortimer opened the third in 1909 (his barrow 296). Greenwell's barrow 55 (which was renumbered barrow 2 for the current excavation) still contained the remains of three inhumations within the backfill. The second barrow (Greenwell's 56 renamed barrow 3) had

three adults and three juveniles and finally, three additional cremation deposits were found in Mortimer's barrow 296 (renumbered barrow 1 in the current excavation). Radiocarbon dating has not been carried out and therefore the placement of this site in the Early Bronze Age is based on the presence of Beakers, a food vessel, an urn and a flint knife found within the barrows (n.a. 1984: 9).

In 1969 and 1972 excavations were undertaken by Stead on behalf of the IAM to open those barrows still visible or recently lost (Stead 1986: 5). Six square barrows and two isolated graves were opened and it was determined five of those opened were Greenwell's square barrows 50-54 (Stead 1986: 12). They found one additional inhumation in barrow C (Greenwell's 52) and one in barrow A (Greenwell's barrow 54). One square barrow was newly discovered, containing a single inhumation and the two isolated burials (burials G and H; found intermingled between square barrows) had single inhumations as well.

Rolleston examined three of Greenwell's Bronze Age skeletons and one adult from barrow 57, based on cranial morphology, was determined to be a female, past the middle period of her life who presented a possible congenital absence of her maxillar third molars (Greenwell 1877: 705). A second individual from the same barrow was that of a 25 to 35 year old male who stood at only 155 cm (5ft. 1in.). Paleopathologically, Rolleston observed the man suffered from a fusion of his left articular facet of the first cervical vertebra to the occipital condyle at the base of his skull (Greenwell 1877: 699). Finally the third skeleton was from barrow 59. It was found to be that of a male in later middle life with a living stature of approximately 170 cm (5ft. 7in.). Earlier in life he also suffered from a joint infection in his femoral head, though a specific side was not recorded (Greenwell 1877: 587).

Jean Dawes analysed three cremations and two burials from the 1968 excavation. She assessed the cremations and determined all three were from barrow 1 (Mortimer's barrow 296) and, using cranial and pelvic fragment morphology to sex, and tooth eruption, bone epiphyseal fusion and cranial sutures to determine age, she provided information on these cremains. Cremation 1 was concluded to be a probable young adult female, while cremation 2 actually contained the remains of two individuals who were found to be young female and male adults, with one exhibiting a possible healed mandibular abscess (n.a. 1984: 28). The third cremation was a possible male of young to middle age and also appeared to have suffered from an unhealed abscess on a maxillar second premolar (n.a. 1984: 28).

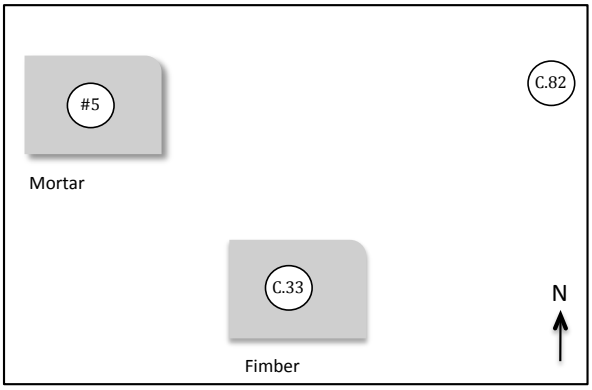
In addition to the cremations, Dawes also provided her assessment of two skeletons. Using the same criteria as for the cremains, she found the skeleton from barrow 3 (Greenwell's barrow 56) grave 2 burial 1 belonged to a female between the ages of 25 to 35 who stood at 166 cm (5ft. 4in.). Beyond demographics, she found this female exhibited possible rheumatoid arthritis expressed in the vertebrae and metacarpo-phalangeal joints as well as a

healed cranial depression fracture at the midline, two centimetres behind bregma (n.a. 1984: 29). The second individual (barrow 3, grave 2, burial 2) was not available for osteological assessment, however, using a ¼ scale drawing done at the time of excavation, Dawes tentatively determined, using long bone size and epiphyseal fusion, the skeleton belonged to a nearly full grown adolescent with a living stature of between 155 cm – 160 cm (5ft. and 5ft. 2in.) (n.a. 1984: 29). Paleopathology was not discussed for this skeleton.

The remains excavated by Stead were analysed by Janet D Henderson, of the Ancient Monuments Laboratory and Institute of Technology. She determined none of the remains were fully present or perfectly preserved and beyond the demographic information, only burial H, a female, had a pathology in the form of a large caries present in her right mandibular first molar (Stead 1986: 15). Conclusions regarding the population were not provided. The remains excavated by Greenwell are a part of the Greenwell Collection housed at the NHM and it is believed those excavated in 1984 are at the HERM.

A.3.4.6 Fimber

The site, located south-east of Towthorpe, included later Roman enclosures and the prehistoric remains of what may have once been numerous barrows, ploughed down during the Victorian period as a result of agricultural activities (Mortimer 1905: 186). Mortimer arrived in 1869 at the behest of workers who were digging the foundations for the new Fimber church, when they discovered human remains. He observed three barely visible round barrows which were spread out throughout the village and surrounding farms and set about opening them in 1869, 1870 and 1875 resulting in a total Bronze Age sample of four people (Mortimer 1889: 225). One proved to be empty, the second, named Church Hill due to the location of the original church, contained two unsexed adults and one subadult, and the third contained a singly buried subadult, bringing the entire sample to four individuals (Map A.25 and Table A.23). In 1976 Ramm reported in the Yorkshire Archaeological Register (YAR) of the *Yorkshire Archaeological Journal* that a likely long barrow was identified at Fimber in an aerial photograph taken by Dent, however no further information is available (Moorhouse 1976: 1).



Map A.25: Schematic representation of Fimber.

The barrow numbers preceded by a C represent Mortimer's method of numbering barrows above one hundred.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
133 'Church Hill'	2	0	0	1
182	0	0	0	1

Table A.23: Osteological findings at Fimber.

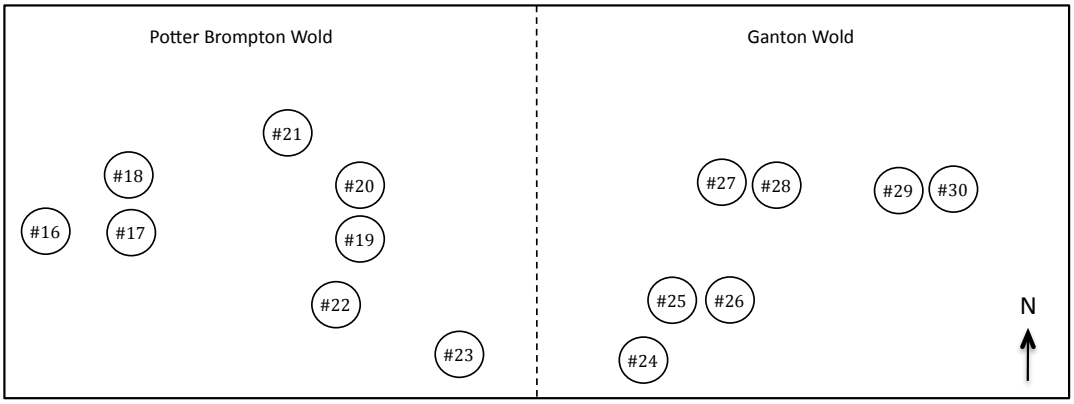
Mortimer did not assess any of the inhumations and it is believed the site is a part of the Mortimer Collection at the HERM.

A.3.4.7 Ganton

The site is situated on the most northern point of the western Wolds and was inspected by Greenwell between 1867 and 1869 (Kinnes and Longworth 1985: Appendix 1). During his time in the area of Ganton, Greenwell explored 17 Bronze Age barrows resulting in a total population of 55 people (Table A.24, Map A.26 and Figure A.36). Nine of these were under the site name of Potter Brompton Wold, while the rest were named Ganton Wold. As they were virtually next to one another (other then being on lands owned by different people), Greenwell treated them as parts of the same population (Greenwell 1877: 156).

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
19	1	0	0	0
20	1:1	0	0	0
21	0	3	4	5
22	3	1	1:1	1
23	0	1	1	1
24	1	1	0	0
25	1	0	0	1
26	2:2	0	1	3
27	0	3:1	1	1
28	2	6	1	1
30	1	0	0	0

Table A.24: Osteological findings at Ganton.



Map A.26: Schematic representation of Ganton.

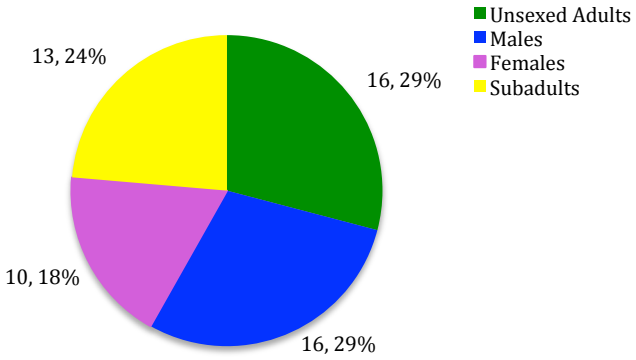


Figure A.36: Demographic profile of Ganton.

Five of the barrows were determined to be empty, three contained singly buried unsexed adults, three had double burials and the remaining six had between three and twelve people (Figures A.37 and A.38). Greenwell believed barrow 28 (containing ten individuals) was the funerary mound of a chief (one of the males) along with the slain remains of his possible family (the single female and subadult) and slaves (the remaining males and un-sexed adults) (Greenwell 1877: 177).

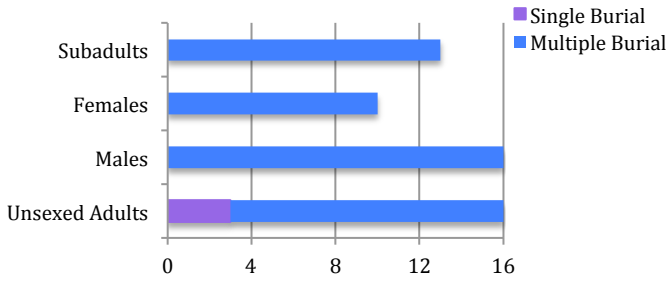


Figure A.37: Burial form at Ganton.

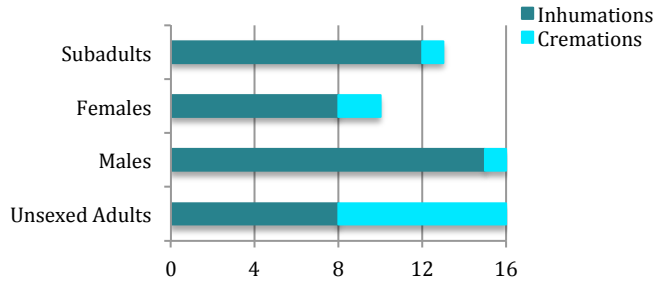


Figure A.38: Burial mode at Ganton.

Greenwell observed that an adult male (from barrow 28) had fractured both of his femurs earlier in life and that they had been reunited and healed prior to his death (Greenwell 1877: 176). This site is a part of the Greenwell Collection housed at the NHM.

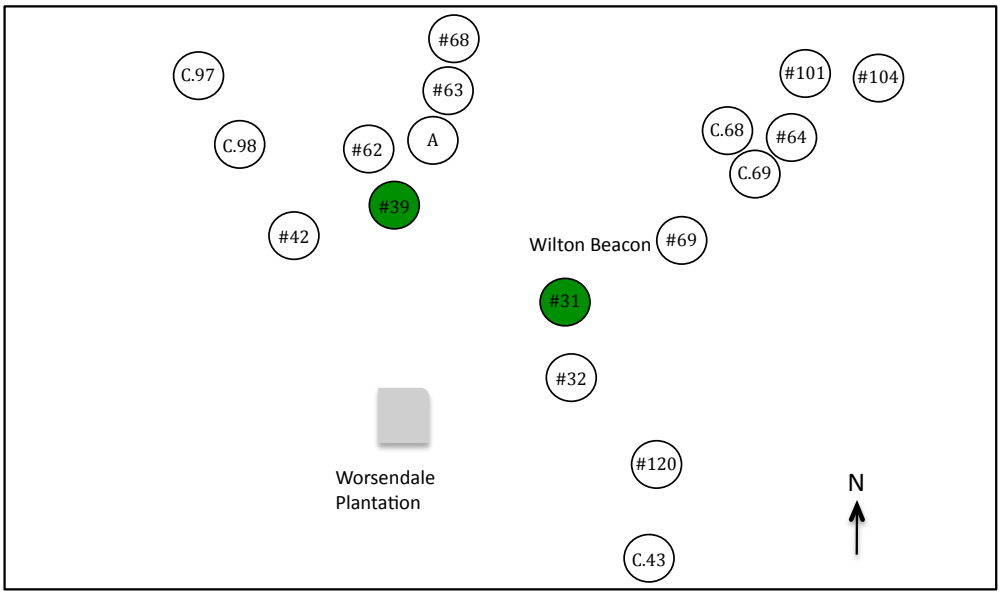
A.3.4.8 Garrowby Wold

Garrowby Wold occupies the highest elevation on the western edge of the Wolds and the site spanned the villages of Garrowby, Kirby-Underdale and Bishop Wilton (Mortimer 1905: 134). It was explored by Mortimer at several different times in his digging career from 1865 until 1876 (Mortimer 1905) resulting in a total population of 50 individuals (Table A.25, Map A.27 and Figures A.39 to A.40). From 1865 to 1868 he found and excavated three barrows and determined two contained single burials, while the third had four unsexed adults (Mortimer 1905: 143-45).

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
32	4	0	0	0
42	0	0	0	1
62	4	0	0	0
63	2	0	0	0
64	0	0	1	0
69	1	0	0	0
101	1	1	1	0
104	1	1	0	2
120	1	1	1	0
143	1:2	0	1	0
168	1	0	0	0
169	10:1	0	0	7
197	0	0	0	1
198	0	1	0	0

Table A.25: Osteological findings at Garrowby Wold.

In 1866 four barrows were opened and Mortimer found two single burials and two multiple burials. The 1867 field season resulted in the excavation of two multi-burial barrows with three and four burials respectively. In 1868 one barrow was opened and Mortimer found a multiple burial with four graves, while in 1871 he opened another barrow, which contained the remains of four burials (Mortimer 1905: 148).



Map A.27: Schematic representation of Garrowby Wold.

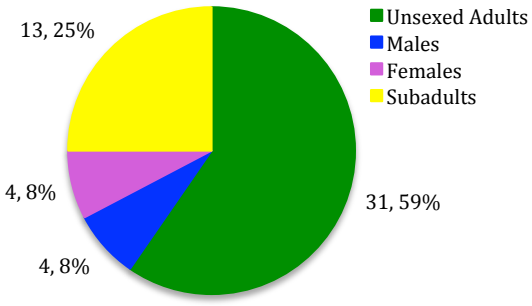


Figure A.39: Demographic profile of Garrowby Wold.

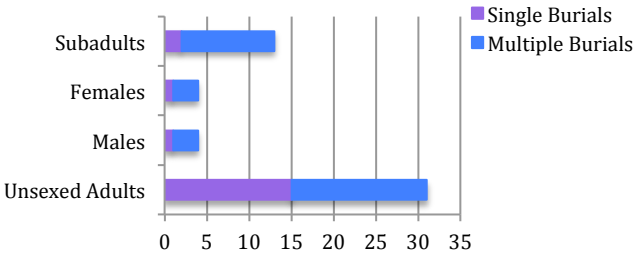


Figure A.40: Burial form at Garrowby Wold.

In 1874 three mounds were opened and Mortimer found two single burials and a barrow with the remains of 18 individuals. Mortimer believed ten were buried at the same time due to their placement relative to one another (Mortimer 1905:139). Finally in 1876 two burials were excavated and each were found to contain a single interment.

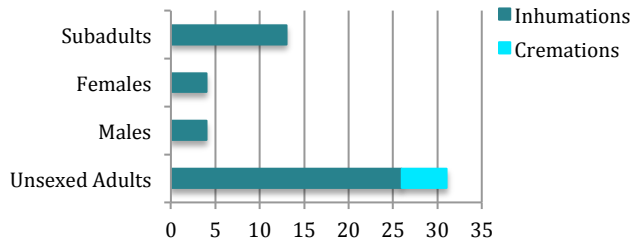


Figure A.41: Burial mode at Garrowby Wold.

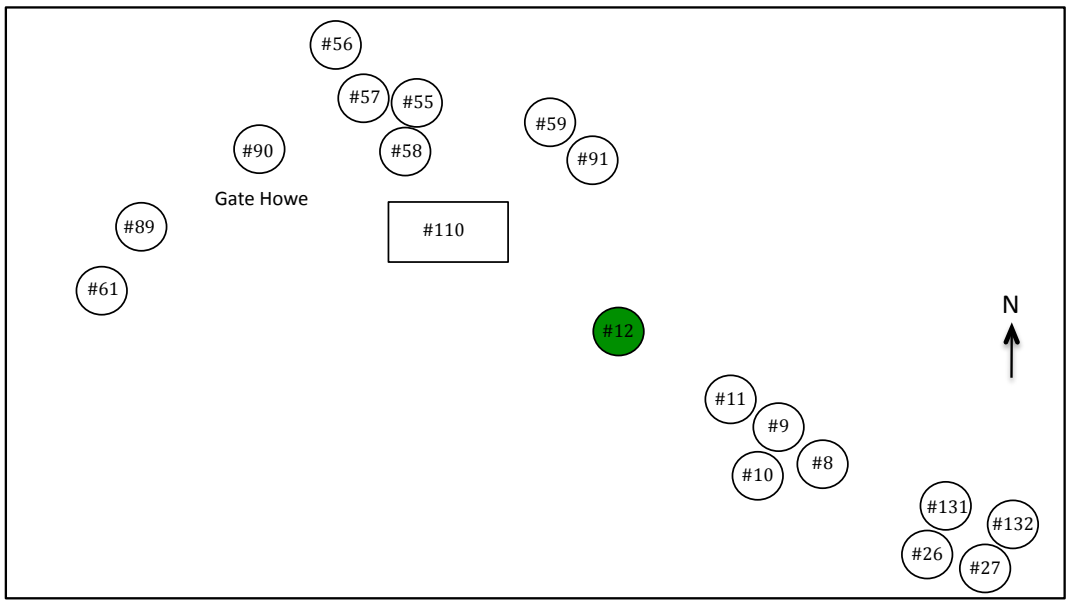
Based on the round shape of the barrows and the variety of grave goods, Mortimer dated Garrowby Wold to the Bronze Age (Mortimer 1905: 144). Crop marks have also been observed using modern aerial survey, suggesting there may be four square barrows at the site dating to the Iron Age (Stoertz 1997), however they have not yet been explored. The site a part of the Mortimer Collection at the HERM, though it is not complete.

A.3.4.9 Hanging Grimston

Hanging Grimston, south east of Acklam Wold drew the attention of Mortimer in 1864 and he continued to return until 1867 by which time he had opened one Neolithic long barrow and 18 Bronze Age round barrows resulting in a total population of 51 people (Table A.26, Map A.28 and Figures A.42 to A.44). The long barrow (numbered 110) did not contain any traces of human burials or cremations. In one round barrow there was no trace of an internment, in eight of the barrows there were the remains of single cremations, while an additional one contained three distinct cremation deposits. Of the remaining eight barrows two contained single adult male inhumations and six had between two and eleven burials of inhumed and cremated individuals (Mortimer 1905: 96-107).

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
61	2	0	0	1
89	1	0	0	0
90	1	0	0	0
56	4:3	0	1	2
57	1	0	0	0
55	5:1	0	1	5
58	1	0	0	0
59	0	1	0	0
91	1	0	0	0
12	3	0	0	2
8	1	0	0	0
9	1	0	0	1
10	1	0	0	0
11	1	0	0	0
26	4	0	0	1:1
27	0	1	0	0
132	3	0	0	0

Table A.26: Osteological findings at Hanging Grimston.



Map A.28: Schematic representation of Hanging Grimston.

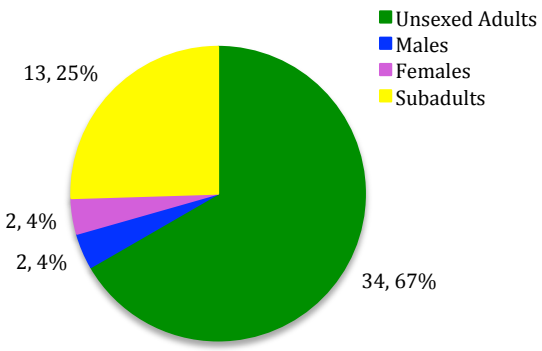


Figure A.42: Demographic profile of Hanging Grimston.

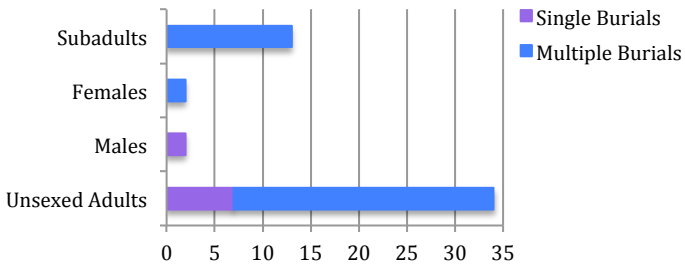


Figure A.43: Burial form at Hanging Grimston.

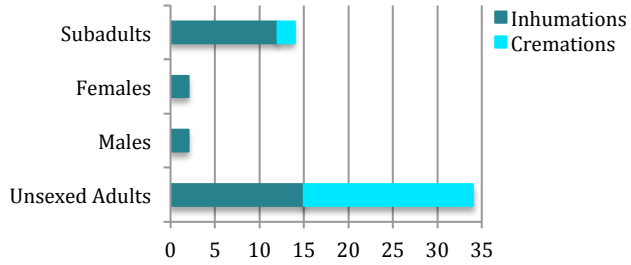


Figure A.44: Burial mode at Hanging Grimston.

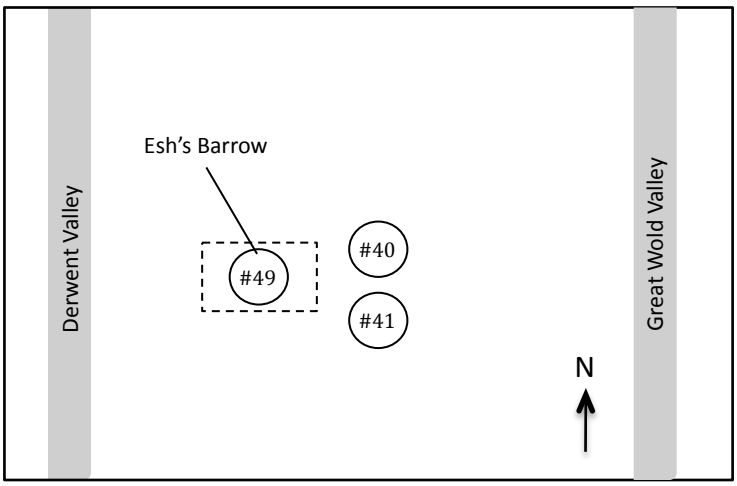
Of the thirty-one inhumations discovered by Mortimer, only two were selected by him for additional inspection. He determined an unsexed adult individual from barrow 12 had a complete loss of dentition at some point in his or her life, and the single adult male burial from barrow 27 suffered from a dislocated femur of his right leg, though the degree of pathology was not provided (Mortimer 1905: 105, 111). This site is a part of the Mortimer Collection housed at the HERM.

A.3.4.10 Helperthorpe

The site is located along the Great Wold Valley floor adjacent to the Gypsey Race. Between 1866 and 1877 Greenwell opened three barrows tentatively belonging to the Bronze Age (Greenwell 1877: 191) and resulting in the discovery of eleven people (Table A.27, Map A.29 and Figure A.45). Working in part with Mortimer, Greenwell believed that barrow 49 (also known as Esh's Barrow) was quite similar to the Willerby Wold long barrow, which had been converted after the Neolithic into a round mound, suggesting that this barrow may have once also been a long barrow (Greenwell 1877: 205; Hicks 1968: 307). Additionally, Mortimer and his brother (Robert) returned to the area in 1868 and discovered the façade bedding trench and a few burnt bones and pots belonging to a long barrow which was named Cross Thorns (Mortimer 1905: 335; Hicks 1968: 308), although no formal burials were discovered therein, it provided further evidence of activity in the area to the Neolithic period. Most recently Gibson (2011) conducted geophysical surveys of Esh's Barrow in an attempt to understand the current condition as well as to determine the location and state of the remains excavated. It was found that the barrow had been almost completely ploughed out, though Gibson also questioned the reliability of the original excavation notes, as the geophysical findings were not conclusive (Gibson 2011: 17).

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
40	0	1	0	0
41	1	1	0	1
49	1:1	2	1	2

Table A.27: Osteological findings at Helperthorpe.



Map A.29: Schematic representation of Helperthorpe.

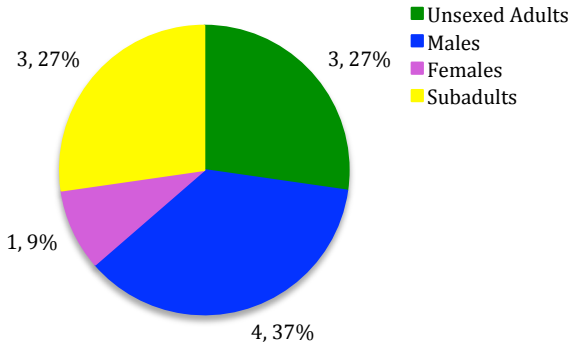


Figure A.45: Demographic profile of Helperthorpe.

One of the barrows (numbered 40) contained a single adult male, while the other two (numbered 41 and 49) contained three and seven individuals respectively (Greenwell 1877: 199, 206). Rolleston only examined one individual, from barrow 41, out of a total of 10 inhumations. He determined the skeleton was that of a male past the middle period of life and that the skull (the only skeletal element examined) did not display any pathologies (Greenwell 1877: 617). It is believed this site has formed part of the Greenwell Collection housed at the NHM. During his investigation of the site records of Mortimer's excavations, he discovered several bones labelled as Esh's Barrow at HERM. Dr. Alan Ogden examined them and concluded they represented three individuals, though the preservation was extremely poor. Furthermore, both Ogden and Gibson noted inconsistencies with Mortimer's report, suggesting the provenance of these remains might be in doubt (Gibson 2011: 14).

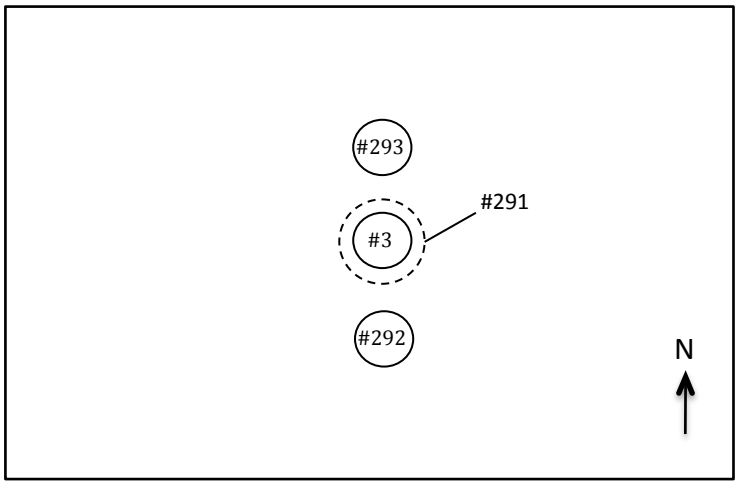
A.3.4.11 Kirby Grindalyth

The site is located at Low Farm on the Great Wolds Valley floor next to the Gypsey Race in the western Wolds. The site was explored by Greenwell in 1866, Mortimer in 1895 and MAP Archaeological Consultancy Ltd. excavated once more in 2005 resulting in a total population of eight people (Table A.28, Map A.30 and Figure A.46). When Greenwell arrived at the site he found the remains of three very closely situated Iron Age barrows, one of which had

previously been ploughed away by the landowners with nothing reported (Greenwell 1877: 140). He opened the largest one, which he numbered 3 and found the remains of a probable male in a very advanced state of decay. Almost thirty years later Mortimer returned to the site and opened all three barrows. In his re-examination of Greenwell's barrow 3 (which he renumbered 291) he found an empty barrow, which he also encountered in barrow 293. Barrow 292 however contained the remains of a decayed adult (Mortimer 1905: 43).

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
3	0	1	0	0
Grave 138 MAP	0	1	0	0
Grave 271 MAP	0	0	0	1
Grave 3007 MAP	0	0	0	1
Grave 218 MAP	0	0	0	1
Grave 50 MAP	0	0	0	1
Grave 114 MAP	0	0	0	1

Table A.28: Osteological findings at Kirby Grindalyth.



Map A.30: Schematic representation of Greenwell and Mortimer's excavations at Kirby Grindalyth.

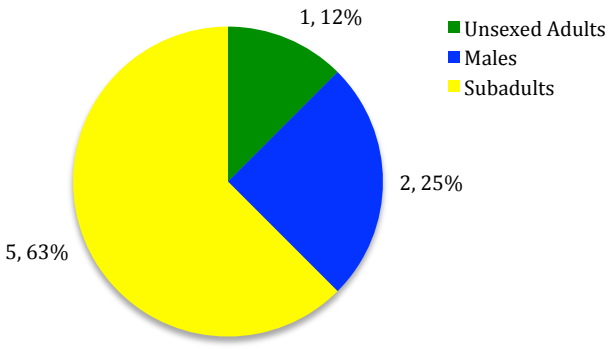


Figure A.46: Demographic profile at Kirby Grindalyth.

In 2005 MAP once again explored the site and found six skeletons attributed to the Middle to Late Iron Age during an excavation in advance of proposed development, however a site plan with reference to the earlier excavations was not published. One was found to be a possible male (138), while the remaining five were determined to be subadults; two newborns (271,

3007), two under two years (218, 50) and one between five and six years old (114) (Caffell and Holst 2006: 1). Two burials (114 and 138) were radiocarbon dated which further validated the belief that the site belonged to the Middle to Late Iron Age (Table A.29; Caffell and Holst 2006: 1). Unfortunately a site plan was not available for these recent excavations, therefore it is unclear where they were situated in comparison to those unearthed by Mortimer and Greenwell.

Sample number	Material	Date	Calibrated Date	Reference
114	Human remains	?	35 BC – AD 35 cal	Caffell and Holst 2006: 1
138	Human remains	?	100 – 40 cal BC	Caffell and Holst 2006: 1

Table A.29: Radiocarbon findings at Kirby Grindalyth.

Beyond the osteological assessment of the group, Caffell and Holst determined three of the subadults (218, 50, 114) might have been suffering from the vitamin C deficiency disease scurvy and two of them (218, 114) most likely experienced some form of malnutrition as their skeletal ages were younger than their dental eruption estimates (Caffell and Holst 2006: 2). The diagnosis of scurvy is quite intriguing, as only one other prehistoric British individual had exhibited the same skeletal signs of the deficiency (Mays 2008). In addition, the oldest child (114) also suffered from a probable fracture, now healed, to its right radius and the sacralisation of its fifth lumbar vertebrae. The sole adult, a probable male, was aged as over 45 and exhibited numerous pathologies including osteoporosis which led to several spinal fractures, DJD and OA of the spine and other joints, one abscess and the complete loss of all but one tooth in his mandible much earlier in life (Caffell and Holst 2006: 2). Overall Caffell and Holst concluded that most likely, all of the children died as a result of malnutrition, disease or a combination of both, though the significance of the sole adult buried in close proximity is unknown (Caffell and Holst 2006: 3).

Neither of the two inhumations excavated by Greenwell or Mortimer were ever osteologically analysed, and, due to their preservation level it is unlikely they were removed from their barrows. The remains discovered by MAP are currently still retained by them.

A.3.4.12 Langton

Langton is located on the western Wolds on a chalk outcropping adjacent to ancient entrenchments. In 1865 Greenwell excavated a single barrow (numbered 2) belonging to the Bronze Age and found one male and two female inhumations (Table A.30; Greenwell 1877: 137). Upon examination of the male, Greenwell noted an extensive wound on the right side of the frontal bone, which Rolleston attributed to a metal weapon or stone axe, which resulted in an "undepressed gouged out fracture" that did not directly lead to death. Greenwell believed the man probably lived two or three months post injury (Greenwell 1877: 137, 603). Additionally, Rolleston examined one of the females and did determine Greenwell was correct in his sex assessment based on the individual's trunk and limbs (Greenwell 1877:

607). As Greenwell excavated the barrow it is believed the site is a part of the Greenwell Collection at the NHM.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
2	0	1	2	0

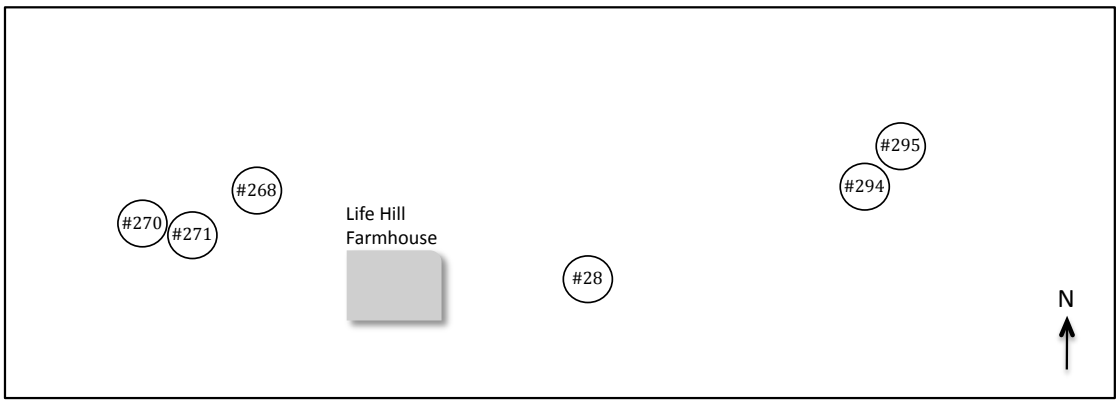
Table A.30: Osteological findings at Langton.

A.3.4.13 Life Hill

The Life Hill group of Bronze Age barrows, located north of Wetwang railway station consisted of six round barrows, though by the time of the OS survey only one was recorded and trees had disturbed three others when Mortimer began excavating the area in 1865. He finished in 1896, which resulted in a total population of twelve people (Table A.31, Map A.31 and Figures A.47 and A.48). Mortimer found two of the barrows empty, one held the single inhumation of a young male and the remaining three held between two and six inhumations and cremations.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
28	1:1	0	0	1
268	0	1	0	0
270	1	0	0	1
294	1	2	1:1	1

Table A.31: Osteological findings at Life Hill.



Map A.31: Schematic representation of Life Hill.

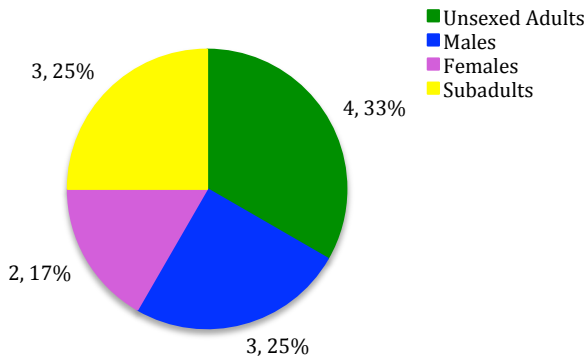


Figure A.47: Demographic profile of Life Hill.

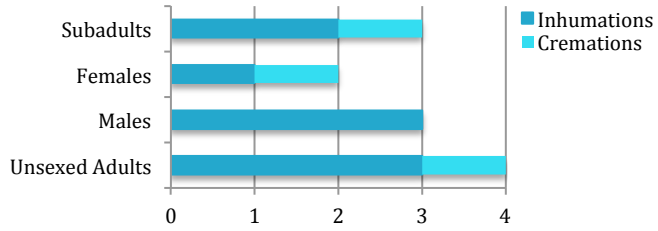


Figure A.48: Burial mode at Life Hill.

Although Mortimer found nine inhumations, he only commented on one. An aged male from barrow 294 was apparently wanting in several of his back molars [suggesting he had AMTL] earlier in life and the root sockets had been resorbed (Mortimer 1905: 204). Unfortunately due to the less then ideal preservation levels of several of the individuals, and the disarticulated nature of their bones, it is unlikely that Mortimer removed all nine skeletons. The Mortimer Collection is housed at the HERM, however it is unclear if this site forms a part of the collection or if the population is complete.

A.3.4.14 North Grimston

By accident workers were installing fence on a farm in North Grimston when they disturbed a prehistoric barrow and found two iron swords in addition to numerous other iron and jet objects. Mortimer was called in to the site and seeing the finds decided to excavate the area as he believed there was more to be found, however he did not provide a barrow number or plan due to the 'rescue' aspect of the operation (Mortimer 1905: 354). He was correct in his assumptions and unearthed the extended skeleton of a male adult. At the time he was unsure of the provenance of the burial, considering both the Iron Age and Roman period as possible answers, however upon consultation with Stillingfleet's notes regarding his excavation at Arras (now lost), he felt confident the individual belonged to the Early Iron Age (Mortimer 1905: 357). Mortimer sent the skull to Wright for analysis and beyond craniometrics, he determined the individual was an adult male between the ages of 40 and 50 with an exceptionally massive lower jaw (Mortimer 1905: 356). It is believed this North Grimston find was listed as a part of the Mortimer Collection and therefore should be present at the HERM.

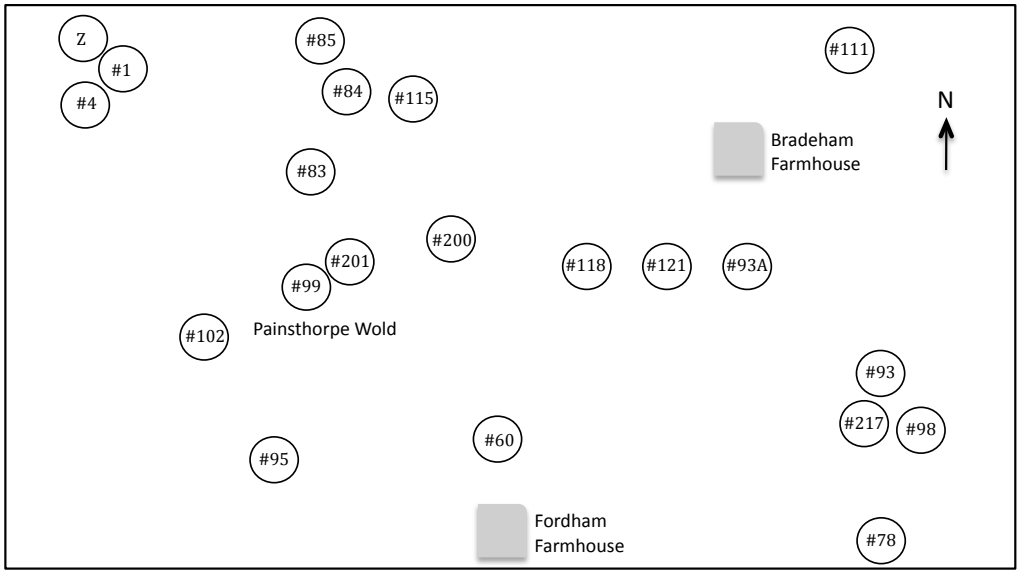
A.3.4.15 Painsthorpe

In 1860 Mortimer first developed his interest in prehistoric barrows at Painsthorpe in the western Wolds (Mortimer 1905: 114), possibly after hearing about the discovery of prehistoric remains years earlier in the nearby area of Thixendale (Briggs 1981: 3), detailed in Section A.3.4.18. The site consists of 21 Bronze Age barrows, 18 of which Mortimer opened between 1860 and 1868, two, which were opened by Greenwell in 1868 and one that was never opened (Mortimer 1905: 114, 118) resulting in a total population of 89 people (Table

A.32, Map A.32 and Figures A.49 to A.51). In the 18 barrows Mortimer opened, he discovered one of the barrows to be empty, five to contain single burials and 12 multi-burial barrows with the largest barrow (numbered 118) enclosing the inhumed and cremated remains of 20 adults and subadults (Mortimer 1905: 127). Greenwell examined two barrows that Mortimer had identified as part of the Painsthorpe group, but which Greenwell decided to name Kirby Underdale (as this village was nearby)(Greenwell 1877: 136). The first barrow contained two cremated adults, while the second turned out to be empty.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
4	4:1	1	3	5
83	1:1	0	0	2
84	1	0	0	1
85	1	0	0	0
201	1:5	0	0	0
99	4:2	1	1	2
102	0	1	0	1
95	0	0	0	1
60	3	0	0	0
118	8:2	1	0	7:2
121	1	0	0	1
111	1:2	0	1	3
93a	1	0	0	0
93	1	0	0	1
98	4	1	1	2:2
78	1	0	0	0
217	1	0	0	0
1	2	0	0	0

Table A.32:Osteological findings at Painsthorpe.



