ALL THE LOVELY SKELETONS!

June 29, 2012 Rachel Ives Commercial Archaeology, Day of Archaeology, Day of Archaeology 2012, Osteology, Post Medieval abscess, Bone, Calcium, Caries, cranial inflammation, dental abscess, Dental caries, disease, Environmental Issue, Hypovitaminosis D, infection, Malnutrition, non-specific infection, Pediatrics, rickets, secondary bacterial infection, Teeth, Tooth, vitamin D, vitamin D deficiency rickets

Just finished recording a juvenile skeleton with lovely skeletal preservation, which meant a range of pathological changes were clear. The most obvious change was destruction of the bone at the base of the tooth root for the second deciduous molar in the mandible, with the bone destruction surrounded by a layer of porous new bone formation. The tooth crown had been destroyed by caries (cavity) and it seems likely that a secondary bacterial infection had developed into an abscess, which had drained into the surrounding gums. This is quite a severe change considering the pattern of tooth eruption suggests the child was only aged about 4-5 years when they died.

This particular child had also suffered from previous episodes of disease; their leg bones, particularly the femora (thigh bones), showed marked bending most likely indicating a vitamin D deficiency rickets. We need to form vitamin D either in our skin following exposure to the sun or from our diet, oily fish and eggs containing natural sources of vitamin D. A poor calcium intake in the diet may also be an important factor influencing the onset. It's likely that a range of factors such as poor living and working conditions, limited diets and increased air pollution during the post-medieval period contributed to cases of rickets. There were also plaques of bone formation over the inside of the cranial bones, with prominent outgrowths forming in the occipital bone at the base of the skull. The deposits were thickened and formed of a long-standing remodelled bone layer, which suggests they had survived with the cranial inflammation or non-specific infection for quite some period.

Bone destruction at the base of the tooth roots and porous new bone formation caused by infection from a dental abscess in a child's mandible. Copyright AOC Archaeology