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| **Name:** |
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| 2B-4 |
| **Pathology Question:** |
| What pathologies are involved in tooth buds?  |
| **Report:** |
| In embryologic tooth development, there is a specific sequence for tissue formation. Tooth development begins with intitiation and proliferation or the “bud and cap phase”. Morphogenesis and differentiation (bell stage) follow shortly and help determine size, shape and cell specificity of the developing tooth. The tooth then undergoes expansion and calcification of mineralized tissue. Initiation or the “bud stage” occurs 6-9 weeks in utero. In both the developing maxilla and mandible, there are 10 sites along the dental lamina where the basal layer cells of the epithelium being to expand into the mesenchyme forming the “epithelial tooth bud”. During this initiation stage, pathologies such as hypodontia and supernumery teeth can occur. Hypodontia/anodontia is a dental anomaly where there are missing developing tooth buds resulting in fewerer/no teeth. The occurance rate in developing primary teeth is 0.2-0.7% while in developing permanent teeth, the rate is much higher at 2-9%. The most common sites where hypodontia occurs at are the 3rd molars, upper lateral incisors, the second premolars, and the lower central incisors. There is an association with both ectodermal dysplasia and orofacial clefts with hypodontia/anodontia.  |
| **References:** |
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