

## **Palaeopathology: from excavation to creation**

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Palaeopathology is the study of disease in human remains, in the UK this means that it deals almost exclusively with skeletal remains. Certain conditions can be noted when the skeleton is in the ground, including occasionally, the cause of death and more often, signs of trauma. Detailed examination of the skeleton involves gross inspection with occasional assistance from ancillary techniques such as radiography. Joint disease is by far the most common disease noted and of this, osteoarthritis accounts for by far the greater part; cases of rheumatoid arthritis are occasionally found, some predating the first clinical description of the disease in 1800. Cases of accidental trauma are not common and when they do occur, rib fractures are the most common. In general, fractures of other bones are usually well healed, in relatively good alignment and with few signs of supervening infection, indicating that the individual received some form of treatment during their lifetime. Cases of metabolic disease occur, including Paget's disease which – like rheumatoid arthritis – is present in the population long before Paget's original description of osteitis deformans.

Infectious disease is represented in the main by cases of osteomyelitis and tuberculosis, the latter usually affecting the spine. In some cases bacterial DNA has been extracted from putative cases of TB and the majority have proven to be the human, rather than the bovine form. Rarely brucellosis has been confirmed by DNA testing. Given how common syphilis was during the 19th century – 1 in 5 adults in London was said to have the disease – cases are rare but always excite a great deal of interest, especially with students. Recently some bones from cases of congenital syphilis have come to light. These were brought from France by Jules Perrot when he gave a lecture to the Pathological Society of London in 1879. They all show gross changes, including intra-uterine fractures. The specimens are too delicate to handle and so we have printed 3D models at twice life size which faithfully reflect the pathology, can be handled and even dropped without harm and provide excellent teaching and museum specimens.