Map A.32: Schematic representation of Painsthorpe.

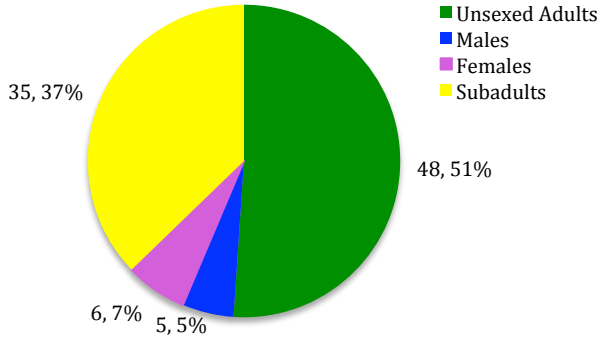


Figure A.49: Demographic profile of Painsthorpe.

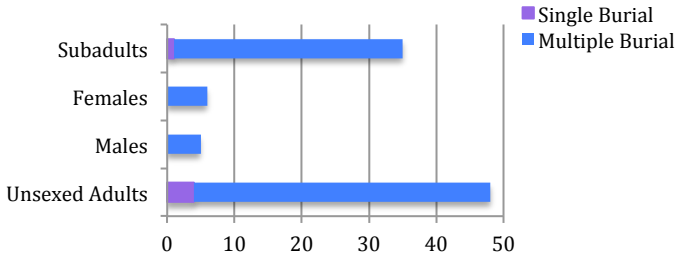


Figure A.50: Burial form at Painsthorpe.

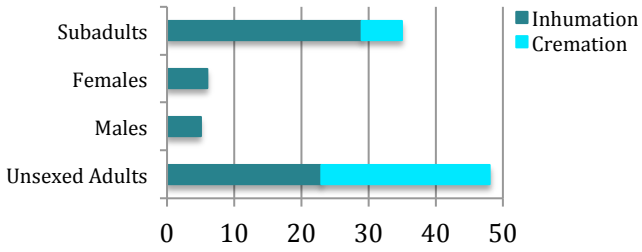


Figure A.51: Burial mode at Painsthorpe.

Mortimer provided additional detail on only two individuals, both from barrow 118. The first was an unsexed adult he determined to be quite old and who was afflicted with a disease of the right knee joint, however he did not elaborate further. The second was also an unsexed adult that Mortimer believed was cooked with animals and possibly cannibalised and interred along with the other individuals in the barrow (Mortimer 1905: 127). He pointed out these bones were stained and altered [believed to mean disarticulated] and unlike the other remains they were interred with. As the cranial bones were located on the chest of another inhumation, Mortimer surmised the brain of the disarticulated individual was cooked within the calvarium and then deposited in the grave, possibly as an offering of food (Mortimer 1905: 127).

In Brothwell's 1961 report on the paleopathology of early British man, he also examined remains from barrow 118, specifically an adult male burial that exhibited extensive cranial trauma resulting from a serious blow to the front of the skull [it is not believed that this is the same individual that Mortimer discussed in 1905]. This was a unique case as there was evidence of extensive healing suggesting this individual was "nursed back to health" as survival of an injury of this magnitude was otherwise unlikely (Brothwell 1961).

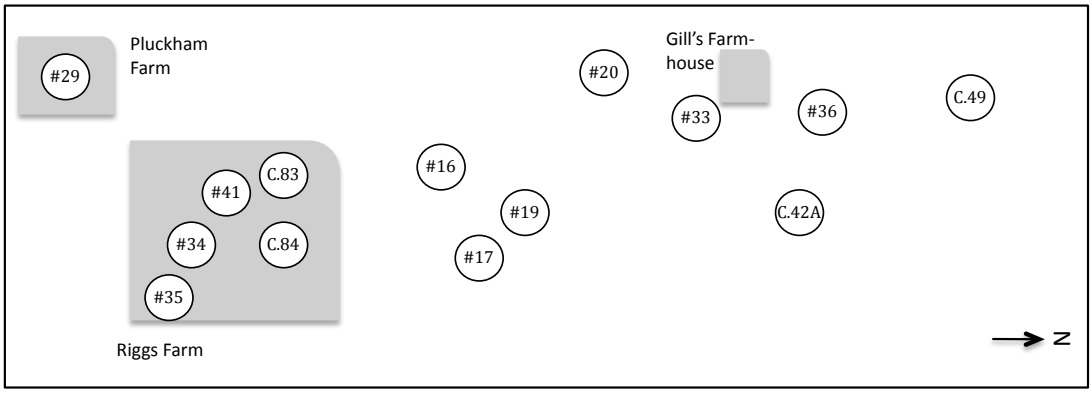
Of the 63 inhumations unearthed by Mortimer, only two individuals were analysed. It is assumed that the cremations uncovered by Greenwell were not removed, and the skeletons discovered by Mortimer formed part of his collection now housed at the HERM.

A.3.4.16 Riggs

The site of Riggs was first explored by William Proctor and the YAC in 1844 and 1849 after learning of Rev. T Rankin's discoveries at adjacent Thixendale (discussed in Section A.3.4.18). Although the first barrow proved to be empty, the second, opened in 1849 contained a cremation (Briggs 1981: 4). Later, between 1864 and 1872 Mortimer examined fourteen round barrows including those previously explored by the YAC, both of which, numbered 41 and 183 proved to contain burials, resulting in a total population of 29 people (Table A.33, Map A.33 and Figure A.52). Mortimer found two barrows to be devoid of human remains, seven to contain the remains of a single individual and the remaining five barrows contained mixtures of inhumations and cremations of between two and five individuals (Figures A.53 and A.54; Mortimer 1905: 175-85).

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
149	3	0	0	1
36	3	0	0	1:1
142a	0	1	1	1
33	1	0	0	0
20	0	1	0	0
16	0	0	0	1
17	2	0	0	1
19	1	0	0	0
35	1	0	0	0
41	0	0	0	1
183	1:3	1	1:1	1
29	1	0	0	0

Table A.33: Osteological findings at Riggs.



Map A.33: Schematic representation of Riggs.

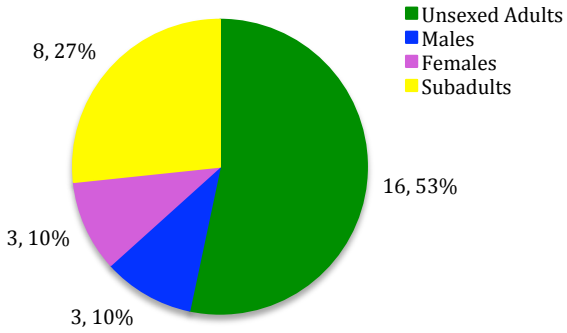


Figure A.52: Demographic profile of Riggs.

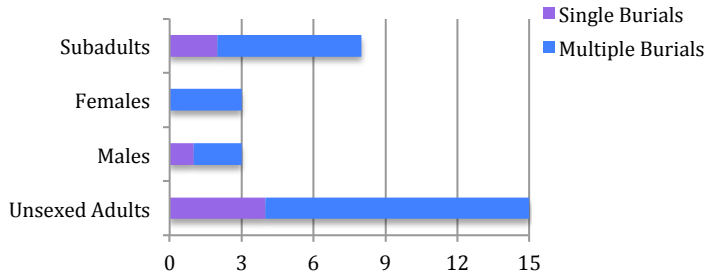


Figure A.53: Burial form at Riggs.

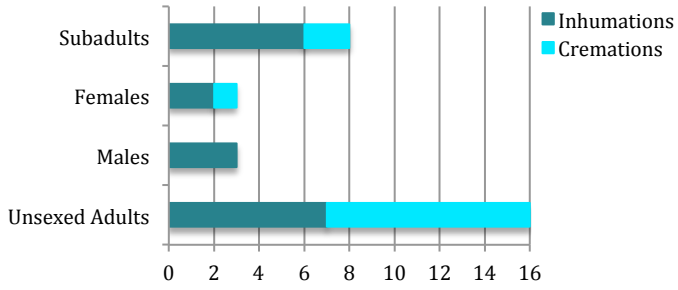


Figure A.54: Burial mode at Riggs.

Although the population included 19 inhumations, Mortimer did not provide any osteological assessments and the site is believed to be a part of the Mortimer Collection housed at the HERM.

A.3.4.17 Staple Howe

The site is located down the northern escarpment of the western Wolds. Between 1951 and 1958 Brewster excavated the palisade settlement, which, based on the presence of bronze razors, was dated to the Late Bronze Age to Early Iron Age transition (Manby *et al* 2003: 68). The skeletal elements (fragments as opposed to complete skeletons) belonging to three separate individuals were discovered by Brewster and analysed by Brothwell. Brothwell found the first, based on cranial fragments to tentatively belong to a male who did not exhibit any pathologies. The second cranial fragment belonged to a possible young adult female, and once again did not display any pathologies. The final individual was identified based on a long bone fragment and, very tentatively, Brothwell proposed this element belonged to a possible adult male, but not the first male already described (Brewster 1963: 137). A piece of carbonised grain found on a quarried platform was C^{14} dated which coincided with the date provided by the accompanying artefacts (Table A.34; Barker and Mackay 1963: 54). It is believed the skeletal remains are a part of the Brewster Collection housed at the HERM, however this may be unlikely considering their fragmentary nature.

Sample number	Material	Date	Calibrated Date	Reference
BM-63	Carbonised grain	2400 ± 150 BP	600-300 cal BC	Barker and Mackay 1963: 54

Table A.34: Radiocarbon findings at Staple Howe.

A.3.4.18 Thixendale

Although the site has been connected to Mortimer's Painsthorpe group as well as that of Riggs, it was decided to discuss the site on its own to avoid confusion. In 1981 CS Briggs published a letter sent to the President of the Yorkshire Philosophical Society (Rev. W Vernon) in 1827 by the Vicar of Huggate, Rev. T Rankin (Briggs 1981:2). The letter provided an account of the discovery of two barrows containing *Ancient Britons* as both "dead bodies" and cremations (Briggs 1981: 3). It is believed these discoveries were what led Mortimer to excavate at Riggs, an adjacent site, though whether these remains were actually excavated and retained is unknown.

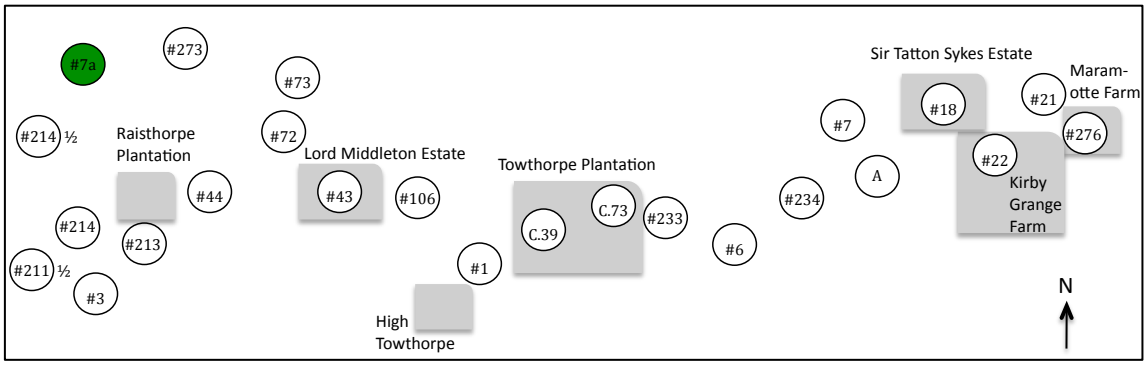
A.3.4.19 Towthorpe

Towthorpe is a multiphase site on the southern side of the Great Wold Valley. It was first excavated by Rev. Christopher Sykes in 1798 or 1799, though records have not survived. Mortimer then excavated it in eleven different field seasons between 1863 and 1892, opening 20 of the 21 visible barrows, and resulting in a total population of 129 individuals (Mortimer 1905). This included 69 people belonging to the Neolithic, and 60 belonging to the Bronze Age (Table A.35, Map A.34 and Figures A.55 to A.59). Four barrows were determined to be void of human remains, six barrows contained single burials, two had double burials of inhumations and cremations and the remaining eight contained multiple burials of both burial modes, with the largest barrow (numbered 273) enclosing 16 inhumations and 53

cremations (Mortimer 1905: 1-30). The oldest barrow is number 273, a Neolithic round barrow, and was referred to by Mortimer as Howe Hill, Duggleby; though today it is simply known as Duggleby Howe, which he uncovered during the digging season of 1890 (Mortimer 1905). The remaining round barrows all date to the Bronze Age period, and Mortimer believed, within barrow 21 a large individual was sacrificed as a result of "cruel superstitions", while a child from barrow 106 had its body "barbarously severed and buried piecemeal" (Mortimer 1905: 12, 13), suggesting he interpreted the disarticulated nature of the remains, most likely caused by post mortem funerary modes and deposition, as relating to ritualistic activities.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
139	0	1	0	1
173	1	0	0	0
233	0	1	0	0
6	1	0	0	4
7	1	0	0	0
18	9	0	0	0
21	2	0	1	2
106	0	0	2	2
43	2	0	0	1
72	5:2	0	0	1
73	1	0	1	0
3	3:1	0	0	0
211 ½	0	0	1	2
276	5	0	0	4
273 (Duggleby Howe)	5:53	2	0	9

Table A.35: Osteological findings at Towthorpe.



Map A.34: Schematic representation of Towthorpe.

The green circle represents a single unsexed adult inhumation; the barrow numbers preceded by a C represent Mortimer's method of numbering barrows above one hundred.

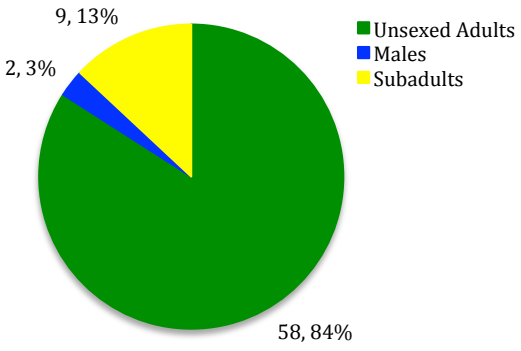


Figure A.55: Demographic profile of Neolithic Duggleby Howe.

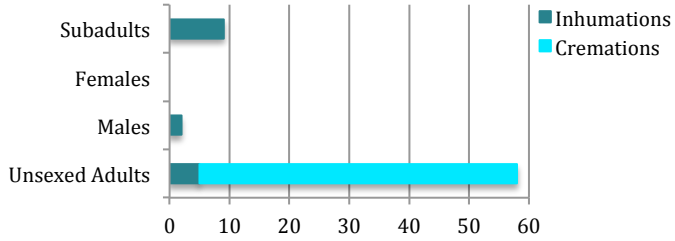


Figure A.56: Burial mode at Neolithic Duggleby Howe.

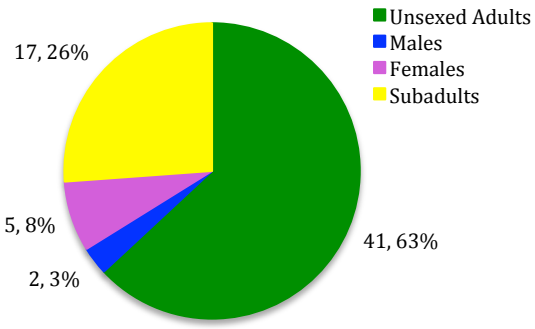


Figure A.57: Demographic profile of Bronze Age Towthorpe.

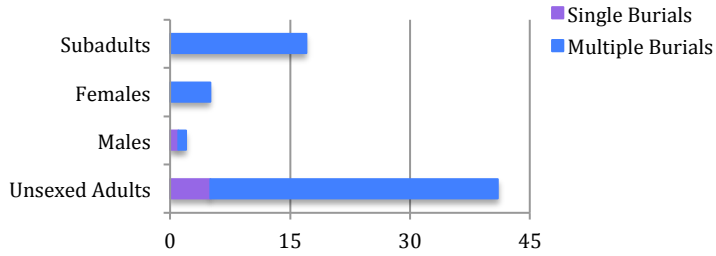


Figure A.58: Burial form at Bronze Age Towthorpe.

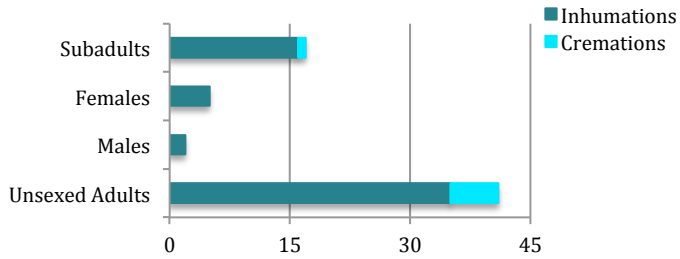


Figure A.59: Burial mode at Bronze Age Towthorpe.

Mortimer had Dr. JG Garson examine the remains from Duggleby Howe. In his report Garson determined there were seven males and two subadults, though "according to the usual rule, the description of the specimens I am about to give will only include the adults in the series" (Mortimer 1905: 30), suggesting the prevailing interpretive methodologies did not appreciate the value in analysing subadult human remains. He focused much of his work on craniometrics, though he did discover one of the males had evidence of sharp force trauma to

both parietals, implying he had been viciously hit on both sides of the head, which caused his death (Mortimer 1905: 34). Additionally, Garson lamented in Mortimer's reluctance (or disinterest) in removing all of the bones of the skeletons, as they may have proved important to his discussion (Mortimer 1905: 36). Mortimer responded that beyond specialists, the ordinary archaeologists would find other relics much more useful and stated he already had cartloads of skeletal remains [suggesting additional osseous elements would not add to his understanding of the prehistoric populations] (Mortimer 1905: 41).

Overall Garson provided very brief details on the skulls (with the exception of measurements for craniometrics) and he left out the possible ages of those he examined. As a result Mortimer felt the need to state he believed the remains were those of individuals between 18 and 70, representing three generations whom were all buried at the same time. Furthermore, he examined 40 of the cremations and determined they represented approximately "25% infants and young children, 65% between subadults and men and up to 15% very old people" [percentages taken from Mortimer 1905: 41]. He concluded that those that were cremated were either the slaves or workers of the main family or were prisoners of war, either or both of whom were killed as sacrifices upon the deaths of the family (Mortimer 1905: 41). Mortimer did not provide any additional comments on his 58 Bronze Age skeletons.

More recently, Cooper (2004) sampled the teeth of seven individuals from Neolithic Duggleby Howe (DH) and three from Bronze Age Towthorpe (TP) in order to determine mobility for food procurement through time on the Wolds (Table A.36, Figure A.60). Five males and one subadult attributed to the Neolithic had a range of 0.708587 to 0.709990, while the three adults from Towthorpe had a range of 0.709213 to 0.710967 (Cooper 2004: 43-44). When these results were combined with others on the Wolds (at Aldro and Calais), and compared, Cooper (2004:75) found the Neolithic period results suggested multiple food source areas, while the Bronze Age represented a more restricted geographic range within which to obtain food.

Sample Number	Burial Number	Sex	Tooth	Sr Ratio
DH1	72/G	Male	RPM^2	Fail
DH2	73/I	Male	LPM^2	0.709538
DH3	69/C	Male	LPM_1	0.709106
DH4	74/K	Male	RPM_1	0.708587
DH5	76/M	Male	RPM_1	0.709990
DH6	72/H	Subadult	DRM_2	0.709342
DH7	75/L	Male	RPM^1	0.709842
TP16	73/_	Female	L^C	0.709213
TP17	72/D	Male	RPM^2	0.710444
TP18	3/_	Female	RM^2	0.710967

Table A.36: Strontium findings at Towthorpe (Cooper 2004: 43-44).

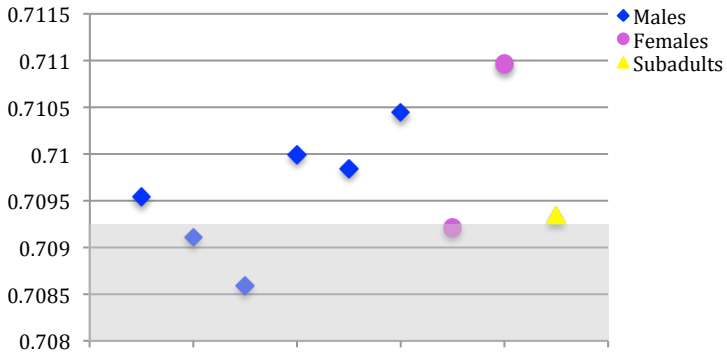


Figure A.60: Strontium findings at Towthorpe.

The shaded area represents the local Yorkshire Wolds signal as determined by Montgomery and colleagues (2005).

Most recently, as part of a larger English Heritage project exploring the Neolithic barrows in the Upper Great Wolds Valley Gibson and Bayliss reassessed the surviving material from Duggleby Howe in order to determine its current state. Unfortunately they discovered that none of the cremations unearthed by Mortimer could be readily identified at HERM. Furthermore only 11 individuals (of the original 16) could now be considered as present in the collection, suggesting that considerable amounts of cranial and post-cranial elements had been lost since the excavation (Gibson and Bayliss 2009). In a new osteological assessment it was determined that one old adult male exhibited gross caries, one subadult aged to between 10 and 11 had evidence of CO and one middle adult male presented OA in his right mandibular condyle. Furthermore, they did identify the individual discussed by Garson with cranial fractures and actually determined the skull was that of a young adult female who not only exhibited these two wounds to her parietals but also a possible blade wound to her frontal bone and a healed broken nose (Gibson and Bayliss 2009: 54). Additionally, a middle adult male had a possible perimortem fracture to his left parietal and also an abscess, while an unsexed young adult exhibited bowlegs, which may have been the result of infantile scurvy. Based on these findings, Gibson and Bayliss (2009: 73) doubted these individuals were members of the elite, and rather, their pathologies and trauma pointed to a group disadvantaged in some way. The Towthorpe site is a part of the Mortimer Collection housed at the HERM, though Gibson and Bayliss (2009) determined it is not complete.

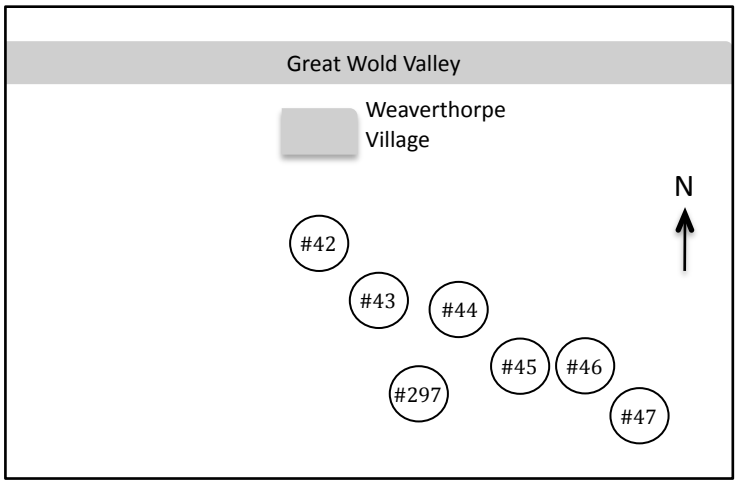
A.3.4.20 Weaverthorpe

The site is situated along the valley floor adjacent to the Gypsey Race in the western Wolds. Prior to 1877 Greenwell surveyed and excavated six round barrows in the area and in 1910 Mortimer excavated a single additional round barrow, which were all attributed to the Bronze Age (Greenwell 1877: 193; Mortimer 1911a: 214) and resulted in a total population of 33 people (Table A.37, Map A.35 and Figures A.61 to A.63).

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)

42	1	2	0	1
43	1	4	1	6
44	2	1	1	0
45	1	0	0	2
46	3	0	1	2
297	1:1	2	0	0

Table A.37: Osteological findings at Weaverthorpe.



Map A.35: Schematic representation of Weaverthorpe.

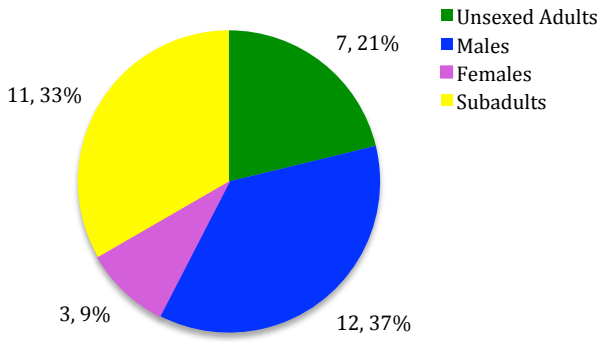


Figure A.61: Demographic profile of Weaverthorpe.

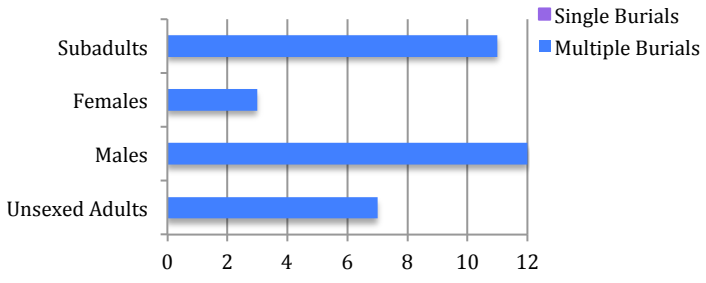


Figure A.62: Burial form at Weaverthorpe.

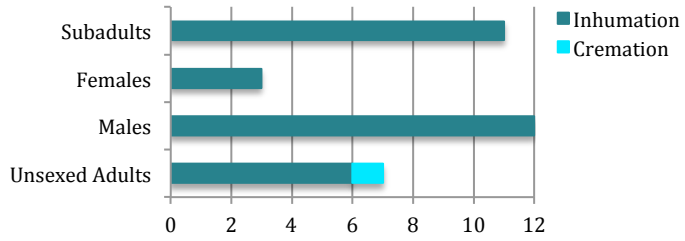


Figure A.63: Burial mode at Weaverthorpe.

One of Greenwell's barrows was found to be empty and the remaining five were multiple burials of between three and 12 inhumations. The most populated barrow (numbered 43) had six children accompanying four males, a female and an unsexed adult and Greenwell hypothesised that the children in this barrow belonged to the female and that they were all killed upon her death (Greenwell 1877: 197). When Mortimer opened a single barrow, which he numbered 297, in 1910, he found the remains of four individuals.

Rolleston assessed two individuals from these barrows. The first, from barrow 44 was determined to be an aged male with very worn teeth, while the second, attributed to barrow 46 was a 20 to 24 year old male, 173 cm (5ft. 8in.) in height and of considerable muscular strength (Greenwell 1877: 570, 620). Neither of the individuals were found to exhibit any pathologies. Beyond the cremated unsexed adult, Mortimer provided additional information regarding the three inhumations he exhumed (Mortimer 1911: 214-5). The first, an unsexed adult he thought to be forty years of age based on the dentition, the second, a young male aged twenty who was determined to be 183 cm (6ft.) and found to be lacking all four of his third molars, and the third, a middle aged male with very worn teeth and a stature of 188 cm (6ft. 2in.). Overall Mortimer proposed these individuals belonged to a powerfully built race of men (Mortimer 1911: 217). It is believed that the inhumations exhumed by Greenwell and Mortimer are a part of their collections at the NHM and the HERM respectively.

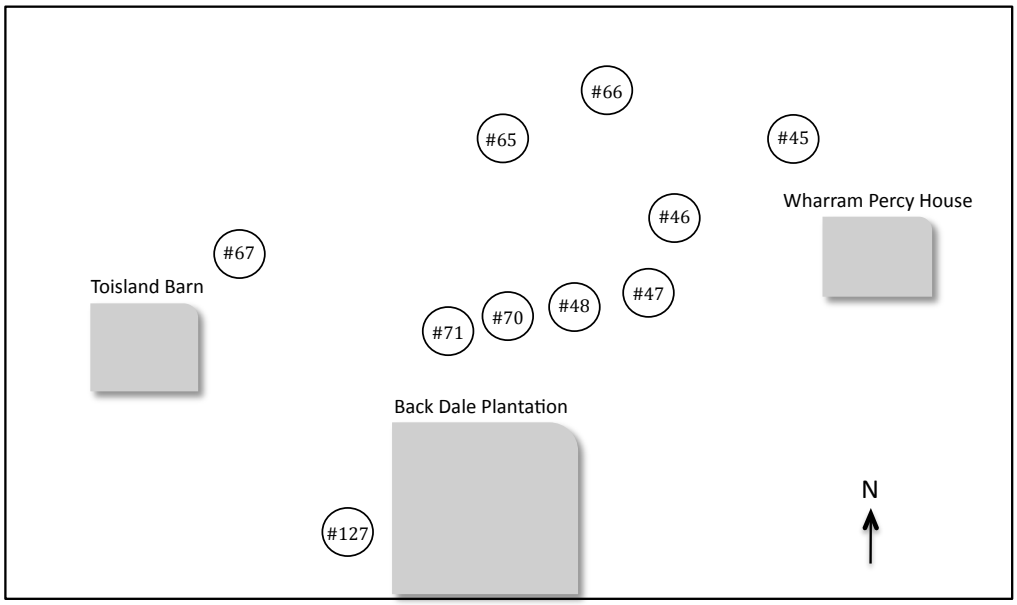
A.3.4.21 Wharram Percy

Wharram Percy, the site of a well-known abandoned medieval village in the western Wolds was also in use during the prehistoric period. In 1866, 1868 and 1883 Mortimer explored the area and found and opened ten round barrows tentatively attributed to the Bronze Age (Mortimer 1905: 44), resulting in a total population of 22 (Table A.38, Map A.36 and Figures A.64 to A.66). Four barrows contained single cremations while the remaining six had mixtures of inhumations and cremations within multiple burials of between two and four people.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
45	1	0	0	0
46	0	0	0	1
47	1:1	0	0	0
48	1	0	0	0

70	1	0	0	1
71	1	0	0	0
65	3	0	0	1
66	1	0	0	3
67	1	1	0	1
127	1:1	1	0	0

Table A.38: Osteological findings at Wharram Percy.



Map A.36: Schematic representation of Wharram Percy.

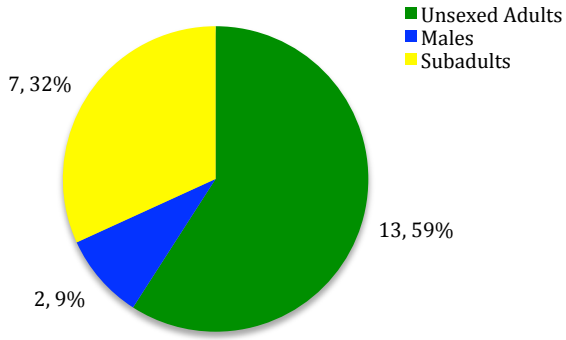


Figure A.64: Demographic profile at Wharram Percy.

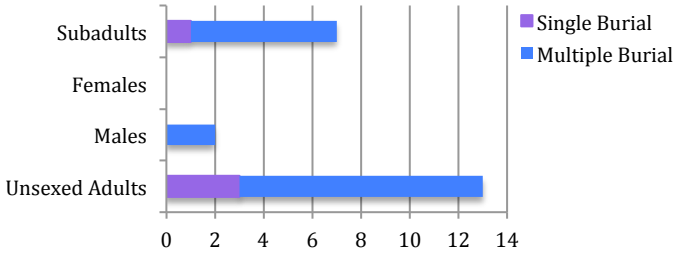


Figure A.65: Burial form at Wharram Percy.

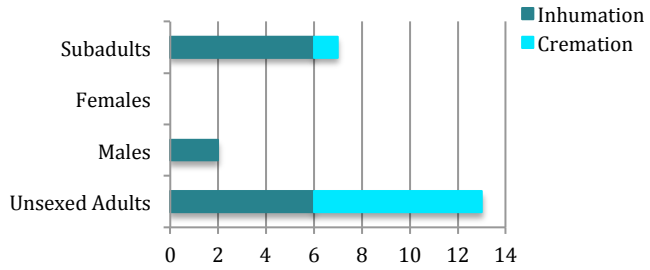


Figure A.66: Burial mode at Wharram Percy.

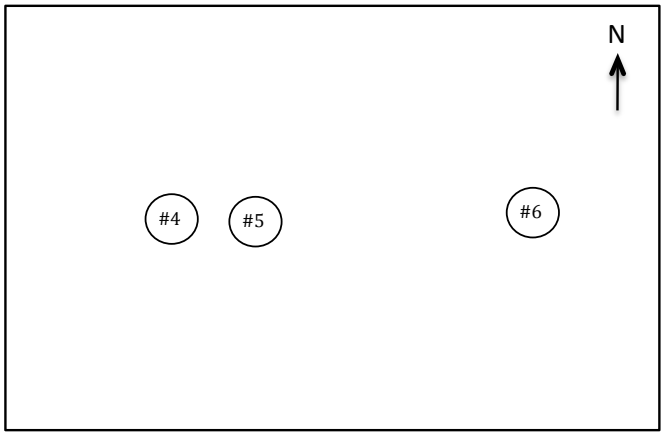
Mortimer only commented on one individual and made a special note of an adult within barrow 65 who "had a hole punched through the frontal bone" (Mortimer 1905: 48), suggesting a possible cause of death. As Mortimer excavated these remains, it is assumed the site is part of the Mortimer Collection at the HERM.

A.3.4.22 West Heslerton

Although well known for its Anglo-Saxon settlement site, West Heslerton, located on the northern edge of the western Wolds, was also occupied during prehistory as Greenwell found and excavated three round barrows belonging to the Bronze Age resulting in a total population of three (Table A.39 and Map A.37). One contained a single adult male and two contained single subadult inhumations (Greenwell 1877: 141-4). During the mechanical extraction of a sandpit at the site in 1965, a human skeleton was discovered with a jet necklace containing 16 Bronze Age-type beads, though no further information is available (Rutter 1965: 559). From 1979 Powlesland and co-workers excavated the site and more recently, as part of a rescue excavation during the digging of a pipe trench along the A64 (Powlesland et al 1986; Haughton and Powlesland 1999). Along with an extensive Anglo-Saxon cemetery, they found the remains of a Late Neolithic hengiform enclosure, a timber post circle, three Early Bronze Age round barrows, only one of which contained three inhumations, four flat Bronze Age graves and two square Iron Age inhumations (Evans *et al* 2005: 125). This resulted in a combined Late Neolithic/Early Bronze Age population of nine people (Figure A.67) and one male and one unsexed adult attributed to the Iron Age.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
4	0	0	0	1
5	0	1	0	0
6	0	0	0	1

Table A.39: Greenwell's osteological findings at West Heslerton.



Map A.37: Schematic representation of Greenwell's excavation at West Heslerton.

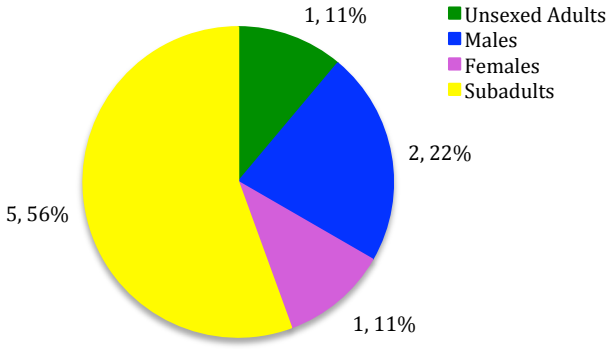


Figure A.67: Demographic profile of Late Neolithic/Early Bronze Age West Heslerton.

In 2005 Montgomery and co-workers analysed tooth samples from the prehistoric and Anglo-Saxon remains found at West Heslerton derived from Powlesland's excavation (Haughton and Powlesland 1999) to determine the population make-up of the site. The prehistoric remains include six individuals dating to the Neolithic and Early Bronze Age transition and two Iron Age adults that were analysed for their strontium ratios (Table A.40, Figure A.68; Montgomery *et al* 2005: 128). Overall they concluded there were two outliers in the group, one Neolithic / Early Bronze Age (2BA229) and one Iron Age (WHIA-2) that were most likely migrants from other regions in Britain, while the remainder were from the immediate vicinity (Montgomery *et al* 2005: 135).

Sample Number	Date	Sex	Tooth	Sr ratio
IR266	Neo/EBA	Subadult	LPM_1	0.708849
IR271	Neo/EBA	Subadult	LPM_1	0.709057
IR304	Neo/EBA	Subadult	RPM_2	0.709010
2BA229	Neo/EBA	Male	RM^1	0.711080
2BA283	Neo/EBA	Female	RM^3	0.709572
2BA589	Neo/EBA	Unsexed Adult	RM^3	0.708973
WHIA-1	Iron Age	Unsexed Adult	RPM^1	0.708465
WHIA-2	Iron Age	Male	RPM_1	0.711006

Table A.40: Strontium findings at West Heslerton (Montgomery *et al* 2005: 128).

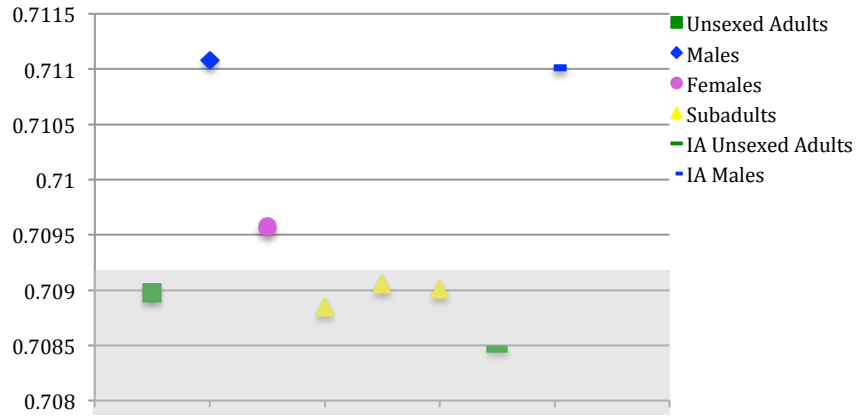


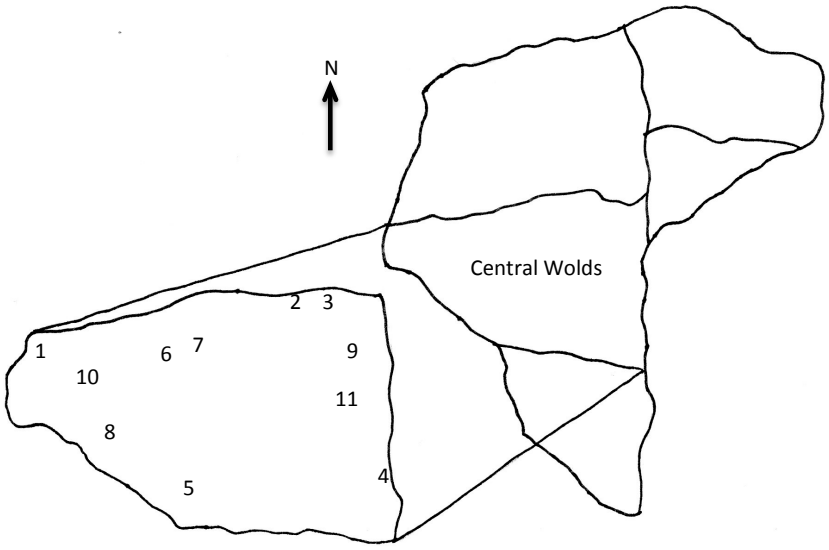
Figure A.68: Strontium findings at West Heslerton.

