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**Pathology Question:**

What is passive eruption?


**Report:**

Eruption, in the typical sense, is the movement of teeth from the point where it emerges from the gingiva until it reaches the occlusal plane. Passive Eruption is a biological process where tooth eruption occurs normally and during normal tooth eruption, the dentogingival junction shifts apically. This occurs after active tooth eruption and may continue until early or mid twenties of adulthood. During this time the free gingival margin approximates the cemento-enamel junction. According to Gottlieb and Orban, passive eruption may be classified into four stages according to the figure shown on the slide. Stage I is where the DEJ is located on enamel, stage II is where the DEJ is located on enamel and cementum, stage III is where the DEJ is located entirely on cementum, extending coronally to the CEJ, and stage IV is where the DEJ is located entirely on cementum and the root surface is exposed, resulting in gingival recession. There currently exists some debate as to when passive eruption become pathologic, but it has been generally accepted that cementum exposure or gingival recession, as demonstrated by stage IV, is a pathological process.



## WHAT IS PASSIVE ERUPTION?

- Eruption, in the typical sense, is the movement of tooth from the moment it emerges from the gingiva until it reaches the occlusal plane
- Active eruption is the movement of teeth is movement of teeth towards the occlusal plane
  - Passive eruption is the shifting of the dentogingival junction in an apical direction
- Passive eruption classification into 4 categories according to the DEJ location
- Pathologic?
- Ex. recession of the gums



**Figure 1: Passive Eruption stages (Gottlieb and Orban)**

**Stage I** – dentogingival junction is located on enamel.

**Stage II** – dentogingival junction is located on enamel, as well as cementum.

**Stage III** – dentogingival junction is located entirely on cementum, extending coronally to the CEJ.

**Stage IV** – dentogingival junction is located entirely on cementum and the root surface is exposed, resulting in gingival recession.

Pulliam, Robert P, and Daniel Melker. "Altered Passive Eruption: Diagnosis and Treatment." *Chairside Magazine*, vol. 4, no. 2, 28 Apr. 2009, pp. 20–30.

Weinmann, Joseph P. "Bone Changes Related to Eruption of the Teeth." *The Angle Orthodontist*, vol. 11, no. 2, Apr. 1941, pp. 83–99., doi:10.1043/0003-3219.

**References:**

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