



Smithsonian Institution

National Museum of Natural History
Department of Anthropology
Repatriation Office

Documentation of Human Remains at the National Museum of Natural History

The Repatriation Office at the National Museum of Natural History is required to comply with the repatriation provisions of the National Museum of the American Indian Act. One of the primary functions of the office is to determine the extent to which human remains held by the Museum are culturally affiliated with contemporary Native American groups. Resolving the cultural identity of the individuals can be a time-consuming and challenging task but it is one that the Museum and takes very seriously.

The physical examination and documentation of the remains is an integral part of the repatriation process. Biological information on the shape and size of the bones and information about the physical condition of the remains is evaluated, along with museum records, archaeological and anthropological information, and traditional knowledge, to help identify the affiliation of human remains to Native American groups. Physical documentation serves to supplement existing museum records. It also forms part of the permanent record of the Museum's compliance with the repatriation mandate and affects the arrangements for transfer of remains to Native representatives. Information assembled and permanently archived at the Museum as a record of repatriation is subsequently available to Native groups for their own records and use.

The paragraphs below provide specific details on the kind of information recorded during documentation and its significance to the repatriation process. More information is available should the communities want to further understand this process. It should be noted that the Repatriation Office uses only non-destructive techniques. The human remains are not modified at any point during the examination

A listing of the skeletal remains present

The first step in preparing skeletal remains for repatriation is to retrieve the requested remains from collections storage. The osteologist (a person trained in the observation of human skeletal remains) then creates a detailed list of the skeletal elements in each catalog entry.

How this process works

- Creating a list of the remains that are present expands on the information in the catalog record about what bones should be present. If bones are missing, they will be searched for and if not located, the Repatriation Office will determine why they are missing.
- Occasionally, the remains in a single catalog number represent two or more distinct individuals. This is determined when duplication of a bone is noticed. For example, a human being only has a single mandible (lower jaw). If two mandibles are under a single catalog number, it is obvious that two individuals are present. The osteologist in such cases sorts the catalog number into discernable individuals.

How this assists with repatriation

- The Repatriation Office establishes the number of individuals.
- The Repatriation Office determines if all of the bones that are reported for a specific catalog number are present in the collections.
- Because every bone is examined, the osteologist may observe details that assist in the positive identification of a named individual.

Benefits for the community

- Knowing the number of individuals of each sex and age group (infants, children, adults) may influence how the remains are reburied after repatriation.
- The community can be assured that the museum has accounted for all of the remains in its possession.
- Positively identifying a named individual is a crucial first step in the process of finding lineal descendants.

Photographs and Radiographs

Standard photographs and radiographs, commonly called X-rays, are taken of the cranium. Standard radiographs are taken of the long bones. Other photographs and radiographs are taken when the condition of the bone is unusual. Repatriation Office workers use radiographic and photographic facilities within the building to take the images; therefore, the remains never leave the museum during this process.

How this process works (examples)

- Dental radiographs are used to estimate the age of juveniles non-invasively.
- Radiographs that reveal embedded gunshot or arrow points can indicate how the person died and possibly the time period in which this happened.
- Radiographs can help in understanding health and nutrition.

How this assists with repatriation

- The permanent records are part of the National Museum of Natural History exit procedure.
- Radiographs can help with cultural affiliation assessment by revealing more information about the person's health. This information can be compared with what is known about the health of the general community.
- In cases of a named individual, information about the cause of death may help confirm the identity of the person.

Benefits for the community

- Records can be used for research into the progression of disease or changes in health and diet through time within a distinct community.

The age and sex of each individual

By visually examining and measuring the human remains, an osteologist can frequently determine the age and sex of an individual.

How this process works (examples)

- The growth plates at the ends of the bones close at different times during a person's life.
- The teeth develop and erupt in a known sequence.
- The shape of the pelvis differs between males and females.
- The size of certain bones can differ between males and females.

How this assists with repatriation

- This helps to establish the total number of individuals present.
- In cases where the record suggests the remains may be of a named individual, knowing the age and sex is critical in confirming the identity of the individual.

Benefits for the community

- The community may decide on appropriate burial treatment for individuals of a certain sex and/or age group.
- Provides information about life expectancy at different times in the past.
- Provides insight into differences in health and activity patterns for people in the past.

Condition of the Remains

The remains are examined by an osteologist to make an assessment of their condition. Things that are noted include the presence of soil staining, amount of weathering, and sun bleaching. The examination may include the use of magnifying glasses or microscopes. Ultraviolet light may be used to help see if anything was written on the remains such as identifying names or numbers.

