

CASE STUDY No. 3: Romito 2

In this activity, you will work through a case study of a single individual who exhibits changes in their skeleton resulting from experience of disease or injury during life.

You will consider the features of the individual (age, sex, and pathology). Taking into account their mortuary and lifeways contexts, you will then assess whether they likely required, and received, health-related care at some stage. Remember that ‘health-related care’ is defined along a continuum spanning ‘hands-on, intensive care’ at one end, and ‘accommodation of difference’ (i.e. adapting environment and expectations to allow participation) at the other.

Note: As in most bioarchaeological research, you may not have all the data you would like in order to be completely confident in your conclusions. Hint: focus on the likely impacts of the skeletal changes (described below) on ability to function independently, and to fully participate, in the specific community setting at that particular time in history.

Read the case study and complete the *Short-Form Index of Care* to the best of your ability. Refer to the Glossary on the final page for brief definitions of unfamiliar terms.

MORTUARY CONTEXT:

- The skeletal remains of Romito 2 were recovered from a double burial in the Romito Cave, Southern Apennine Mountains, Italy (Fig. 1). The remains date to around 9,500 BC.
- Eight individuals (5 males, including Romito 2, and 3 females) were recovered from two double and four single burials at this site.

THE INDIVIDUAL:

- Romito 2 was male; 17-20 years; stature 110-120 cms (43-48”); with approximately 75% of his skeleton represented (Fig. 2).
- Buried supine, extended, oriented N-S (positioning standard for all Romito burials), his remains lay nestled against those of an older adult female (~35-50yrs); whether there was a familial relationship is unknown. His grave contained an auroch horn.
- His extremely short stature, together with other morphological features, indicate a diagnosis of a condition known as acromesomelic dysplasia (a form of dwarfism).

LIFEWAYS CONTEXT

- Community: a small, non-sedentary, hunter-gatherer community, reliant on a meat diet. Little or no evidence of sexual dimorphism in remains, suggesting no sexual division of labor. Lower limb morphology suggests highly mobile population. No evidence of differences in social status.
- Landscape: very challenging mountainous terrain, steep descent to sea level.
- Economy: hunting ibex, boar and deer at middle and upper altitudes; production of stone tools, carved bone and pierced shell artefacts; tooth-wear indicates hide/fibre processing.
- Health: skeletal indicators of periodic nutritional stress are seen in all Romito Cave remains.

PATHOLOGY

Romito 2 was born with the acromesomelic dysplasia, a very rare skeletal disorder resulting from genetic mutation and causing abnormal bone and cartilage development. It results in greatly shortened stature, and disproportionately short forearm bones, leg bones, and hand and foot bones, and other bones (e.g. skull bones) may also be affected. As is the case with other forms of dwarfism, it is often associated with (increasingly severe) spinal problems.

- Romito 2's remains display extreme and disproportionate reduction of all long bones: in particular, note disproportionately short forearms and femora (Fig. 3). This led to much reduced stature (Fig. 4).
- Alterations are present at the cranium at the frontal and occipital bones (Fig. 5).
- Most hand and feet bones are of reduced size and/or malformed, features consistent with those seen in arm and leg bones.
- Disruption to bone growth at the articular surfaces of both elbow and wrist joints limited Romito 2's forearm (lower arm) extension to 130° (normal 180°); restricted forearm rotation; and likely compromised wrist mobility and strength (Fig. 6).
- Vertebrae C3, T9, T10 and possibly T1 and T3 show anterior wedging (i.e. compression at the front of the vertebra), likely the product of chronic stress. (There is no clear image available, but look at the mal-alignment of the spine visible in Fig.2).

YOUR TASK:

On the basis of the information above, fill out the *Short-Form Index of Care*. Keep in mind that more than one condition might be operating to affect Romito 2's experience, and that individual health conditions may interact to affect overall experience. In summary, here are the questions you will be addressing:

- Based on the skeletal evidence for pathology presented above, what kind of clinical and functional impacts do you think Romito 2 likely experienced?
- Given the lifeways context, could Romito 2 have looked after himself, or was care from others in his community likely needed to help him to manage these impacts?
- If Romito 2 needed care from others, what kind(s) of care do you think might have been required, and who might have provided this care? (**Note:** people can receive different types of care either at the *same* time (to address different impacts) or at *different* times (as their condition improves or worsens).



Figure 1: Map of Italy, showing the landscape in which the Romito Cave is located, and where the Romito community lived and hunted.