The shaded area represents the local Yorkshire Wolds signal as determined by Montgomery and colleagues (2005).

Rolleston examined the adult male from Greenwell's barrow five and found him to be in the middle period of life at death and exhibiting a congenital absence of all four third molars (Greenwell 1877: 142). One of the individuals from a Bronze Age flat grave excavated by Haughton and Powlesland (1999) exhibited some interesting pathologies. The skeleton was that of an adult male with very narrow bilateral auditory meatuses, suggesting he may have had a hearing or speech impediment. Additionally, he exhibited a healed Parry fracture to his left ulna and an unhealed fracture to his right mandibular condyle, which was postulated as being the result of an upward blow to the face that may have contributed to death (Haughton and Powlesland 1999: 53). The evidence of several traumas suggests this individual may have been subjected to multiple physical assaults. When his sensory impairment was also considered, it may have made this individual a target for such attacks (Haughton and Powlesland 1999: 54). The remains excavated by Greenwell are currently at the NHM and it is believed those unearthed by Haughton and Powlesland are also retained by them.

A.3.5 The Central Wolds

The area is bordered to the north by Bishop Wilton, Fridaythorpe, Wetwang and Garton on the Wolds, to the east by Kirkburn, Etton and Beverley, to the south by Bishop Burton, Arras and Market Weighton and to the west by Pocklington and Londesborough. There are eleven prehistoric sites with human remains including three that are multiperiod; Calais Neolithic to Bronze Age, Garton Slack Neolithic to Bronze Age and Wetwang Slack Bronze Age to Iron Age. Additionally there are five belonging to the Bronze Age including the sites of Etton, Goodmanham, Huggate, Huggate and Warter Wold and Londesborough and three attributed to the Iron Age; Eastburn, Grimthorpe and Middleton-on-the-Wolds (Map A.38).



Map A.38: Map of central Wolds site locations.

Sites: 1 Calais Wold, 2 Garton Slack, 3 Wetwang Slack, 4 Etton, 5 Goodmanham, 6 Huggate, 7 Huggate and Warter Wold, 8 Londesborough, 9 Eastburn, 10 Grimthorpe and 11 Middleton-on-the-Wolds.

A.3.5.1 Calais Wold

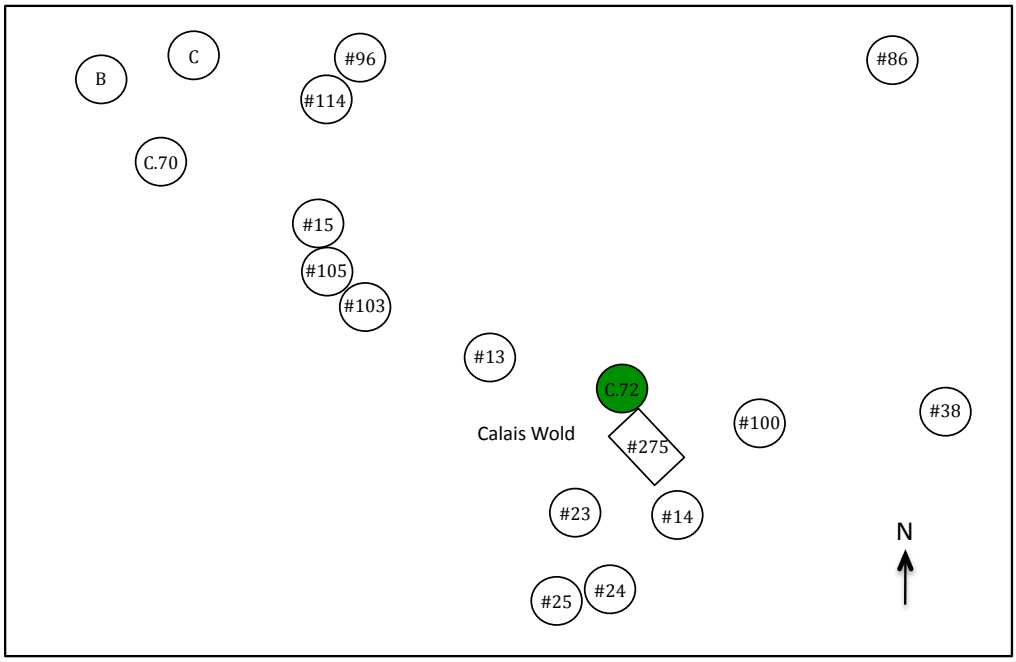
Calais (or Callis) Wold is situated on the highest point on the central Wolds at 807 feet above sea level (Mortimer 1905: 153). Between 1864 and 1892 Mortimer found and opened 19 barrows and discovered one long barrow belonging to the Neolithic (numbered 275) and 15 to the Bronze Age. In 1974-5 Mortimer's long barrow 275 was completely re-excavated by D. Coombs on behalf of the Department of the Environment in advance of a farm extension that would have resulted in the complete destruction of the barrow (Coombs 1976: 130). Although Mortimer found and identified nine individuals, he missed several additional disarticulated remains of one adult and an infant as well as a partially burnt mortuary structure, resulting in a total population of 27 people; eleven attributed to the Neolithic and 16 to the Bronze Age (Table A.41, Map A.39 and Figures A.69 to A.73). Within the barrows, two were determined to be devoid of human remains, seven contained single graves and the remaining seven had at least two individuals in each with a high of 11 individuals within the Neolithic barrow (Mortimer 1905: 154-168; Coombs 1976: 130).

Mortimer assessed one individual, a single adult male inhumation from barrow 23. He identified all of the bones of his left hand as being ankylosed and united to one another as well as to the radius and ulna and one phalange, suggesting the hand was not able to perform basic tasks (Mortimer 1905: 154). In 1961 Brothwell published a report on the paleopathology of early British man, and included an analysis of an adult male Bronze Age skeleton from Calais Wold originally excavated by Mortimer that exhibited extensive osteomyelitis, arthritis and bone fusion on his wrist relating to an earlier injury. Most likely this is the same individual Mortimer previously described. Brothwell (1961) detailed the

bones involved and the description provides a glimpse, however limited, into the life of this individual.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
23	0	1	0	0
24	1	0	0	0
25	1	0	0	0
14	2	0	0	1
100	2:1	0	1	0
275	5:2	0	0	3:1
13	1	0	0	0
103	0	0	0	1
105	1	0	0	0
15	2	0	0	0

Table A.41: Osteological findings at Calais Wold.



Map A.39: Schematic representation of Calais Wold.

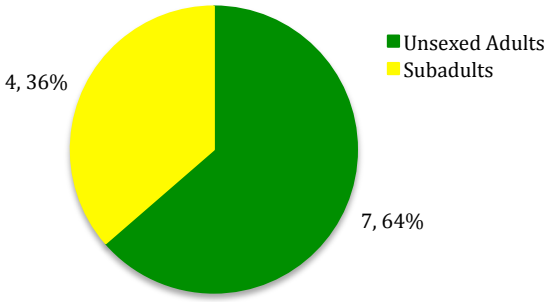


Figure A.69: Demographic profile of Neolithic Calais Wold.

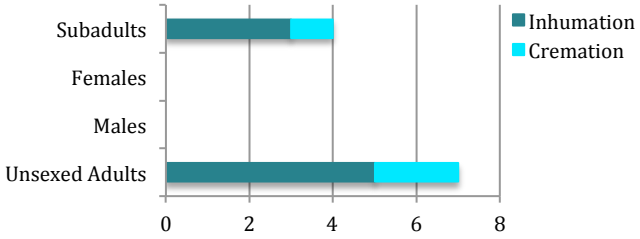


Figure A.70: Burial mode at Neolithic Calais Wold.

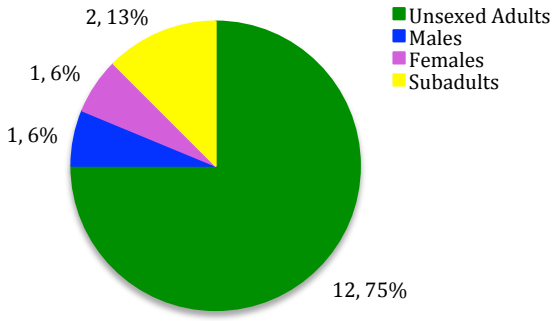


Figure A.71: Demographic profile of Bronze Age Calais Wold.

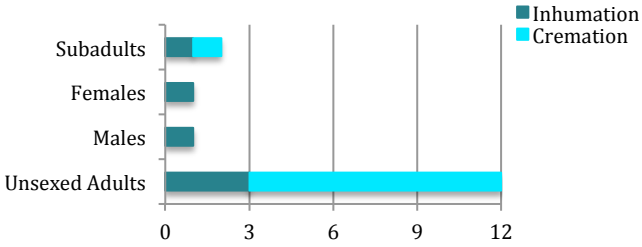


Figure A.72: Burial mode at Bronze Age Calais Wold.

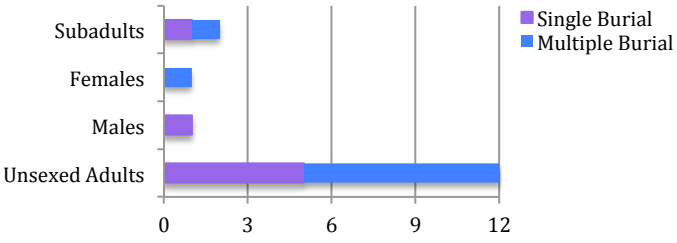


Figure A.73: Burial form at Bronze Age Calais Wold.

According to Coombs (1976) it was the presence of the remains as well as two pits at the end of a platform theorised to be a mortuary enclosure, which led him to attribute the barrow to the Neolithic period and concur with Mortimer's earlier findings, however Coombs proposed it to be round, not long in shape (Coombs 1976: 130). Two samples of charred deposits from the stone floor façade were radiocarbon dated suggesting a late Neolithic for the base of the

barrow (Table A.42; Manby *et al* 2003: 49). The skeletal elements unearthed in this excavation were not osteologically assessed and the location of the remains is unknown.

Sample number	Material	Date	Calibrated Date	Reference
BM-1167	Charcoal	4800 ± 70 BP	3706-3376 cal BC KW	Manby *et al* 2003: 49
BM-1170	Charcoal	4930 ± 90 BP	3706-3376 cal BC KW	Manby *et al* 2003: 49

Table A.42: Radiocarbon findings at Calais Wold.

More recently, Cooper (2004) sampled five Neolithic skeletons from Mortimer's barrow 275 and one individual from each of Mortimer's Early Bronze Age barrows 100 and 23 for strontium ratios to assess the amount of mobility involved in food procurement during the Neolithic and Early Bronze Age on the Yorkshire Wolds. The burial from barrow 23 was sampled twice to investigate mobility within the individual's childhood (identified in the chart with white centred markers). Those from barrow 275, all adult males (that she sexed, as Mortimer identified four of them as adults), had values between 0.707945 and 0.709851 (Table A.43, Figure A.74), suggesting to her that the Neolithic inhabitants did not lead straightforward sedentary agricultural lives, but rather they obtained their resources from a variety of different geographic areas (Cooper 2004: 74).

Sample No.	Date	Barrow No.	Burial No. (Mortimer)	Sex	Tooth	Sr Ratio
CW8	Neolithic	275	7	Male	LPM^2	0.708889
CW9	Neolithic	275	9	Male	RM^2	0.709851
CW10	Neolithic	275	8?	Male	LC^1	0.709851
CW11	Neolithic	275	3	Male	RPM_1	0.709311
CW12	Neolithic	275	?	Male	LPM_1	0.707945
CW13	EBA	100	2	Male	RPM_1	0.711996
CW14	EBA	23	-	Male	RM^3	0.708009
CW15	EBA	23	-	Male	RC^1	0.709181

Table A.43: Strontium findings at Calais Wold (Cooper 2004: 43-44).

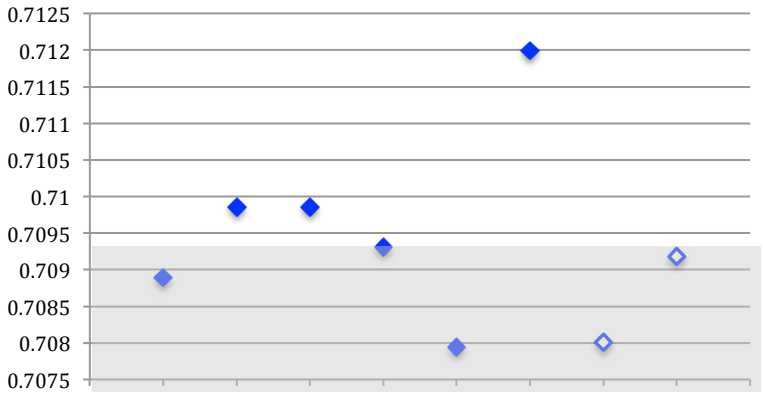


Figure A.74: Strontium findings for males at Calais Wold.

The diamonds with the white centres represent the third molar and canine of the same individual from barrow 23. The shaded area represents the local Yorkshire Wolds signal as determined by Montgomery and colleagues (2005).

For those attributed to the Early Bronze Age (which Cooper also sexed) from barrow 100 the male adult had a value of 0.711996 suggesting mobility from a long distance from the Wolds, while the adult male individual from barrow 23 produced two values, the earlier of which was 0.709181 and the later 0.708009 suggesting significant movement within the Yorkshire

Wolds around puberty (Cooper 2004: 69). It is believed that the remains excavated by Mortimer formed a part of the Mortimer Collection housed at the HERM, however the completeness of the population is unknown.

A.3.5.2 Eastburn

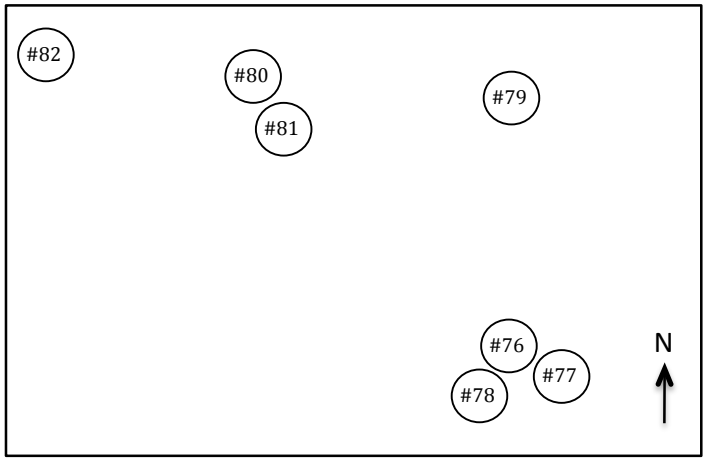
The site of Eastburn received antiquary attention by Mortimer in 1866, 1870 and 1884 and by Sheppard prior to 1938. As Mortimer identified the three barrows he examined as part of his Garton Slack group, they (numbered 80, 135 and 268) are discussed within the context of that site. As a result of the building of aerodromes at Eastburn the construction of the concrete foundations led to the discovery of four separate graves containing single inhumations (Sheppard 1938: 35). Sheppard was not present for the discovery but was informed and the HERM received the relics but it is unclear if that included the human remains. At a later point in time the construction had continued on one of the hangers and during the levelling of the area the construction crew uncovered the outlines of 50 graves (Sheppard 1938: 37). Sheppard examined them prior to their being filled over with concrete and noted a "dark, usually squarish place in the centre [of the tumulus] which contained a skeleton" (Sheppard 1938: 37), suggesting square barrows may have been present at Eastburn. The only comments regarding the burials were that they were usually singly buried, though occasionally there were two internments within one grave, and the skeletons were too badly decomposed to remove for further examination (Sheppard 1938: 37), implying the remains are today, buried underneath the concrete of a hanger at Eastburn (if that hanger is still currently intact). One year after this excavation the Royal Air Force discovered an additional skeleton. Sheppard removed the remains and examined them at the HERM where he concluded they belonged to a young female whose third molars had not yet erupted [suggesting an age of under 18 years] (Sheppard 1938: 39). It is assumed, though undetermined, that these remains are still at the HERM.

A.3.5.3 Etton

The site, located at the southern end of the central Wolds is adjacent to Market Weighton to the northeast and Goodmanham to the southeast. The site grabbed the interest of Greenwell prior to 1877 and he noted that of the nine (or more) original Bronze Age barrows, three had been previously opened and pillaged, though no information regarding who dug or what was found was available. He decided to excavate seven mounds, though he did not mention if any of them had been explored prior to his assessment and his work resulted in the discovery of a total population of eleven people and with the exception of two males, all were cremation burials (Table A.44, Map A.40 and Figures A.75 and A.76). The barrows, numbered 76 to 82 contained the single graves of five individuals and two multiple interment graves of three people (Greenwell 1877: 282-5). Greenwell did not offer any additional comments regarding the site or the population.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
76	0	0	1	0
77	0	1	0	0
78	0	1	0	0
79	2	1	0	0
80	0	1	0	0
81	0	0	0	1
82	0	0	1	2

Table A.44: Osteological findings at Etton.



Map A.40: Schematic representation of Etton.

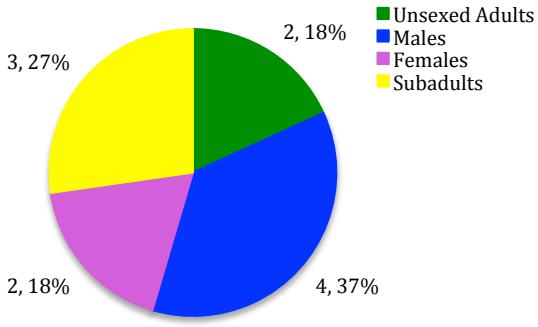


Figure A.75: Demographic profile of Etton.

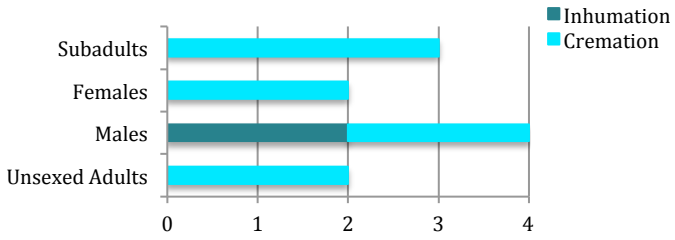


Figure A.76: Burial mode at Etton.

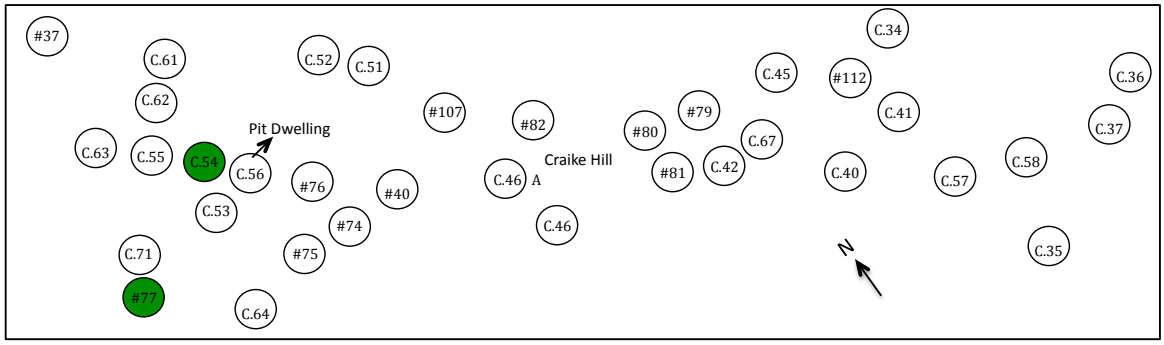
Between 1969 and 1970, on behalf of the MPBW Coombs re-excavated three of Greenwell's barrows as a rescue operation in advance of the threat of complete destruction due to agricultural activities (Coombs 1974: 3). Coombs noted the barrows had already been ploughed down and were much flattened and upon his excavation and due to Greenwell's prolific digging, he only uncovered the disarticulated and partially cremated bones of one

individual within Greenwell's barrow 79 (Coombs 1974: 5). Neither of the two inhumations excavated by Greenwell were osteologically analysed, and as the vast majority of remains uncovered were cremations it is highly unlikely they were removed. It is unclear if the skeletal fragments were kept or reburied.

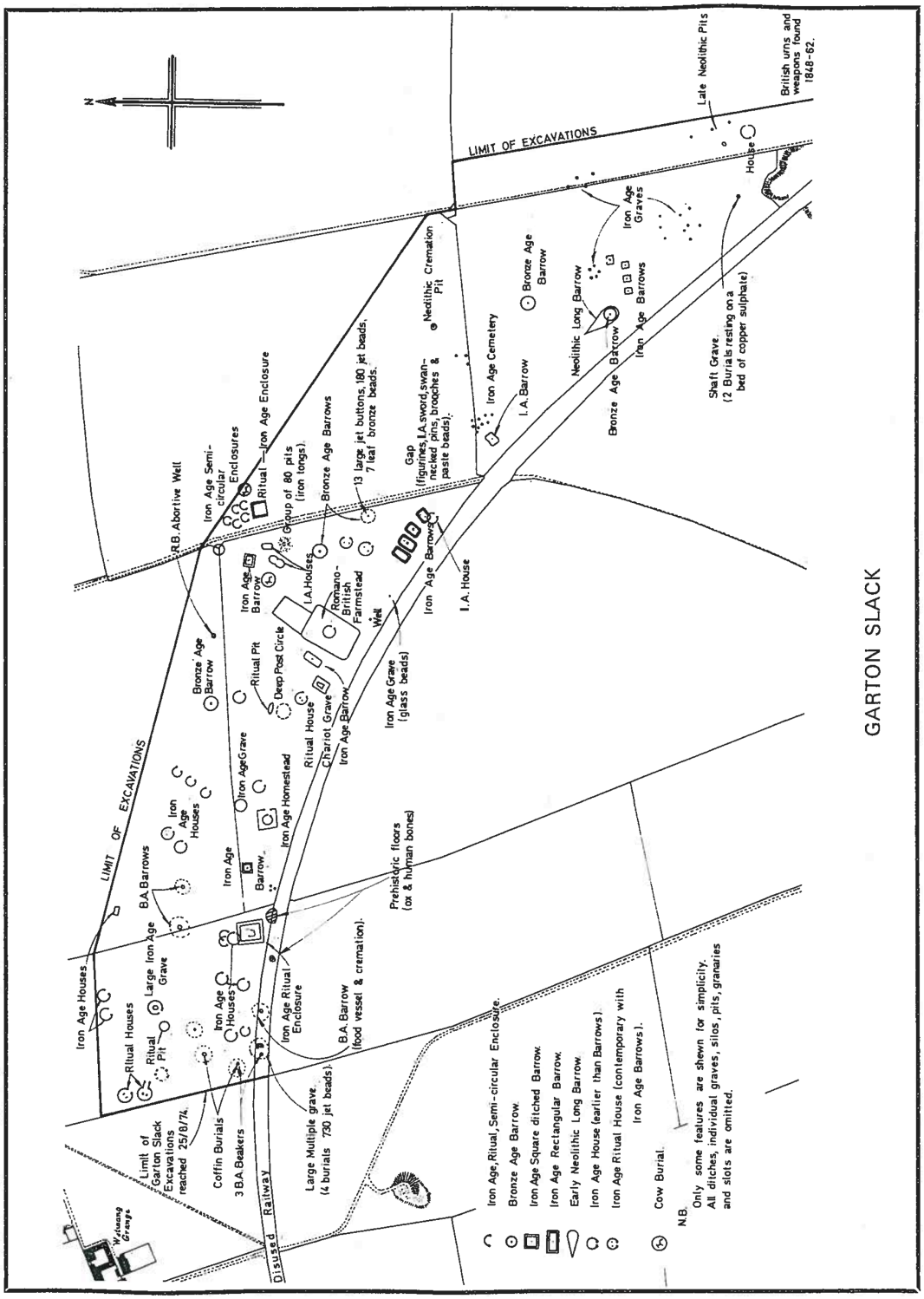
A.3.5.4 Garton Slack

Garton Slack is a multi-phase (Neolithic and Bronze Age) site along the western edge of the Great Wolds Valley of the Yorkshire Wolds. Mortimer first excavated the site in 1865 in what would become two separate three-year field seasons (1865-67 and 1872-74). In 1964-5 the Grantham brothers explored the site, and though their findings were never published, Dent (1983a) provided details on some of the findings from their archive, and Stead (1971) estimated their discoveries to include over thirty Early Iron Age burials. Between 1965 and 1975 over one hundred acres of Garton and Wetwang Slack were excavated by Brewster and the ERARC for the IAM prior to the area being used exclusively as a gravel extraction quarry (Brewster 1980: 1), which Dent then undertook from 1975 to 1980, resulting in a total Bronze Age population of 142 people and an Iron Age population of 96 individuals (Maps A.41 and A.42, Table A.44 and Figures A.77 to A.79).

As the earlier excavator, Mortimer, focused exclusively on Garton Slack, the finds will be dealt with separately, however it is important to provide some context to the vast undertaking by Brewster and Dent before moving on to the human remains. At one time the slack area (which included both the Garton and Wetwang Slack sites) contained over 40 Bronze Age round and 300 Iron Age square barrows in addition to numerous isolated single graves dating to prehistory (Brewster 1980: 2). During his excavation at Garton Slack, Brewster and colleagues uncovered the remains of a Neolithic long barrow; four Early Iron Age square ditched barrows and a cemetery of single graves, including a very important chariot burial discovered in 1971 (Brewster 1975: 110). Originally there were plans to extend the excavation and rescue all of the visible barrows, however, in 1975 the ERARC withdrew all funding for excavation and post-excavation and Brewster had to cease all fieldwork. Fortuitously Dent and the Humberside Archaeological Committee (HAC) took over the dig and continued excavating until the job was completed, resulting in the discovery of additional Bronze Age and Iron Age burials at Garton Slack including chariots, and a total of 446 burials at Wetwang Slack (Dent 1983a).



Map A.41: Schematic representation of Mortimer's excavations at Garton Slack.



Map A.42: Site plan of Brewster's excavations at Garton Slack (Brewster 1976: 106).

During Mortimer's excavation of Garton Slack, he found 35 barrows, and of these, Mortimer opened 20 round barrows that he believed dated to the Bronze Age based on burial style and grave goods (Mortimer 1905: 208). He excavated two barrows in 1865 and found the first to contain a double burial of unsexed adults and the second (numbered 37), held the remains of 14 unsexed adults (five of which Mortimer believes were interred at the same time due to their position relative to one another) and the cremated remains of one.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)

37	14:1	0	0	1
161	0	1	0	0
162	5:3	0	2	2
163	4	1	0	1
151	2:1	0	0	1
152	3	1	1	1
153	0	1	0	1
155	1	1	0	0
156	0	1	1	0
74	1	0	0	2
75	1:4	1	2	1:1
171	3	0	0	2
40	2	0	0	1
107	1	2	2	1
82	2:4	3	1	1:1
146	0	1	0	0
80	1:11	1	1	1

Table A.45: Osteological findings by Mortimer at Garton Slack.

In 1866 Mortimer excavated five barrows, two containing single unsexed adults, while the remaining three held the remains of multiple burials of between three and nine people. In 1867 Mortimer excavated two multi-burial barrows of four and ten burials, while in 1872 he opened seven barrows consisting of two single unsexed internments, four with double inhumations and one with six unsexed adults (Mortimer 1905: 232). Mortimer found and opened four barrows in 1873, which included two single burials and two multi-burials of four and ten graves (Mortimer 1905: 214). During his last year of digging in 1874, Mortimer opened one barrow and found eight inhumations.

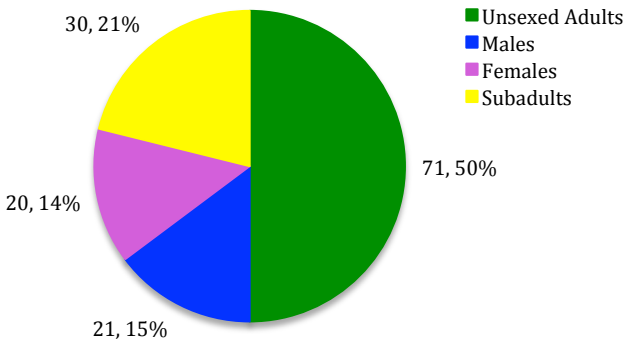


Figure A.77: Demographic profile of Bronze Age Garton Slack.

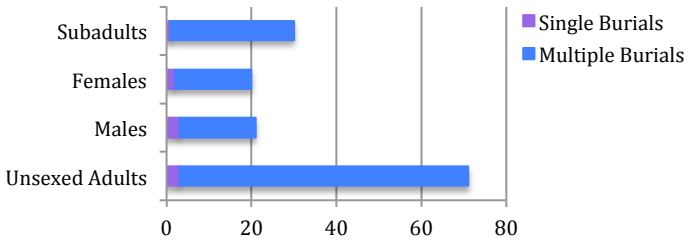


Figure A.78: Burial form at Bronze Age Garton Slack.

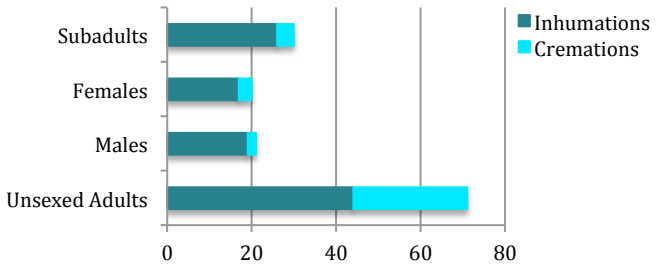


Figure A.79: Burial mode at Bronze Age Garton Slack.

In 1964 and 1965 the Grantham brothers located the remains of barrows belonging to the Early Iron Age when the quarrying began (Brewster 1971: 298) and although not a complete record, Dent (1983a) reported they had unearthed five unsexed adults, three males and four females. Ten were singly buried and two were secondary burials in the same barrow (Dent 1983a: 11). Under Brewster the excavation at Garton Slack in 1965 led to the discovery of a cremation long barrow underneath Mortimer's Bronze Age barrow 37, with the remains of side ditches and bedding trenches. While Mortimer had believed his site, based on burial style and associated grave goods, to be a Bronze Age cemetery, dating by Brewster of a burial pit within a cremation furnace of barrow 37 found the long barrow dated to the Neolithic (Dent 1983a: 3), suggesting the Bronze Age round barrow Mortimer excavated was built overtop of the long barrow once it went out of use. See Table A.48 for a summary of radiocarbon dates for Garton Slack, which suggest the site had a much more extensive history then had previously been understood. Although Dent took over the excavation, his findings were centred at Wetwang Slack and will be discussed there.

Additionally, Brewster uncovered 15 Bronze Age barrows, six single inhumations, four cremation burials of one to three individuals, one barrow with a mixture of inhumations and a cremation and the remaining four barrows with between four and six individuals (Table A.46; Brewster 1980: 697-727).

Brewster Bronze Age Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
1	0	0	2	2
3	0	1	0	0
6	0	0	1	0
7	0	0	0	1
Cremation pit 1	0	1	1	0
10	0	1	0	0
14	0	1	0	0
Cremation pit 2	1	0	1	1
17	0	0	1	0
18	0	0	0	1
Cremation pit 3	1	0	1	0
29a	1	2	2	2
29b	1	1	1	3
31 (Tr. 1)	0	0	0	1

Table A.46: Osteological findings by Brewster at Bronze Age Garton Slack.

In 1970 and 1971, in advance of further quarrying, 16 additional acres were excavated under Brewster, which uncovered the remains of a barrow containing a chariot burial with a single male inhumation and several Iron Age multi-burial barrows of between two and five inhumations (Table A.47 and Figures A.80 and A.81; Brewster 1975: 113).

Brewster Iron Age Area / Barrow	Barrow / Grave	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
1	Square 1		1	0	0
	Square 2	0	0	1	0
	Square 3	0	2	0	0
	Single 1	0	0	1	0
	Single 2	0	1	0	0
	Single 3	0	0	0	1
	Single 4	0	0	1	0
	Single 5	0	0	0	1
	Single 6	0	0	1	0
3	Site R	0	1	0	0
4	Single 1	0	1	0	0
	Single 2	0	1	0	0
	Square 1	0	0	1	3
7	Barrow 2	0	0	2	1
	Barrow 3	0	1	2	7
	Barrow 4	0	0	1	3
	Isolated 1	0	1	0	0
	Isolated 2	0	0	1	0
8		0	5	3	5
9		0	1	0	3
10		0	0	0	35
11	Barrow 2 Chariot	0	1	0	1
	Single	0	1	0	0
14		0	0	0	1
18		0	0	0	1
19	Enclosure ditch	0	0	1	1

Table A.47: Osteological findings by Brewster at Iron Age Garton slack.

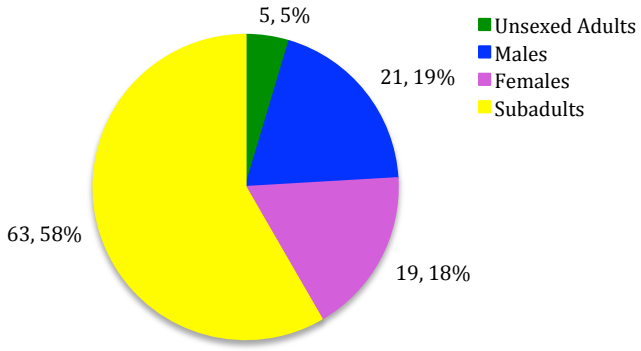


Figure A.80: Demographic profile of Iron Age Garton Slack.

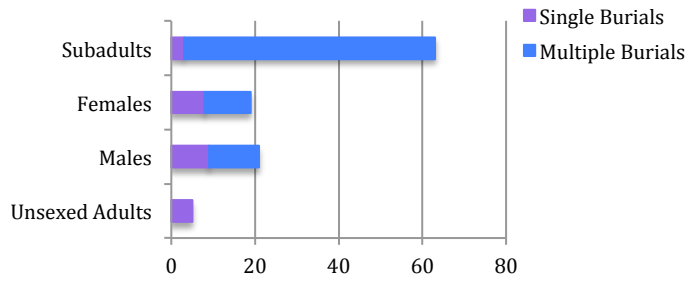


Figure A.81: Burial form at Iron Age Garton Slack.

Mortimer examined three of the 82 Bronze Age inhumations he exhumed. The first was a strong possible male from barrow 163 of short stature [no measurements] who had the left side of his jaw dislocated earlier in his life (Mortimer 1905: 213). The second and third were from barrow 82; one, a middle-aged male had an abnormal growth on the upper [proximal] end of his fibula [side not provided] and the second, a small slender female who had several teeth removed earlier in life, whose roots were closed and, had her loose teeth [Mortimer assumes those same ones removed] placed below her chin at the time of her burial (Mortimer 1905: 234).

Brewster (1971: 291) provided a brief assessment of the chariot burial by Dawes (in Brewster 1971) who noted the burial was that of a male, about 30 years, 175cm (5ft. 9in.) whose left leg was shorter then his right. Additionally, he had lost two teeth while alive, though not at the same time, and in a later publication Brewster (1975: 113), commented the individual may have also suffered from either a possible abscess or brain tumour, though further details were not forthcoming.

Dawes was also charged with analysing the human remains uncovered by Brewster. She focussed on the ageing, sexing and stature estimates and included pathological descriptions when present. For the most part, Dawes relied on established methodologies including dental eruption sequences and epiphyseal closures to age subadults and sexed adults based on pelvic and cranial morphology when available and used long bone lengths to estimate living statures. She, however, also decided to sex subadults using the morphology of the ilia, and, as this is not an established or accepted methodology within the osteological community, her discussion on subadult sex will not be included in this assessment. As she separated the analysis of the Bronze Age and Iron Age individuals, they will be dealt with separately.

Dawes examined all 23 inhumations attributed to the Bronze Age and found one unsexed adult, five males, seven females and ten subadults. Overall she found that most of the subadults were dying between aged five to ten suggesting a disease was present in the community that focused on this susceptible age category, however she did not provide any possible pathologies. She found the males were significantly taller than their contemporary

counterparts, suggesting they may have had a better childhood, had they been able to avoid the childhood stressors. The females, on the other hand were just slightly above average stature, but it was not found to be statistically significant (Brewster 1980: 741). Overall she felt the adults were generally healthy and robust with little evidence of severe disease, however, when her individual skeletal assessments are examined, several poor health markers stand out (Figure A.82).

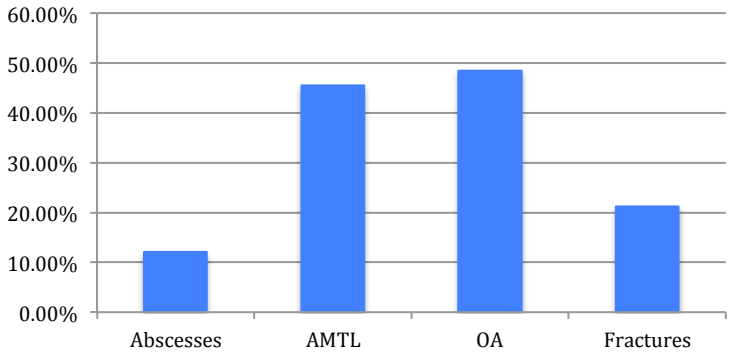


Figure A.82: Bronze Age Garton Slack paleopathology (Brewster 1980).

Two individuals were found to have fractures that healed, though they were mal-aligned. One individual had a severe infection most likely caused by a chest wound, another had their C2 and C3 vertebrae fused together, while a third had a grossly malformed left acetabulum and femoral head, though a possible aetiology was not provided (Brewster 1980: 697-725). Beyond this one individual may have had rheumatoid arthritis and two had congenital absences of all of their permanent molars (Brewster 1980: 697-727), suggesting the quality of life of this population was not as straightforward as Dawes originally surmised.

The Iron Age population excavated by Brewster (1980) consisted of 96 individuals including 18 males, 15 females and 63 subadults. Dawes detailed the difference in subadult mortality between the Bronze Age and Iron Age as in the later period the age that was most likely to succumb to death was that under one year, as 58 of the subadults were under one year old (92.06%), and the vast majority were newborn. As it is not possible to accurately sex infants it is not possible to comment on the reasons behind this high rate, however Dawes did not describe any pathologies in relation to these subadults that might explain their deaths. Dawes detailed seven instances of fractures (21.21%), three of which were healed but mal-aligned (Figure A.83).

