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| **Name:** |
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| **Group:** |
| 10B-4 |
| **Basic Science Question:** |
| What is the alveolar ridge and how does it change after extractions? |
| **Report:** |
| The alveolar ridge is a bony ridge comprised of compact bone extending from both the maxilla and the mandible. The alveolar ridge contains the tooth sockets and is critically important to the stability of the teeth.  The alveolar ridge is known to undergo bone resorption upon the extraction of natural teeth. This is due to lack of daily physical stress and load bearing which is important in maintaining healthy bone structure. Physical strain stimulates osteoblasts to build and maintain normal bone structure. Upon tooth extraction, the daily loading due to occlusal and masticatory forces is lost and osteoclast activity predominates. Osteoclasts demineralize the alveolar ridge structure and release the calcium, phosphate, and magnesium products into the blood.This can result in bone resorption of up to 30-60% of original alveolar ridge structure. |
| **References:** |
| Qin YX, Rubin CT, McLeod KJ. Nonlinear dependence of loading intensity and cycle number in the maintenance of bone mass and morphology. J Orthop Res. 1998 Jul;16(4):482-9. doi: 10.1002/jor.1100160414. PMID: 9747791.  Hansson S, Halldin A. Alveolar ridge resorption after tooth extraction: A consequence of a fundamental principle of bone physiology. J Dent Biomech. 2012;3:1758736012456543. doi: 10.1177/1758736012456543. Epub 2012 Aug 16. PMID: 22924065; PMCID: PMC3425398.  International Congress of Oral Implantologists. (2019, March 9). What is Alveolar Ridge. Retrieved October 13, 2020, from https://www.icoi.org/glossary/alveolar-ridge/ |