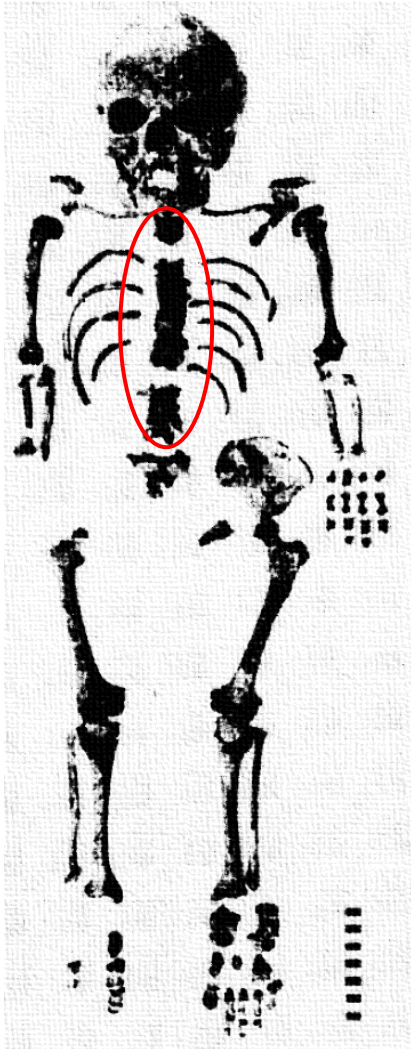


Figure 2: Recovered elements of Romito 2. Although the image is not clear, mal-alignment of vertebrae (red) is evident.

(Image from Mallegni and Fabbri 1995:124)

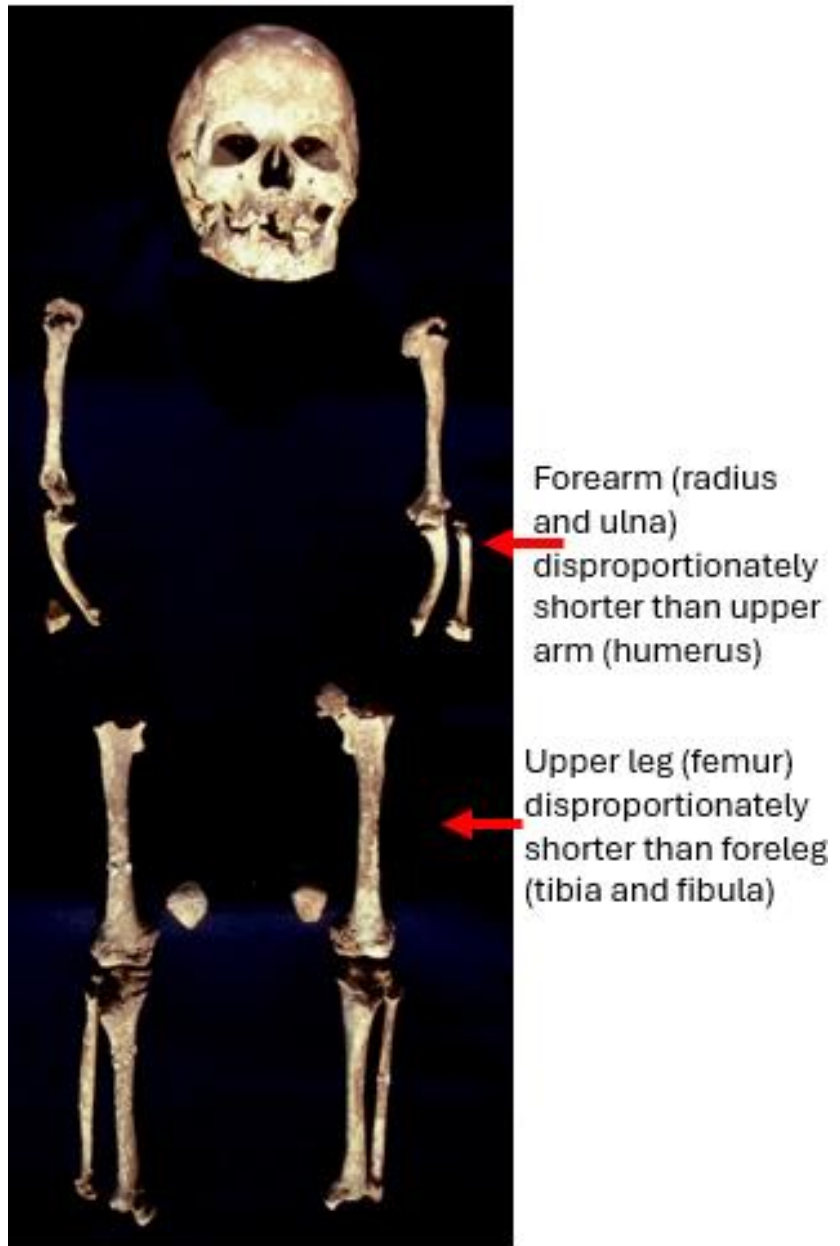


Figure 3: Romito 2 - major long bones and skull
(Image courtesy of David Frayer)