How this process works (examples)

- Soil staining can indicate that the person was buried in the ground without a grave box or coffin.
- Extensive weathering or sun bleaching can indicate that the person was exposed to the surface elements after death.
- Funerary objects made from copper can leave green stains on the remains. The presence of copper helps in determining the time period of the burial.

How this assists with repatriation

- The condition of the remains helps the osteologist determine original burial treatments. Since this can vary by tribe, this helps in the assessment of cultural affiliation.
- The condition of the remains may help determine the original burial location, which also helps clarify cultural affiliation.
- Since people with different status in the community may be buried differently, understanding the burial conditions may help identify an individual.

Benefits for the community

- Provides information about burial practices that may be interesting in light of traditional history.
- Understanding the original burial practice may affect how remains are to be treated after their return.

Differences in bone shape

Comparisons of bone shape can help identify biological similarities and differences between groups of people that can assist in determining cultural affiliation. The skull is the most variable part of the skeleton and its shape can be useful in determining cultural affiliation. Specific points on the skull (cranial landmarks) are recorded using a three-dimensional digitizer. The cranium and mandible are placed on a pedestal on the digitizer tablet. Then, landmarks are recorded in three dimensions using a digital stylus. The measurements are calculated and saved to a computer. This results in a three-dimensional representation of the skull. These measurements can then be compared to those taken from other individuals.

How this process works (examples)

- People in different parts of North America have different facial features such as the shape of the cheekbones and the width of the nose.
- Marriage traditions can be detected by looking at features in males and females. If all females look similar while males differ, the community is likely matrilineal, with men marrying into the community from outside areas.

How this assists with repatriation

- Since bone shape differs between members of different populations, this examination can help establish cultural affiliation.
- Understanding the features of one group helps in distinguishing them from other populations whose members are represented in the National Museum of Natural History collections. This can help with future identification and repatriation of remains with uncertain provenience.

Benefits for the community

- The community may be interested to learn that features that they use to identify themselves have their basis in the skeleton. It may be the case that these features can also be seen in their ancestors.

Modification of the Bone

Some activities that people do during their lifetimes cause alterations to their skeletons. During the protocol, the remains are visually inspected for evidence of this type of modification. Sometimes magnifying glasses or microscopes are used for close inspection.

How this process works (examples)

- Wearing labrets, or lip ornaments, may result in polishing of the teeth.
- Putting infants in cradleboards can affect the shape of the child's skull.
- Prolonged kneeling can cause stress "scars" on the knee joint.
- Habitual strenuous physical activity produces changes in muscle attachments and joints.

How this assists with repatriation

- Modification of the skeleton can occur as a result of distinct activity. When the activity is culturally based, the observation of corresponding modification can assist with determining cultural affiliation.
- The modification may change over time, and this information can also help with determining cultural affiliation.

Benefits for the community

- The presence or absence of certain types of cultural modification may be compared with traditional histories.

Information on health and diet from skeletal remains

The remains are examined for evidence of health and diet. They are visually inspected for evidence of things like porosity (lightness) of the bone, unusual bone growth or attrition, or wear and polishing on the teeth. Magnifying glasses and microscopes may be used for closer inspection.

How this process works (examples)

- Porosity in the eye sockets and top of the cranium can indicate that the person had been severely anemic.
- Horizontal lines or grooves on the teeth indicate that the person survived periods of inadequate nutrition or significant disease.
- Bony growths at the joints and on the spine can indicate arthritis and suggest that the person worked hard. The location of the arthritis can hint at the type of activity.

How this assists with repatriation

- When linked to activity patterns, this information can assist with determining cultural affiliation.
- Dietary patterns may be linked to territorial origin and subsequently, cultural affiliation.
- Known individuals may also have specific disease or dietary habits. Recognizing these in the skeleton helps with identification.

Benefits for the community

- Information about health patterns in the past may be important to people wanting to understand those same conditions as they affect the modern communities.
- Information about health patterns also highlights the abilities of ancient people to cope with disease and trauma.

Conclusions

The National Museum of Natural History conducts examinations of human remains as part of our repatriation mission. We hope that our efforts to determine cultural affiliation and to return remains and objects to groups requesting repatriation will form the foundation of more open and collaborative relationships in the future. We will work closely with designated tribal representatives to determine cultural affiliation and to ensure that their desires concerning the disposition of the remains are met.