



:: A Basic Overview for the Recovery of Human Remains from Sites Under Development ::

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Introduction

The discovery of human remains on sites undergoing development is a common occurrence. Developers may feel that this may be problematic in terms of work schedules. However, with the correct information to hand and the involvement of professional field osteoarchaeologists from an early stage, the recovery of human remains can be dealt with efficiently and appropriately.

An experienced osteoarchaeologist will be able to implement the necessary procedures to ensure that human remains are excavated, recorded, removed as required and in addition, that post-excavation handling and eventual storage or reburial complies to standards recommended by the IFA and English Heritage.

These standards cover areas such as Health and Safety Regulations, Legal Requirements and Ethical Issues.

What should be done if human remains are unexpectedly found on site?

If human remains are uncovered on site that is not currently undergoing an evaluation or excavation carried out by an archaeologist, then work on site should stop immediately and the police should be contacted. In this case, the human remains may be modern and continuation of work may remove vital information that could potentially be used as evidence in court. Once the police have been informed, a representative of the Coroners Office and also, in many cases, a forensic osteoarchaeologist will attend the scene to confirm that the remains are human and to determine whether they are modern or archaeological.



Human remains that are discovered within an archaeological context should only be excavated and removed once it has been decided that the remains will contribute towards further scientific understanding; if this is the case then a coroner's licence must be obtained from the Home Office before any remains are disturbed. It is illegal to remove human remains without this license. A coroner's license can be obtained promptly via telephone/fax if it is necessary to remove the remains urgently.

It is a general recommendation that human remains are not removed if discovered during an archaeological evaluation of a site. In this case, the potential scientific value of remains is not seen as outweighing the importance of retaining an ethical approach to the disturbance of human remains laid to rest. However, evaluations may be carried out in a variety of contexts. The decision to remove human remains from an evaluation trench should be made according to the particular circumstances of the archaeological evaluation and the nature of the human remains.

What license do I need to excavate a known burial ground?

In England, disused burial grounds that are to be developed are subject to different regulations. If the land to be developed has been bought by compulsory purchase, it will be covered by the Towns and Country Planning Regulations. This land cannot be redeveloped until all human remains have been removed and notice of the intention to remove human remains must be given to the general public and any known relatives.

If the land to be developed is consecrated ground it comes under the jurisdiction of the Church of England. In this case, where human remains are going to be removed, an application for the granting of a faculty from the Church, allowing the disturbance of human remains, will be required. If remains removed are to be cremated, stored above ground or not taken for reburial to another consecrated site, a Home Office license will also be required.

If the development site is a recognised burial ground but is not consecrated and human remains will be disturbed as the result of the construction of a building that is not an extension to a church, or as a result of non-building-related works, the Disused Burial Grounds Act 1981 applies. In this case, removal of human remains will require directions to be made from the Home Office. (see Appendix 2)



Legal requirements for the removal of human remains are different in Scotland and Ireland. It is recommended that you contact representatives of local authorities for guidelines, e.g. in Scotland, the Sheriff's Office or Procurator Fiscal and in Ireland, the Department of the Environmental and Local Government or the Director of the National Museum.

So I've got my Home Office licence/Faculty...what next?

In cases of planned archaeological excavation work on known cemetery sites, it is recommended that an osteoarchaeologist is involved in the project from the outset, so that informed decisions can be made regarding the project design from the start. Adequate provision for the costings of the archaeological excavation and the post-excavation handling of human remains can be made early on if accurate advice is obtained. At the excavation stage, an on-site osteoarchaeologist should be present to implement prearranged excavation strategies, to train field archaeologists who haven't excavated human remains before, to overcome problems as they occur on site and to be available to provide information.

First and foremost, health and safety aspects of working with human remains should be considered. Generally, working with human skeletal remains requires no extra precautions to be taken beyond normal health and safety regulations. However, the presence of soft tissues on more recent human remains, usually those removed from lead coffins in crypts, requires special consideration and a Site Safety Officer should be appointed to carry out the necessary steps to ensure protection against possible threats from diseases such as smallpox or anthrax, or even lead poisoning.