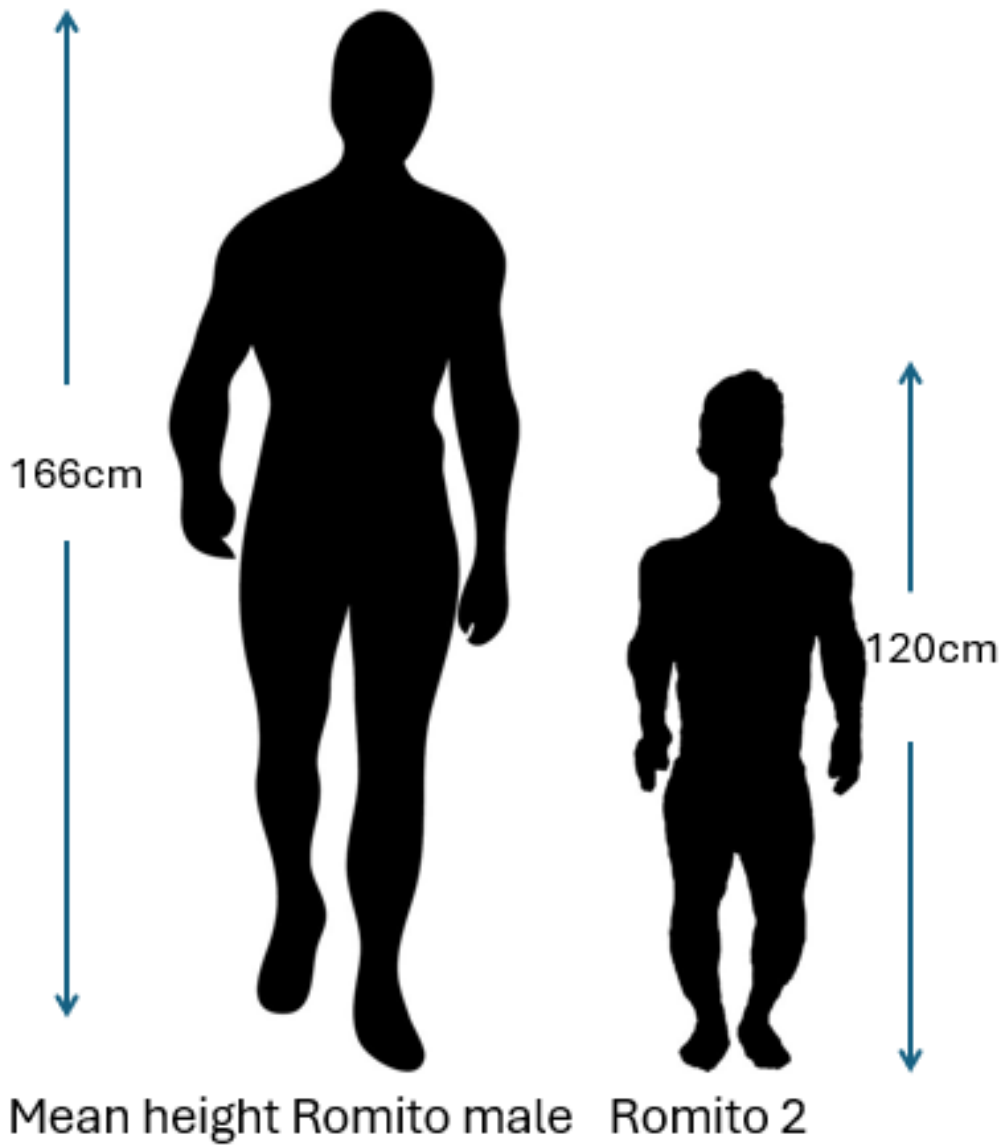


Figure 4: Comparison between Romito 2's stature and the mean stature of the Romito adult males (N=4) buried in Romito Cave..



Figure 5: Romito 2 cranium, right profile. Note **occipital 'bulge'**, **frontal bossing**, and the **'flat' midface**.

Image courtesy of David Frayer.



Figure 6: Left – left humerus and ulna, medial view, showing maximum forearm extension (130°). Above – Romito 2 fully extended left humerus and ulna (on left) compared to that of fully extended humerus and ulna.

Image courtesy of David Frayer.

GLOSSARY: Case Study No. 3 – Romito 2*

* For more detailed definitions refer to your text books or a dictionary.

- **Articular surface:** the smooth surface of a bone that is in contact with another bone to create a joint (e.g. elbow or knee joint).
- **Auroch:** a large, extinct, cattle species.
- **Cartilage:** the flexible connective tissue seen throughout the body (e.g. in the joints, the nose, the spine); it serves a range of structural and protective functions.
- **Extension:** ‘muscle extension’ – increasing the angle between two bones (e.g. straightening an arm at the elbow).
- **Morphology:** ‘skeletal morphology’ - the size, shape and structure of the skeleton, and the relationship between skeletal elements.
- **Non-sedentary:** not living permanently in one place, a lifestyle ‘on the move’.
- **Sexual dimorphism:** when sexes of the same species display different morphological features (see ‘morphology’ above).
- **Supine:** in the case of intentional burial, the individual is placed lying flat on their back, face and torso facing upwards