

## Case Study No. 1: Bioarchaeology of care

Read the information about the individual and examine the images of their skeletal remains below to complete the ‘short form’ outlining the necessity for care to the best of your ability.

### Mortuary Context:

- An individual was recovered from a Middle Period (400 – 1000 A.D.) cemetery in the Atacama Desert of Chile (Figure 1)
- The site, Solcor 3, was a cemetery for wealthy individuals who would have lived in a generally prosperous environment engaging in interregional trade networks.

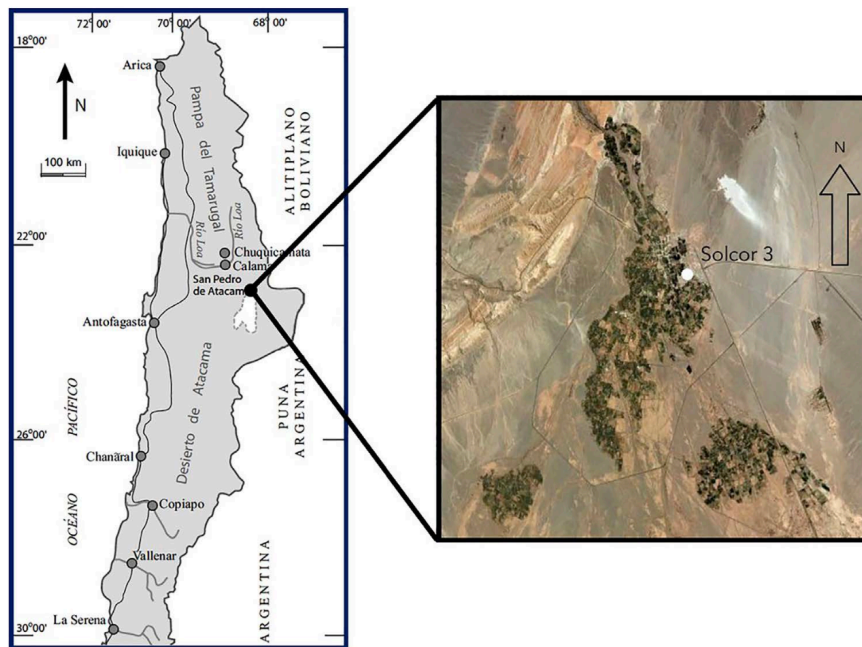
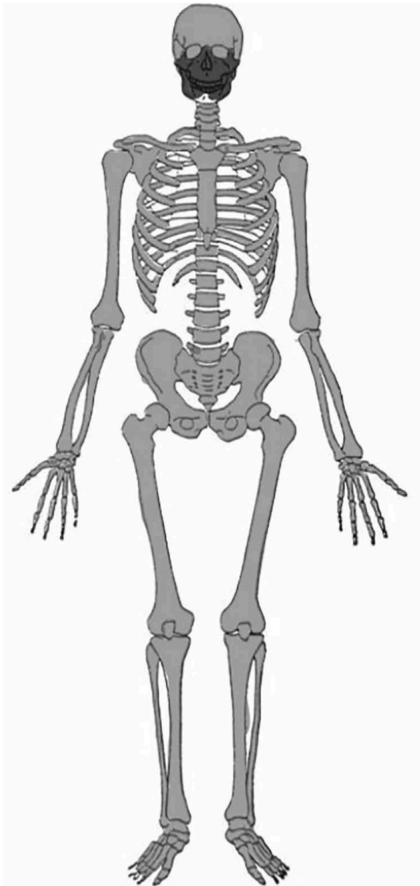


Figure 1. Map of northern Chile indicating the location of Solcor 3.

Images and scenario from Caine, Alyson, and Christina Torres. 2023. "Living with Chronic Impairment: Tracing Care Using Changes in the Skeleton." *Bioarchaeology International*, January. <https://doi.org/10.5744/bi.2022.0013>.