Once any necessary health and safety precautions have been taken, the excavation and removal of human remains can go ahead. Excavation strategies can vary widely according to the nature of the site and needs to be determined, where possible, in advance of the excavation with the advice of an osteoarchaeologist. In all cases, the strategy for the excavation and removal of human remains must be sensitive to public opinion and ethical issues. Generally, excavation and removal of remains should not be visible to the general public. The site may need to be screened off from public areas, not only with hoarding but also in some cases (i.e. urban excavation) with a roof to screen the site off from overlooking buildings. At all times, human remains should be treated with respect and dignity.



What should we do with disarticulated human remains?

In the case of the recovery of disarticulated human remains, an osteoarchaeologist should be present to confirm the remains are human and may be able to catalogue remains on-site so that they may be reburied as soon as possible. This is dependent on the prearranged strategy for collecting disarticulated material, according to its scientific value and the soil conditions on site. An osteoarchaeologist may be able to determine material as representing commingled individuals or determine if the bones are the disturbed remains belonging to one individual. In some cases, the deposit of bones may be a mixture of articulated and disarticulated remains, in which case care should be taken to distinguish articulated remains and to record them accordingly.

In most cases, disarticulated bones tend to be the result of the disturbance of earlier burials by later ones. These dispersed remains tend to be of little scientific value, although in the absence of other evidence, an insight can be gained into the population i.e. the presence of pathologies, male:female ratios, adult:juvenile ratios, the minimum number of individuals present. However, the retention and analysis of disarticulated material may not be necessary if a sufficient sample of articulated remains is recovered.

What happens to articulated human remains?

Full recovery of articulated human remains is expected on archaeological sites as far as possible; it is usually considered that any remains lying outside of the limits of excavation should not be chased into the baulk unless there is a good reason for doing so. Where large quantities of human remains are to be retrieved and a large enough sample of more complete remains will be recovered, a strategy may be devised whereby only these more complete and, therefore, informative remains are fully recorded and excavated. In this context, where less than 25% of a human skeleton survives, it may be advisable for an on-site osteoarchaeologist to be present to record these remains in situ. These remains can then be lifted and reburied as soon as possible, without the need for post-excavation processing. Again, this will be dependent on individual site conditions.

On site, an osteoarchaeologist will be able to decide whether the remains need to be block-lifted with the surrounding soil matrix to preserve the integrity of fragile remains (i.e. neonates, cremated bone in fragmented urns, pathological bones) or whether bones may be lifted individually. Soil samples may be taken from the abdominal and/or chest areas of the body to retrieve evidence of gallstones or worm infestations.



Samples of hair may also be taken where there is soft tissue preservation. Prior to removal, human remains need to be fully recorded in situ in order to understand their surrounding archaeological context.

This will include recording any disturbances to the burial, identification of bones present, recording of the position of the body, recording the direction of the grave, noting any stratigraphic relationships with other archaeological features and also any accompanying records, such as drawings, photographs, associated finds and samples taken. Without these records, the information gained from the final analysis of human remains is severely restricted. Most of this recording process can be speeded up significantly by the use of digital photography and plotting the location of remains using computer software compatible surveying equipment.

So how long does it take to excavate, record and lift a skeleton?

On average, given good soil conditions and experienced staff, it can be expected that 2 skeletons can be excavated, recorded and lifted per day by each excavator.

What materials do I need to supply for packaging and storing a skeleton?

Once a skeleton has been excavated and recorded it will be ready for lifting out of the ground and placing in packaging material, in order for the skeleton to be taken out of the excavation area for processing (i.e. washing and marking). In order to help the processing and assessment phases of the project run smoothly, skeletons are removed from the ground and systematically placed in plastic bags according to anatomical areas of the body.

For example, the **skull**, **torso**, **legs** and **arms** are lifted and bagged up separately.

It is generally acceptable to place **hands** and **feet** in the bag with the corresponding leg or arm.

If a skeleton is particularly fragile or large, more plastic bags may be required to separate ribs, pelvic bones, shoulder bones and vertebrae. Each bag should contain **two labels (containing context information such as site code, skeleton number and content description i.e. left hand)** and should be sturdy enough to withstand repeated handling and large enough to contain the bones securely.

If bones were to fall out of a bag at this stage, it would not be possible to tell which skeleton they came from. However, the bags should not be air-tight and should have ventilation holes to prevent deterioration of fragile skeletal material. The separate bags should then be placed in a large plastic bag, crate or box, labelled with the context information, to keep them all the bones from each skeleton together.

