

AN ANALYSIS OF FACTORS AFFECTING THE DEVELOPMENT OF AN EQUID CRANIAL ENTHESOPATHY

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Summary. This article presents methodology for use in analysing archaeological horse remains. The aim of the methodology is to improve understanding of the use of horses in the past. One of the problems in the interpretation of horse use from archaeological bone assemblages is that there is only limited understanding of some of the observable changes to equid skeletons, in terms of the factors that cause these manifestations such as age, sex, genes, and work. This article explores the variation in size and shape of an enthesopathy located on the back of equid skulls and considers factors effecting its development. To this end it analyses this phenomenon in collections of equids with known life histories.

This article proposes a new method for analysing the variation in size and shape of an enthesopathy located on the back of horse skulls. The method uses a scoring system for the musculoskeletal stress marker (MSM) located at the attachment site of the nuchal ligament located on the external occipital protuberance. The principle behind the method is that differences in osteon remodelling at the ligament attachment site will be affected by differences in muscle activity, and therefore possibly reflect the uses of the animal. Analysis of MSM expression in skeletal collections of equids with known life histories suggests that it is to a large degree age-related, and may also be more developed in highly trained racehorses.

Key words: horse use; enthesopathy; equid skulls, work-related changes, age-related changes.