

Prehistoric Dentistry

By Dr. Eric Gustavsen, Published in the Walla Walla Union Bulletin 10/19/12

Teeth found as part of the discovery of ancient human remains often lead to clues as to how the person lived and died. Observations can be made regarding what they ate, their age, their gender and their involvement in conflict. Italian researchers Federico Bernardini and Claudio Tuniz of the Abdus Salam International Centre for Theoretical Physics in Italy discovered something interesting while examining x-rays of the 6400-year-old Lonche jaw from a Karstic cave of southern Slovenia. On the top, or biting surface, of the lower left canine (eye) tooth, x-rays revealed a hollow looking spot that on closer inspection turned out to be a dental filling made from beeswax. Beeswax becomes pliable at about 100 degrees and melts at around 145 degrees making it suitable material to place in the top of a sensitive tooth. "This finding is perhaps the most ancient evidence of pre-historic dentistry in Europe and the earliest known direct example of therapeutic-palliative dental filling so far", says Bernardini. The Italian researchers are unsure if this treatment was done before or after the individual died. (Top right view with top tooth showing orange/brown coloring on biting surface)

Looking at this photograph from a dentists' point of view may add a few more interesting pieces to the puzzle.

The x-rays the Italian researchers took reveal a vertical (top to bottom) crack starting in the tooth. These cracks often start from some kind of trauma or attempting to bite something that's too hard. In today's cavemen a common culprit is trying to remove a beer bottle cap with the teeth. In the case of an individual from this era it would typically be a result of biting on something unforgiving like a bone, trauma from warfare or from using the teeth as a third hand to grasp things. Think softening of animal hides or weaving. Dentists know these cracks can be very sensitive to temperature changes and biting. My best guess is that this tooth was filled before the individual died in an attempt to eliminate sensitivity and allow them to use the tooth again.

Another interesting observation is that this caveman's teeth didn't line up properly. The considerable wear on only the outer surface of the lower molars indicates an upper jaw that has teeth set too wide to match the lower teeth properly. It's very possible that this person's lower jaw was offset

to the right to compensate. Dentists call this a cross-bite. Orthodontists call it lunch.

Speaking of eating, in most prehistoric remains there is usually a lot of wear on the biting surface of the teeth because of a diet that contains sand or coarse particles mixed in with the food. A common cause was grain milled with a stone mortar and pestle. This person is thought to be between 25 and 30 years old. The wear on his teeth however looks more like someone over 50 with today's wear patterns.

Another observation is that this person has stress notches dentists call abfractions at the gum-line on all these teeth (top left view slightly above jaw bone level). In years past when a dentist saw a patient with these grooves they would tell them not to brush so hard. We can safely assume that the dentist that filled this caveperson's tooth didn't give that advice. No toothbrush, no problem. But now we know that in most cases these notches develop in people who put a lot of vertical pressure on their teeth at night through clenching or grinding. These areas can be extremely temperature sensitive but are typically very easy to make comfortable again.



The last observation is from the view of the inside of the jaw (bottom left view), which shows the last molar with a band of hard mineral deposit called tarter. Thus, one can safely infer that though proto dentists may have started filling sensitive teeth, hygienists were already having trouble getting people back for their cleaning.