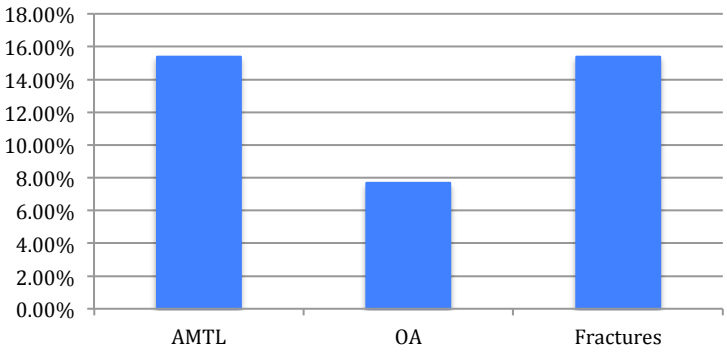


Figure A.83: Iron Age Garton Slack paleopathology (Brewster 1980).

They were not sex specific and seven different bones were involved (Brewster 1980: 697-727). The manifestations of OA ranging from mild to severe to the point where the individual was not able to bend his knee in life. Dawes also found 15 instances of AMTL (45.45%) involving from one to all 32 teeth and in conjunction she found evidence of four individuals with abscesses (12.12%). Diseases that were present included a possible case of Paget's disease and two possible cases of early spinal tuberculosis (or Pott's disease). Interestingly, Dawes also noted there were six individuals with congenitally absent permanent molars, and although she did not provide statistics, that is a high percentage (18.18%) within a single population (Brewster 1980: 697-727). Overall Dawes concluded the Iron Age at Garton Slack was characterised by high infant mortality, a high degree of disease and worse dental health than that seen in the Bronze Age (Brewster 1980: 748).

In an earlier publication, Brewster (1975) highlighted what he considered to be the "most sinister burial" of a youth, aged 19 along with a female aged thirty buried "cuddled up close together with a wooden stake driven down between them pinning their arms together" (Brewster 1975: 115). A three-month premature baby was found below the woman's pelvis and Brewster surmised that the couple had been buried alive and as a result the infant had been expelled from its womb when the mother went unconscious. The couple was also apparently buried in an exact replica of the chariot grave, however Brewster did not offer any opinions as to the possible significance.

Sample Number	Barrow	Material	Date	Calibrated Date	Reference
HAR-1236	Mortimer's 7	Food vessel	3550 ± 70 BP	2020-1775 cal BC	Manby *et al.* 2003:62
HAR-1227	Mortimer's 14	Inhumation	3200 ± 70 BP	1670-1320 cal BC	Manby *et al.* 2003:64
NPL-194	Brewster's Neolithic	Burial pit	5045 ± 150 BP	4236-3526 cal BC KW	Brewster 1980: 88
HAR-1284	Brewster's 18	Antler	3870 ± 110 BP	2285-2030 cal BC	Brewster 1980: 553

Table A.48: Radiocarbon findings at Garton Slack.

The remains excavated by Mortimer are currently held at the HERM, though the completeness of the collection is unknown. The remains found by the Grantham brothers are also currently housed at the HERM however it is not clear if they have been previous

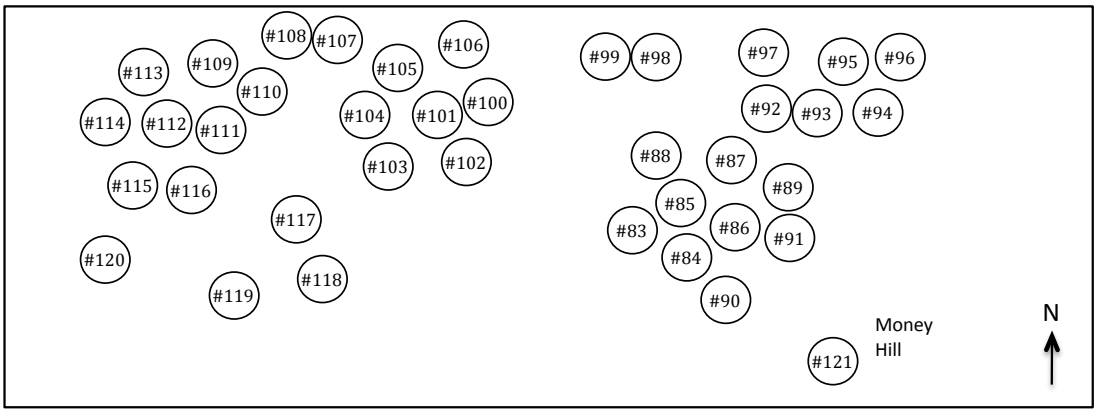
analysed or what is currently in the collection, as they have not yet been catalogued (Pers. Comm. Paula Gentil, September 14, 2010). Those excavated by Brewster are at the HERM, however the completeness of the collection is unknown.

A.3.5.5 Goodmanham

At the south-western end of the central Wolds a group of Bronze Age round barrows, that once totalled forty, was identified at Goodmanham by antiquaries and excavated by Greenwell prior to 1877 (Greenwell 1877: 286) and resulted in the discovery of 108 individuals (Table A.49, Map A.43 and Figures A.84 to A.86). Greenwell opened 39 mounds with two determined to be void of remains, thirteen with single burials of inhumations and cremations and 24 with multiple inhumations and cremations of between two and 14 people.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
83	0	0	0	2
84	6	0	0	1
85	0	0	0	2
86	0	1	0	0
87	1	0	0	0
88	0	1	0	0
89	3:1	1:1	1:1	5:1
90	0	1	0	0
92	0	1	1	1
93	2	0	0	0
94	0	1	0	0
95	1	1	0	0
96	0	0	1	0
97	0	1	0	0
98	1	1	1	0
99	4	0	1	4
101	0	1	0	0
102	0	1	0	0
103	0	1	1	0
104	0	1	1	0
105	0	1	0	0
106	1	0	1	0
107	0	1	0	0
108	1	0	0	1
109	0	0	0	1
110	0	3	0	0
111	0	2	3	4
112	0	0	2	2
113	0	4	2	0
114	1	0	1	2
115	0	2	1	1
116	0	1	1	0
117	0	1	1	0
118	0	0	0	1
119	0	0	0	1
120	0	2:1	0	0
121 'Money Hill'	0	1	2:1	1

Table A.49: Osteological findings at Goodmanham.



Map A.43: Schematic representation of Goodmanham.

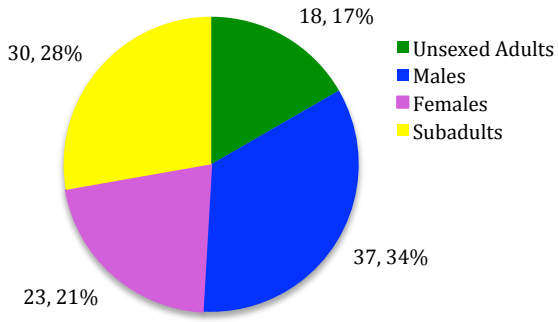


Figure A.84: Demographic profile of Goodmanham.

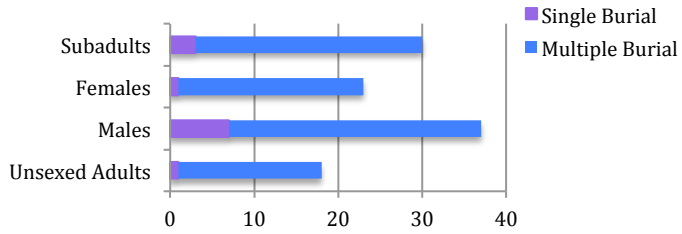


Figure A.85: Burial form at Goodmanham.

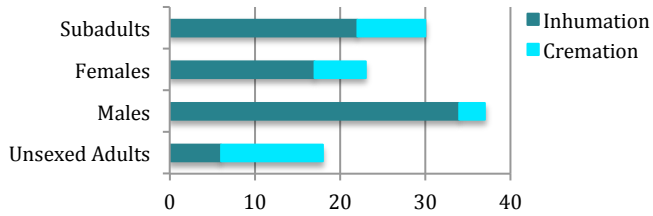


Figure A.86: Burial mode at Goodmanham.

Of the 79 inhumations unearthed from Goodmanham, Greenwell reported on the paleopathology of an old male from barrow 113 who had a dislocated left radius. Additionally, he found the male suffered from exostosis on multiple bones and the fusion of three "dorsal"

[most likely lumbar] vertebrae, suggesting he experienced limited mobility (Greenwell 1877: 323). Beyond this individual, Rolleston examined an old male from barrow 101. He found a sacralisation of the fifth lumbar vertebrae, several instances of ossified cartilage, a 5.08 cm by 15.24 cm (2in. by 6in.) osseous growth on one tibia and a 3.2 cm (1.25in.) long stalactitic growth on one fibula [side not provided] with peripheral osteophytes surrounding both growths (Greenwell 1877: 312). Unfortunately Rolleston did not provide a diagnosis or suggestion on the overall health status of this individual. This site is part of the Greenwell Collection, which is housed at the NHM.

A.3.5.6 Grimthorpe

In 1868, on the western escarpment of the central Wolds Mortimer was informed of two finds at a farm in Grimthorpe. As a result of agricultural activities workers found the remains of a skeleton, which Mortimer subsequently identified as female. Later that year, at the same property, another skeleton, this time that of a young male, was found in association with an iron sword, a bronze shield and additional iron and bronze artefacts as a result of plough work (Mortimer 1905: 150). In 1872 the same landowner contacted Mortimer after another skeleton was found, though this time they waited for him to come and excavate the area. Upon his arrival he found the grave contained two internments, although no information regarding the demographics of the two individuals was reported. None of the graves were visible on the surface, mainly due to the ploughing activity that has been conducted for over sixty years.

Based on the inhumations as well as the grave goods, Mortimer concluded all four individuals belonged to the Iron Age (Mortimer 1905: 151). According to Stead (1965: 110) all of the artefact finds were sent to the BM, however the location of the skeletons is uncertain. In 1958 the site was *rediscovered* during the analysis of RAF aerial photographs, which identified it as the first hillfort to be recognised on the Wolds. Later that year the PRS of the YAS conducted a trial excavation, however it was not until three years later, when the field had been sown that the IAM planned two seasons of excavation in 1961 and 1962 (Stead 1968: 150). As the aim was a better understanding of the settlement in the area it was focused on uncovering evidence of occupation in the hillfort, and led to the discovery of three groups of post-holes, which Stead (1968: 155) identified as granaries, though the internal alterations only suggested a single occupation period (Stead 1968: 157). In addition to this evidence, a burial was discovered in the hillfort ditch without any grave goods. Although no additional human remains were reported, two samples from a ditch filling sequence were radiocarbon dated suggesting a Middle to Late Bronze Age provenance (Table A.50; Manby *et al* 2003: 66).

Mortimer's burials had also been discovered in the same area, and although those skeletons have not survived, that unearthed by Stead was examined by CB Denston at the Duckworth

Laboratory and determined to be a middle adult male, approximately 172.8 cm (5ft. 8in.), with slight to moderate VJD, a possible lumbar vertebrae fracture, systemic OA, and a number of antemortem fractures to at least two ribs, the manubrium, the tips of the nasal bones, two phalanges that fused during healing and possibly also the right clavicle. Additionally, this male suffered from three possible dental abscesses, moderate LEH and the AMTL of 14 maxillary teeth (Stead 1968: 189-90), all suggesting this individual did not lead a high quality life. Samples were removed for radiocarbon dating (Table A.50), however Stead is unconvinced of the dates as he stated there should have been an overlap with the two samples and additionally that the dates for the archaeological material were too early (Stead 1968: 190). Although the remains recovered by Mortimer are no longer available for analysis, it is believed that discovered by Stead is still at Duckworth.

Sample number	Material	Date	Calibrated Date	Reference
NPL-136	Dark earth below plough soil	2640 ± 130 BP	820 – 560 cal BC	Stead 1968: 190
NPL-137	Chalk rubble	2920 ± 130 BP	1100 – 840 cal BC	Stead 1968: 190

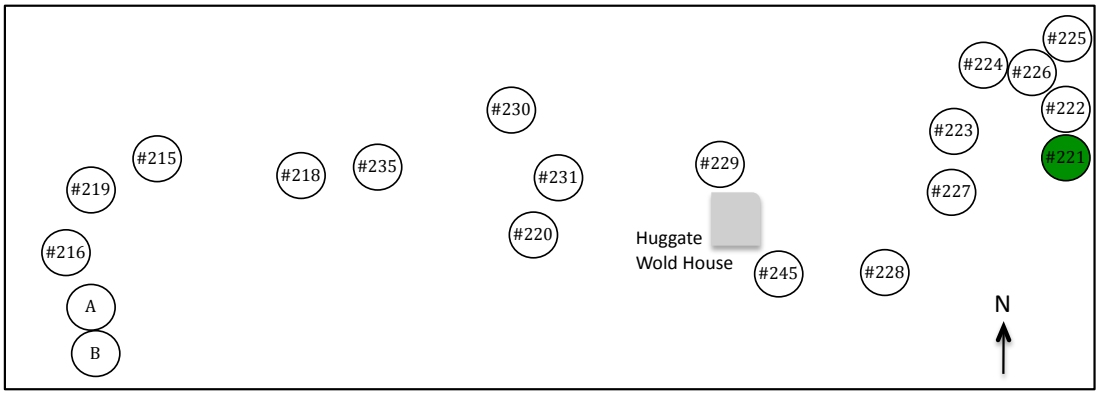
Table A.50: Radiocarbon findings at Grimthorpe.

A.3.5.7 Huggate Wold

In 1882 Mortimer decided to focus his explorations on Huggate Wold and the 18 round Bronze Age barrows that were visible in the landscape, which resulted in a total population of 49 people (Table A.51, Map A.44 and Figures A.87 to A.89). He found that two were empty, five contained single unsexed adult cremated remains, one contained a single unsexed adult inhumation and the remaining ten contained multiple inhumations and cremations of two to ten individuals (Mortimer 1905: 299-310).

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
222	1	0	0	0
224	4	1	0	0
225	3:1	0	0	3
226	2	2	1	1
223	1	0	0	1
228	3	1	3	3
245	1	0	0	0
229	3	0	0	2
230	2:1	0	0	0
231	1	0	0	0
218	1	0	0	0
215	1	0	0	0
216	1:1	0	0	2

Table A.51: Osteological findings at Huggate Wold.



Map A.44: Schematic representation of Huggate Wold.

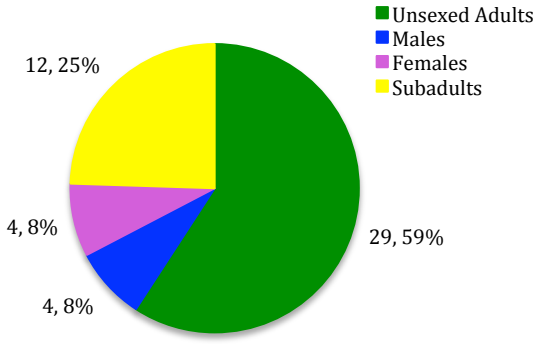


Figure A.87: Demographic profile of Huggate Wold.

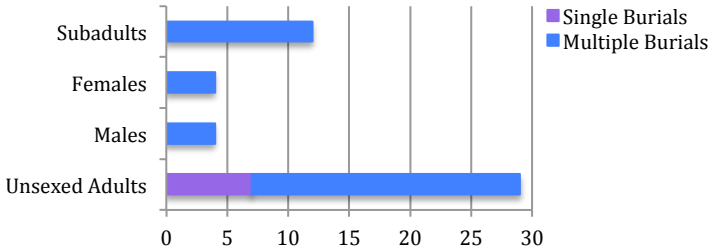


Figure A.88: Burial form at Huggate Wold.

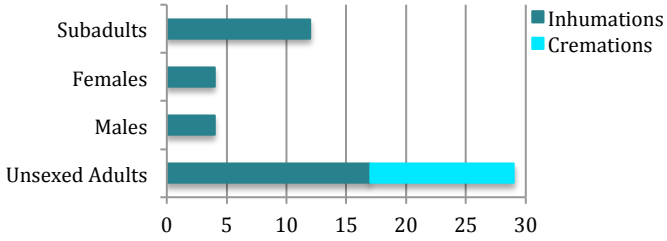


Figure A.89: Burial mode at Huggate Wold.

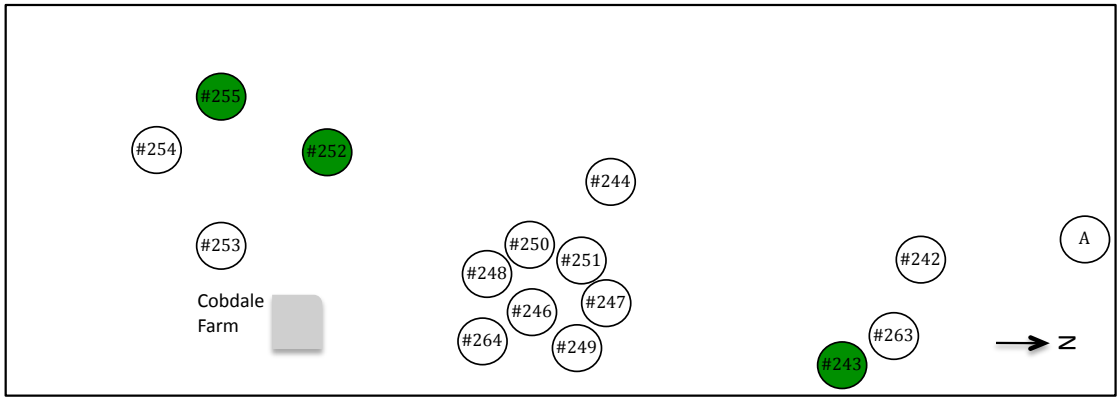
Mortimer did not assess any of the 37 Huggate inhumations osteologically and this site is part of the Mortimer Collection housed at the HERM.

A.3.5.8 Huggate and Warter Wold

Branching off 75° from the Huggate Wold barrows are a group of Bronze Age round barrows Mortimer named Huggate and Warter Wold [it is unclear as to why these groups were separated] along the western edge of the Wolds (Mortimer 1905: 311). Of the nineteen barrows in the group, James Silburn had previously opened six in 1851, however despite Mortimer reporting on the artefacts uncovered in each of the barrows, the presence (or absence) of human remains was not provided. Mortimer re-excavated three of these barrows in addition to eleven further, untouched barrows between 1881 and 1883 resulting in a total population of 29 people (Table A.52, Map A.45 and Figures A.90 to A.92). Two were devoid of remains (one of which had been previously explored by Silburn), one contained a single unsexed adult cremation, four had single inhumations and the remaining seven contained between two and six graves (Mortimer 1905: 311-21).

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
263	0	1	0	0
244	1	0	0	1
246	1:1	0	0	0
248	1	0	0	0
249	1:1	0	1	0
250	1:1	0	0	0
251	0	1	0	1
264	1	1	1	3
253	2	0	0	0
254	4:1	0	0	0

Table A.52: Osteological findings of Huggate and Warter Wold.



Map A.45: Schematic representation of Huggate and Warter Wold.

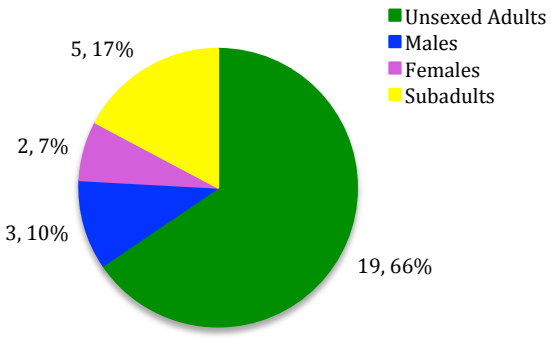


Figure A.90: Demographic profile of Huggate and Warter Wold.

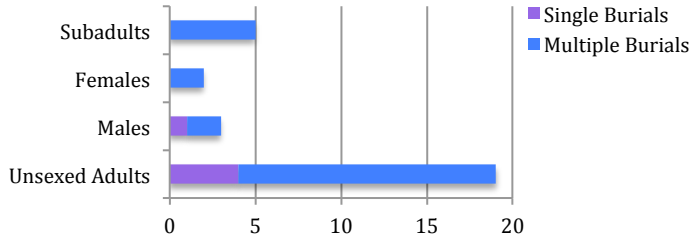


Figure A.91: Burial form at Huggate and Warter Wold.

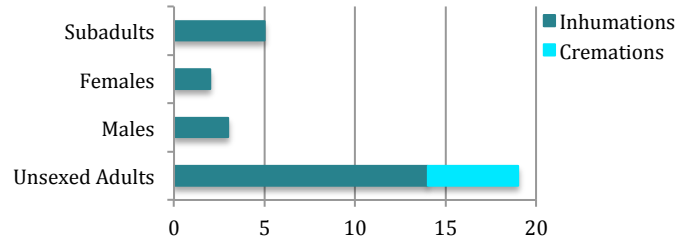


Figure A.92: Burial mode at Huggate and Warter Wold.

Of the 24 inhumations uncovered at the site, Mortimer only commented osteologically on one. In barrow 264 he found a male of middle age with his sacrum fused to his fifth lumbar vertebrae, which most likely went unnoticed in his daily life (Mortimer 1905: 319). As Mortimer excavated the site, it is believed to be a part of the Mortimer Collection at the HERM.

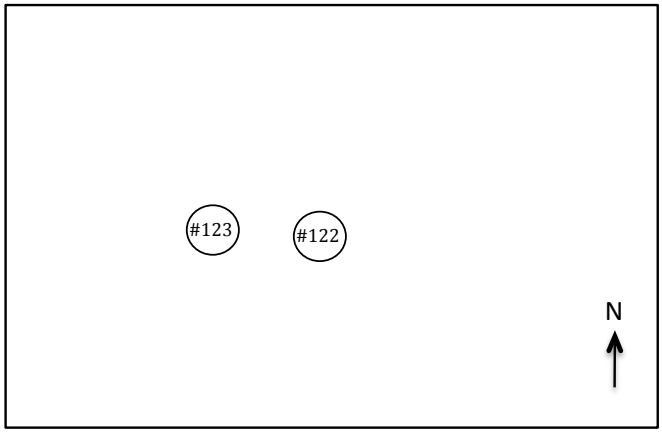
A.3.5.9 Londesborough

The site, located in the south west of the central Wolds, piqued the interest of Greenwell prior to 1877 when he found and opened two Bronze Age round barrows. The first contained the remains of two subadults, while the second contained the body of a male Greenwell determined to be 24 years old (Table A.53 and Map A.46; Greenwell 1877: 331-2). No further information is available regarding the analysis or present location of the remains.

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
122	0	0	0	2

123	0	1	0	0

Table A.53: Osteological findings at Londesborough.



Map A.46: Schematic representation of Londesborough.

A.3.5.10 Middleton-on-the-Wolds

In 1888, during the construction of the Driffield railway at Middleton-on-the-Wolds, workers came across a quantity of bones and iron objects. Mortimer was called in to the site and although he was not able to excavate, due to the ongoing construction, he looked at one of the iron pins a worker had picked out and determined it was of the same make as the lynch pin found in association with the King's Barrow at Arras, suggesting an Iron Age date (Mortimer 1905: 360). As a result he felt the bones and iron artefacts might have been a part of a chariot burial and inhumation, though due to the state of the site and his inability to examine any of the finds he remained tentative in his conclusions.

In 1901 a farmer discovered and accidentally struck a human skull, which prompted him to call Mortimer to the site. Upon his arrival Mortimer excavated the area and found the remainder of the skeleton and secured all of the bones (Mortimer 1905: 353). In 1902 the same farmer came across another skeleton when his workmen accidentally destroyed half of its skull and once again Mortimer was called in (Mortimer 1905: 354). He excavated the area and found the rest of the skeleton, which he determined to be that of a youth between the ages of ten and twelve and he once again secured all of the finds (Mortimer 1905: 354). Mortimer attributed both finds to the Iron Age. The pin associated with the proposed chariot burial was placed with the York Museum, however the location of those remains is unknown. The skeletons discovered at the farm site were at one point a part of the Mortimer Collection, unfortunately it is unknown of they are presently at the HERM.

A.3.5.11 Wetwang Slack

The site of Wetwang Slack is located in the low-lying valley of the central Wolds. Usually prehistoric burial monuments were located along or on the tops of the Wolds hills and the discovery here, of so many burials, suggested to Brewster an isolated and unique situation in East Yorkshire (Brewster 1980: 17). As detailed above for the Garton Slack site, the

excavations by Brewster, which lasted for ten years, and those of Dent unearthed a multitude of human remains belonging to the Bronze Age and Iron Age on the Wolds. During his excavation Brewster and colleagues uncovered the Bronze Age remains of 11 inhumations from two areas on the site (Brewster 1980: 17), while Dent, in 1975, found 14 burials from three round barrows and three isolated graves (Dent 1979: 25). Additionally between 1976 and 1980 Dent (1983) discovered more Beaker (Early Bronze Age) burials including the remains of five males, all singly buried and one child buried alongside a cremation, resulting in a total Bronze Age population at Wetwang of 26 individuals (Table A.54 and Figures A.93 to A.95).

Brewster	Barrow or Isolated Grave	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
	1 / Tr.2 G.1	0	0	0	1
	4	0	1	5	4
Dent 1979	A	1	0	1	0
	B	2	1	1: 1	3: 1
	C	3	0	0	1
	1	0	0	0	1
	2	0	0	1	0
	3	0	0	1	0
Dent 1976-1980	Area 8	1	0	0	1
	Area 9	0	1	0	0
	Area 10	0	1	0	0
	Area 12	0	3	0	0

Table A.54: Bronze Age osteological findings at Wetwang Slack.

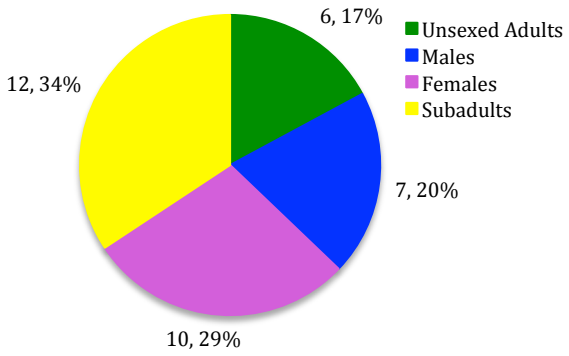


Figure A.93: Demographic profile of Bronze Age Wetwang Slack.

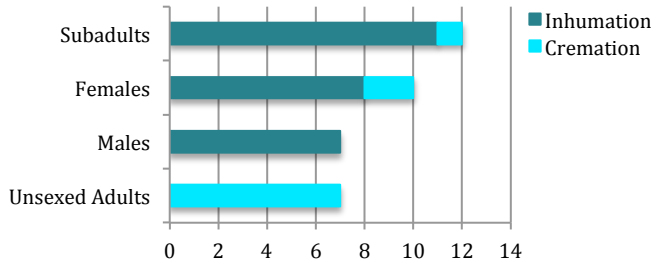


Figure A.94: Burial mode at Bronze Age Wetwang Slack.

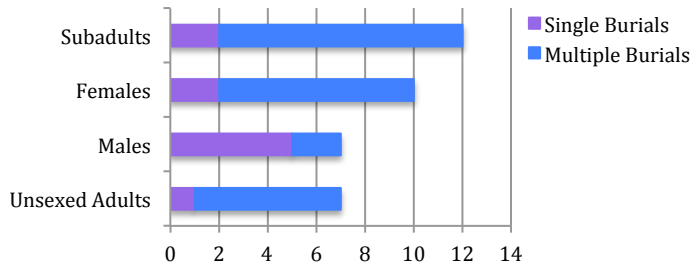
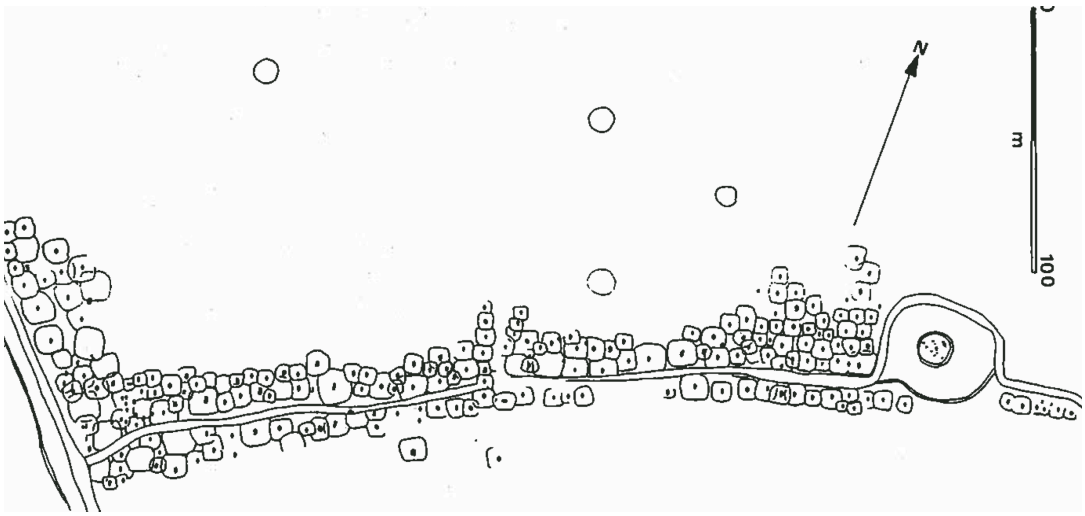


Figure A.95: Burial form at Bronze Age Wetwang Slack.

The remains attributed to the Iron Age discovered by Brewster include those from two round houses, a chariot barrow and two isolated single graves. Additionally, during his excavation from 1975 to 1980, Dent uncovered a densely packed La Tène square barrow cemetery of primary and secondary graves resulting in a total of 446 burials (Map A.47and Figure A.96). Unfortunately, an account detailing the contexts of each barrow has not been published therefore Dent's findings could not be added to the osteological or demographic profiles (Table A.55). During the quarrying of Wetwang Slack in 1984, a manager found a cart burial and called Dent who conducted further excavations and found two more cart burials (Dent 1985: 85). The Field Archaeology Unit of the Humberside County Council assisted by the East Riding Archaeological Society and led to the unearthing of one young adult, one young adult male and one young adult female. In 2001 an additional Early Iron Age chariot burial was discovered by Havercroft and the Guildhouse Consultancy while excavating a medieval manorial complex (Hill 2002: 410). English Heritage and the BM agreed to jointly fund and excavate the find in conjunction with Guildhouse and they discovered a mature female inhumation with a dismantled chariot placed at her feet (Hill 2002: 411).

Area	Location	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
Brewster WS1	House 1	0	0	0	1
	House 3	0	0	0	1
Brewster WS5	Chariot	0	1	1	2
	Barrow 2	0	0	1	0
	Barrow 3	0	0	1	0
Dent 1985	Chariot 1	0	1	0	0
	Chariot 2	0	0	1	0
	Chariot 3	1	0	0	0

Table A.55: Osteological findings by Brewster (1980) at Iron Age Wetwang Slack.



Map A.47: Site plan of Iron Age square barrows at Wetwang Slack (Beven 1997: 77).

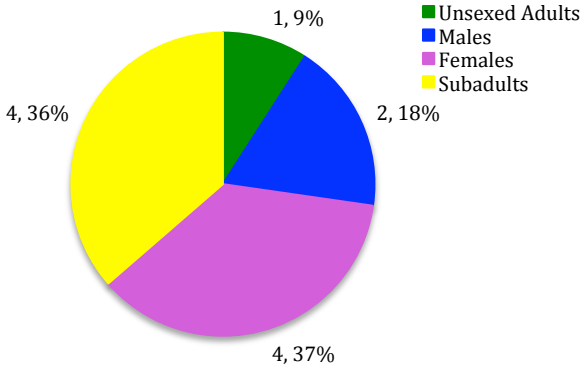


Figure A.96: Demographic profile of Iron Age Wetwang Slack.

Dawes assessed the Bronze Age remains uncovered by Dent (1979) and determined there were four subadults aged two or under (including one cremated foetus and one cremated newborn), one young cremated child, and two inhumed children aged four to six and seven respectively (Dent 1979:37-39). Among the adult females that were inhumed, one young adult was determined to stand at an estimated 159 cm (5ft. 2in.) with a possible blunt force cranial fracture at bregma. One middle adult female was estimated to be 161 cm (5ft. 2.8in.) tall, while a second was 159 cm (5ft. 2in.) in estimated height and presented with a left leg shorter than the right. Two further females were cremated and they included a pregnant female and her baby as well as a young adult (Dent 1979: 37-39). Only one male was unearthed in this population and he was determined to be a young adult, standing approximately 169 cm (5ft. 5.4in.), with slight VJD in the lumbar vertebrae and an infected foot wound at the left fifth metatarsal. Finally, there were six further cremations, only two of which could be aged as young adults, however none could be sexed (Dent 1979: 39). Overall Dawes felt that the adult Bronze Age skeletons excavated by Dent had healthy bones, very little evidence of dental pathologies and were of average height (Dent 1979: 37).

Dawes was in charge of analysing all of the inhumations pertaining to both excavations by Brewster (1980), the Bronze Age and Iron Age remains will be discussed separately. As stated in the Garton Slack section she used a range of established techniques to provide age, sex and stature estimates for the population, however her sex estimates of subadults will not be discussed as a result of their unacceptability in the osteological community.

Overall, Dawes reported that there was a trend of subadult death between ages five and ten suggesting a common disease that may have been present throughout the Bronze Age, though she did not provide any possible examples. The adult inhumations excavated by Brewster were considered healthy and robust with the males obtaining significantly higher statures than other contemporary groups (Brewster 1980: 741). Two individuals were highlighted with additional pathologies. The first, a male from grave 5 had healed fractures in his right ulna and radius, and the second, a female from Grave 8 had slight osteoarthritis in her lumbar vertebra and three dental abscesses. The Bronze Age population appeared to be variable in their body composition and stature and beyond the subadult mortality, experienced occasional episodes of isolated trauma but lived relatively disease-free lives (Brewster 1980: 742).

Dawes noted that the Iron Age subadults were all under one year old, suggesting they were not experiencing the same disease pathology as during the Bronze Age, but one that affected newborn and very young infants, though she did not provide any possible diagnoses. For the adults she found, when compared to their Bronze Age equivalents, they were more homogeneous in their body composition and were generally of average height (Brewster 1980: 745). Overall, beyond the early infant mortality, the population was relatively healthy without evidence of infectious or degenerative disease and experienced none or very mild dental decay.

The Iron Age cart burials discovered by Dent (1985: 85) were due to be examined by Dawes, but this report has not yet been published. Sheelagh Stead analysed the female chariot burial from Wetwang Slack excavated in 2001. She determined the skeleton was that of a female, between 35 and 45 who stood approximately 171.91 cm (5ft. 7.5in.). One second molar was lost during life, there was evidence of one severe caries and slight hypoplasia. She may have experienced a blow to the jaw or a fall as several teeth had been chipped (Hill 2002: 19). The individual also had advanced OA in her right shoulder and mild VJD throughout most of her spine. As this burial was featured on the BBC series Meet the Ancestors, several individuals had access to the skull and prior to Stead's examination there was a prevailing theory that the female may have suffered from a facial deformity as a result of a hematoma, however, upon his inspection, Brothwell stated it was more likely to be due to post mortem alteration (Hill 2002). During Stead's examination, radiographs were taken of the facial bones, however there was no evidence of any pathologies and Sheelagh Stead reported that the facial

distortion, if not wholly post mortem in nature, was more likely to be due to the OA in the right mandibular condyle which led to disuse of the right side of the face. Sheelagh Stead concluded this individual had healthy dentition and based on the similar state of her pathologies and their siding, her injuries were due to the same event. When these findings were combined wit her grave goods, her accident may have been due to a fall from a horse or even the cart she was buried with (Hill 2002: 19) A grave good was radiocarbon dated and in conjunction with the discovery of a tightly involuted brooch a late Middle Iron Age date was established (Table A.56).

Sample number	Material	Date	Calibrated Date	Reference
OxA-1193	Pig humerus	2151 ± 21 BP	210 to 160 BC	Hill 2002: 7

Table A.56: Radiocarbon date for an Iron Age chariot burial at Wetwang Slack.

In 2006 Jay and Richards used stable isotope analysis to infer dietary differences that may be attributed to status, sex, age and/or site phase groups using the Iron Age population from Wetwang Slack (Figure A.97; Jay and Richards 2006). Beyond an unusual trend among older males that requires additional investigation, no link was found between diet and the variables discussed above. In fact it was found that the vast majority of the population, irrespective of status, gender and site phase, all enjoyed relatively similar diets (Jay and Richards 2006: 655).

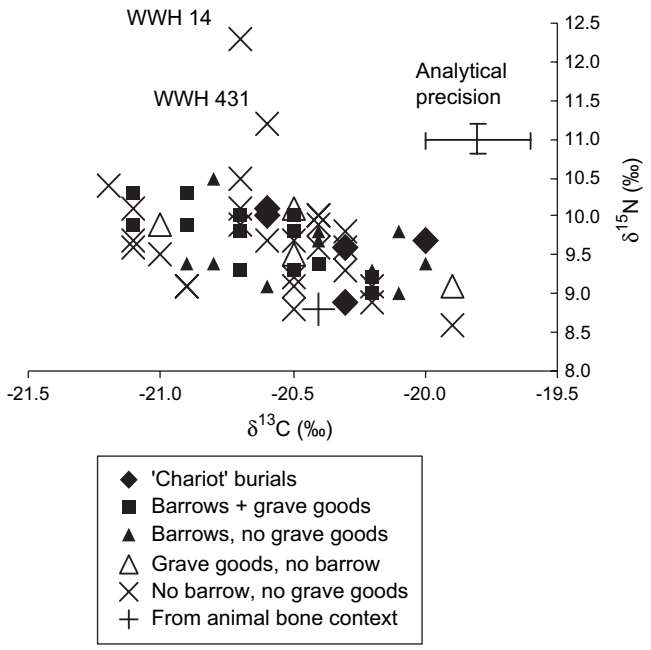


Figure A.97: Carbon and nitrogen values at Wetwang Slack (Jay and Richards 2006: 659).

In 2008 Jay and colleagues utilized the Iron Age Wetwang Slack sample again to investigate infant weaning practices by using stable isotope analysis on infants, children and proxy mothers to compare those to other sites that were different both in terms of geography and time period. Forty-one children (mostly infants) and 27 females from Wetwang were tested and compared to previously published work of samples from the medieval Wharram Percy

site and one attributed to nineteenth century Canada. Results indicate that the Wetwang Slack infants were much more restricted in their human milk intake compared to the other groups and they were adapted to eating the same meals as their "proxy" mothers by the age of 2.5 (Figure A.98 and A.99; Jay *et al* 2008: 337).

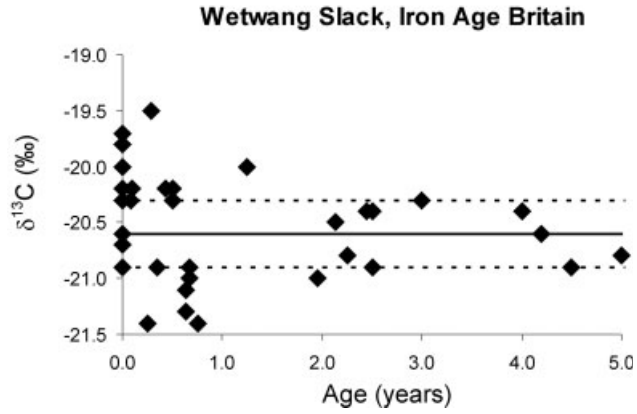


Figure A.98: Carbon values for weaning at Wetwang Slack (Jay *et al.* 2008: 334).

The solid line indicates the mean value for adult females, and the dotted line indicates one standard deviation from that average.