If washing and marking of the skeletons is carried out on site, then this first set of bags can be recycled, as clean skeletons will be bagged up in fresh plastic bags. If post-excavation processing is carried out later off site, then a second batch of fresh plastic bags will be required. On site processing generally speeds up the post-excavation process, as soil adhering to bones lifted out of the ground is easier to remove sooner rather than later. However, extra space will be required for as well as processing materials such as sieving meshes, water tanks/washing bowls, the facility to drain water, cleaning brushes, wooden picks and trays. Room for drying racks will also be needed, as bones must be dried slowly and thoroughly before repackaging. It may also be prudent to provide protective clothing for processors if large amounts of skeletons are to be washed.

The clean skeleton, contained in its separate plastic bags, is then placed in a sturdy cardboard box for storage. This box needs to be large enough to contain all the bags of bones without crushing them.



If skeletons are stored on site for any amount of time, space should be made to keep the boxes in a dry, secure environment and an effort should be made not to overstack them.

So how long does processing take?

Depending on site conditions, roughly 2 complete skeletons can be washed a day by each processor. Once the skeletons have been washed and rebagged, it may be necessary to mark each bone and bone fragments in ink with the site code and skeleton number. Whilst this is a time-consuming and repetitive task, this measure should be taken as each bone can then be identified as belonging to a particular context. It may be permissible not to mark skeletons if they are going to be reburied imminently after analysis. Approximately 5 skeletons can be marked per processor, per day, depending on the preservation condition and fragmentation of the skeletal material.

The skeletons are out of the ground...what next?

Once boxed up, the collection of skeletons should be taken for storage at a prearranged location. Arranging a storage area with a local museum, university or field unit should be carried out at the project design stage prior to excavation.

At this stage, preparations can be made for the final analysis of the skeletons by undertaking an assessment of the skeletal material. This involves an osteoarchaeologist examining the assemblage (or a sample of) to determine the cost of

the final analysis. The number of skeletons to be analysed, the condition of the bone, the need for radiographs and photographs as well as the complexity of final data collation all need to be taken into account to predict how long the analysis will take, how many staff will be needed and how much it will cost. Working with a large number of human remains that are processed on site, this assessment may be carried out during the excavation stage. Smaller assemblages are generally assessed after excavation. Around 50 skeletons can be assessed a day by one osteoarchaeologist.



Final analysis takes longer, as at this stage each skeleton selected to be analysed is recorded in detail. The standard of recording should comply with those guidelines set out by English Heritage and the British Association of Biological Anthropology and Osteology. Basic recording should comprise of a full inventory of bones and joints present, analysis of the age at death and the sex of the skeletal remains, a full inventory of teeth present, the recording of metrics for sexing and stature estimation, of non-metric traits and the recording of pathological conditions in the bones and teeth. Often recording is carried out using paper records although recently it is becoming more popular to record straight onto a database to save time.

Approximately 2 skeletons can be analysed by one osteoarchaeologist per day.

Additional time must be allowed for the production of the final report or archive.

Both of these must be produced in order to meet the requirements of the archaeological planning legislation. For smaller sites, the final report might be completed in a matter of days, whereas a larger, more complex site will take several months. The final report should include not only the analysis of the skeletons but also relevant contextual information, such as historical background, dating and phasing of the burials, associated small finds, coffin furniture, burial monuments, environmental findings and discussion regarding any other relevant archaeological features.

As a rule of thumb it has been suggested that costings for the final analysis, report and archive production should amount to the cost of the daily rate of one osteoarchaeologist multiplied by the number of skeletons recovered.

Publication costs of larger excavations will also need to be considered.