### Individual SCL-3-t119:

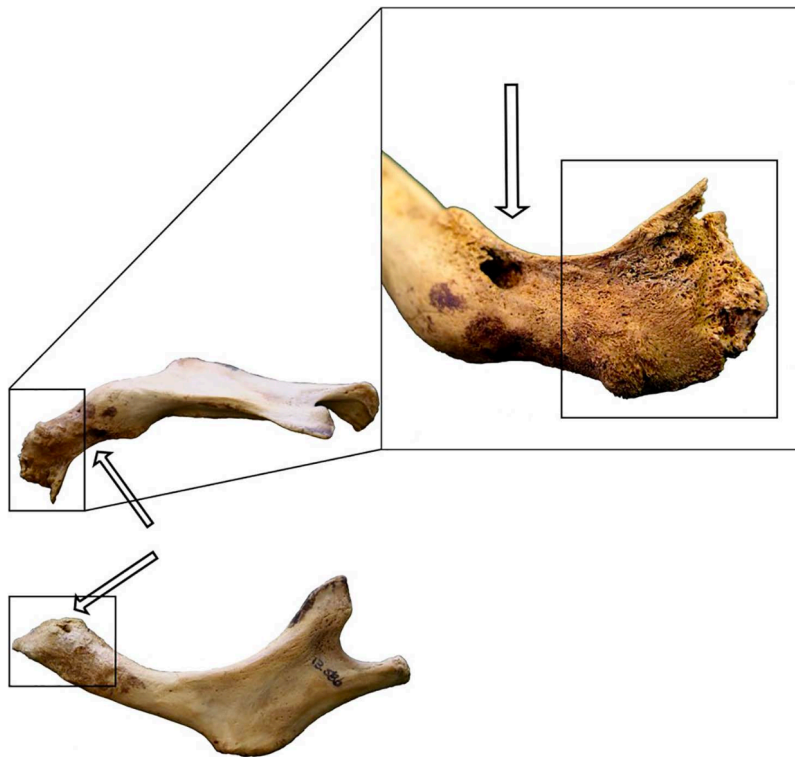
- Approximately 100% of this individual's skeleton was represented (Figure 2)
- Estimated to be a female between the ages of 30 and 40 years at the time of death
- Provided with normative burial practices of the period, including pottery but was not one of the wealthier burials in terms of mortuary goods
- Changes in the skeleton suggest this individual had some kind of disease or impairment previous to death (Figure 2 shaded area)



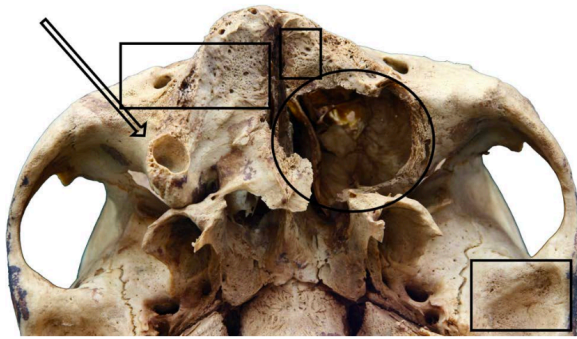
**Figure 2.** Completeness of individual Solcor-3-t119 from Solcor 3 and presence of pathological alterations. Key: light gray, presence of element; dark gray, presence of pathological alteration.

### Pathological alterations:

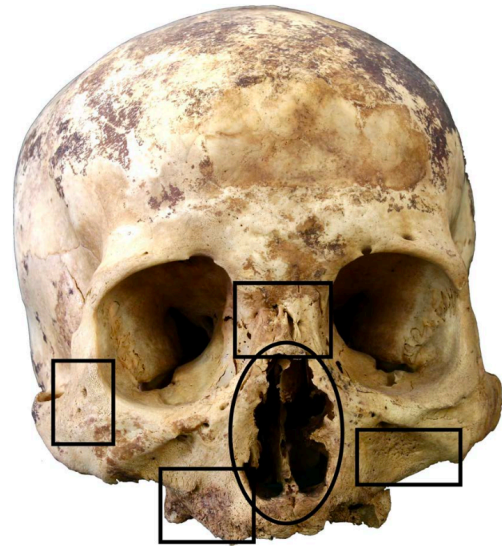
- Figures 3 – 5 show pathological changes in this individual’s skull at the mandible, maxilla, zygomatic bones, and nasal bones
- The changes suggest possible traumatic injury to the nasal bones and/or mandible and maxilla (Figure 3)
- New bone formation (Figures 3- 5) and openings (Figure 4 and 5) in a variety of bones suggest a possible infection was impacting this individual



**Figure 3.** Superior view of right (above and labial) and lateral view of left (below) halves of mandible with separation at midpoint of bone. One alveolar socket was present on the right side and mental foramen on the left side (arrows). Boxes highlight bone resorption and presence of lamellar and reactive bone where separation occurred. Reactive bone at the medial aspect of right mandible (box, labial view).



**Figure 4.** Inferior view of maxilla from Solcor-3-t119 with right third molar socket retained (arrow). Microporosity covers the maxilla and left temporomandibular joint (boxes); however, postmortem damage obscures the extent of lesions on the maxilla (circle).



**Figure 5.** Anterior view of cranium of Solcor-3-t119 where the nasal suture has been obliterated and lamellar bone has left openings, possible cloacae (box). Reactive bone is present on the zygomatic bones and maxilla (boxes), while the nasal aperture has sharp, irregular, and smooth margins (circle).

**Using the information available fill out the following form (keep in mind multiple diseases or impairments could be influencing this person):**