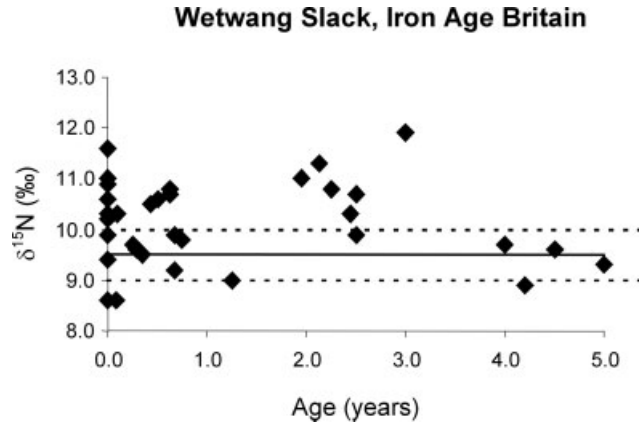


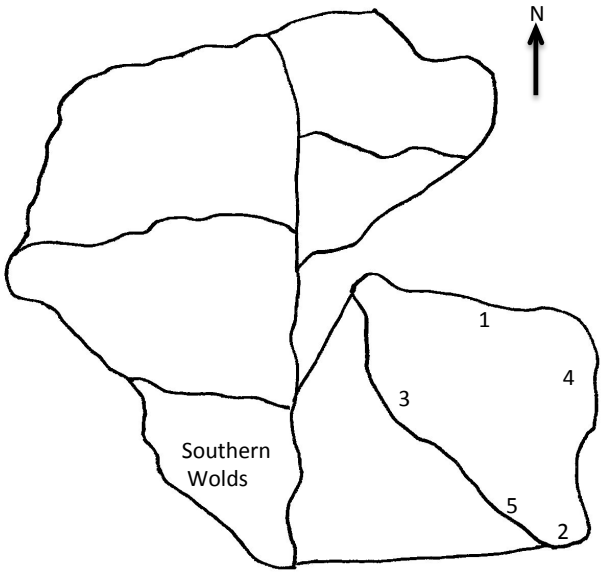
Figure A.99: Nitrogen values for weaning at Wetwang Slack (Jay *et al.* 2008:333).

This type of study helps to provide information on the daily lives of those on the Yorkshire Wolds and from this it is possible to begin to extrapolate information on child rearing and feeding practices of the Iron Age population and how they differ from later periods and different geographic areas. All of the skeletal remains from Brewster and Dent's excavations have been long-term loaned by HERM to Bradford University to investigate a range of research initiatives including a new complete osteological and paleopathological analysis that is due to be published in the near future. The collection, however, is still accessible to outside researchers during this time (Pers. Com P. Gentil June 12, 2008).

A.3.6 The Southern Wolds

This area occupies the thinnest portion, east to west, on the Wolds and is bordered to the north by Market Weighton and Beverley, to the east by the high hills before they descend into

Holderness, the southern tip at Melton and the western side extending along the chalk peaks before sloping into the Vale of York. Five sites have prehistoric human remains including the multiphase side of Walkington Wold (Neolithic to the Bronze Age), as well as the Iron Age sites of Arras, Melton, Newbald and Welton (Map A.48).



Map A.48: Map of southern Wolds site locations.

Sites: 1 Arras, 2 Melton, 3 Newbald, 4 Walkington and 5 Welton.

A.3.6.1 Arras

Arras, located at the northwestern end of the southern Wolds has attracted considerable attention over the past two centuries, so much so that the site gave its name to the Iron Age culture unique to the Wolds and was the type-site to compare to for all future Iron Age excavations (Stead 1965). Between 1815 and 1817 a group of local antiquarians and gentry, led by Rev. Stillingfleet and Clarkson decided to excavate the large cemetery composed of small barrows. Although accounts are conflicting regarding the number of barrows opened (due to the slight and usually unclear state of Stillingfleet's notes (Greenwell 1906: 275)), Stead cites the opening of between 90 and 200 barrows, though as there were approximately 100 barrows visible at Arras at the beginning of the 19th century, Stead believes the lower end is more likely (Stead 1965: 19, 2). There are no comprehensive excavation notes or plans detailing each barrow or each discovery, but rather highlights of rare and unusual finds and barrows. Two of the most interesting barrows (named the King's Barrow and the Charioteer's Barrow) contained the remains of dismantled chariots (or carts) along with the skeletons of an old man and an unsexed adult respectively (Stead 1965: 6). It was the discovery of these distinctive barrows that sparked the belief in the presence of a new culture in the Iron Age and over time it became clear that this funerary rite was unique to Eastern Yorkshire.

Greenwell discussed this excavation and found the majority of the finds [and presumably the skeletons as well if they had been removed from the barrows] were scattered and divided between all of those involved in the excavation at the time of their discovery and as of 1906 most of them could not be recovered (Greenwell 1906: 275). The exception to this is the remains and artefacts from the unique barrows. The skull from the King's Barrow was sent to the Yorkshire Museum (where it still remains) and the skull from an additional barrow, named the Lady's Barrow and considered an anomaly due to the very rich artefacts including a glass bead necklace and a mirror, was sent to the New Museum at Oxford, however the present location is unknown. Some of the remains and artefacts were also sent to the BM, however Greenwell lamented that they could not no longer be assigned to any specific barrows and it was unclear where the charioteer skeleton and finds ended up (Greenwell 1906: 298). Additionally, Greenwell believed some of the barrows belonged to the earlier Bronze Age period, due to their comparably larger size, however Stillingfleet did not provide any information regarding this possibility beyond stating the approximate sizes of the barrows (in the same manuscript, now lost) and there is no additional information regarding the presence of Bronze Age burials in the Iron Age type-site (Greenwell 1906: 275).

In 1850 the YAC visited the site of Arras and although a plan or list of finds was not published, they commented on the additional unusual discovery of a round barrow surrounded by a square ditch (Stead 1965: 2). This had provided further evidence to the YAC and contemporary antiquaries that the site of Arras and its population was exclusive to the region and suggested the arrival of new people and ideas to the region (Stead 1965: 2). When the OS team visited the site in 1855 they recorded the visible presence of only 31 barrows, suggesting the plough had a considerable detrimental effect on the prehistoric funerary mounds (Stead 1965: 19). In 1875 Greenwell returned to the site at the urging of workmen when they accidentally disturbed the remains of an additional chariot burial. Although Greenwell was very cautious in his determination that the inhumation was that of a female, upon his analysis of the remains, Rolleston concluded the skeleton was indeed a female aged between 35 and 40, standing about 152.4 cm (5ft.) tall and of considerable muscular strength (Greenwell 1877: 457). As this find was a part of the Greenwell Collection it is believed to be at the NHM, however the present location of the female from the Arras chariot burial is unknown. In 1910 the OS team returned to Arras and determined only 13 barrows were readily visible, concluding the plough had destroyed an additional 19 barrows since their last survey (Stead 1965: 19).

In 1959 Aiken and colleagues, under the auspices of the Oxford University Research Laboratory surveyed seven acres of Arras using a combination of proton magnetometer and selective excavation techniques and although the exercise was largely unsuccessful, as they had hoped to uncover additional chariot burials, they did discover two more square barrows

(Stead 1961; Stead 1965: 20). The first contained disturbed skull fragments and the second proved to be empty, either as a result of the plough or the earlier 19th century excavations (Stead 1965: 20). What was important about this discovery is it further validated the belief in a new burial rite, one that, based on earlier and more modern excavations, had proved to be entirely unique to Yorkshire. In 1965 Stead reported that only three barrows were visible, and more likely than not, none have survived modern agricultural activities and all traces of the prehistoric barrows at Arras have been erased from the site.

A.3.6.2 Melton

Melton is located on the bottom of a steep slope of the southern Wolds. As a result of a proposed new road scheme that would bisect the village, extensive archaeological evaluations were carried out over a number of years. In 1993 NAA found and analysed ditches and enclosures, but no human remains. Between 2004 and 2005 On Site Archaeologists (OSA) excavated the area and found that the site was occupied from the Early Bronze Age to post-Medieval times (Fenton-Thomas 2010) and they uncovered a total prehistoric population of 25 individuals; six belonging to the Bronze Age; and 19 to the Iron Age (Figures A.100 and A.101 and Table A.57).

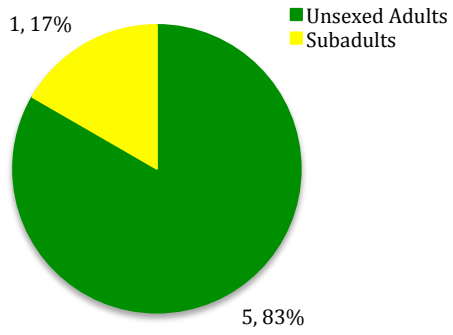


Figure A.100: Demographic profile of Bronze Age Melton.

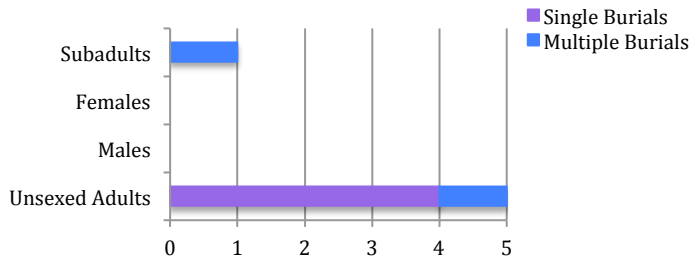


Figure A.101: Burial form at Bronze Age Melton.

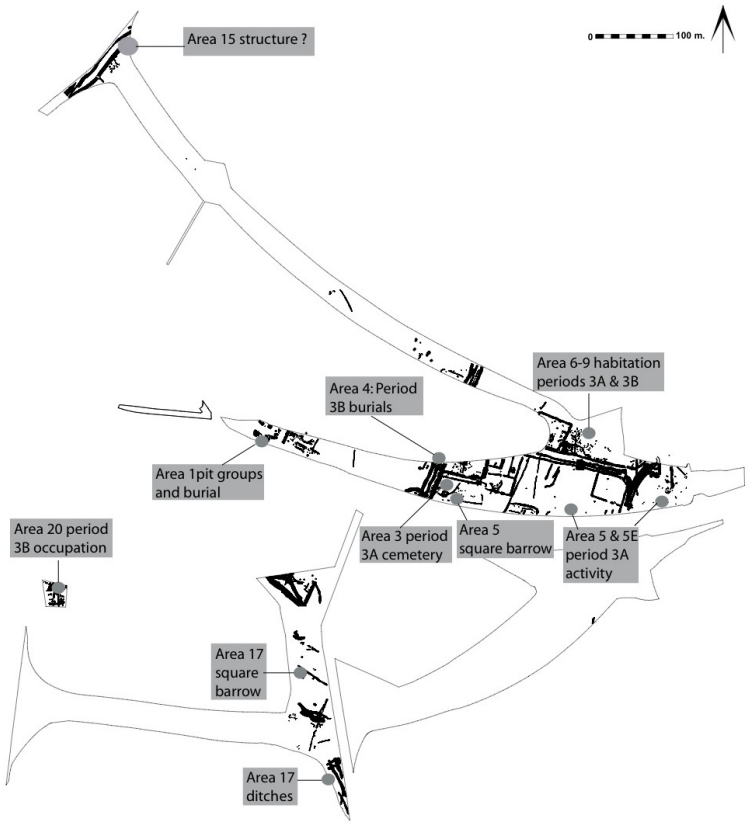
The Bronze Age phase included a round barrow (partially obscured by the pavement) with two pits. The first pit (7057) belonged to Period 1 (the Early Bronze Age) and contained four cremations within and around a round barrow. The second (1020), a pit, belonged to Period

2 (Middle to Late Bronze Age) and contained two cremations (Fenton-Thomas 2010: 29).

Barrow Bronze Age	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
7075	4	0	0	0
1020	1	0	0	1

Table A.57: Osteological findings at Bronze Age Melton.

The Iron Age period of the site was divided into two clearly distinct phases. The first phase (3A), dated to between the sixth and fifth centuries BC (based on radiocarbon dating on pottery and burials) and included two single burials, and a linear cemetery of one double inhumation, six single burials and two isolated single burials. The second phase (3B), dated to between the first century BC and the first century AD includes evidence of a much more intensive and extensive occupation with a general abandonment of the structures just prior to the Roman period (Fenton-Thomas 2010: 67; Map A.49 and Table A.58). The burials attributed to this time period include eight single inhumations including one with a square barrow (numbered 1823). Finally two single inhumations could not be more specifically assigned than to the Iron Age (Figures A.102 and A.103).



Map A.49: Site plan of the Iron Age excavations at Melton (Fenton-Thomas 2010: 44).

Barrow	Unsexed Adults (I:C)	Males (I:C)	Females (I:C)	Subadults (I:C)
1182	1	0	0	1
1818	0	0	0	1
2554	0	0	0	1
4039	0	0	0	1
2722	1	0	0	0
3397	1	0	0	0
3890	1	0	0	0
4864	0	0	0	1

4075	1	0	0	0
1489	1	0	0	0
2187	0	0	0	1
1032	1	0	0	0
1823 Square	1	0	0	0
4297	1	0	0	0
4300	0	0	0	1
4370	0	0	0	1
4032	0	0	0	1
6122	1	0	0	0
6096	0	0	0	1

Table A.58: Osteological findings of Iron Age Melton.

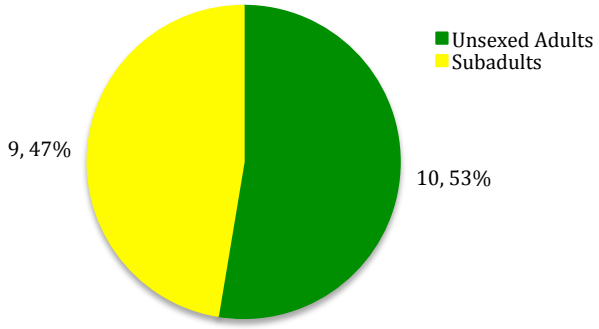


Figure A.102: Demographic profile of Iron Age Melton.

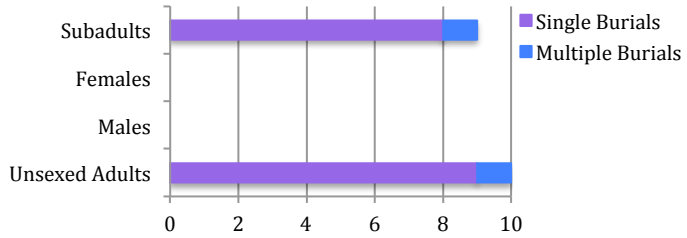


Figure A.103: Burial form at Iron Age Melton.

Seven different samples were radiocarbon dated to provide absolute dates for the site. One was a Bronze Age cremation, one from the wood coffin of an Iron Age burial along with five additional skeletons which corroborated the archaeological evidence to suggest the site had been in use in the Early Bronze Age and throughout the Iron Age (Fenton-Thomas 2010: 36), see Table A.59 for a summary of the findings.

Sample number	Material	Date	Calibrated Date
1224	Cremation	?	2760-2830 cal BC
2722	Wood	2475 – 2569 BP	799-421 cal BC KW
2554	Human remains	?	770 – 480 cal BC
3890	Human remains	?	800 – 480 cal BC
4075	Human remains	?	600 – 400 cal BC
1489	Human remains	?	210 – 40 cal BC
4300	Human remains	?	54BC – AD80 cal

Table A.59: Radiocarbon findings at Melton (Fenton-Thomas 2010: 46-106).

All of the remains were initially analysed by Holst, however they have all been osteologically, paleopathologically and bioarchaeologically analysed for this project. OSA currently holds the remains, however a more permanent location has not yet been determined.

A.3.6.3 Newbald

Very little information is available concerning this southern Wold site located on the western edge of the Wolds. In 1969 Ramm wrote a note in the YAR of the *Yorkshire Archaeological Journal* stating he had discovered a square ditched Iron Age burial that he postulated was an outlier to the large Arras cemetery (Ramm 1969: 392). Unfortunately it is unknown if the barrow was excavated or if an inhumation was retained.

A.3.6.4 Walkington Wold

Although the area is better known for the discovery of ten decapitated Anglo-Saxons, during that same excavation which spanned from 1967 to 1969 under the direction of Bartlett and Mackey, the area yielded evidence attributed to several periods from the Late Neolithic to Anglo-Saxon times (Bartlett and Mackey 1973: 1). Belonging to the Late Neolithic, a long barrow called Ling Howe was identified but not excavated, while located nearby were two Early Bronze Age round barrows. One contained a probable young adult female, estimated to have stood 155 cm (5ft. 1in.), a secondary male inhumation and a cremation. The second was almost completely levelled by agricultural activity but revealed a possible male adult burial. The excavators concluded, based on the presence of stray finds and grave goods that this part of the Wolds was frequently occupied from the Late Neolithic (Bartlett and Mackey 1973: 29). Unfortunately a site plan was not published and the location of the remains is currently unknown.

A.3.6.5 Welton

Located at the southern edge of the Wolds and nearby to Melton, in 1971 in the YAR of the *Yorkshire Archaeological Journal* a note was published detailing the need for an excavation at Welton in advance of quarrying at the site. The Department of the Environment along with the ERAS participated in a dig led by Mackey, which resulted in the discovery of an Iron Age sub rectangular enclosure, as well as a Later Iron Age substantial five-post structure and four inhumations, though no site plan was available (Moorhouse 1971: 218). Unfortunately no further information has been published on the excavation or the human remains and it is unknown if or where the skeletons are currently housed.

A.4 Summary

This chapter provided an overview of archaeological excavations and discoveries as they pertain to prehistoric human remains on the Yorkshire Wolds. The gazetteer has resulted in the catalogue of over 1900 individuals spanning the Neolithic, Bronze and Iron Ages. From this amalgamation of work, it is clear that the region has experienced an extensive program

of digging and although the current location and state of many of the remains is unknown, the corpus of skeletal remains provide the opportunity to explore research questions pertaining to all aspects of prehistoric life. Arising from the published information as it pertains to the paleopathology of the prehistoric individuals is a synthesis of what is currently known about the Wolds inhabitants. That summary is presented in Chapter Three.

Appendix B: Results Data

B.1 Total Sample

	Teeth observed	Teeth expected	% Present
Males	1032	1504	68.62%
Females	697	1088	64.06%

Table B.1: Total sample tooth preservation.

	Males			Females		
Age	**Teeth Observed**	**Teeth expected**	**% Present**	**Teeth Observed**	**Teeth expected**	**% Present**
YA	489	736	66.44%	546	704	78%
MA	330	480	68.75%	117	256	45.70%
OA	213	288	74.00%	34	128	26.56%

Table B.2: Observed and expected teeth for the entire sample.

	Bronze Age					
	Males			Females		
Age	**Teeth observed**	**Teeth expected**	**% Present**	**Teeth observed**	**Teeth expected**	**% Present**
YA	373	576	64.76%	144	192	75%
MA	164	288	56.94%	40	96	41.66%
OA	199	256	77.73%	34	128	26.56%
	Iron Age					
	Males			Females		
Age	**Teeth observed**	**Teeth expected**	**% Present**	**Teeth observed**	**Teeth expected**	**% Present**
YA	116	160	72.50%	402	512	78.52%
MA	166	192	86.46%	77	160	48.13%
OA	14	32	43.75%	0	0	0

Table B.3: Tooth presence in the Bronze and Iron Ages.

Age	Males	Females
YA	21.26	24.91
MA	21.8	14.625
OA	23.67	11

Table B.4: Average tooth presence by sex and age in the total sample.

Age	Bronze Age		Iron Age	
	Males	Females	Males	Females
YA	20.72	24	23.2	25.25
MA	18.2	13.33	27.17	15.4
OA	24.85	11	14	0

Table B.5: Average tooth presence by sex and age for the Bronze and Iron Ages.

B.2 Bronze Age

B.2.1 Staxton Beacon

Age	Males			Females		
	# Teeth Observed	# Teeth Expected	% Present	# Teeth Observed	# Teeth Expected	% Present
YA	27	32	84.37%	8	32	25.00%
MA	50	80	62.50%			
Total	77	112	68.75%			

Table B.6: Tooth presence at Staxton Beacon.

Dentition Section	Males			Females		
	# Teeth Observed	# Teeth Expected	% Present	# Teeth Observed	# Teeth Expected	% Present
Anterior	27	42	64.29%	0	12	0%
Premolar	20	28	71.43%	2	8	25%
Molar	30	42	71.43%	6	12	50%

Table B.7: Tooth presence at Staxton Beacon by dentition section.

LEH	Subadult	Males		Females
	Adolescent	YA	MA	YA
With	0	2	1	1
Without	1	0	0	0
% LEH	0%	100%	100%	100%

Table B.8: LEH presence at Staxton Beacon.

Age	Males				Females			
	Total Individuals	With Caries	Without Caries	% Caries	Total Individuals	With Caries	Without Caries	% Caries
YA	1	1	0	100%	1	0	1	0%
MA	3	2	1	66.67%				
OA								
Total	4	3	1	75%	1	0	1	0%
Adolescent	1	0	1	0%				

Table B.9: Caries presence at Staxton Beacon.

Age	# Total Caries	Root Caries		Approximal Caries		Gross Caries	
		# Caries	Proportion	# Caries	Proportion	# Caries	Proportion
YA	5	0	0%	5	100%	0	0%
MA	18	2	11.11%	3	16.67%	13	72.22%

Table B.10: Caries by type at Staxton Beacon.

Age	# Caries	Root Caries		Approximal Caries			Gross Caries		
		# Caries	Score 2, %	# Caries	Score 2, %	Score 3, %	# Caries	Score 3, %	Score 4, %
YA	5	0	0%	5	100%	0	0	0%	0
MA	18	2	11.11%	3	0%	3, 16.67%	13	9, 50%	4, 22.22%

Table B.11: Caries severity by type at Staxton Beacon.

Age	# Caries	Maxillary caries	% Max	Mandibular caries	% Man
YA	5	0	0%	5	100%
MA	18	10	56%	8	44%

Table B.12: Caries by dentition location at Staxton Beacon.

Age	Caries			Abscesses			AMTL		
	Yes	No	% Caries	Yes	No	% Abscesses	Yes	No	% AMTL
YA	1	0	100%	1	0	100%	1	0	100%
MA	2	1	67%	1	2	33.33%	1	2	33.33%
Total	3	1	75%	2	2	50%	2	2	50%
YA	0	1	0%	0	1	0%	0	1	0%
Subadults	0	1	0%	0	1	0%	0	1	0%

Table B.13: Summary of dental diseases at Staxton Beacon.

Age	# Teeth	# Carious	% Carious	# Observed Tooth Places	# Abscesses	% Abscesses	# AMTL	% AMTL
YA	27	5	18.52%	32	1	3.13%	1	3.13%
MA	50	18	36%	80	1	1.25%	5	6.25%
Total	77	23	29.87%	112	2	1.79%	6	5.36%

Table B.14: Summary of dental diseases by tooth and tooth spaces at Staxton Beacon.

Skeleton and sample run	Bone Sample	Weight mg	Collagen Yield	%N	$\delta^{15}N$	Average $\delta^{15}N$	%C	$\delta^{13}C$	Average $\delta^{13}C$	C/N Ratio
SB2a	Right Rib	0.9	9.11%	14.8	10.87	10.79	40.9	-20.91	-20.91	3.23
SB2b		1.14		14.7	10.71		40.4	-20.91		3.20
SB13a	Left Femur	1.16	7.52%	14.0	10.13	10.12	39.2	-21.32	-21.32	3.28
SB13b		1.19		13.6	10.11		38.0	-21.32		3.26
SB8N7a	Right Rib	0.91	11.66%	15.2	9.41	9.47	42.1	-21.06	-21.06	3.24
SB8N7b		0.94		15.3	9.53		42.3	-21.05		3.22
SB9a	Left Rib	0.81	13.32%	14.5	10.20	10.35	40.3	-20.93	-20.86	3.25
SB9b		0.83		14.7	10.50		40.9	-20.80		3.25

Table B.15: Summary of carbon and nitrogen results at Staxton Beacon.

Skeleton and Sample Run	Tooth	Sr $^{87/86}$ Isotope Ratio	Error
2A	M1	0.709165	0.000009
2B	M3	0.709304	0.000011
13A	M1	0.70938	0.000008
13B	M3	0.709171	0.000009
4A	M1	0.708504	0.000009
4B	M3	0.710093	0.000009
7A	M1	0.708089	0.00001
7B	M2	0.708261	0.00001
9A	M1	0.709464	0.000011
9B	M3	0.709015	0.000009
11 12A	M1	0.70867	0.00001
11 12B	M2	0.708769	0.000013
NSB 297	Standard	0.710245	
Sea water	(Derived from Montgomery and co-workers 2007)	0.7092	
Chalk		0.707408	
Chalk		0.707414	
Sand		0.708245	
Sand		0.708379	

Table B.16: Summary of strontium results at Staxton Beacon.

B.2.2 Rudston

	Males			Females		
Age	# Teeth Observed	# Teeth Expected	% Present	# Teeth Observed	# Teeth Expected	% Present
YA	45	128	35.16%			
MA				11	32	34%
OA	82	96	85.54%	19	64	29.69%
Total	127	224	56.69%	30	96	31.25%

Table B.17: Tooth presence at Rudston.

	Males			Females		
Dentition Section	# Teeth Observed	# Teeth Expected	% Present	# Teeth Observed	# Teeth Expected	% Present
Anterior	33	84	39.29%	8	36	22.22%
Premolar	30	56	53.57%	9	24	37.50%
Molar	54	84	64.29%	13	36	36.11%

Table B.18: Tooth presence by dentition section at Rudston.

Age	Males	Females
YA	11.25	
MA		11
OA	27.33	9.5
Total	18.14	10

Table B.19: Average dentition presence at Rudston.

	Males		Females	
LEH	YA	OA	MA	OA
With	1	3	1	2
Without	0	0	0	0
% LEH	100%	100%	100%	100%

Table B.20: LEH presence at Rudston.

	Males				Females			
Age	Total Individuals	With Caries	Without Caries	% Caries	Total Individuals	With Caries	Without Caries	% Caries
YA	4	2	2	50%				
MA					1	0	1	0%
OA	3	1	2	33.33%	2	1	1	50%
Total	7	3	4	42.86%	3	1	2	33.33%

Table B.21: Caries presence at Rudston.

	Males			Females		
Age	# Teeth Observed	# Carious Teeth	% Carious	# Teeth Observed	# Carious Teeth	% Carious
YA	45	3	6.67%			
OA	82	1	1.22%	19	1	5.26%

Table B.22: Percentage of carious teeth at Rudston.

		Root Caries		Approximal Caries		Occlusal Caries	
Age	# Total Caries	# Caries	Proportion	# Caries	Proportion	# Caries	Proportion
YA	3	0	0%	0	0%	3	100%
OA	1	0	0%	1	100%	0	0%
OA	1	1	100%	0	0%	0	0%

Table B.23: Caries presence by type at Rudston.

		Root Caries		Approximal Caries		Occlusal Caries		
			Score		Score	# Caries	Score	
Age	# Total Caries	# Caries	2, %	# Caries	3, %		2, %	3, %
YA	3	0	0%	0	0%	3	2, 66.67%	1, 33.33%
OA	1	0	0%	1	100%	0	0%	0%
OA	1	1	100%	0	0%	0	0%	0%

Table B.24: Caries severity by type at Rudston.

Age	# Caries	Maxillary caries	% Max	Mandibular caries	% Man
YA	3	2	66.67%	1	33.33%
OA	1	0	0%	1	100%
OA	1	0	0%	1	100%

Table B.25: Caries presence by dentition location at Rudston.

Age	Males		
	Observed Tooth Places	# Abscesses	% Abscesses
YA	80	4	5%
OA	96	3	3.13%
Total	176	7	3.98%

Table B.26: Abscess presence at Rudston.

Dentition Section	YA	OA
Anterior	3	0
Premolar	0	0
Molar	1	3

Table B.27: Abscess severity by dentition section at Rudston.

Males								
Dentition Section	Total Abscesses	Healing Stage			Sinus Location			
		Active	Healed	%	Internal	External	%	
Anterior	3	1	2	33.33%, 66.67%	0	3	0, 100%	
PM	0	0	0	0	0	0	0	
Molar	4	3	1	75%, 25%	1	3	25%, 75%	

Males				
Dentition Section	Total Abscesses	Severity		
		Moderate	Severe	%
Anterior	3	1	2	33.33%, 66.67%
PM	0	0	0	0
Molar	4	3	1	75%, 25%

Table B.28: Abscess summary at Rudston.

Location	YA	Tooth Loss	% Loss	OA	Tooth Loss	% Loss
Maxilla	2	1	50%	2	0	0%
Mandible	2	2	100%	1	0	0%

Table B.29: Abscess and tooth loss at Rudston.

Age	Males				Females			
	#	With AMTL	Without	% With	#	With AMTL	Without	% With
YA	4	1	3	25%				
MA					1	1	0	100%
OA	3	2	1	66.67%	2	2	0	100%
Total	7	3	4	42.86%	3	3	0	100%

Table B.30: AMTL presence at Rudston.

Dentition Section	Males			Females		
	Total Observed Tooth Places	AMTL	% Total Tooth Places AMTL	Total Observed Tooth Places	AMTL	% Total Tooth Places AMTL
Anterior	66	4	6.06%	18	5	27.78%
Premolar	44	0	0%	12	0	0%
Molar	66	1	1.51%	18	2	11.11%
Total	176	5	2.84%	48	7	14.58%

Table B.31: AMTL and tooth spaces at Rudston.

Tooth	Males				Females			
	Max	% Max	Man	% Man	Max	% Max	Man	% Man
I1	0	0%	1	100%	1	33.33%	2	66.67%
I2	0	0%	1	100%	1	50%	1	50%
C	1	50%	1	50%	0	0%	0	0%
PM1	0	0%	0	0%	0	0%	0	0%
PM2	0	0%	0	0%	0	0%	0	0%
M1	0	0%	0	0%	0	0%	0	0%
M2	0	0%	1	100%	0	0%	1	100%
M3	0	0%	0	0%	0	0%	1	100%
Total	1	20%	4	80%	2	29%	5	71%

Table B.32: AMTL details by dentition location at Rudston.

Tooth	YA				OA			
	Left	% Left	Right	% Right	Left	% Left	Right	% Right
I1	0	0%	0	0%	1	100%	0	0%
I2	1	100%	0	0%	0	0%	0	0%
C	1	50%	1	50%	0	0%	0	0%
PM1	0	0%	0	0%	0	0%	0	0%
PM2	0	0%	0	0%	0	0%	0	0%
M1	0	0%	0	0%	0	0%	0	0%
M2	0	0%	0	0%	1	100%	0	0%
M3	0	0%	0	0%	0	0%	0	0%
Total	2	67%	1	33%	2	100%	0	0%

Table B.33: AMTL details for males by side at Rudston.

Tooth	MA				OA			
	Left	% Left	Right	% Right	Left	% Left	Right	% Right
I1	2	66.67%	1	33.33%	0	0%	0	0%
I2	2	100%	0	0%	0	0%	0	0%
C	0	0%	0	0%	0	0%	0	0%
PM1	0	0%	0	0%	0	0%	0	0%
PM2	0	0%	0	0%	0	0%	0	0%
M1	0	0%	0	0%	0	0%	0	0%
M2	0	0%	0	0%	0	0%	1	100%
M3	0	0%	0	0%	0	0%	1	100%
Total	4	80%	1	20%	0	0%	2	100%

Table B.34: AMTL details for females by side at Rudston.

	Males			Females		
Tooth	1, %	2, %	3, %	1, %	2, %	3, %
I1	0	0	1, 100%	0	1, 33.33%	2, 66.67%
I2	0	0	1, 100%	0	1, 50%	1, 50%
C	1, 50%	0	1, 50%	0	0	0
PM1	0	0	0	0	0	0
PM2	0	0	0	0	0	0
M1	0	0	0	0	0	0
M2	0	0	1, 100%	0	0	1, 100%
M3	0	0	0	0	0	1, 100%
Total	1, 20%	0	4, 80%	0	2, 28.57%	5, 71.43%

Table B.35: AMTL healing at Rudston.

	Males			Females		
Tooth	AMTL	Path	% Path	AMTL	Path	% Path
I1	1	0	0%	3	0	0%
I2	1	1	100%	2	0	0%
C	2	2	100%	0	0	0%
PM1	0	0	0%	0	0	0%
PM2	0	0	0%	0	0	0%
M1	0	0	0%	0	0	0%
M2	1	0	0%	1	0	0%
M3	0	0	0%	1	0	0%
Total	5	3	60%	7	0	0%

Table B.36: AMTL and associated pathologies at Rudston.

	Caries			Abscesses			AMTL		
Age	Yes	No	% Caries	Yes	No	% Abscesses	Yes	No	% AMTL
YA	2	2	50%	1	3	25%	1	3	25%
OA	1	2	33.33%	2	1	66.67%	2	1	66.67%
Total	3	4	42.86%	3	4	42.86%	3	4	42.86%
MA	0	1	0%	0	1	0%	1	0	100%
OA	1	1	50%	0	2	0%	2	0	100%
Total	1	2	33.33%	0	3	0%	3	0	100%

Table B.37: Dental disease summary at Rudston.

Age	# Teeth	# Carious	% Carious	# Observed Tooth Places	# Abscesses	% Abscesses	# AMTL	% AMTL
YA	45	3	6.67%	80	4	1.25%	3	3.75%
OA	82	1	1.22%	96	3	3.13%	2	2.08%
Total	127	4	3.15%	176	7	3.98%	5	2.84%
MA	11	0	0%	24	0	0%	5	20.83%
OA	19	1	5.26%	24	0	0%	2	8.33%
Total	30	1	3.33%	48	0	0%	7	14.58%

Table B.38: Dental disease summary by tooth and tooth spaces at Rudston.

Age	Males			Females		
	With OA	Without OA	% OA	With OA	Without OA	% OA
YA	1	3	25%			
MA				0	1	0%
OA	1	2	33.33%	1	1	50%
Total	2	5	28.57%	1	2	33.33%

Table B.39: OA presence at Rudston.

Joint Location	YA Males			OA Males			OA Females		
	Severity			Severity			Severity		
	1	2	3	1	2	3	1	2	3
TMJ	1	0	0	0	0	0	1	0	0
Hip	0	0	0	0	0	0	1	0	0
Knee	0	0	0	0	2	0	1	0	0
Total	1	0	0	0	2	0	3	0	0

Table B.40: OA severity by joint location at Rudston.

Joint Location	YA Males				OA Males			
	Left	%	Right	%	Left	%	Right	%
TMJ	1	100%	0	0%	0	0%	0	0%
Shoulder	0	0%	0	0%	0	0%	0	0%
Elbow	0	0%	0	0%	0	0%	0	0%
Wrist/Hand	0	0%	0	0%	0	0%	0	0%
Hip	0	0%	0	0%	0	0%	0	0%
Knee	0	0%	0	0%	1	50%	1	50%
Ankle/Foot	0	0%	0	0%	0	0%	0	0%
Total	1	100%	0	0%	1	50%	1	50%

Joint Location	OA Females			
	Left	%	Right	%
TMJ	0	0%	1	100%
Shoulder	0	0%	0	0%
Elbow	0	0%	0	0%
Wrist/Hand	0	0%	0	0%
Hip	1	100%	0	0%
Knee	1	100%	0	0%
Ankle/Foot	0	0%	0	0%
Total	2	66.67%	1	33.33%

Table B.41: OA presence by side and joint location at Rudston.

Type	YA	OA	OA
Localised	0	0	0
Regionalised	1	1	0
Systemic	0	0	1

Table B.42: OA distribution type at Rudston.

B.2.3 Willerby Wold

Age	Males		
	# Teeth Observed	# Teeth Expected	% Present
YA	29	32	90.63%
MA	30	64	46.88%
OA	6	32	18.75%
Total	65	128	50.78%

Table B.43: Tooth presence at Willerby Wold.

Dentition Section	Males		
	# Teeth Observed	# Teeth Expected	% Present
Anterior	23	48	47.92%
Premolar	16	32	50.00%
Molar	26	48	54.17%

Table B.44: Tooth presence by dentition section at Willerby Wold.

Age	Caries			Abscesses			AMTL		
	Yes	No	% Yes	Yes	No	% Yes	Yes	No	% Yes
YA	0	1	0%	0	1	0%	0	1	0%
MA	1	1	50%	0	2	0%	0	2	0%
OA	0	1	0%	1	0	100%	1	0	100%
Total	1	3	25%	1	3	25%	1	3	25%

Table B.45: Dental disease summary at Willerby Wold.

Age	# Teeth	# Carious Teeth	% Carious	# Observed Teeth Spaces	# Abscesses	% Abscesses	# AMTL	% AMTL
YA	29	0	0%	32	0	0%	0	0%
MA	30	1	3.33%	32	0	0%	0	0%
OA	6	0	0%	16	1	6.25%	1	6.25%
Total	65	1	1.54%	80	1	1.25%	1	1.25%

Table B.46: Dental disease summary by tooth and tooth places at Willerby Wold.

LEH	YA	MA	OA
With	1	1	1
Without	0	1	0
% LEH	100%	50%	100%

Table B.47: LEH presence at Willerby Wold.

B.2.4 Garton Slack

Age	Males			Females		
	# Teeth Observed	# Teeth Expected	% Present	# Teeth Observed	# Teeth Expected	% Present
YA	111	128	86.72%	107	128	83.59%
MA	70	96	72.92%	13	32	40.63%
OA	111	128	86.72%	9	32	28.13%
Total	292	352	82.95%	129	192	67.19%

Table B.48: Tooth presence at Garton Slack.

Dentition Section	Males			Females		
	# Teeth Observed	# Teeth Expected	% Present	# Teeth Observed	# Teeth Expected	% Present
Anterior	105	132	79.55%	49	72	68.06%
Premolar	79	88	89.77%	37	48	77.08%
Molar	108	132	81.81%	43	72	59.72%

Table B.49: Tooth presence by dentition section at Garton Slack.

Age	Males	Females
YA	27.75	26.75
MA	23.33	13
OA	27.75	9
Total	26.55	21.5

Table B.50: Average tooth presence at Garton Slack.

LEH	Subadult	Males			Females		
	Children	YA	MA	OA	YA	MA	OA
With	2	1	1	1	3	0	0
Without	0	1	1	2	1	1	1
% LEH	100%	100%	50%	33.33%	75%	0%	0%

Table B.51: LEH presence at Garton Slack.

CO	Subadult	Males			Females		
	Children	YA	MA	OA	YA	MA	OA
With	3	1	0	1	0	1	0
Without	1	3	3	3	4	0	1
% CO	75%	25%	0%	25%	0%	100%	0%

Table B.52: CO presence at Garton Slack.

Age	Males				Females			
	Total Individuals	With Caries	Without Caries	% Caries	Total Individuals	With Caries	Without Caries	% Caries
YA	4	3	1	75%	4	3	1	75%
MA	3	1	2	33.33%	1	1	0	100%
OA	4	4	0	100%	1	1	0	100%
Total	11	8	3	72.72%	6	5	1	83.33%
Children	5	1	4	20%				

Table B.53: Caries presence at Garton Slack.

Age	Males			Females		
	# Teeth Observed	# Carious Teeth	% Carious	# Teeth Observed	# Carious Teeth	% Carious
YA	111	5	4.50%	107	14	13.08%
MA	70	1	1.43%	13	3	23.08%
OA	111	12	10.81%	9	1	11.11%
Total	292	18	6.16%	129	18	13.95%
Children	43	1	2.33%			

Table B.54: Percentage of carious teeth at Garton Slack.