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Appendix 1

More detailed guidance regarding the recovery of human remains can be found at:

England: Church Archaeology Human Remains Working Group Report:
<http://www.english-heritage.org.uk/default.asp>

Ireland: Heritage Council Publication, Human Remains in Irish Archaeology:
http://heritagecouncil.ie/publications/human_remains/hr_printer.html

Scotland: Historic Scotland Operational Policy Paper 5.
<http://historic-scotland.gov.uk>

<http://www.historic-scotland.gov.uk/humanremains>

Other useful Links:

Department for Constitutional Affairs
<http://www.dca.gov.uk/corbur/buriafr.htm#3>

OssaFreelance
<http://www.ossafreelance.co.uk>

Spoilheaps excellent guide to Burial Archaeology.
<http://www.spoilheap.co.uk/burial.htm>

Appendix 2

The information that will be required to obtain a S25 licence from the Department of Constitutional Affairs (England)

(Burial Act 1857 Section 25 licence to exhume).

Application forms and guidance notes can be requested by emailing coroners@dca.gsi.gov.uk

If you have any queries, please call us on 020 7210 0049 / 0066.

Accidental Disturbance Report

NAME OF CALLER: _____

ADDRESS: _____

TEL NO: _____

ADDRESS OF SITE: _____

APPROX AGE OF REMAINS: _____

TO BE SCIENTIFICALLY EXAMINED? YES/NO

BY WHOM: _____

ULTIMATE METHOD OF DISPOSAL: _____

REBURIAL AT: _____

CREMATED AT: _____

RETAINED AT: _____

IS SITE SUBJECT TO DEVELOPMENT? YES/NO

NAME AND ADDRESS OF DEVELOPER: _____

ARE ALL REMAINS TO BE REMOVED BY APPLICANT? YES/NO

LICENCE ISSUE? YES NO

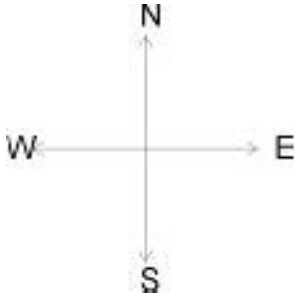
LICENCE DATED: _____

LICENCE EXPIRES: _____

In Scotland you should contact the police and then Historic Scotland who can provide a service from the Human Remain Call-off contract.

Skeleton Sheet

British Archaeological Jobs Resource

Site Code:	Area:	Trench:	Context: Sk _____
Date:		Recorded by:	
Level : Reduced :-Skull: Sacrum: Feet:			
Grave Type:	Grave Cut:	Grave Fill:	Coffin:
Orientation: 	Sketch:		
Description and Notes:			
Above			
Skeleton			
Below			
Finds: Pot <input type="checkbox"/> Lithic <input type="checkbox"/> Bone <input type="checkbox"/> Metal <input type="checkbox"/> Other <input type="checkbox"/> Small Finds: △ △ △ △ △ △ △ ▱ ▱ ▱ ▱ ▱ ▱ ▱			
Samples:			
Plan:	Section:	Photos:	
Period:	Group:	Burial Number:	

Skeleton Sheet

British Archaeological Jobs Resource

Mark the bones that were recovered

Skeleton Num:



- Neonate?
- Juvenile?
- Adult?
- Male?
- Female?

Preservation	Good	Moderate	Poor
Retrieval	Good	Moderate	Poor
Further treatment:			

Skeleton Sheet

British Archaeological Jobs Resource

Skeleton Sheet

Grave Type:	Shallow grave: grave with mortar floor; stone cist..etc
Cut/Fill/Coffin:	Context numbers
Skeleton Sketch:	Sketch of burial including cuts, objects etc
Levels:	Reduced levels on the Skull, Sacrum and Feet
Orientation:	Sketch the orientation of the burial on the compass diagram
Description:	Include - Position: 'prone', 'supine' or 'crouched' Measurements Position of legs, arms, crossed, straight, folder over pelvis/chest etc. and any interesting features (arms behind back ec) Burial practice Accidental damage
Stratigraphic Matrix:	Fill in details of relationships (remember skeleton is inside a coffin and a coffin is inside a grave cut and both are beneath a grave fill)
Finds and Samples :	Record any associated small finds, bulk finds and samples taken
Plans/Section/Photos :	Enter the details of ALL graphic records that include the skeleton.
Period/Group/Burial	If you are sub dividing multiple burials into separate elements such as period/phase - family or other grouping - Burial plot etc
Skeleton diagram:	Mark the bones present as coloured in the drawing on the rear of the sheet) and tick if you know age of individual and sex.
Lifting:	Preservation quality Collection quality
Further Treatment (on site conservation, reburial, removal, etc)	