

Digging up People - Guidelines for Excavation and Processing of Human Skeletal Remains.

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One of the major 'problems' faced by archaeologists, amateur and professional alike, is finding human remains. Excavators often complain that unexpected graves always turn up on the last day of an excavation. Human bones are difficult from a moral perspective, they take a lot of time and effort to dig properly, and nobody seems to know what to do with them once they are out of the ground.

However, if planned for, there is no reason why excavating human remains should be a difficulty to overcome. This article seeks to provide a step-by-step guide to the chance find of inhumations. It is not intended to be a comprehensive guide for excavators of large cemeteries – they should be well aware of what they are letting themselves in for!

What to do when you first encounter your skeleton

The first contact with a skeleton may be made by someone digging a hole in the back garden, when a tree is uprooted in a gale, or during agricultural or construction work. In this case the police will probably have been informed, and part of the skeleton may have been removed for forensic examination before the archaeologist is called in. Once it has been established that the remains are ancient, the archaeologist can take over.

The other likelihood is that the skeleton has been disturbed during an excavation. If there is any chance that the bones might be recent, the police should be called. If not, it would be wise to call in the local human bone specialist.

If human remains are to be excavated, a Home Office Licence must be obtained. In the case of accidental disturbances this can be obtained almost immediately by telephone. If a known cemetery is being excavated the licence should be obtained by writing to the Home Office at least 3 weeks in advance of the dig.

Excavating a skeleton

Once permission for the excavation is obtained, the bones can be lifted. The skeleton should first be completely uncovered (or as much as possible within the confines of the excavation). This is done by following the bones down from the point which was first excavated in the case of articulated remains. Disarticulated remains are more of a problem, but should be simple enough if the excavation works outwards from the first area to be exposed. In either case, care should be taken to collect any loose teeth or small hand and foot bones from the spoil. You should also be aware that kidney and other stones may be present, and in very wet conditions it may be worth sampling for stomach contents (an environmental archaeologist should be able to advise on this).

After the soil has been removed, photographs should be taken and plans/sections drawn. If there is little time available, a photograph is of far more use than a sketch to the specialist. It may be possible to see the outline of the grave cut, and this should also be recorded. If a skeleton form is available, this should be filled in by someone with at least a basic knowledge of human anatomy, or in consultation with an anatomy text. The orientation and position of the skeleton should be recorded in writing. Photographic recording of disarticulated remains is particularly important, since this will aid the specialist in sorting them out.

If the bones are wet they will be extremely fragile. If it is possible for them to dry slightly before lifting, the job may be slightly easier. They should, however, be protected from direct sunlight as much as is practical. The best way to lift bones is to free them from as much soil as possible whilst they are still in situ. It should then be possible to lever each end gently out of the ground without breaking the bone. If it does break, ensure that all pieces are collected. The specialist may be able to reconstruct it later. Never use consolidants or glues for any purpose - leave it to the specialist.

Separate areas of the skeleton should be bagged individually and labelled, and the bags should be pierced to allow air in. Bones should never be left for long periods in air-tight plastic bags or boxes as they will inevitably go mouldy. The skull should be given its own box, particularly if it is still intact. The minimum number of bags required for a complete skeleton is 18, (Skull; Mandible; Loose Teeth; Vertebrae; R. Scapula and Clavicle; L. Scapula and Clavicle; R. ribs; L. ribs; R. arm; L. arm; R. hand; L. hand; Pelvis; R. leg; L. leg; R. foot; L. foot; Miscellaneous loose bones). Common sense should dictate the sizes of bags required. The separation of hands, feet and ribs into sides is particularly important as this saves the specialist time (and the archaeologist money!). Disarticulated bones can be bagged in groups dependent on their relative positions, as long as good photographs and plans showing context numbers are available when they have to be sorted out. All the bags should then be put into a strong box for transportation.

Washing a skeleton

Contrary to popular belief, human bones should not be dry-brushed or left in the soil matrix. They must be washed if the specialist is expected to tell you anything useful. From experience, this is the stage when the most damage and muddling occurs.

Once the skeleton has been transferred to the washing area it should be laid out to dry thoroughly, preferably in trays with labels, or on top of the bags. No matter how fragile the bones, this will allow them to regain some strength before they face the rigours of washing. Note that bones excavated from chalky or clay soils should not be completely dried; use your judgement to determine the best compromise between bone strength and soil hardness. The drying process may take anything up to two days, so the bones must be placed somewhere secure where they cannot be reached by inquisitive pets or children! Bones should not be subjected to extremes of temperature, or greatly fluctuating humidity as they will crack and warp. If you have more than one skeleton, ensure that there is absolutely no chance that they can be mixed up.

Once they are completely dry, the bones can be washed carefully in lukewarm water. Use a plastic bowl (not a sink) and change the water periodically, always ensuring that small bones are not tipped away. The best method of doing this, if no sieve is available, is carefully to tip out the old water onto soil in the garden. The water will drain away leaving any pieces of bone exposed on the surface. Water should always be changed before starting on a separate skeleton. Use a nail brush to clean large areas and a tooth brush for more fiddly parts. The surfaces of soft bones may be damaged by heavy brushing, so take care not to press hard. The skull may fall apart when washed (it is very rare to get a complete skull and keep it that way right through to the specialist analysis) but as long as all the pieces are saved this is not really a problem. The brown tartar deposits on teeth are particularly vulnerable at this stage, and care should be taken not to remove them.

The bones will now have to be dried again, using clean drying (seed or bread) trays. Again, they will need to be left for at least a couple of days before being bagged up. They can be marked with waterproof black ink, but this is not really necessary when only one or two skeletons are involved (unless they are to be boxed together). New bags are preferable, although the old ones can be washed out and reused when dry. If packing material is

needed for padding, NEVER make do with newspaper. Acid-free tissue paper is the only recommended material for this purpose (but please don't wrap bones – it really isn't necessary and can damage fragile areas. Simply use the tissue to provide support).

Finding a specialist

Once your skeleton is bagged and boxed you will need to make use of the services of a human bone specialist, if you have not already done so. A local doctor, nurse or vet will not do, unless they have training in anthropology and palaeopathology. To find a specialist, contact your local archaeological unit/museum, the British Association for Biological Anthropology and Osteoarchaeology (BABA0) or English Heritage.

What you can expect from the specialist

The specialist should be able to provide you with an estimate for carrying out an analysis and writing a report. For a single skeleton or a small group this will generally entail information on the age and sex of each individual, estimation of height and other physical attributes, information on morphological traits, and notes on pathological changes. Such information is of most use when dealing with a large cemetery population, but it is still valid when considering individuals.

What the specialist needs from you

If you have photographs and/or plans (particularly if there is more than one individual), these will be useful. Dating evidence may also be of interest. Otherwise, as long as the guidelines above have been followed and the specialist has been presented with a clean, dry and well-packaged skeleton, he/she should be able to do his/her job efficiently and fairly quickly. You will then receive a report suitable for archive and/or publication, together with the final bill!

Useful contacts

Home Office, E Division, Room 978, 50 Queen Anne's Gate, London SW1H 9AT.
AML Ancient Monuments Laboratory, English Heritage, Fort Cumberland, Eastney, Portsmouth.

BABA0 British Association for Biological Anthropology and Osteoarchaeology