Age	# Caries	Maxillary caries	% Max	Mandibular caries	% Man
YA	5	3	60%	2	40%
MA	1	0	0%	1	100%
OA	12	7	58.33%	5	41.67%
Total	18	10	55.56%	8	44.44%
YA	14	13	92.86%	1	7.14%
MA	3	0	0%	3	100%
OA	1	0	0%	1	100%
Total	18	13	72.22%	5	27.78%
Child	1	0	0%	1	100%

Table B.55: Caries presence by dentition location at Garton Slack.

Age	# Total Caries	Approximal Caries		Occlusal Caries		Gross Caries	
		# Caries	Proportion	# Caries	Proportion	# Caries	Proportion
YA	5	0	0%	5	100%	0	0%
MA	1	0	0%	1	100%	0	0%
OA	12	0	0%	6	50%	6	50%
Total	18	0	0%	12	66.67%	6	33.33%
YA	14	2	14.29%	11	78.57%	1	7.14%
MA	3	0	0%	1	33.33%	2	66.67%
OA	1	0	0%	1	100%	0	0%
Total	18	2	11.11%	13	72.22%	3	16.67%
Child	1	0	0%	1	100%	0	0%

Table B.56: Caries presence by type at Garton Slack.

Age	# Total Caries	Approximal Caries		Occlusal Caries		
			Score		Score	
		# Caries	2, %	# Caries	2, %	3, %
YA	5	0	0,0%	5	1, 20%	4, 80%
MA	1	0	0, 0%	1	0, 0%	1, 100%
OA	12	0	0, 0%	6	2, 33.33%	4, 66.67%
Total	18	0	0, 0%	12, 66.67%	3, 25%	9, 75%
YA	14	2	2, 14.29%	11	5, 45.45%	6, 54.56%
MA	3	0	0, 0%	1	0, 0%	1, 100%
OA	1	0	0, 0%	1	0, 0%	1, 100%
Total	18	2	2, 100%	13, 72.22%	5, 38.46%	8, 61.54%
Child	1	0	0, 0%	1	1, 100%	0, 0%

Age	# Total Caries	Gross Caries			
		Score			
		# Caries	2, %	3, %	4, %
YA	5	0	0, 0%	0, 0%	0, 0%
MA	1	0	0, 0%	0, 0%	0, 0%
OA	12	6	0, 0%	4, 66.67%	2, 33.33%
Total	18	6	0, 0%	4, 66.67%	2, 33.33%
YA	14	1	1, 100%	0, 0%	0, 0%
MA	3	2	0, 0%	2, 100%	0, 0%

OA	1	0	0, 0%	0, 0%	0, 0%
Total	18	3	1, 33.33%	2, 66.67%	0, 0%
Child	1	0	0, 0%	0, 0%	0, 0%

Table B.57: Caries severity by type at Garton Slack.

	Males			
Age	Total Individuals	With Abscesses	Without Abscesses	% Abscesses
YA	4	1	3	25%
MA	3	2	1	66.67%
OA	4	2	2	50%
Total	11	5	6	45.45%
Children	5	1	4	20%
	Females			
Age	Total Individuals	With Abscesses	Without Abscesses	% Abscesses
YA	4	2	2	50%
MA	1	1	0	100%
OA	1	1	0	100%
Total	6	4	2	66.67%

Table B.58: Abscess presence at Garton Slack.

	Males			Females		
Age	Observed Tooth Places	# Abscesses	% Abscesses	Observed Tooth Places	# Abscesses	% Abscesses
YA	128	1	0.78%	128	2	1.56%
MA	77	4	5.19%	32	1	3.13%
OA	128	4	3.13%	16	1	6.25%
Total	333	9	2.70%	176	4	2.27%
Child	100	1	1%			

Table B.59: Percentage of abscesses at Garton Slack.

Males							
Dentition Section	Total Abscesses	Healing Stage			Sinus Location		
		Active	Healed	%	Internal	External	%
Anterior	4	3	1	75%, 25%	0	4	0%, 100%
PM	1	0	1	0%, 100%	0	1	0%, 100%
Molar	4	3	1	75%, 25%	1	3	25%, 75%
Total	9	6	3	66.67%, 33.33%	1	8	11.11%, 88.89%

Males				
Dentition Section	Total Abscesses	Severity		
		Moderate	Severe	%
Anterior	4	1	3	25%, 75%
PM	1	1	0	100%, 0%
Molar	4	1	3	25%, 75%
Total	9	3	6	33.33%, 66.67%

Table B.60: Abscess details for males at Garton Slack.

Females							
Dentition Section	Total Abscesses	Healing Stage			Sinus Location		
		Active	Healed	%	Internal	External	%
Anterior	2	0	2	0%, 100%	1	1	50%, 50%
PM	1	0	1	0%, 100%	0	1	0%, 100%
Molar	1	0	1	0%, 100%	0	1	0%, 100%
Total	4	0	4	0, 100%	1	3	25%, 75%

Females				
Dentition Section	Total Abscesses	Severity		
		Moderate	Severe	%
Anterior	2	2	0	100%, 0%
PM	1	1	0	0%, 100%
Molar	1	0	1	0%, 100%
Total	4	3	1	75%, 25%

Table B.61: Abscess details for females at Garton Slack.

Location	YA	Tooth Loss	% Loss	MA	Tooth Loss	% Loss	OA	Tooth Loss	% Loss	Child	Tooth Loss	% Loss
Maxilla	1	0	0%	0	0	0%	2	0	0%	0	0	0%
Mandible	0	0	0%	4	3	75%	2	0	0%	1	0	0%

Table B.62: Abscesses and tooth loss for males and subadults at Garton Slack.

Location	YA	Tooth Loss	% Loss	MA	Tooth Loss	% Loss	OA	Tooth Loss	% Loss
Maxilla	2	1	50%	1	1	100%	0	0	0%
Mandible	0	0	0%	0	0	0%	1	1	100%

Table B.63: Abscesses and tooth loss for females at Garton Slack.

Age	Males				Females			
	#	With AMTL	Without	% With	#	With AMTL	Without	% With
YA	4	1	3	25%	4	1	3	25%
MA	3	1	2	33.33%	1	1	0	100%
OA	4	1	3	25%	1	1	0	100%
Total	11	3	8	27.27%	6	3	3	50%

Dentition Section	Males			Females		
	Total Observed Tooth Places	AMTL	% Total Tooth Places AMTL	Total Observed Tooth Places	AMTL	% Total Tooth Places AMTL
Anterior	120	5	4.17%	66	7	10.60%
Premolar	80	0	0%	44	2	4.55%
Molar	117	4	3.42%	66	10	15.15%
Total	317	9	2.84%	176	19	10.79%

Table B.64: AMTL presence at Garton Slack.

	YA				MA			
Tooth	Left	% Left	Right	% Right	Left	% Left	Right	% Right
I1	1	50%	1	50%	1	50%	1	50%
I2	0	0%	0	0%	0	0%	1	100%
C	0	0%	0	0%	0	0%	0	0%
PM1	0	0%	0	0%	0	0%	0	0%
PM2	0	0%	0	0%	0	0%	0	0%
M1	0	0%	0	0%	0	0%	0	0%
M2	0	0%	1	100%	0	0%	0	0%
M3	0	0%	1	100%	0	0%	0	0%
Total	1	25%	3	75%	1	33.33%	2	66.67%

	OA			
Tooth	Left	% Left	Right	% Right
I1	0	0%	0	0%
I2	0	0%	0	0%
C	0	0%	0	0%
PM1	0	0%	0	0%
PM2	0	0%	0	0%
M1	0	0%	0	0%
M2	1	100%	0	0%
M3	1	100%	0	0%
Total	2	100%	0	0%

Table B.65: AMTL presence by side for males at Garton Slack.

	YA				MA			
Tooth	Left	% Left	Right	% Right	Left	% Left	Right	% Right
I1	0	0%	0	0%	1	50%	1	50%
I2	0	0%	0	0%	1	50%	1	50%
C	0	0%	0	0%	1	50%	1	50%
PM1	0	0%	0	0%	0	0%	1	100%
PM2	0	0%	0	0%	0	0%	1	100%
M1	0	0%	1	100%	1	50%	1	50%
M2	0	0%	0	0%	1	50%	1	50%
M3	0	0%	0	0%	1	50%	1	50%
Total	0	0%	1	100%	6	42.86%	8	57.14%

	OA			
Tooth	Left	% Left	Right	% Right
I1	0	0%	0	0%
I2	0	0%	0	0%
C	0	0%	1	100%
PM1	0	0%	0	0%
PM2	0	0%	0	0%
M1	1	100%	0	0%
M2	0	0%	0	0%
M3	1	50%	1	50%
Total	2	50%	2	50%

Table B.66: AMTL presence by side for females at Garton Slack.

	Males				Females			
Tooth	Max	% Max	Man	% Man	Max	% Max	Man	% Man
I1	2	50%	2	50%	2	100%	0	0%
I2	0	0%	1	100%	1	50%	1	50%
C	0	0%	0	0%	1	33.33%	2	66.67%
PM1	0	0%	0	0%	1	100%	0	0%
PM2	0	0%	0	0%	0	0%	1	100%
M1	0	0%	2	100%	1	25%	3	75%
M2	0	0%	2	100%	0	0%	2	100%
M3	0	0%	0	0%	0	0%	4	100%
Total	2	22.22%	7	77.78%	6	31.58%	13	68.42%

Table B.67: AMTL presence by dentition location at Garton Slack.

	Males			Females		
Tooth	1, %	2, %	3, %	1, %	2, %	3, %
I1	0%	4, 100%	0%	0%	2, 100%	0%
I2	0%	1, 100%	0%	0%	2, 100%	0%
C	0%	0%	0%	0%	2, 66.67%	1, 33.33%
PM1	0%	0%	0%	0%	1, 100%	0%
PM2	0%	0%	0%	0%	1, 100%	0%
M1	0%	2, 100%	0%	1, 25%	2, 66.67%	1, 33.33%
M2	0%	2, 100%	0%	0%	2, 100%	0%
M3	0%	0%	0%	0%	2, 50%	2, 50%
Total	0%	9, 100%	0%	1, 5.26%	14, 73.68%	4, 21.05%

Table B.68: AMTL and healing stage at Garton Slack.

	Males			Females		
Tooth	AMTL	Path	% Path	AMTL	Path	% Path
I1	4	2	50%	2	0	0%
I2	1	1	100%	2	0	0%
C	0	0	0%	3	1	33.33%
PM1	0	0	0%	1	0	0%
PM2	0	0	0%	1	0	0%
M1	2	0	0%	4	1	20%
M2	2	1	50%	2	0	0%
M3	0	0	0%	4	0	0%
Total	9	4	44.44%	19	2	10.53%

Table B.69: AMTL and associated pathologies at Garton Slack.

	Caries			Abscesses			AMTL		
Age	Yes	No	% Caries	Yes	No	% Abscesses	Yes	No	% AMTL
YA	3	1	75%	1	3	25%	1	3	25%
MA	1	2	33.33%	2	1	66.67%	1	2	33.33%
OA	4	0	100%	2	2	50%	1	3	25%
Total	8	3	72.72%	5	6	45.45%	3	8	27.27%
YA	3	1	75%	2	2	50%	1	3	25%
MA	1	0	100%	1	0	100%	1	0	100%
OA	1	0	100%	1	0	100%	1	0	100%

Total	5	1	83.33%	4	2	66.67%	3	3	50%
Children	1	4	20%	1	4	20%	0	0	0%

Table B.70: Dental disease summary at Garton Slack.

Age	# Teeth	# Carious	% Carious	# Observed Tooth Places	# Abscesses	% Abscesses	# AMTL	% AMTL
YA	111	5	4.50%	128	1	0.78%	5	4.17%
MA	70	1	1.43%	77	4	5.19%	0	0%
OA	111	12	10.81%	128	4	3.13%	4	3.42%
Total	292	18	6.16%	333	9	2.70%	9	2.84%
YA	107	14	13.08%	128	2	1.56%	7	10.60%
MA	13	3	23.08%	32	1	3.13%	2	4.55%
OA	9	1	11.11%	16	1	6.25%	10	15.15%
Total	129	18	13.95%	176	4	2.27%	19	10.79%
Children	43	1	2.33%	100	1	1%	0	0%

Table B.71: Dental disease summary by tooth and tooth spaces at Garton Slack.

	Males			Females		
Age	**With OA**	**Without OA**	**% OA**	**With OA**	**Without OA**	**% OA**
YA	0	4	0%	0	4	0%
MA	1	2	33.33%	1	0	100%
OA	2	2	50%	1	0	100%
Total	3	8	27.27%	2	4	33.33%

Table B.72: OA presence at Garton Slack

Joint Location	MA Males				OA Males			
	Left	**%**	**Right**	**%**	**Left**	**%**	**Right**	**%**
TMJ	0	0%	0	0%	1	100%	0	0%
Shoulder	0	0%	0	0%	0	0%	0	0%
Elbow	0	0%	0	0%	0	0%	0	0%
Wrist/Hand	0	0%	0	0%	0	0%	0	0%
Hip	1	50%	1	50%	1	50%	1	50%
Knee	1	50%	1	50%	1	50%	1	50%
Ankle/Foot	0	0%	0	0%	0	0%	0	0%
Total	2	50%	2	50%	3	60%	2	40%
Joint Location	**MA Females**				**OA Females**			
	Left	**%**	**Right**	**%**	**Left**	**%**	**Right**	**%**
TMJ	1	100%	0	0%	1	50%	1	50%
Shoulder	0	0%	0	0%	0	0%	0	0%
Elbow	0	0%	0	0%	0	0%	0	0%
Wrist/Hand	0	0%	0	0%	0	0%	0	0%
Hip	0	0%	0	0%	0	0%	0	0%
Knee	0	0%	0	0%	0	0%	0	0%
Ankle/Foot	0	0%	0	0%	0	0%	0	0%
Total	1	100%	0	0%	1	50%	1	50%

Table B.73: OA presence by joint location and side at Garton Slack.

Joint Location	Males			Females		
	Severity			Severity		
	1	2	3	1	2	3
TMJ	0	1	0	1	2	0
Wrist/Hand	0	0	0	0	0	0
Hip	0	4	0	0	0	0
Knee	0	4	0	0	0	0
Total	0	9	0	1	2	0

Table B.74: OA and severity by joint location at Garton Slack.

Type	Males		Females	
	MA	OA	MA	OA
Localised	0	0	0	0
Regionalised	0	2	1	1
Systemic	1	0	0	0

Table B.75: OA distribution type at Garton Slack.

Age	Males				Females			
	Total Individuals	# With	# Without	% Cranial Fractures	Total Individuals	# With	# Without	% Cranial Fractures
YA	4	3	1	75%	4	2	2	50%
MA	3	0	3	0%	1	0	1	0%
OA	4	1	3	25%	1	0	1	0%
Total	11	4	7	36.36%	6	2	4	33.33%
Children	5	0	5	0%				

Table B.76: Cranial fracture prevalence at Garton Slack.

Type	YA Males	OA Males	YA Females	Total
Blunt Force	2	1	0	3
Sharp Force	1	0	4	5

Table B.77: Cranial fractures by type at Garton Slack.

B.2.5 Cowlam

Age	Males			Females		
	# Teeth Observed	# Teeth Expected	% Present	# Teeth Observed	# Teeth Expected	% Present
YA	81	128	63.28%			
MA				16	32	50%
OA				6	32	18.75%
Total	81	128	63.28%	22	64	34.38%

Table B.78: Tooth presence at Cowlam.

Dentition Section	Males			Females		
	# Teeth Observed	# Teeth Expected	% Present	# Teeth Observed	# Teeth Expected	% Present
Anterior	30	48	66.67%	9	24	37.50%
Premolar	22	32	68.75%	5	16	31.25%
Molar	29	48	60.42%	8	24	33.33%

Table B.79: Tooth presence by dentition section at Cowlam.

	Subadults	Males	Females	
LEH	Adolescents	YA	MA	OA
With	2	2	1	1
Without	0	1	0	0
% LEH	100%	66.67%	100%	100%

Table B.80: LEH presence at Cowlam.

	Subadults	Males	Females	
CO	Adolescents	YA	MA	OA
With	0	1	0	0
Without	2	3	1	1
% CO	0%	25%	0%	0%

Table B.81: CO presence at Cowlam.

	Males				Females			
Age	Total Individuals	With Caries	Without Caries	% Caries	Total Individuals	With Caries	Without Caries	% Caries
YA	4	3	1	75%				
MA					1	1	0	100%
OA					1	1	0	100%
Total	4	3	1	75%	2	2	0	100%

	Subadults			
Age	Total Individuals	With Caries	Without Caries	% Caries
Adolescent	2	1	1	50%

Table B.82: Caries presence at Cowlam.

	Males			Females		
Age	# Teeth Observed	# Carious Teeth	% Carious	# Teeth Observed	# Carious Teeth	% Carious
YA	81	9	11.11%			
MA				16	1	6.25%
OA				6	1	16.67%
Total	81	9	11.11%	22	2	9.09%
Adolescent	21	1	4.76%			

Table B.83: Carious teeth at Cowlam.

		Root Caries		Approximal Caries	
Age	# Total Caries	# Caries	Proportion	# Caries	Proportion
YA	9	0	0%	2	22.22%
MA	1	1	100%	0	0%
OA	1	0	0%	1	100%
Adolescent	1	0	0%	0	0%
		Occlusal Caries		Gross Caries	
Age	# Total Caries	# Caries	Proportion	# Caries	Proportion
YA	9	5	55.56%	2	22.22%
MA	1	0	0%	0	0%

OA	1	0	0%	0	0%
Adolescent	1	1	100%	0	0%

Table B.84: Caries presence by type at Cowlam.

Age	# Caries	Root Caries		Approximal Caries		
		# Caries	Score 2, %	# Caries	Score 2, %	Score 3, %
YA	9	0	0	2	1, 50%	1, 50%
MA	1	1	1, 100%	0	0	0
OA	1	0	0	1	0	1, 100%
Adolescent	1	0	0	0	0	0

Age	# Caries	Occlusal Caries		Gross Caries		
		# Caries	# Caries	Score 2, %	# Caries	Score 3, %
YA	9	0	5	5, 100%	2	2, 100%
MA	1	1	0	0	0	0
OA	1	0	0	0	0	0
Adolescent	1	0	1	1, 100%	0	0

Table B.85: Caries severity by type at Cowlam.

Age	Number of caries	Maxillary caries	% Max	Mandibular caries	% Man
YA	9	3	33.33%	6	66.67%
MA	1	0	0%	1	100%
OA	1	0	0%	1	100%
Adolescents	1	0	0%	1	100%

Table B.86: Caries presence by dentition location at Cowlam.

Age	Caries			Abscesses			AMTL		
	Yes	No	% Caries	Yes	No	% Abscesses	Yes	No	% AMTL
YA	3	1	75%	1	3	25%	0	4	0%
MA	1	0	100%	0	1	0%	0	1	0%
OA	1	0	100%	0	1	0%	1	0	100%
Adolescents	1	1	50%	0	2	0%	0	2	0%

Table B.87: Dental disease summary at Cowlam.

Age	# Teeth	# Carious	% Carious	# Observed Tooth Places	# Abscesses	% Abscesses	# AMTL	% AMTL
YA	81	9	11.11%	104	1	0.96%	0	0%
MA	16	1	6.25%	16	0	0%	0	0%
OA	6	1	16.67%	16	0	0%	4	25%
Adolescents	21	1	4.76%	n/a	0	0	0	0
Total	124	12	9.67%	136	1	0.73%	0	2.94%

Table B.88: Dental disease summary by tooth and tooth spaces at Cowlam.

B.2.6 Garrowby Wold

Age	Males			Females		
	# Teeth Observed	# Teeth Expected	% Present	# Teeth Observed	# Teeth Expected	% Present
YA	80	128	62.50%	29	32	90.63%
MA	14	32	43.75%			
Total	94	160	58.75%			

Table B.89: Tooth presence at Garrowby Wold.

Dentition Section	Males			Females		
	# Teeth Observed	# Teeth Expected	% Present	# Teeth Observed	# Teeth Expected	% Present
Anterior	31	60	51.67%	10	12	83.33%
Premolar	24	40	60%	8	8	100%
Molar	39	60	65%	11	12	91.67%

Table B.90: Tooth presence by dentition section at Garrowby Wold.

LEH	Males		Female
	YA	MA	YA
With	2	1	1
Without	1	0	0
% LEH	66.67%	100%	100%

Table B.91: LEH presence at Garrowby Wold.

CO	Males		Female
	YA	MA	YA
With	1	0	0
Without	3	1	1
% CO	25%	0%	0%

Table B.92: CO presence at Garrowby Wold.

Age	Males				Females			
	Total Individuals	With Caries	Without Caries	% Caries	Total Individuals	With Caries	Without Caries	% Caries
YA	4	3	1	75%	1	1	0	100%
MA	1	1	0	100%				
Total	5	4	1	80%	1	1	0	100%

Table B.93: Caries presence at Garrowby Wold.

Age	Males			Females		
	# Teeth Observed	# Carious Teeth	% Carious	# Teeth Observed	# Carious Teeth	% Carious
YA	80	9	11.25%	29	2	6.90%
MA	14	7	50%			
Total	94	16	17.02%	29	2	6.90%

Table B.94: Carious teeth presence at Garrowby Wold.

Age	# Total Caries	Approximal Caries		Occlusal Caries		Gross Caries	
		# Caries	Proportion	# Caries	Proportion	# Caries	Proportion
YA	9	0	0%	9	100%	0	0%
MA	7	3	42.86%	1	14.29%	3	42.86%
YA	2	0	0%	2	100%	0	0%

Table B.95: Caries presence by type at Garrowby Wold.

Age	# Caries	Approximal Caries		Occlusal Caries			Gross Caries	
		# Caries	Score 3, %	# Caries	Score 2, %	Score 3, %	# Caries	Score 4, %
YA	9	0	0%	9	3, 33.33%	6, 66.67%	0	0%
MA	7	3	3, 42.86%	1	0%	1, 14.29%	3	3, 42.86%
YA	2	0	0%	2	1, 50%	1, 50%	0	0%

Table B.96: Caries severity by type at Garrowby Wold.

Age	# Caries	Maxillary caries	% Max	Mandibular caries	% Man
YA	9	1	11.11%	8	88.89%
MA	7	0	0%	7	100%
YA	2	0	0%	2	100%

Table B.97: Caries presence by dentition location at Garrowby Wold.

Age	Total	With	Without	% Yes
YA	4	1	3	25%
MA	1	1	0	100%
YA	1	0	1	0%

Table B.98: Abscess presence at Garrowby Wold.

Age	Caries			Abscesses			AMTL		
	Yes	No	% Yes	Yes	No	% Yes	Yes	No	% Yes
YA	3	1	75%	1	3	25%	1	3	25%
MA	1	0	100%	1	0	100%	0	1	0%
Total Males	4	1	80%	2	3	40%	1	4	20%
YA	1	0	100%	0	1	0%	0	1	0%

Table B.99: Dental disease summary at Garrowby Wold.

Age	# Teeth	# Carious Teeth	% Carious	# Observed Teeth Spaces	# Abscesses	% Abscesses	# AMTL	% AMTL
YA	80	9	11.25%	128	2	1.56%	2	1.56%
MA	14	7	50%	16	1	6.25%	0	0%
Total Males	94	16	17.02%	144	3	2.08%	2	1.39%
YA	29	2	6.90%	32	0	0%	0	0%

Table B.100: Dental disease summary by tooth and tooth spaces at Garrowby Wold.

B.3 Total Bronze Age

Age	Bronze Age					
	Males			Females		
	Teeth observed	Teeth expected	% Present	Teeth observed	Teeth expected	% Present
YA	373	576	64.76%	144	192	75%
MA	164	288	56.94%	40	96	41.66%
OA	199	256	77.73%	34	128	26.56%

Table B.101: Bronze Age tooth presence.

Dentition Section	Males					
	YA			MA		
	Observed	Expected	%	Observed	Expected	%
Anterior	120	216	55.56%	62	108	57.41%
Premolar	99	144	68.75%	43	72	59.72%
Molar	154	216	71.30%	59	108	54.63%

Dentition Section	Males		
	OA		
	Observed	Expected	%
Anterior	77	96	80.21%
Premolar	49	64	76.56%
Molar	73	96	76.04%

Table B.102: Bronze Age tooth presence by dentition section for males.

Dentition Section	Females					
	YA			MA		
	Observed	Expected	%	Observed	Expected	%
Anterior	50	72	69.44%	12	36	33.33%
Premolar	41	48	85.42%	12	24	50%
Molar	53	72	73.61%	16	36	44.44%

Dentition Section	Females		
	OA		
	Observed	Expected	%
Anterior	14	48	29.17%
Premolar	8	32	25%
Molar	12	48	25%

Table B.103: Bronze Age tooth presence by dentition section for females.

Age	Males	Females
YA	20.72	24
MA	18.2	13.33
OA	24.85	11

Table B.104: Average Bronze Age dentition presence.

	Males				Females			
LEH	YA	MA	OA	Total	YA	MA	OA	Total
With	8	5	5	18	5	2	2	10
Without	3	2	2	7	1	1	1	3
% LEH	72.72%	71.43%	71.43%	72%	83.33%	66.67%	75%	76.92%

	Subadults		
LEH	Child	Adolescent	Total
With	2	2	4
Without	0	1	1
% LEH	100%	66.67%	80%

Table B.105: LEH presence in the Bronze Age.

	Males				Females			
CO	YA	MA	OA	Total	YA	MA	OA	Total
With	3	0	1	4	0	1	1	2
Without	13	7	6	26	6	2	2	10
% CO	18.75%	0%	14.29%	13.33%	0%	33.30%	33.33%	20%

	Subadults		
CO	Child	Adolescent	Total
With	3	0	3
Without	1	3	4
% CO	75%	0%	42.86%

Table B.106: CO presence in the Bronze Age.

	Males				Females			
Age	Total Individuals	With caries	Without caries	% Caries	Total Individuals	With caries	Without caries	% Caries
YA	18	12	6	66.67%	6	4	2	66.67%
MA	9	5	4	55.56%	3	2	1	66.67%
OA	8	5	3	62.50%	4	3	1	75%

Subadults				
Age	Total Individuals	With Caries	Without Caries	% Caries
Children	5	1	4	20%
Adolescents	3	1	2	33.33%

Table B.107: Bronze Age caries presence.

	Males			Females		
Age	Teeth observed	Carious teeth	% Carious	Teeth observed	Carious teeth	% Carious
YA	373	27	7.24%	144	14	9.72%
MA	164	21	12.80%	40	4	10%
OA	199	10	5.03%	34	3	8.82%

Subadults			
Age	Teeth Observed	Carious Teeth	% Carious
Children	43	1	2.33%
Adolescents	45	1	2.22%

Table B.108: Carious teeth in the Bronze Age.

Males		Root Caries		Approximal Caries	
Age	# Total Caries	# Caries	Proportion	# Caries	Proportion
YA	31	0	0%	16	51.61%
MA	27	3	11.10%	6	22.20%
OA	13	0	0%	1	7.69%
Males		**Occlusal Caries**		**Gross Caries**	
Age	# Total Caries	# Caries	Proportion	# Caries	Proportion
YA	31	13	41.94%	2	6.45%
MA	27	2	7.40%	16	59.26%
OA	13	6	46.15%	6	46.15%

Table B.109: Caries presence by type among males in the Bronze Age.

Females		Root Caries		Approximal Caries	
Age	# Total Caries	# Caries	Proportion	# Caries	Proportion
YA	16	0	0%	2	12.50%
MA	4	1	25%	0	0%
OA	3	0	0%	2	66.67%
Females		**Occlusal Caries**		**Gross Caries**	
Age	# Total Caries	# Caries	Proportion	# Caries	Proportion
YA	16	13	81.25%	1	6.25%
MA	4	1	25%	2	50%
OA	3	1	33.33%	0	0%

Table B.110: caries presence by type among females in the Bronze Age.

Males		Root Caries		Approximal Caries		
			Score		Score	
Age	# Total Caries	# Caries	2, %	# Caries	2, %	3, %
YA	31	0	0, 0%	16	9, 56.25%	7, 43.75%
MA	27	3	3, 100%	6	0, 0%	6, 100%
OA	13	0	0, 0%	1	0, 0%	1, 100%

Males		Occlusal Caries			Gross Caries		
			Score			Score	
Age	# Total Caries	# Caries	2, %	3, %	# Caries	3, %	4, %
YA	31	13	8, 61.54%	5, 38.46%	2	2, 100%	0, 0%
MA	27	2	0, 0%	2, 100%	16	9, 56.25%	7, 43.75%
OA	13	6	4, 66.67%	2, 33.33%	6	4, 66.67%	2, 33.33%

Table B.111: Caries severity by type among males in the Bronze Age.

Females		Root Caries		Approximal Caries		
			Score		Score	
Age	# Total Caries	# Caries	2, %	# Caries	2, %	3, %
YA	16	0	0, 0%	2	2, 100%	0, 0%
MA	4	1	1, 100%	0	0, 0%	0, 0%
OA	3	0	0, 0%	2	0, 0%	2, 100%
OA	13	0	0, 0%	1	0, 0%	1, 100%

Females		Occlusal Caries			Gross Caries		
			Score			Score	
Age	# Total Caries	# Caries	2, %	3, %	# Caries	2, %	3, %
YA	16	13	6, 46.15%	7, 53.85%	1	1, 100%	0, 0%
MA	4	1	0, 0%	1, 100%	2	0, 0%	2, 100%
OA	3	1	0, 0%	1, 100%	0	0, 0%	0, 0%

Table B.112: Caries severity by type among females in the Bronze Age.

	Males				
Age	Number of caries	Maxillary caries	% Max	Mandibular caries	% Man
YA	31	9	29.03%	22	70.97%
MA	27	10	37.04%	17	62.96%
OA	13	7	53.85%	6	46.15%

Table B.113: Caries presence by dentition location among males in the Bronze Age.

	Females				
Age	Number of caries	Maxillary caries	% Max	Mandibular caries	% Man
YA	16	13	81.25%	3	18.75%
MA	4	3	75%	1	25%
OA	3	0	0%	3	100%

Table B.114: Caries presence by dentition location among females in the Bronze Age.

Subadults					
Age	Number of caries	Maxillary caries	% Max	Mandibular caries	% Man
Children	1	0	0%	1	100%
Adolescents	1	0	0%	1	100%

Table B.115: Caries presence by dentition location among subadults in the Bronze Age.

	Males				Females			
Age	Total	With	Without	% Ab	Total	With	Without	% Ab
YA	18	5	13	27.78%	6	2	4	33.33%
MA	9	4	5	44.44%	3	1	2	33.33%
OA	8	5	3	62.50%	4	1	3	25%
Total	35	14	21	40%	13	4	9	30.77%

Subadults				
Age	Total	With	Without	% Yes
Children	5	1	4	20%
Adolescents	3	0	3	0%
Total	8	1	7	12.50%

Table B.116: Abscess presence in the Bronze Age.

	Males			Females		
Age	Observed Tooth Places	# Abscesses	% Abscesses	Observed Tooth Places	# Abscesses	% Abscesses
YA	503	9	1.79%	192	2	1.04%
MA	205	6	2.93%	72	1	1.39%
OA	240	8	3.33%	56	1	1.79%
Total	948	23	2.43%	320	4	1.25%

Table B.117: Abscess percentage in the Bronze Age.

	Males								
Location	YA Ab	Tooth Loss	% Loss	MA Ab	Tooth Loss	% Loss	OA Ab	Tooth Loss	% Loss
Maxilla	4	4	100%	0	0	0%	4	0	0%
Mandible	5	5	100%	6	3	50%	4	1	25%

Table B.118: Abscesses and tooth loss by dentition location among males in the Bronze Age.

	Females								
Location	YA Ab	Tooth Loss	% Loss	MA Ab	Tooth Loss	% Loss	OA Ab	Tooth Loss	% Loss
Maxilla	2	1	50%	1	1	100%	0	0	0%
Mandible	0	0	0%	0	0	0%	1	1	100%

Table B.119: Abscesses and tooth loss by dentition location among females in the Bronze Age.

Males				
		Healing Stage		
Section	Total Abscesses	Active	Healed	%
Anterior	8	4	4	50%, 50%
PM	5	1	4	16.7%, 83.3%
Molar	10	7	3	70%, 30%

Males							
		Sinus Location			Severity		
Section	Total Abscesses	Internal	External	%	Moderate	Severe	%
Anterior	8	1	7	12.5%, 87.5%	3	5	37.5%, 62.5%
PM	5	0	5	0%, 100%	3	2	66.7%, 33.3%
Molar	10	6	4	60%, 40%	6	4	60%, 40%

Table B.120: Abscess details by dentition section among males in the Bronze Age.

Females				
Section	Total Abscesses	Healing Stage		
		Active	Healed	%
Anterior	2	0	2	0, 100%
PM	1	0	1	0, 100%
Molar	1	0	1	0, 100%

Females							
Section	Total Abscesses	Sinus Location			Severity		
		Internal	External	%	Moderate	Severe	%
Anterior	2	1	1	50%, 50%	2	0	100%, 0%
PM	1	0	1	0%, 100%	1	0	100%, 0%
Molar	1	0	1	0%, 100%	1	0	100%, 0%

Table B.121: Abscess details by dentition section among females in the Bronze Age.

	Males				Females			
Age	# Individuals	With AMTL	Without AMTL	% AMTL	# Individuals	With AMTL	Without AMTL	% AMTL
YA	18	4	14	28.57%	6	1	5	16.67%
MA	9	2	7	22.22%	3	3	0	100%
OA	8	4	4	50%	4	4	0	100%
Total	35	10	25	28.57%	13	8	5	61.54%

Table B.122: AMTL presence in the Bronze Age.

	YA Males				MA Males			
Dentition Section	# Teeth Present	Total Observed Tooth Places	AMTL	% Total Tooth Places AMTL	# Teeth Present	Total Observed Tooth Places	AMTL	% Total Tooth Places AMTL
Anterior	120	188	6	3.19%	62	78	5	6.41%
Premolar	99	126	1	0.79%	43	52	2	3.85%
Molar	154	189	3	1.59%	59	75	1	1.33%
Total	373	503	10	1.99%	164	205	8	3.90%

	OA Males			
Dentition Section	# Teeth Present	Total Observed Tooth Places	AMTL	% Total Tooth Places AMTL
Anterior	77	90	1	1.11%
Premolar	49	60	1	1.67%
Molar	73	90	3	3.33%
Total	373	503	10	1.99%

Table B.123: AMTL percentage among males in the Bronze Age.

	YA Females				MA Females			
Dentition Section	# Teeth Present	Total Observed Tooth Places	AMTL	% Total Tooth Places AMTL	# Teeth Present	Total Observed Tooth Places	AMTL	% Total Tooth Places AMTL
Anterior	50	72	0	0	12	27	11	40.74%
Premolar	41	48	0	0	12	18	2	11.11%
Molar	54	72	1	1.39%	16	27	6	22.22%

Total	145	192	1	0.52%	40	72	19	26.39%

	OA Females			
Dentition Section	**# Teeth Present**	**Total Observed Tooth Places**	**AMTL**	**% Total Tooth Places AMTL**
Anterior	14	21	1	4.76%
Premolar	8	14	1	7.14%
Molar	12	21	8	38.09%
Total	34	56	10	17.86%

Table B.124: AMTL percentage among females in the Bronze Age.

	Males			Females		
Dentition Section	**Total Observed Tooth Places**	**AMTL**	**% Total Tooth Places AMTL**	**Total Observed Tooth Places**	**AMTL**	**% Total Tooth Places AMTL**
Anterior	356	12	3.37%	120	12	10.00%
Premolar	238	4	1.68%	80	3	3.75%
Molar	354	7	1.98%	120	15	12.50%
Total	948	23	2.43%	320	30	9.38%

Table B.125: Total AMTL percentage in the Bronze Age.

	YA				MA			
Tooth	**Left**	**% Left**	**Right**	**% Right**	**Left**	**% Left**	**Right**	**% Right**
I1	1	50%	1	50%	1	50%	1	50%
I2	1	100%	0	0%	0	0%	2	100%
C	2	66.67%	1	33.33%	0	0%	1	100%
PM1	0	0%	1	100%	0	0%	1	100%
PM2	0	0%	0	0%	0	0%	1	100%
M1	0	0%	1	100%	0	0%	1	100%
M2	1	50%	1	50%	0	0%	0	0%
M3	0	0%	0	0%	0	0%	0	0%
Total	5	50%	5	50%	1	12.50%	7	87.50%

	OA			
Tooth	**Left**	**% Left**	**Right**	**% Right**
I1	0	0%	0	0%
I2	1	100%	0	0%
C	0	0%	0	0%
PM1	0	0%	1	100%
PM2	0	0%	0	0%
M1	1	100%	0	0%
M2	2	100%	0	0%
M3	0	0%	0	0%
Total	4	80%	1	20%

Table B.126: AMTL by side among males in the Bronze Age.

	YA				MA			
Tooth	Left	% Left	Right	% Right	Left	% Left	Right	% Right
I1	0	0%	0	0%	3	60%	2	40%
I2	0	0%	0	0%	3	75%	1	25%
C	0	0%	0	0%	1	50%	1	50%
PM1	0	0%	0	0%	0	0%	1	100%
PM2	0	0%	0	0%	0	0%	1	100%
M1	0	0%	1	100%	1	50%	1	50%
M2	0	0%	0	0%	1	50%	1	50%
M3	0	0%	0	0%	1	50%	1	50%
Total	0	0%	1	100%	10	52.63%	9	47.37%

	OA			
Tooth	Left	% Left	Right	% Right
I1	0	0%	0	0%
I2	0	0%	0	0%
C	0	0%	1	100%
PM1	0	0%	0	0%
PM2	1	100%	0	0%
M1	2	100%	0	0%
M2	0	0%	2	100%
M3	1	25%	3	75%
Total	4	40%	6	60%

Table B.127: AMTL by side among females in the Bronze Age.

	Males				Females			
Tooth	Left	% Left	Right	% Right	Left	% Left	Right	% Right
I1	2	50%	2	50%	3	60%	2	40%
I2	2	50%	2	50%	3	75%	1	75%
C	2	50%	2	50%	1	33.33%	2	66.67%
PM1	0	0%	3	100%	0	0%	1	100%
PM2	0	0%	1	100%	1	50%	1	50%
M1	1	33.33%	2	66.67%	3	60%	2	40%
M2	3	75%	1	25%	1	25%	3	75%
M3	0	0%	0	0%	2	33.33%	4	66.67%
Total	10	43.48%	13	56.52%	14	46.67%	16	53.33%

Table B.128: Total AMTL by side in the Bronze Age.

	YA				MA			
Tooth	Max	% Max	Man	% Man	Max	% Max	Man	% Man
I1	2	100%	0	0%	0	0%	2	100%
I2	0	0%	1	100%	0	0%	2	100%
C	2	66.67%	1	33.33%	0	0%	1	100%
PM1	1	100%	0	0%	0	0%	1	100%
PM2	0	0%	0	0%	0	0%	1	100%
M1	0	0%	1	100%	0	0%	1	100%
M2	0	0%	2	100%	0	0%	0	0%
M3	0	0%	0	0%	0	0%	0	0%
Total	5	50%	5	50%	0	0%	8	100%

	OA			
Tooth	Max	% Max	Man	% Man
I1	0	0%	0	0%
I2	0	0%	1	100%
C	0	0%	0	0%
PM1	0	0%	1	100%
PM2	0	0%	0	0%
M1	0	0%	1	100%
M2	0	0%	2	100%
M3	0	0%	0	0%
Total	0	0%	5	100%

Table B.129: AMTL by dentition location among males in the Bronze Age.

	YA				MA			
Tooth	Max	% Max	Man	% Man	Max	% Max	Man	% Man
I1	0	0%	0	0%	3	60%	2	40%
I2	0	0%	0	0%	2	50%	2	50%
C	0	0%	0	0%	1	50%	1	50%
PM1	0	0%	0	0%	1	100%	0	0%
PM2	0	0%	0	0%	0	0%	1	100%
M1	1	100%	0	0%	0	0%	2	100%
M2	0	0%	0	0%	0	0%	2	100%
M3	0	0%	0	0%	0	0%	2	100%
Total	1	100%	0	0%	7	36.84%	12	63.16%

	OA			
Tooth	Max	% Max	Man	% Man
I1	0	0%	0	0%
I2	0	0%	0	0%
C	0	0%	1	100%
PM1	0	0%	0	0%
PM2	0	0%	1	100%
M1	0	0%	2	100%
M2	0	0%	2	100%
M3	0	0%	4	100%
Total	0	0%	10	100%

Table B.130: AMTL by dentition location among females in the Bronze Age.

	Males				Females			
Tooth	Max	% Max	Man	% Man	Max	% Max	Man	% Man
I1	2	50%	2	50%	3	60%	2	40%
I2	0	0%	4	100%	2	50%	2	50%
C	2	50%	2	50%	1	33.33%	2	66.67%
PM1	1	33.30%	2	66.67%	1	100%	0	0%
PM2	0	0%	1	100%	0	0%	2	100%
M1	0	0%	3	100%	1	20%	4	80%
M2	0	0%	4	100%	0	0%	4	100%
M3	0	0%	0	0%	0	0%	6	100%
Total	5	21.74%	18	78.26%	8	26.67%	22	73.33%

Table B.131: Total AMTL by dentition location in the Bronze Age.

	YA Males			MA Males		
Tooth	1, %	2, %	3, %	1, %	2, %	3, %
I1	0, 0%	2, 100%	0, 0%	0, 0%	2, 100%	0, 0%
I2	0, 0%	0, 0%	1, 100%	0, 0%	2, 100%	0, 0%
C	1, 33.33%	1, 33.33%	1, 33.33%	0, 0%	1, 100%	0, 0%
PM1	0, 0%	1, 100%	0, 0%	0, 0%	1, 100%	0, 0%
PM2	0, 0%	0, 0%	0, 0%	0, 0%	1, 100%	0, 0%
M1	0, 0%	1, 100%	0, 0%	0, 0%	1, 100%	0, 0%
M2	0, 0%	1, 50%	1, 50%	0, 0%	0, 0%	0, 0%
M3	0, 0%	0, 0%	0, 0%	0, 0%	0, 0%	0, 0%
Total	1, 10%	6, 60%	3, 30%	0, 0%	8, 100%	0, 0%

	OA Males		
Tooth	1, %	2, %	3, %
I1	0, 0%	0, 0%	0, 0%
I2	0, 0%	0, 0%	1, 100%
C	0, 0%	0, 0%	0, 0%
PM1	1, 100%	0, 0%	0, 0%
PM2	0, 0%	0, 0%	0, 0%
M1	0, 0%	1, 100%	0, 0%
M2	0, 0%	1, 50%	1, 50%
M3	0, 0%	0, 0%	0, 0%
Total	1, 10%	6, 60%	3, 30%

Table B.132: AMTL healing among males in the Bronze Age.

	YA Females			MA Females		
Tooth	1, %	2, %	3, %	1, %	2, %	3, %
I1	0, 0%	0, 0%	0, 0%	0, 0%	3, 60%	2, 40%
I2	0, 0%	0, 0%	0, 0%	0, 0%	3, 75%	1, 25%
C	0, 0%	0, 0%	0, 0%	0, 0%	2, 100%	0, 0%
PM1	0, 0%	0, 0%	0, 0%	0, 0%	1, 100%	0, 0%
PM2	0, 0%	0, 0%	0, 0%	0, 0%	1, 100%	0, 0%
M1	1, 100%	0, 0%	0, 0%	0, 0%	2, 100%	0, 0%
M2	0, 0%	0, 0%	0, 0%	0, 0%	2, 100%	0, 0%
M3	0, 0%	0, 0%	0, 0%	0, 0%	2, 100%	0, 0%
Total	1, 100%	0, 0%	0, 0%	0, 0%	16, 84.21%	3, 15.79%

	OA Females		
Tooth	1, %	2, %	3, %
I1	0, 0%	0, 0%	0, 0%
I2	0, 0%	0, 0%	0, 0%
C	0, 0%	0, 0%	1, 100%
PM1	0, 0%	0, 0%	0, 0%
PM2	0, 0%	0, 0%	1, 100%
M1	0, 0%	0, 0%	2, 100%
M2	0, 0%	0, 0%	2, 100%
M3	0, 0%	0, 0%	4, 100%
Total	0, 0%	0, 0%	10, 100%

Table B.133: AMTL healing among females in the Bronze Age.

	Males			Females		
Tooth	1, %	2, %	3, %	1, %	2, %	3, %
I1	0, 0%	4, 100%	0, 0%	0, 0%	3, 60%	2, 40%
I2	0, 0%	2, 50%	2, 50%	0, 0%	3, 75%	1, 25%
C	1, 25%	2, 50%	1, 25%	0, 0%	2, 66.67%	1, 33.33%
PM1	1, 33.33%	2, 66.67%	0, 0%	0, 0%	1, 100%	0, 0%
PM2	0, 0%	1, 100%	0, 0%	0, 0%	1, 50%	1, 50%
M1	0, 0%	3, 100%	0, 0%	1, 20%	2, 40%	2, 40%
M2	0, 0%	2, 50%	2, 50%	0, 0%	2, 50%	2, 50%
M3	0, 0%	0, 0%	0, 0%	0, 0%	2, 33.33%	4, 66.67%
Total	2, 8.69%	16, 69.57%	5, 21.74%	1, 3.33%	16, 53.33%	13, 43.33%

Table B.134: Total AMTL healing in the Bronze Age.

	YA			MA			OA		
Tooth	AMTL	Path	% Path	AMTL	Path	% Path	AMTL	Path	% Path
I1	2	0	0%	2	2	100%	0	0	0%
I2	1	1	100%	2	1	50%	1	0	0%
C	3	3	100%	1	0	0%	0	0	0%
PM1	1	1	100%	1	0	0%	1	1	100%
PM2	0	0	0%	1	0	0%	0	0	0%
M1	1	0	0%	1	0	0%	1	0	0%
M2	2	2	100%	0	0	0%	2	0	0%
M3	0	0	0%	0	0	0%	0	0	0%
Total	10	7	70%	8	3	37.50%	5	1	20%

Table B.135: AMTL and associated pathologies among males in the Bronze Age.

	YA			MA			OA		
Tooth	AMTL	Path	% Path	AMTL	Path	% Path	AMTL	Path	% Path
I1	0	0	0%	5	0	0%	0	0	0%
I2	0	0	0%	4	0	0%	0	0	0%
C	0	0	0%	2	0	0%	1	1	100%
PM1	0	0	0%	1	0	0%	0	0	0%
PM2	0	0	0%	1	0	0%	1	0	0%
M1	1	1	100%	2	0	0%	2	0	0%
M2	0	0	0%	2	0	0%	2	0	0%

M3	0	0	0%	2	0	0%	4	0	0%
Total	1	1	100%	19	0	0%	10	1	10%

Table B.136: AMTL and associated pathologies among females in the Bronze Age.

Males									
	Caries			Abscesses			AMTL		
Age	Yes	No	% Yes	Yes	No	% Yes	Yes	No	% Yes
YA	12	6	66.67%	5	13	27.78%	4	14	28.57%
MA	5	4	55.56%	4	5	44.44%	2	7	22.22%
OA	5	3	62.50%	5	3	62.50%	4	4	50%
Total	22	13	62.86%	14	21	40%	10	25	28.57%

Table B.137: Dental disease summary for Bronze Age males.

Females									
	Caries			Abscesses			AMTL		
Age	Yes	No	% Yes	Yes	No	% Yes	Yes	No	% Yes
YA	4	2	66.67%	2	4	33.33%	1	5	16.67%
MA	2	1	66.67%	1	2	33.33%	3	0	100%
OA	3	1	75.00%	1	3	25.00%	4	0	100%
Total	9	4	69.23%	4	9	30.77%	8	5	61.54%

Table B.138: Dental disease summary for Bronze Age females.

Males								
Age	# Teeth	# Carious Teeth	% Carious	# Observed Teeth Spaces	# Abscesses	% Abscesses	# AMTL	% AMTL
YA	373	27	7.24%	503	9	1.79%	10	1.99%
MA	164	21	12.80%	205	6	2.93%	8	3.90%
OA	199	10	5.03%	240	8	3.33%	5	2.08%
Total	736	58	7.88%	948	23	2.43%	23	2.43%

Table B.139: Dental disease summary by tooth and tooth spaces among Bronze Age males.

Females								
Age	# Teeth	# Carious Teeth	% Carious	# Observed Teeth Spaces	# Abscesses	% Abscesses	# AMTL	% AMTL
YA	144	14	9.72%	192	2	1.04%	1	0.52%
MA	40	4	10%	72	1	1.39%	19	26.39%
OA	34	3	8.82%	56	1	1.79%	10	17.86%
Total	218	21	9.63%	320	4	1.25%	30	9.38%

Table B.140: Dental disease summary by tooth and tooth spaces among Bronze Age females.

	Males			Females		
Age	With OA	Without OA	% OA	With OA	Without OA	% OA
YA	4	14	22.22%	0	6	0%
MA	3	6	33.33%	1	2	33.33%
OA	3	5	37.50%	3	1	75%
Total	10	25	28.57%	4	9	30.77%

Table B.141: OA presence in the Bronze Age.

Joint Location	Males			Females		
	YA	MA	OA	YA	MA	OA
TMJ	4	1	1	0	1	4
Shoulder	0	0	0	0	0	0
Elbow	0	0	0	0	0	0
Wrist/Hand	0	2	0	0	0	0
Hip	3	2	2	0	0	1
Knee	2	2	4	0	0	1
Ankle/Foot	0	0	0	0	0	0
Total	9	7	7	0	1	6

Table B.142: OA presence by joint location in the Bronze Age.

Joint Location	YA Males				MA Males			
	Left	%	Right	%	Left	%	Right	%
TMJ	2	50%	2	50%	0	0%	1	100%
Shoulder	0	0%	0	0%	0	0%	0	0%
Elbow	0	0%	0	0%	0	0%	0	0%
Wrist/Hand	0	0%	0	0%	2	100%	0	0%
Hip	1	33.33%	2	66.67%	1	50%	1	50%
Knee	1	50%	1	50%	1	50%	1	50%
Ankle/Foot	0	0%	0	0%	0	0%	0	0%
Total	4	44.44%	5	55.56%	4	57.14%	3	42.86%

Joint Location	OA Males			
	Left	%	Right	%
TMJ	1	100%	0	0%
Shoulder	0	0%	0	0%
Elbow	0	0%	0	0%
Wrist/Hand	0	0%	0	0%
Hip	1	50%	1	50%
Knee	2	50%	2	50%
Ankle/Foot	0	0%	0	0%
Total	4	57.14%	3	42.86%

Table B.143: OA presence by side among males in the Bronze Age.

Joint Location	MA Females				OA Females			
	Left	%	Right	%	Left	%	Right	%
TMJ	1	100%	0	0%	2	50%	2	50%
Shoulder	0	0%	0	0%	0	0%	0	0%
Elbow	0	0%	0	0%	0	0%	0	0%
Wrist/Hand	0	0%	0	0%	0	0%	0	0%
Hip	0	0%	0	0%	1	100%	0	0%
Knee	0	0%	0	0%	1	100%	0	0%
Ankle/Foot	0	0%	0	0%	0	0%	0	0%
Total	1	100%	0	0%	4	66.67%	2	33.33%

Table B.144: OA presence by side among females in the Bronze Age.

Joint Location	Males				Females			
	Left	%	Right	%	Left	%	Right	%
TMJ	3	50%	3	50%	3	60%	2	40%
Shoulder	0	0%	0	0%	0	0%	0	0%
Elbow	0	0%	0	0%	0	0%	0	0%
Wrist/Hand	2	100%	0	0%	0	0%	0	0%
Hip	3	42.86%	4	57.14%	1	100%	0	0%
Knee	4	50%	4	50%	1	100%	0	0%
Ankle/Foot	0	0%	0	0%	0	0%	0	0%
Total	12	52.17%	11	47.83%	5	71.43%	2	28.57%

Table B.145: Total OA presence by side in the Bronze Age.

Joint Location	YA Males			MA Males			OA Males			MA Females			OA Females		
	Severity			Severity			Severity			Severity			Severity		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
TMJ	3	0	0	1	0	0	0	1	0	1	0	0	2	1	0
Wrist/Hand	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0
Hip	1	1	0	0	1	0	0	1	0	0	0	0	1	0	0
Knee	1	0	0	0	1	0	0	2	0	0	0	0	1	0	0
Total	5	1	0	1	4	0	0	4	0	1	0	0	4	1	0

Table B.146: OA severity by sex and age in the Bronze Age.

Joint Location	Males				Females			
	Severity				Severity			
	1	%	2	%	1	%	2	%
TMJ	4	80%	1	20%	3	75%	1	25%
Wrist/Hand	0	0%	2	100%	0	0%	0	0%
Hip	1	25%	3	75%	1	100%	0	0%
Knee	1	25%	3	75%	1	100%	0	0%
Total	6	40%	9	60%	5	83.33%	1	16.67%

Table B.147: Total OA severity in the Bronze Age.

Type	Males			Females	
	YA	MA	OA	MA	OA
Localised	0	0	0	0	0
Regionalised	4	2	3	1	2
Systemic	0	1	0	0	1

Table B.148: OA type distribution in the Bronze Age.

Age	Males				Females			
	No Vertebrae	No VJD	VJD	% VJD of Available Vertebrae	No Vertebrae	No VJD	VJD	% VJD of Available Vertebrae
YA	12	3	3	50%	5	1	0	0%
MA	6	1	2	66.67%	3	0	0	0%
OA	7	1	0	0%	2	2	0	0%
Total	25	5	5	50%	10	3	0	0%

Table B.149:VJD presence in the Bronze Age.

Vertebral Section	YA Males				MA Males			
	# Vertebrae Affected	Severity			# Vertebrae Affected	Severity		
		1	2	3		1	2	3
Cervical	5	1	4	0	5	5	0	0
Thoracic	5	4	1	0	0	0	0	0
Lumbar	0	0	0	0	0	0	0	0
Total	10	5	5	0	5	5	0	0

Table B.150: VJD severity among males in the Bronze Age.

Age	Males				Females			
	Total Individuals	# With	# Without	% Cranial Fractures	Total Individuals	# With	# Without	% Cranial Fractures
YA	18	3	15	16.67%	6	3	3	50%
MA	9	3	6	33.33%	3	1	2	33.33%
OA	8	1	7	12.50%	4	2	2	50%
Total	35	7	28	20%	13	6	7	46.15%

Subadults				
Age	Total Individuals	# With	# Without	% Cranial Fractures
Children	5	0	5	0%
Adolescents	3	1	2	33.33%
Total	8	1	7	12.50%

Table B.151: Cranial fracture presence in the Bronze Age.

Location	Males				Females				% Total Overall Fractures
	YA	MA	OA	% Total Male Fractures	YA	MA	OA	% Total Female Fractures	
Left Frontal	0	1	0	12.50%	0	0	0	0%	5.56%
Right Frontal	0	2	0	25%	0	0	0	0%	11.11%
Left Temporal	0	0	0	0%	0	0	0	0%	0%
Right Temporal	0	0	0	0%	3	0	0	30%	16.67%
Left Parietal	1	0	1	25%	2	0	0	20%	22.22%
Right Parietal	2	1	0	37.50%	0	0	1	10%	22.22%
Left Occipital	0	0	0	0%	0	2	0	20%	11.11%
Right Occipital	0	0	0	0%	0	1	1	20%	11.11%
Total	3	4	1	8	5	3	2	10	
% Total Sex/Age Fractures	16.67%	22.22%	5.56%	44.44%	27.78%	16.67%	11.11%	55.56%	

Table B.152: Cranial fractures by location in the Bronze Age.

Age	Males				Females			
	Blunt	%	Sharp	%	Blunt	%	Sharp	%
YA	2	66.67%	1	33.33%	0	0%	5	100%
MA	0	0%	4	100%	1	33.33%	2	66.67%
OA	1	100%	0	0%	0	0%	2	100%

Total	3	37.50%	5	62.50%	1	10%	9	90%

Table B.153: Cranial fracture presence by type in the Bronze Age.

Males							
Sub-Type	YA	%	MA	%	OA	%	% Total Male Fractures
Linear/Slice	0	0%	2	50%	0	0%	25%
Depression	2	66.67%	0	0%	1	100%	37.50%
Puncture	1	33.33%	2	50%	0	0%	37.50%
Penetrating	0	0%	0	0%	0	0%	0%

Table B.154: Cranial fractures by sub-type among males in the Bronze Age.

Females							
Sub-Type	YA	%	MA	%	OA	%	% Total Female Fractures
Linear/Slice	0	0%	0	0%	0	0%	0%
Depression	0	0%	1	33.33%	0	0%	10%
Puncture	3	60%	2	66.67%	2	100%	70%
Penetrating	2	40%	0	0%	0	0%	20%

Table B.155: Cranial fractures by sub-type among females in the Bronze Age.

	Males				Females			
	Healing Stage				Healing Stage			
Age	0	1	2	3	0	1	2	3
YA	2	1	0	0	1	4	0	0
MA	2	2	0	0	3	0	0	0
OA	1	0	0	0	1	0	1	0
Total	5	3	0	0	5	4	1	0
Total %	62.50%	37.50%	0%	0%	50%	40%	10%	0%

Table B.156: Cranial fractures and healing stages in the Bronze Age.

	Males			Females		
Age	With	Without	% Fractures	With	Without	% Fractures
YA	0	18	0%	1	5	20%
MA	1	8	12.50%	0	3	0%
OA	2	6	33.33%	0	4	0%
Total	3	32	9.38%	1	12	8.33%

Table B.157: Presence of post-cranial fractures in the Bronze Age.

B.4 Iron Age

B.4.1 Danes Graves

	Males			Females		
Age	# Teeth Observed	# Teeth Expected	% Present	# Teeth Observed	# Teeth Expected	% Present
YA	90	128	70.31%	219	288	76.04%
MA	88	96	91.67%	53	96	55.21%
OA	14	32	43.75%			

Table B.158: Tooth presence at Danes Graves.

Dentition Section	Males			Females		
	# Teeth Observed	# Teeth Expected	% Present	# Teeth Observed	# Teeth Expected	% Present
Anterior	69	96	71.87%	98	144	68.06%
Premolar	50	64	78.13%	70	96	72.92%
Molar	73	96	76.04%	104	144	72.22%

Table B.159: Tooth presence by dentition section at Danes Graves.

LEH	Subadults		Males			Females	
	Children	Adolescents	YA	MA	OA	YA	MA
With	0	2	3	2	0	5	1
Without	1	0	0	1	1	2	1
% LEH	0%	100%	100%	66.67%	0%	71.43%	50%

Table B.160: LEH presence at Danes Graves.

CO	Subadults		Males			Females	
	Children	Adolescents	YA	MA	OA	YA	MA
With	1	0	0	0	0	0	2
Without	0	2	4	3	1	9	1
% CO	100%	0%	0%	0%	0%	0%	66.67%

Table B.161: CO presence at Danes Graves.

Age	Males				Females			
	Total Individuals	With Caries	Without Caries	% Caries	Total Individuals	With Caries	Without Caries	% Caries
YA	4	4	0	100%	9	3	6	33.33%
MA	3	2	1	66.67%	3	2	1	66.67%
OA	1	0	1	0%				
Total	8	6	2	75%	12	5	7	41.67%
Child	1	0	1	0%				
Adolescents	2	1	1	50%				
Total	3	1	2	33.33%				

Table B.162: Caries presence at Danes Graves.

Age	Males			Females		
	# Teeth Observed	# Carious Teeth	% Carious	# Teeth Observed	# Carious Teeth	% Carious
YA	90	9	10%	219	6	2.74%
MA	88	8	9.09%	53	4	7.55%
OA	14	0	0%			
Total	178	16	8.99%	272	10	3.68%
Children	8	0	0%			
Adolescents	53	1	1.89%			
Total	61	1	1.64%			

Table B.163: Percentage of carious teeth at Danes Graves.

Age	# Caries	Maxillary caries	% Max	Mandibular caries	% Man
YA	11	6	54.55%	5	45.45%
MA	9	5	55.56%	4	44.44%
YA	6	4	66.67%	2	33.33%
MA	4	**0**	0%	4	100%
Adolescent	1	1	100%	0	0%

Table B.164: Caries presence by dentition location.

Age	# Total Caries	Root Caries		Approximal Caries	
		# Caries	Proportion	# Caries	Proportion
YA	11	0	0%	5	45.45%
MA	9	2	22.22%	2	22.22%
YA	6	0	0%	1	16.67%
MA	4	0	0%	1	25%
Adolescent	1	0	0%	0	0%
Age	# Total Caries	Occlusal Caries		Gross Caries	
		# Caries	Proportion	# Caries	Proportion
YA	11	3	27.27%	3	27.27%
MA	9	0	0%	5	55.56%
YA	6	1	16.67%	4	66.67%
MA	4	0	0%	3	75%
Adolescent	1	1	100%	0	0%

Table B.165: Caries presence by type at Danes Graves.

Age	# Total Caries	Root Caries		Approximal Caries		
		# Caries	Score 2, %	# Caries	Score 2, %	Score 3, %
YA	11	0	0%	5	4, 80%	1, 20%
MA	9	2	2, 100%	2	0%	2, 100%
YA	6	0	0%	1	1, 100%	0%
MA	4	0	0%	1	0%	1, 100%
Adolescent	1	0	0%	0	0%	0%
Age	# Total Caries	Occlusal Caries		Gross Caries		
		# Caries	Score 2, %	# Caries	Score 2, %	Score 3, %
YA	11	3	3, 100%	3	1, 33.33%	2, 66.67%
MA	9	0	0%	5	5, 100%	0%
YA	6	1	1, 100%	4	0%	4, 100%
MA	4	0	0%	3	0%	3, 100%
Adolescent	1	1	1, 100%	0	0%	0%

Table B.166: Caries severity by type at Danes Graves.

Age	Males			
	Total Individuals	With Abscesses	Without Abscesses	% Abscesses
YA	4	1	3	25%
MA	3	1	2	33.33%
OA	1	0	1	0%
Total	8	2	6	25%
Children	1	1	0	100%
Adolescents	2	1	1	50%
Total	3	2	1	66.67%
Age	Females			
	Total Individuals	With Abscesses	Without Abscesses	% Abscesses
YA	9	1	8	11.11%
MA	3	3	0	100%
OA				
Total	12	4	8	33.33%

Table B.167: Abscess presence at Danes Graves.

Age	Males		
	Observed Tooth Places	# Abscesses	% Abscesses
YA	128	1	0.78%
MA	96	2	2.08%
OA	16	0	0%
Total	240	3	1.25%
Child	20	1	5%
Adolescents	57	2	3.51%
Total	77	3	3.9%
Age	Females		
	Observed Tooth Places	# Abscesses	% Abscesses
YA	285	4	1.40%
MA	80	3	3.75%
OA			
Total	365	7	1.92%

Table B.168: Abscess percentage at Danes Graves.

Dentition Section	Child	Adolescent	YA	MA	YA	MA
Anterior	1	1	0	1	2	0
Premolar	0	1	0	1	1	0
Molar	0	0	1	0	1	3

Table B.169: Abscess presence by dentition section at Danes Graves.

Males							
Dentition Section	Total Abscesses	Healing Stage			Sinus Location		
		Active	Healed	%	Internal	External	%
Anterior	1	0	1	0%, 100%	1	0	100%, 0%
PM	1	0	1	0%, 100%	0	1	0%, 100%
Molar	1	1	0	100%, 0%	1	0	100%, 0%

Males				
Dentition Section	Total Abscesses	Severity		
		Moderate	Severe	%
Anterior	1	1	0	100%, 0%
PM	1	1	0	100%, 0%
Molar	1	0	1	0, 100%

Table B.170: Abscess details among males at Danes Graves.

Females							
Dentition Section	Total Abscesses	Healing Stage			Sinus Location		
		Active	Healed	%	Internal	External	%
Anterior	2	2	0	100%, 0%	0	2	0%, 100%
PM	1	0	1	0%, 100%	0	1	0%, 100%
Molar	4	3	1	75%, 25%	2	2	50%, 50%

Females				
Dentition Section	Total Abscesses	Severity		
		Moderate	Severe	%
Anterior	2	2	0	100%, 0%
PM	1	1	0	100%, 0%
Molar	4	1	3	25%, 75%

Table B.171: Abscess details among females at Danes Graves.

Subadults							
Dentition Section	Total Abscesses	Healing Stage			Sinus Location		
		Active	Healed	%	Internal	External	%
Anterior	2	2	0	100%, 0%	0	2	0%, 100%
PM	1	1	0	100%, 0%	0	1	0%, 100%
Molar							

Subadults				
Dentition Section	Total Abscesses	Severity		
		Moderate	Severe	%
Anterior	2	1	1	50%, 50%
PM	1	1	0	100%, 0%
Molar				

Table B.172: Abscess details among subadults at Danes Graves.

	Males				Females			
Age	#	With AMTL	Without	% AMTL	#	With AMTL	Without	% AMTL
YA	4	1	3	25%	9	3	6	33.33%
MA	3	0	3	0%	3	2	1	66.67%
OA	1	1	0	100%				
Total	8	2	6	25%	12	5	7	41.67%

Table B.173: AMTL presence at Danes Graves.

Dentition Section	Males			Females		
	Total Observed Tooth Places	AMTL	% Total Tooth Places AMTL	Total Observed Tooth Places	AMTL	% Total Tooth Places AMTL
Anterior	90	0	0%	138	9	6.52%
Premolar	60	0	0%	92	8	8.70%
Molar	90	2	2.22%	135	9	6.67%
Total	240	2	0.83%	365	26	7.12%

Table B.174: AMTL and tooth space prevalence at Danes Graves.

Tooth	Males				Females			
	Left	% Left	Right	% Right	Left	% Left	Right	% Right
I1	0	0%	0	0%	2	50%	2	50%
I2	0	0%	0	0%	1	33.33%	2	66.67%
C	0	0%	0	0%	1	50%	1	50%
PM1	0	0%	0	0%	2	50%	2	50%
PM2	0	0%	0	0%	2	50%	2	50%
M1	0	0%	0	0%	2	66.67%	1	33.33%
M2	1	100%	0	0%	2	66.67%	1	33.33%
M3	1	100%	0	0%	1	33.33%	2	66.67%
Total	2	100%	0	0%	13	50%	13	50%

Table B.175: AMTL by side at Danes Graves.

Tooth	Males				Females			
	Max	% Max	Man	% Man	Max	% Max	Man	% Man
I1	0	0%	0	0%	2	50%	2	50%
I2	0	0%	0	0%	1	33.33%	2	66.67%
C	0	0%	0	0%	0	0%	2	100%
PM1	0	0%	0	0%	1	25%	3	75%
PM2	0	0%	0	0%	1	33.33%	3	75%
M1	0	0%	0	0%	0	0%	3	100%
M2	1	100%	0	0%	1	33.33%	2	66.67%
M3	0	0%	1	100%	1	33.33%	2	66.67%
Total	1	50%	1	50%	7	26.92%	19	73.08%

Table B.176: AMTL presence by dentition location at Danes Graves.

	Males			Females		
Tooth	1, %	2, %	3, %	1, %	2, %	3, %
I1	0	0	0	0	3	1
I2	0	0	0	0	2	1
C	0	0	0	0	2	0
PM1	0	0	0	0	2	2
PM2	0	0	0	0	2	2
M1	0	0	0	0	1	2
M2	0	1	0	0	2	1
M3	0	1	0	0	2	1
Total	0	2, 100%	0	0	16, 61.54%	10, 38.46%

Table B.177: AMTL and healing stage at Danes Graves.

	Males			Females		
Tooth	AMTL	Path	% Path	AMTL	Path	% Path
I1	0	0	0%	4	0	0%
I2	0	0	0%	3	0	0%
C	0	0	0%	2	0	0%
PM1	0	0	0%	4	0	0%
PM2	0	0	0%	4	0	0%
M1	0	0	0%	3	1	33.33%
M2	1	1	100%	3	2	66.67%
M3	1	0	0%	3	3	100%
Total	2	1	50%	26	6	23.08%

Table B.178: AMTL and associated pathologies at Danes Graves.

	Caries			Abscesses			AMTL		
Age	Yes	No	% Yes	Yes	No	% Yes	Yes	No	% Yes
YA	4	0	100%	1	3	25%	1	3	25%
MA	2	1	66.67%	1	2	33.33%	0	3	0%
OA	0	1	0%	0	1	0%	1	0	100%
Total	6	2	75%	2	6	25%	2	6	25%
YA	3	6	33.33%	1	8	11.11%	3	6	33.33%
MA	2	1	66.67%	3	0	100%	2	1	66.67%
Total	5	7	41.67%	4	8	33.33%	5	7	41.67%
Children	0	1	0%	1	0	100%			
Adolescent	1	1	50%	1	1	50%			
Total	1	2	33.33%	2	1	66.67%			

Table B.179: Dental disease summary at Danes Graves.

Age	# Teeth	# Carious Teeth	% Carious
YA	90	9	10%
MA	88	8	9.09%
OA	14	0	0%
Total	192	17	8.85%
YA	219	6	2.74%
MA	53	4	7.55%
Total	272	10	3.68%
Children	8	0	0%
Adolescent	53	1	1.89%
Total	61	1	1.64%

Table B.180: Summary of carious teeth at Danes Graves.

Age	# Observed Teeth Spaces	# Abscesses	% Abscesses	# AMTL	% AMTL
YA	128	1	0.78%	1	0.78%
MA	96	2	2.08%	0	0%
OA	16	0	0%	1	6.25%
Total	240	3	1.25%	2	0.83%
YA	285	4	1.40%	10	3.51%
MA	80	3	3.75%	16	20%
Total	365	7	1.92%	26	7.12%
Children	20	1	5%		
Adolescent	57	2	3.51%		
Total	49	3	6.12%		

Table B.181: Dental disease summary by observed tooth spaces at Danes Graves.

	Males			Females		
Age	With OA	Without OA	% OA	With OA	Without OA	% OA
YA	0	4	0%	3	6	33.33%
MA	0	3	0%	0	3	0%
OA	0	1	0%			
Total	0	8	0%	3	9	25%

Table B.182: OA presence at Danes Graves.

	Males			
Age	Total Individuals	# With	# Without	% Cranial Fractures
YA	4	1	3	25%
MA	3	0	3	0%
OA	1	1	0	100%
Total	8	2	6	25%
Children	1	1	0	100%
Adolescent	2	0	2	0%
Total	3	1	2	33.33%
	Females			
Age	Total	#	#	% Cranial

	Individuals	With	Without	Fractures
YA	9	3	6	33.33%
MA	3	1	2	33.33%
OA				
Total	12	4	8	25%

Table B.183: Cranial fracture presence at Danes Graves.

Type	Child	YA Males	OA Males	YA Females	MA Females	Total
Blunt Force	0	0	1	2	0	3
Sharp Force	1	1	0	2	1	4

Table B.184: Cranial fracture presence by type at Danes Graves.

B.4.2 Melton

	Males			Females		
Age	# Teeth Observed	# Teeth Expected	% Present	# Teeth Observed	# Teeth Expected	% Present
YA	26	32	81.25%	95	128	74.22%
MA	78	96	81.25%	24	64	37.50%
Total	104	128	81.25	122	192	63.54%
Children	31	40	77.5%			
Adolescent	27	28	96.43%			
Total	58	68	85.28%			

Table B.185: Tooth presence at Melton.

	Males			Females		
Dentition Section	# Teeth Observed	# Teeth Expected	% Present	# Teeth Observed	# Teeth Expected	% Present
Anterior	38	48	79.17%	48	72	66.67%
Premolar	30	32	93.75%	29	48	60.42%
Molar	36	48	75%	42	72	58.33%
	Subadults					
Dentition Section	# Teeth Observed	# Teeth Expected	% Present			
Anterior	30	36	83.33%			
Premolar	8	8	100%			
Molar	24	24	83.33%			

Table B.186: Tooth presence by dentition section at Melton.

	Subadults			Males		Females	
LEH	Infants	Children	Adolescents	YA	MA	YA	MA
With	0	1	1	1	1	4	1
Without	2	1	0	0	2	0	0
% LEH	0%	50%	100%	100%	33.33%	100%	100%

Table B.187: LEH presence at Melton.

CO	Subadults			Males		Females	
	Infants	Children	Adolescents	YA	MA	YA	MA
With	0	0	0	0	0	2	0
Without	1	1	1	0	3	2	2
% CO	0%	0%	0%	0%	0%	50%	0%

Table B.188: CO presence at Melton.

Age	Males			
	Total Individuals	With Caries	Without Caries	% Caries
YA	1	1	0	100%
MA	3	3	0	100%
Total	4	4	0	100%
Children	2	1	1	50%
Adolescent	1	0	1	0%
Total	3	1	2	33.33%
Age	Females			
	Total Individuals	With Caries	Without Caries	% Caries
YA	4	2	2	50%
MA	2	1	1	50%
Total	6	3	3	50%

Table B.189: Caries presence at Melton.

Age	Males		
	# Teeth Observed	# Carious Teeth	% Carious
YA	26	2	7.69%
MA	78	10	12.82%
Total	104	12	11.54%
Children	31	1	3.23%
Adolescent	27	0	
Total	58	1	
Age	Females		
	# Teeth Observed	# Carious Teeth	% Carious
YA	95	6	6.32%
MA	24	1	4.17%
Total	122	7	5.74%

Table B.190: Carious teeth at Melton.

Age	# Total Caries	Maxillary caries	% Max	Mandibular caries	% Man
YA	5	0	0%	5	100%
MA	11	5	45.45%	6	54.55%
Total	16	5	31.25%	11	68.75%
YA	6	2	33.33%	4	66.67%
MA	1	1	100%	0	0%

Total	7	3	42.86%	4	57.14%
Child	1	0	0%	1	100%

Table B.191: Caries presence by dentition location at Melton.

Age	# Total Caries	Root Caries		Approximal Caries	
		# Caries	Proportion	# Caries	Proportion
YA	5	0	0%	0	0%
MA	11	0	0%	4	36.36%
YA	6	0	0%	2	33.33%
MA	1	1	100%	0	0%
Child	1	0	0%	1	100%

Age	# Total Caries	Occlusal Caries		Gross Caries	
		# Caries	Proportion	# Caries	Proportion
YA	5	5	100%	0	0%
MA	11	5	45.45%	2	18.18%
YA	6	1	16.67%	3	50%
MA	1	0	0%	0	0%
Child	1	0	0%	0	0%

Table B.192: Caries presence by type at Melton.

Age	# Total Caries	Root Caries		Approximal Caries		
		# Caries	Score 2, %	# Caries	Score 2, %	Score 3, %
YA	5	0	0%	0	0%	0%
MA	11	0	0%	4	1, 25%	3, 75%
YA	6	0	0%	2	0%	2, 100%
MA	1	1	1, 100%	0	0%	0%
Child	1	0	0%	1	1, 100 %	0%

Age	# Total Caries	Occlusal Caries				Gross Caries		
		# Caries	Score 2, %	Score 3, %	Score 4, %	# Caries	Score 3, %	Score 4, %
YA	5	5	**5, 100%**	0%	0%	0	0%	0%
MA	11	5	**1, 20%**	3, 60%	1, 20%	2	0%	2, 100%
YA	6	1	0%	1, 100%	0%	3	3, 50%	0%
MA	1	0	0%	0%	0%	0	0%	0%
Child	1	0	0%	0%	0%	0	0%	0%

Table B.193: Caries severity by type at Melton.

	Males			
Age	#	With AMTL	Without	% With
YA	1	0	1	0%
MA	3	2	1	66.67%
Total	4	2	2	50%
	Females			
Age	#	With AMTL	Without	% With
YA	4	2	2	50%
MA	2	1	1	50%
Total	6	3	3	50%

Table B.194: AMTL presence at Melton.

	Males		
Dentition Section	Total Observed Tooth Places	AMTL	% Total Tooth Places AMTL
Anterior	48	1	2.08%
Premolar	32	0	0%
Molar	48	8	16.67%
Total	128	9	7.03%
	Females		
Dentition Section	Total Observed Tooth Places	AMTL	% Total Tooth Places AMTL
Anterior	66	6	9.09%
Premolar	44	5	11.36%
Molar	64	11	17.19%
Total	174	22	12.64%

Table B.195: AMTL by dentition section at Melton.

	Males				Females			
Tooth	Max	% Max	Man	% Man	Max	% Max	Man	% Man
I1	0	0%	0	0%	0	0%	2	100%
I2	1	100%	0	0%	0	0%	2	100%
C	0	0%	0	0%	0	0%	2	100%
PM1	0	0%	0	0%	0	0%	2	100%
PM2	0	0%	0	0%	1	33.33%	2	66.67%
M1	0	0%	1	100%	0	0%	3	100%
M2	3	60%	2	40%	1	25%	3	75%
M3	2	100%	0	0%	0	0%	4	100%
Total	6	66.67%	3	33.33%	2	9.09%	20	90.90%

Table B.196: AMTL by dentition location at Melton.

	MA			
Tooth	Left	% Left	Right	% Right
I1	0	0%	0	0%
I2	0	0%	1	100%
C	0	0%	0	0%
PM1	0	0%	0	0%
PM2	0	0%	0	0%
M1	0	0%	1	100%
M2	2	40%	3	60%
M3	1	50%	1	50%
Total	3	33.33%	6	66.67%

	YA				MA			
Tooth	Left	% Left	Right	% Right	Left	% Left	Right	% Right
I1	0	0%	0	0%	1	50%	1	50%
I2	0	0%	0	0%	1	50%	1	50%
C	0	0%	0	0%	1	50%	1	50%
PM1	0	0%	0	0%	1	50%	1	50%
PM2	0	0%	1	100%	1	50%	1	50%
M1	1	100%	0	0%	1	50%	1	50%
M2	2	100%	0	0%	1	50%	1	50%
M3	1	50%	1	50%	1	50%	1	50%
Total	4	66.67%	2	33.33%	8	50%	8	50%

Table B.197: AMTL by side at Melton.

	Males			Females		
Tooth	1, %	2, %	3, %	1, %	2, %	3, %
I1	0	0	0	0	0	2
I2	0	1	0	0	0	2
C	0	0	0	0	0	2
PM1	0	0	0	0	0	2
PM2	0	0	0	0	1	2
M1	0	1	0	0	1	2
M2	3	2	0	0	1	3
M3	1	1	0	0	2	2
Total	4, 44.44%	5, 55.56%	0	0	5, 22.73%	17, 77.27%

Table B.198: AMTL and healing at Melton.

Tooth	Males			Females		
	AMTL	Path	% Path	AMTL	Path	% Path
I1	0	0	0%	2	0	0%
I2	1	0	0%	2	0	0%
C	0	0	0%	2	0	0%
PM1	0	0	0%	2	0	0%
PM2	0	0	0%	3	0	0%
M1	1	0	0%	3	0	0%
M2	5	4	80%	4	0	0%
M3	2	2	100%	4	0	0%
Total	9	6	66.67%	22	0	0%

Table B.199: AMTL and associated pathologies at Melton.

Age	Caries			Abscesses			AMTL		
	Yes	No	% Yes	Yes	No	% Yes	Yes	No	% Yes
YA	1	0	100%	0	1	0%	0	1	0%
MA	3	0	100%	2	1	50%	2	1	66.67%
Total	4	0	100%	2	2	50%	2	2	50%
YA	2	2	50%	0	4	0%	2	2	50%
MA	1	1	50%	0	2	0%	1	1	50%
Total	3	3	50%	0	6	0%	3	3	50%
Children	1	1	50%	0	2	0%	0	2	0%
Adolescent	0	1	0%	0	1	0%	0	1	0%
Total	1	2	33.33%	0	3	0%	0	3	0%

Table B.200: Dental disease summary at Melton.

Age	# Teeth	# Carious Teeth	% Carious
YA	26	2	7.69%
MA	78	10	12.82%
Total	104	12	11.54%
YA	95	6	6.32%
MA	24	1	4.17%
Total	122	7	5.74%
Children	31	1	3.23%
Adolescent	27	0	0%
Total	58	1	1.72%

Table B.201: Carious teeth at Melton.

Age	# Observed Teeth Spaces	# Abscesses	% Abscesses	# AMTL	% AMTL
YA	32	0	0%	0	0%
MA	96	9	9.38%	9	9.03%
Total	128	9	7.03%	9	7.03%
YA	126	0	0%	6	4.76%
MA	48	0	0%	16	33.33%
Total	174	0	0%	22	12.64%

Table B.202: Dental diseases and observed tooth spaces at Melton.

Age	Males			Females		
	With OA	Without OA	% OA	With OA	Without OA	% OA
YA	0	1	0%	2	2	50%
MA	1	2	33.33%	2	0	100%
Total	1	3	25%	4	2	66.67%

Table B.203: OA presence at Melton.

Sex/Age	Joint Location	Left / Right/Both	Severity	Distribution
M MA	Hip, Femurs	Both	1	Regional
F YA	TMJ	Right	1	Regional
F YA	Hip, Femur	Right	2	Systemic
	Hip, Acetabulum	Right	2	
	TMJ	Left	2	
	Foot, MT1	Right	2	
F MA	Hand, Phalanges	Left	1	Regional
F MA	Hip, Femur	Left	1	Systemic
	Hip, Acetabulum	Left	2	
	Foot, Mts	Both	1	

Table B.204: OA details at Melton.

Age	Males				Females			
	No Vertebrae	No VJD	VJD	% VJD of Available Vertebrae	No Vertebrae	No VJD	VJD	% VJD of Available Vertebrae
YA	0	0	1	100%	0	0	4	100%
MA	0	1	2	66.67%	0	0	2	100%
Total	0	1	3	75%	0	0	6	100%

Table B.205: VJD presence at Melton.

Vertebral Section	YA Males				MA Males			
	# Vertebrae Affected	Severity			# Vertebrae Affected	Severity		
		1	2	3		1	2	3
Cervical	0	0	0	0	1	1	0	0
Thoracic	0	0	0	0	5	0	5	0
Lumbar	1	0	1	0	1	1	0	0
Total	1	0	1	0	7	2	5	0
Vertebral Section	YA Females				MA Females			
	# Vertebrae Affected	Severity			# Vertebrae Affected	Severity		
		1	2	3		1	2	3
Cervical	5	0	5	0	0	0	0	0
Thoracic	16	4	12	0	7	0	7	0
Lumbar	11	3	8	0	8	0	8	0
Total	1	0	1	0	7	2	5	0

Table B.206: VJD severity by vertebral section at Melton.

Skeleton and sample run	Bone Sample	Weight mg	Collagen Yield	%N	$\delta^{15}N$	Average δ15N	%C	$\delta^{13}C$	Average δ13C	C/N Ratio
M1032a		1.03		13.4	11.78	11.73	36.9	-20.54	-20.60	3.23
M1032b	Left Rib	1.14	4.91%	14.4	11.67		39.8	-20.67		3.23
M1183a		1.02		14.0	11.49	11.32	38.5	-20.22	-20.26	3.22
M1183b	Right Rib	1.12	8.15%	14.3	11.14		39.4	-20.31		3.22
M1184a		0.65		11.2	10.96	10.76	31.9	-20.44	-20.53	3.32
M1184b	Left Rib	1.43	8.38%	12.0	10.55		33.7	-20.63		3.28
M1489a		0.86		14.2	11.95	11.81	39.3	-20.56	-20.59	3.23
M1489b	Right Rib	1.04	4.00%	18.9	11.66		51.9	-20.63		3.21
M1495a		0.86		15.0	13.35	13.18	41.4	-20.79	-20.75	3.22
M1495b	Right Rib	0.86	3.60%	14.9	13.00		41.4	-20.72		3.24
M1818a		1.06		15.0	11.16	11.05	41.5	-20.24	-20.17	3.22
M1818b	Left Rib	1.02	3.93%	14.9	10.95		41.3	-20.10		3.23
M1823a		1.16		14.9	11.40	11.36	41.4	-20.68	-20.67	3.24
M1823b	Right Rib	1.03	2.58%	14.9	11.33		41.5	-20.66		3.25
M2187a		1.14		14.4	11.74	11.62	40.0	-21.31	-21.32	3.23
M2187b	Humerus	1.18	4.32%	14.6	11.50		40.2	-21.33		3.22
M2722a		0.99		14.9	11.10	11.15	41.1	-20.67	-20.68	3.22
M2722b	Right Rib	0.83	8.18%	17.0	11.20		46.9	-20.70		3.22
M3397a		1.11		15.1	10.68	10.57	41.7	-21.03	-20.96	3.23
M3397b	Right Rib	0.97	12.72%	15.1	10.47		41.7	-20.89		3.23
M3890a		1.08		15.2	10.83	10.85	41.8	-20.68	-20.58	3.21
M3890b	Right Rib	0.93	12.60%	15.7	10.88		43.1	-20.47		3.21
M4039a		0.9		14.8	11.17	11.16	41.2	-20.58	-20.61	3.25
M4039b	Right Rib	0.83	5.77%	15.2	11.15		42.3	-20.64		3.24
M4075a		0.83		13.7	10.87	10.79	38.8	-20.85	-20.81	3.31
M4075b	Left Rib	0.86	8.13%	14.3	10.71		40.3	-20.77		3.29
M4297a		0.86		14.9	10.76	10.72	41.9	-20.79	-20.78	3.28
M4297b	Right Rib	0.81	2.77%	14.7	10.69		41.2	-20.78		3.26
M4300a		1.24		15.4	12.37	12.23	42.2	-20.51	-20.46	3.20
M4300b	Right Rib	0.96	7.52%	15.3	12.08		42.1	-20.40		3.21
M6122a		1.15		15.0	10.47	10.49	41.7	-20.74	-20.74	3.25
M6122b	Left Rib	1.09	5.38%	15.1	10.52		41.9	-20.75		3.23

Table B.207: Carbon and nitrogen results at Melton.

Skeleton and Sample Run	Tooth	Sr isotope ratio	Error
1032A	M1	0.708923	0.00001
1032B	M3	0.708851	0.00001
1184A	M1	0.709042	0.000009
1489A	M1	0.709455	0.000009
1489B	M3	0.709724	0.000009
1823A	M1	0.70954	0.00001
1823B	M2	0.709403	0.00001
2554A	M1	0.709868	0.000014
2554B	M2	0.709839	0.00001
2722A	M2	0.709421	0.000009

2722B	M3	0.70895	0.000007
3397A	M1	0.709028	0.000009
3397B	M3	0.709172	0.000011
3890A	M1	0.708709	0.000011
3890B	M3	0.708522	0.000009
4039A	DM1	0.709364	0.000011
4039B	M1	0.709199	0.00001
4075A	M1	0.709876	0.000011
4075B	M3	0.709887	0.00001
4297A	M1	0.708892	0.000006
4297B	M2	0.709202	0.000011
6122A	M1	0.709076	0.00001
6122B	M3	0.709713	0.00001
NSB 297	Standard	0.710245	
Sea water	(Derived from Montgomery and co-workers 2007)	0.7092	
Chalk		0.707408	
Chalk		0.707414	
Sand		0.708245	
Sand		0.708379	

Table B.208: Strontium results at Melton.

B.5 Total Iron Age

	Males			Females		
Age	Teeth present	Teeth expected	% Present	Teeth present	Teeth expected	% Present
YA	116	160	72.50%	402	512	78.52%
MA	166	192	86.46%	77	160	48.13%
OA	14	32	43.75%			
Total	296	384	77.08%	479	672	71.28%

Table B.209: Tooth presence in the Iron Age.

Dentition Section	YA			MA		
	Present	Expected	% Present	Present	Expected	% Present
Anterior	38	60	63.33%	63	72	87.50%
Premolar	30	40	75%	46	48	95.83%
Molar	48	60	80%	57	72	79.17%

Dentition Section	OA		
	Present	Expected	% Present
Anterior	6	12	50%
Premolar	4	8	50%
Molar	4	12	33.33%

Table B.210: Tooth presence by dentition section among males in the Iron Age.

Dentition Section	YA			MA		
	Present	Expected	% Present	Present	Expected	% Present
Anterior	151	192	78.65%	29	60	48.33%
Premolar	105	128	82.03%	16	40	40%
Molar	146	192	76.04%	32	60	53.33%

Table B.211: Tooth presence by dentition section among females in the Iron Age.

Dentition Section	Children			Adolescents		
	Present	Expected	% Present	Present	Expected	% Present
Anterior	21	36	58.33%	33	36	91.67%
Premolar	0	0	0%	23	24	95.83%
Molar	18	24	75%	24	24	100%

Table B.212: Tooth presence by dentition section among subadults in the Iron Age.

Age	Males	Females
YA	23.2	25.25
MA	27.17	15.4
OA	14	
Total	24.67	22.95

Table B.213: Average dentition presence in the Iron Age.

LEH	Subadults			Males			Females	
	Infants	Children	Adolescents	YA	MA	OA	YA	MA
With	0	1	2	4	3	0	9	2
Without	2	1	0	0	2	1	2	1
% LEH	0%	50%	100%	100%	60%	0%	81.81%	66.67%

Table B.214: LEH presence in the Iron Age.

CO	Subadults			Males			Females	
	Infants	Children	Adolescents	YA	MA	OA	YA	MA
With	0	1	0	0	0	0	2	2
Without	1	1	3	4	6	1	9	3
% CO	0%	33.33%	0%	0%	0%	0%	18.75%	40%

Table B.215: CO presence in the Iron Age.

Age	Males			
	Total Individuals	With Caries	Without Caries	% Caries
YA	5	5	0	100%
MA	6	5	1	83.33%
OA	1	0	1	0%
Total	12	10	2	83.33%
Children	3	1	2	33.33%
Adolescent	3	1	2	33.33%
Total	6	2	4	33.33%
Age	Females			
	Total Individuals	With Caries	Without Caries	% Caries
YA	16	7	9	43.75%
MA	5	2	3	40%
OA				
Total	21	9	12	42.86%

Table B.216: Caries presence in the Iron Age.

Age	Males			Females		
	Teeth Present	Carious Teeth	% Caries	Teeth Present	Carious Teeth	% Caries
YA	116	12	10.35%	402	15	3.73%
MA	166	18	10.84%	77	5	6.49%
OA	14	0	0%			
Total	296	30	10.14%	479	20	4.18%
Children	31	1	3.23%			
Adolescents	53	1	1.89%			
Total	84	2	2.38%			

Table B.217: Carious teeth in the Iron Age.

Males		Root Caries		Approximal Caries	
Age	# Caries	#	Proportion	#	Proportion
YA	16	0	0%	5	31.25%
MA	20	2	10%	6	30%
OA	0	0	0%	0	0%
Total	36	2	5.56%	11	30.56%
Child	1	0	0%	1	100%
Adolescent	1	0	0%	0	0%
Total	2	0	0%	1	50%
Males		**Occlusal Caries**		**Gross Caries**	
Age	# Caries	#	Proportion	#	Proportion
YA	16	8	50%	3	18.75%
MA	20	5	25%	7	35%
OA	0	0	0%	0	0%
Total	36	13	36.11%	10	27.78%
Child	1	0	0%	0	0%
Adolescent	1	1	100%	0	0%
Total	2	1	50%	0	0%

Table B.218: Caries type among males in the Iron Age.

Females		Root Caries		Approximal Caries	
Age	# Caries	#	Proportion	#	Proportion
YA	15	0	0	3	20%
MA	5	1	20%	1	20%
Total	20	1	5%	4	20%
		Occlusal Caries		**Gross Caries**	
Age	# Caries	#	Proportion	#	Proportion
YA	15	5	33.33%	7	46.67%
MA	5	0	0%	3	60%
Total	20	5	25%	10	50%

Table B.219: Caries type among females in the Iron Age.

Males		Root Caries		Approximal Caries		
			Score		Score	
Age	# Caries	#	2, %	#	2, %	3, %
YA	16	0	0	5	4, 80%	1, 20%
MA	20	2	2 100%	6	1, 16.67%	5, 83.33%
OA	0	0	0	0	0	0
Total	36	2, 5.56%	2, 100%	11, 30.56%	5, 45.45%	6, 54.55%
Child	1	0	0	1	1, 100%	0
Adolescent	1	0	0	0	0	0
Total	2	0	0	1, 50%	1, 100%	

Males		Occlusal Caries				Gross Caries		
			Score			#	Score	
Age	# Caries	#	2, %	3, %	4, %		2, %	3, %
YA	16	8	8, 100%	0	0	3	1, 33.33%	2, 66.67%
MA	20	5	1, 20%	3, 60%	1, 20%	7	5, 71.43%	2, 28.57%
OA	0	0	0	0	0	0	0	0
Total	36	13, 36.11%	9, 69.23%	3, 23.08%	1, 7.69%	10, 27.78%	6, 60%	4, 40%
Child	1	0	0	0	0	0	0	0
Adolescent	1	1	1, 100%	0	0	0	0	0
Total	2	1, 50%	1, 100%	0	0	0	0	0

Table B.220: Caries severity by type among Iron Age males.

Females		Root Caries		Approximal Caries		
		#	Score		Score	
Age	# Caries		2, %	#	2, %	3, %
YA	15	0	0	3	1, 33.33%	2, 66.67%
MA	5	1	1, 100%	1	0	1, 100%
Total	20	1	1, 100%	4, 20%	1, 25%	3, 75%

Females		Occlusal Caries				Gross Caries	
			Score				Score
Age	# Caries	#	2, %	3, %	4, %	#	3, %
YA	15	5	3, 60%	1, 20%	1, 20%	7	7, 100%
MA	5	0	0	0	0	3	3, 100%
Total	20	5, 25%	3, 60%	1, 20%	1, 20%	10, 50%	10, 100%

Table B.221: Caries severity by type among Iron Age females.

	Males				
Age	# Caries	Maxillary caries	% Max	Mandibular caries	% Man
YA	16	6	37.50%	10	62.50%
MA	20	10	50%	10	50%
OA	0	0	0	0	0
Total	36	16	44.44%	20	55.56%
Child	1	0	0%	1	100%
Adolescent	1	1	100%	0	0%
Total	2	1	50%	1	50%

	Females				
Age	# Caries	Maxillary caries	% Max	Mandibular caries	% Man
YA	15	8	53.33%	7	46.67%
MA	5	1	20%	4	80%
OA					
Total	20	9	45%	11	55%

Table B.222: Caries presence by location in the Iron Age.

	Males				Females			
Age	Total	With	Without	% Yes	Total	With	Without	% Yes
YA	5	1	4	20%	16	1	15	6.25%
MA	6	3	3	50%	5	3	2	60%
OA	1	0	1	0	0	0	0	0
Total	12	4	8	33.33%	21	4	17	19.05%
Children	3	1	2	33.33%				
Adolescents	3	1	2	33.33%				
Total	6	2	4	33.33%				

Table B.223: Abscess presence in the Iron Age.

	Males			Females		
Age	Observed Tooth Places	# Abscesses	% Abscesses	Observed Tooth Places	# Abscesses	% Abscesses
YA	160	1	0.63%	507	4	0.79%
MA	192	9	4.69%	128	3	3.75%
OA	16	0	0%			
Total	368	10	2.72%	635	7	1.10%
Child	65	1	5%			
Adolescent	57	2	6.90%			
Total	122	3	6.12%			

Table B.224: Abscess presence by tooth places in the Iron Age.

	Males				Females			
Dentition Location	YA	Tooth Loss	MA	Tooth Loss	YA	Tooth Loss	MA	Tooth Loss
Maxilla	1	1	4	4	3	0	2	1
Mandible	0	0	5	1	1	0	1	1

	Subadults			
Dentition Location	Child	Tooth Loss	Adolescent	Tooth Loss
Maxilla	0	0	1	0
Mandible	1	0	1	0

Table B.225: Abscesses and tooth loss by dentition location in the Iron Age.

Males							
		Healing Stage			Sinus Location		
Dentition Section	Total Abscesses	Active	Healed	%	Internal	External	%
Anterior	1	0	1	0, 100%	1	0	100%, 0
PM	1	0	1	0, 100%	0	1	0, 100%
Molar	8	5	3	62.5%, 37.5%	3	5	37.5%, 62.5%
Males							

Dentition Section	Total Abscesses	Severity		
		Moderate	Severe	%
Anterior	1	1	0	100%, 0
PM	1	1	0	100%, 0
Molar	8	2	6	25%, 75%

Table B.226: Abscess summary among Iron Age males.

Females							
Dentition Section	Total Abscesses	Healing Stage			Sinus Location		
		Active	Healed	%	Internal	External	%
Anterior	2	2	0	100%, 0	0	2	0, 100%
PM	1	0	1	0, 100%	0	1	0, 100%
Molar	4	3	1	75%, 25%	2	2	50%, 50%

Females				
Dentition Section	Total Abscesses	Severity		
		Moderate	Severe	%
Anterior	2	2	0	100%, 0
PM	1	1	0	100%, 0
Molar	4	1	3	25%, 75%

Table B.227: Abscess summary among Iron Age females.

Subadults							
Dentition Section	Total Abscesses	Healing Stage			Sinus Location		
		Active	Healed	%	Internal	External	%
Anterior	2	2	0	100%, 0%	0	2	0%, 100%
PM	1	1	0	100%, 0%	0	1	0%, 100%
Molar							

Subadults				
Dentition Section	Total Abscesses	Severity		
		Moderate	Severe	%
Anterior	2	1	1	50%, 50%
PM	1	1	0	100%, 0%
Molar				

Table B.228: Abscess summary among Iron Age subadults.

	Males				Females			
Age	#	With AMTL	Without	% With	#	With AMTL	Without	% With
YA	5	1	4	20%	16	6	10	37.50%
MA	6	2	4	33.33%	5	3	2	60%
OA	1	1	0	100%				
Total	12	4	8	33.33%	21	9	12	42.86%

Table B.229: AMTL presence in the Iron Age.

	YA Males			MA Males		
Dentition Section	Total Observed Tooth Places	AMTL	%	Total Observed Tooth Places	AMTL	%
Anterior	60	0	0	72	1	1.39%
Premolar	40	0	0	48	0	0
Molar	60	1	1.67%	72	8	11.11%

Dentition Section	OA Males		
	Total Observed Tooth Places	AMTL	%
Anterior	6	0	0
Premolar	4	0	0
Molar	6	1	16.67%

Table B.230: AMTL and observed tooth places by dentition section among Iron Age males.

Dentition Section	YA Females			MA Females		
	Total Observed Tooth Places	AMTL	%	Total Observed Tooth Places	AMTL	%
Anterior	192	6	3.13%	48	10	20.83%
Premolar	128	5	3.90%	32	8	25%
Molar	187	6	3.21%	48	14	29.17%

Table B.231: AMTL and observed tooth places by dentition section among Iron Age females.

Dentition Section	Males			Females		
	Total Observed Tooth Places	AMTL	% Total Tooth Places AMTL	Total Observed Tooth Places	AMTL	% Total Tooth Places AMTL
Anterior	138	1	0.72%	240	16	6.67%
Premolar	92	0	0%	160	13	8.13%
Molar	138	10	7.25%	235	20	8.51%

Table B.232: AMTL and observed tooth places in the Iron Age.

Tooth	YA				MA			
	Left	%	Right	%	Left	%	Right	%
I1	0	0%	0	0%	0	0%	0	0%
I2	0	0%	0	0%	0	0%	1	100%
C	0	0%	0	0%	0	0%	0	0%
PM1	0	0%	0	0%	0	0%	0	0%
PM2	0	0%	0	0%	0	0%	0	0%
M1	0	0%	0	0%	0	0%	1	100%
M2	1	100%	0	0%	2	40%	3	60%
M3	0	0%	0	0%	1	50%	1	50%
Total	1	100%	0	0%	3	33.33%	6	66.67%

Tooth	OA			
	Left	%	Right	%
I1	0	0%	0	0%
I2	0	0%	0	0%
C	0	0%	0	0%
PM1	0	0%	0	0%
PM2	0	0%	0	0%
M1	0	0%	0	0%
M2	0	0%	0	0%
M3	1	100%	0	0%
Total	1	100%	0	0%

Table B.233: AMTL by side among Iron Age males.

	YA				MA			
Tooth	Left	%	Right	%	Left	%	Right	%
I1	1	25%	3	75%	2	66.67%	1	33.33%
I2	0	0%	2	100%	2	66.67%	1	33.33%
C	0	0%	0	0%	2	50%	2	50%
PM1	1	50%	1	50%	2	50%	2	50%
PM2	1	33.33%	2	66.67%	2	50%	2	50%
M1	2	100%	0	0%	2	50%	2	50%
M2	2	100%	0	0%	3	60%	2	40%
M3	1	50%	1	50%	2	40%	3	60%
Total	8	47.06%	9	52.94%	17	53.13%	15	46.87%

Table B.234: AMTL by side among Iron Age females.

	Males				Females			
Tooth	Left	%	Right	%	Left	%	Right	%
I1	0	0%	0	0%	3	42.86%	4	57.14%
I2	0	0%	1	100%	2	40%	3	60%
C	0	0%	0	0%	2	50%	2	50%
PM1	0	0%	0	0%	3	50%	3	50%
PM2	0	0%	0	0%	3	42.86%	4	57.14%
M1	0	0%	1	100%	4	66.67%	2	33.33%
M2	3	50%	3	50%	5	71.43%	2	28.57%
M3	2	66.67%	1	33.33%	3	42.86%	4	57.14%
Total	5	50%	5	50%	25	51.02%	24	48.98%

Table B.235: AMTL by side in the Iron Age.

	YA				MA			
Tooth	Max	%	Man	%	Max	%	Man	%
I1	0	0%	0	0%	0	0%	0	0%
I2	0	0%	0	0%	1	100%	0	0%
C	0	0%	0	0%	0	0%	0	0%
PM1	0	0%	0	0%	0	0%	0	0%
PM2	0	0%	0	0%	0	0%	0	0%
M1	0	0%	0	0%	0	0%	1	100%
M2	1	100%	0	0%	3	60%	2	40%
M3	0	0%	0	0%	2	100%	0	0%
Total	1	100%	0	0%	6	66.67%	3	33.33%

	OA			
Tooth	Max	%	Man	%
I1	0	0%	0	0%
I2	0	0%	0	0%
C	0	0%	0	0%
PM1	0	0%	0	0%
PM2	0	0%	0	0%
M1	0	0%	0	0%
M2	0	0%	0	0%
M3	0	0%	1	100%
Total	0	0%	1	100%

Table B.236: AMTL by dentition location among Iron Age males.

	YA				MA			
Tooth	Max	%	Man	%	Max	%	Man	%
I1	3	75%	1	25%	0	0%	3	100%
I2	1	50%	1	50%	0	0%	3	100%
C	0	0%	0	0%	0	0%	4	100%
PM1	1	50%	1	50%	0	0%	4	100%
PM2	2	66.67%	1	33.33%	0	0%	4	100%
M1	0	0%	2	100%	0	0%	4	100%
M2	1	50%	1	50%	1	20%	4	80%
M3	0	0%	2	100%	1	20%	4	80%
Total	8	47.06%	9	52.94%	2	6.25%	30	93.75%

Table B.237: AMTL by dentition location among Iron Age females.

	Males				Females			
Tooth	Max	%	Man	%	Max	%	Man	%
I1	0	0%	0	0%	3	42.86%	4	57.14%
I2	1	100%	0	0%	1	20%	4	80%
C	0	0%	0	0%	0	0%	4	100%
PM1	0	0%	0	0%	1	16.67%	5	83.33%
PM2	0	0%	0	0%	2	28.57%	5	71.43%
M1	0	0%	1	100%	0	0%	6	100%
M2	4	66.67%	2	33.33%	2	28.57%	5	71.43%
M3	2	66.67%	1	33.33%	1	14.29%	6	85.71%
Total	7	63.64%	4	36.36%	10	20.41%	39	79.59%

Table B.238: AMTL by dentition location in the Iron Age.

	YA Males			MA Males			OA Males		
Tooth	1, %	2, %	3, %	1, %	2, %	3, %	1, %	2, %	3, %
I1	0	0	0	0	0	0	0	0	0
I2	0	0	0	0	1, 100%	0	0	0	0
C	0	0	0	0	0	0	0	0	0
PM1	0	0	0	0	0	0	0	0	0
PM2	0	0	0	0	0	0	0	0	0
M1	0	0	0	0	1, 100%	0	0	0	0
M2	0	1, 100%	0	3, 60%	2, 40%	0	0	0	0
M3	0	0	0	1, 50%	1, 50%	0	0	1, 100%	0
Total	0	1, 100%	0	4, 44.44%	5, 55.56%	0	0	1, 100%	0

Table B.239: AMTL and healing stage among Iron Age males.

	YA Females			MA Females		
Tooth	1, %	2, %	3, %	1, %	2, %	3, %
I1	0	2, 50%	2, 50%	0	1, 33.33%	2, 66.67%
I2	0	1, 50%	1, 50%	0	1, 33.33%	2, 66.67%
C	0	0	0	0	2, 50%	2, 50%
PM1	0	2, 100%	0	0	0	4, 100%
PM2	0	3, 100%	0	0	0	4, 100%
M1	0	1, 50%	1, 50%	0	1, 25%	3, 75%

M2	0	1, 50%	1, 50%	0	2, 40%	3, 60%
M3	0	2, 100%	0	0	2, 40%	3, 60%
Total	0	12, 70.59%	5, 29.41%	0	9, 28.13%	23, 71.87%

Table B.240: AMTL and healing stage among Iron Age females.

	Males			Females		
Tooth	1	2	3	1	2	3
I1	0	0	0	0	3, 42.86%	4, 57.14%
I2	0	1, 100%	0	0	2, 40%	3, 60%
C	0	0	0	0	2, 50%	2, 50%
PM1	0	0	0	0	2, 33.33%	4, 66.66%
PM2	0	0	0	0	3, 42.86%	4, 57.14%
M1	0	1, 100%	0	0	2, 33.33%	4, 66.67%
M2	3, 50%	3, 50%	0	0	3, 42.86%	4, 57.14%
M3	1, 33.33%	2, 66.67%	0	0	4, 57.14%	3, 42.86%
Total	4, 36.36%	7, 63.64%	0	0	21, 42.86%	28, 57.14%

Table B.241: AMTL and healing stage in the Iron Age.

	Males								
Tooth	YA	Asso. Path	%	MA	Asso. Path	%	OA	Asso. Path	%
I1	0	0	0%	0	0	0%	0	0	0%
I2	0	0	0%	1	0	0%	0	0	0%
C	0	0	0%	0	0	0%	0	0	0%
PM1	0	0	0%	0	0	0%	0	0	0%
PM2	0	0	0%	0	0	0%	0	0	0%
M1	0	0	0%	1	0	0%	0	0	0%
M2	1	1	100%	5	4	80%	0	0	0%
M3	0	0	0%	2	2	50%	1	0	0%
Total	1	1	100%	9	6	66.67%	1	0	0%

Table B.242: AMTL and associated pathologies among Iron Age males.

	Females					
Tooth	YA	Asso. Path	%	MA	Asso. Path	%
I1	4	0	0%	3	0	0%
I2	2	0	0%	3	0	0%
C	0	0	0%	4	0	0%
PM1	2	0	0%	4	0	0%
PM2	3	0	0%	4	0	0%
M1	2	0	0%	4	1	20%
M2	2	0	0%	5	2	40%
M3	2	0	0%	5	2	40%
Total	17	0	0%	32	5	15.63%

Table B.243: AMTL and associated pathologies among Iron Age females.

	Males			Females		
Tooth	AMTL	Asso. Path	%	AMTL	Asso. Path	%
I1	0	0	0%	7	0	0%
I2	1	0	0%	5	0	0%
C	0	0	0%	4	0	0%
PM1	0	0	0%	6	0	0%
PM2	0	0	0%	7	0	0%
M1	1	0	0%	6	1	16.67%
M2	6	5	83.33%	7	2	28.57%
M3	3	2	66.67%	7	2	28.57%
Total	11	7	63.64%	49	5	10.20%

Table B.244: AMTL and associated pathologies in the Iron Age.

Males									
	Caries			Abscesses			AMTL		
Age	Yes	No	% Yes	Yes	No	% Yes	Yes	No	% Yes
YA	5	0	100%	1	4	20%	1	4	20%
MA	5	1	83.33%	3	3	50%	2	4	33.33%
OA	0	1	0.00%	0	1	0	1	0	100%
Total	10	2	83.33%	4	8	33.33%	4	8	33.33%

Table B.245: Dental diseases among Iron Age males.

Females									
	Caries			Abscesses			AMTL		
Age	Yes	No	% Yes	Yes	No	% Yes	Yes	No	% Yes
YA	7	9	43.75%	1	15	6.25%	6	10	37.50%
MA	2	3	40%	3	2	60%	3	2	60%
Total	9	12	42.86%	4	17	19.05%	9	12	42.86%

Table B.246: Dental diseases among Iron Age females.

Subadults									
	Caries			Abscesses			AMTL		
Age	Yes	No	% Yes	Yes	No	% Yes	Yes	No	% Yes
Child	1	2	33.33%	1	2	33.33%	0	3	0%
Adolescent	1	2	33.33%	1	2	33.33%	0	3	0%
Total	2	4	33.33%	2	4	33.33%	0	6	0%

Table B.247: Dental diseases among Iron Age subadults.

Males								
Age	# Teeth	# Carious Teeth	% Carious	# Observed Teeth Spaces	# Abscesses	% Abscesses	# AMTL	% AMTL
YA	116	12	10.35%	160	1	0.63%	1	0.63%
MA	166	18	10.84%	192	9	4.69%	9	4.69%
OA	14	0	0%	16	0	0%	1	6.25%
Total	296	30	10.14%	368	10	2.72%	11	2.99%

Table B.248: Dental diseases by tooth and tooth spaces among Iron Age males.

Females								
Age	# Teeth	# Carious Teeth	% Carious	# Observed Teeth Spaces	# Abscesses	% Abscesses	# AMTL	% AMTL
YA	402	15	3.73%	507	4	0.79%	17	3.35%
MA	77	5	6.49%	128	3	3.75%	32	25%
Total	479	20	4.18%	635	7	1.10%	49	7.72%

Table B.249: Dental diseases by tooth and tooth spaces among females in the Iron Age.

Subadults								
Age	# Teeth	# Carious Teeth	% Carious	# Observed Teeth Spaces	# Abscesses	% Abscesses	# AMTL	% AMTL
Child	31	1	3.23%	65	1	5%	0	0%
Adolescent	53	1	1.89%	57	2	6.90%	0	0%
Total	84	2	2.38%	122	3	6.12%	0	0%

Table B.250: Dental diseases by tooth and tooth spaces among Iron Age subadults.

	Males			Females		
Age	With OA	Without OA	% OA	With OA	Without OA	% OA
YA	0	5	0%	5	11	31.25%
MA	1	5	16.67%	2	3	40%
OA	0	1	0%			
Total	1	11	8.33%	7	14	33.33%

Table B.251: OA in the Iron Age.

Joint Location	MA Males			
	Left	%	Right	%
TMJ	0	0%	0	0%
Shoulder	0	0%	0	0%
Elbow	0	0%	0	0%
Wrist/Hand	0	0%	0	0%
Hip	1	50%	1	50%
Knee	0	0%	0	0%
Ankle/Foot	0	0%	0	0%
Total	1	50%	1	50%

Table B.252: OA by side among Iron Age males.

Joint Location	YA Females				MA Females			
	Left	%	Right	%	Left	%	Right	%
TMJ	1	50%	1	50%	0	0%	0	0%
Shoulder	0	0%	1	100%	0	0%	0	0%
Elbow	0	0%	0	0%	0	0%	0	0%
Wrist/Hand	0	0%	0	0%	1	100%	0	0%
Hip	0	0%	2	100%	1	100%	0	0%
Knee	2	66.67%	1	33.33%	0	0%	0	0%
Ankle/Foot	0	0%	1	100%	0	0%	1	100%
Total	3	33.33%	6	66.67%	2	66.67%	1	33.33%

Table B.253: OA by side among Iron Age females.

Joint Location	Males				Females			
	Left	%	Right	%	Left	%	Right	%
TMJ	0	0%	0	0%	1	50%	1	50%
Shoulder	0	0%	0	0%	0	0%	1	100%
Elbow	0	0%	0	0%	0	0%	0	0%
Wrist/Hand	0	0%	0	0%	1	100%	0	0%
Hip	1	50%	1	50%	1	33.33%	2	66.67%
Knee	0	0%	0	0%	2	66.67%	1	33.33%
Ankle/Foot	0	0%	0	0%	0	0%	2	100%
Total	1	50%	1	50%	5	41.67%	7	58.33%

Table B.254: OA by side in the Iron Age.

Joint Location	YA Males			YA Females			MA Females		
	Severity			Severity			Severity		
	1	2	3	1	2	3	1	2	3
TMJ	0	0	0	1	1	0	0	0	0
Shoulder	0	0	0	1	0	0	0	0	0
Wrist/Hand	0	0	0	0	0	0	1	0	0
Hip	2	0	0	1	4	0	1	3	0
Knee	0	0	0	3	0	0	0	0	0
Ankle/Foot	0	0	0	0	1	0	1	0	0
Total	2	0	0	6	6	0	3	3	0

Table B.255: OA severity by joint location in the Iron Age.

Joint Location	Males			Females		
	Severity			Severity		
	1	2	3	1	2	3
TMJ	0	0	0	1	1	0
Shoulder	0	0	0	1	0	0
Wrist/Hand	0	0	0	1	0	0
Hip	2	0	0	2	7	0
Knee	0	0	0	3	0	0
Ankle/Foot	0	0	0	1	1	0
Total	2	0	0	9	9	0

Table B.256: OA severity in the Iron Age.

Type	Males	Females	
	MA	YA	MA
Localised	0	0	0
Regionalised	1	4	1
Systemic	0	1	1

Table B.257: OA by distribution type in the Iron Age.

Age	Males				Females			
	No Vertebrae	No VJD	VJD	% VJD of Available Vertebrae	No Vertebrae	No VJD	VJD	% VJD of Available Vertebrae
YA	4	0	1	100%	9	2	5	71.43%

MA	3	1	2	66.67%	2	0	3	100%
OA	1	0	0	0%				
Total	8	1	3	75%	11	2	8	80%

Table B.258: VJD presence in the Iron Age.

Vertebral Section	YA Males				MA Males			
	# Vertebrae Affected	Severity			# Vertebrae Affected	Severity		
		1	2	3		1	2	3
Cervical	0	0	0	0	1	1	0	0
Thoracic	0	0	0	0	5	0	5	0
Lumbar	1	0	1	0	1	1	0	0
Total	1	0	1	0	7	2	5	0

Table B.259: VJD severity by vertebral section among Iron Age males.

Vertebral Section	YA Females				MA Females			
	# Vertebrae Affected	Severity			# Vertebrae Affected	Severity		
		1	2	3		1	2	3
Cervical	8	0	5	3	3	0	0	3
Thoracic	16	4	12	0	7	0	7	0
Lumbar	11	3	8	0	8	0	8	0
Total	32	7	25	0	15	0	15	3

Table B.260: VJD severity by vertebral section among Iron Age females.

Age	Males			
	Total Individuals	# With	# Without	% Cranial Fractures
YA	5	1	4	20%
MA	6	0	6	0%
OA	1	1	0	100%
Total	12	2	10	16.67%
Fetus	1	0	1	0%
Infants	4	1	3	75%
Children	3	1	2	33.33%
Adolescent	3	0	3	0%
Total	11	2	9	18.18%
Age	Females			
	Total Individuals	# With	# Without	% Cranial Fractures
YA	16	3	13	18.75%
MA	5	1	4	20%
OA				
Total	21	4	17	19.05%

Table B.261: Cranial fracture prevalence in the Iron Age.

Fracture Location	Subadult		Males		Females	
	Infant	Child	YA	OA	YA	MA
Bregma	0	0	0	0	0	1
Left Frontal	0	0	0	0	0	0
Right Frontal	0	0	1	0	1	0
Left Temporal	0	0	0	0	0	0
Right Temporal	0	1	0	0	0	0
Left Parietal	0	0	0	0	1	0
Right Parietal	1	0	0	0	1	0
Lambda	0	0	0	1	0	0
Left Occipital	0	0	0	0	0	0
Right Occipital	0	0	0	0	1	0

Table B.262: Cranial fractures by location in the Iron Age.

Type	Infant	Child	YA Males	OA Males	YA Females	MA Females	Total
Blunt Force	1	0	0	1	2	0	4
Sharp Force	0	1	1	0	2	1	5

Table B.263: Cranial fractures by type in the Iron Age.

Fracture Sub type	Subadult		Males		Females		Total	% Total Fractures
	Infant	Child	YA	OA	YA	MA		
Linear	0	0	1	0	1	0	2	22.22%
Slice	0	1	0	0	1	0	2	22.22%
Depression	1	0	0	1	1	0	3	33.33%
Puncture	0	0	0	0	1	1	2	22.22%

Table B.264: Cranial fractures by sub-type in the Iron Age.

Healing Stage	Subadult		Males		Females		Total	% Total
	Infant	Child	YA	OA	YA	MA		
0	1	1	0	0	2	1	5	55.56%
1	0	0	0	1	1	0	2	22.22%
2	0	0	1	0	1	0	2	22.22%
3	0	0	0	0	0	0	0	0%

Table B.265: Cranial fractures by healing in the Iron Age.

Age	Males			
	Total Individuals	# With	# Without	% Post-Cranial Fractures
YA	5	0	5	0%
MA	6	0	6	0%
OA	1	0	1	0%
Total	12	0	12	0%
Fetus	1	0	1	0%
Infants	4	0	4	0%
Children	3	1	2	33.33%
Adolescent	3	0	3	0%
Total	11	1	10	9.09%
Age	Females			
	Total Individuals	# With	# Without	% Post-Cranial Fractures
YA	16	3	13	18.75%
MA	5	1	4	20%
OA				
Total	21	4	17	19.05%

Table B.266: Presence of post-cranial fractures in the Iron Age.

Abbreviations

AMTL	*ante mortem tooth loss*
BM	*British Museum*
BFT	*blunt force trauma*
CO	*cribra orbitalia*
DJD	*degenerative joint disease*
HERM	*Hull and East Riding Museum*
LEH	*linear enamel hypoplasia*
LBK	*Linearbandkeramik*
MA	*middle adult (35 to 50)*
MBPW	*Ministry of Public Buildings and Works*
MNI	*minimum number of individuals*
NHM	*Natural History Museum*
OA	*osteoarthritis*
OA	*old adult (50+)*
RCHME	*Royal Commission on the Historical Monuments of England*
SFT	*sharp force trauma*
TMJ	*tempo-mandibular joint*
VJD	*vertebral joint disease*
YA	*young adult (18 to 35)*
YAJ	*Yorkshire Archaeological Journal*
YAR	*Yorkshire Archaeological Register*
YARFF	*Yorkshire Archaeological Research Framework Forum*
YM	*Yorkshire Museum*

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