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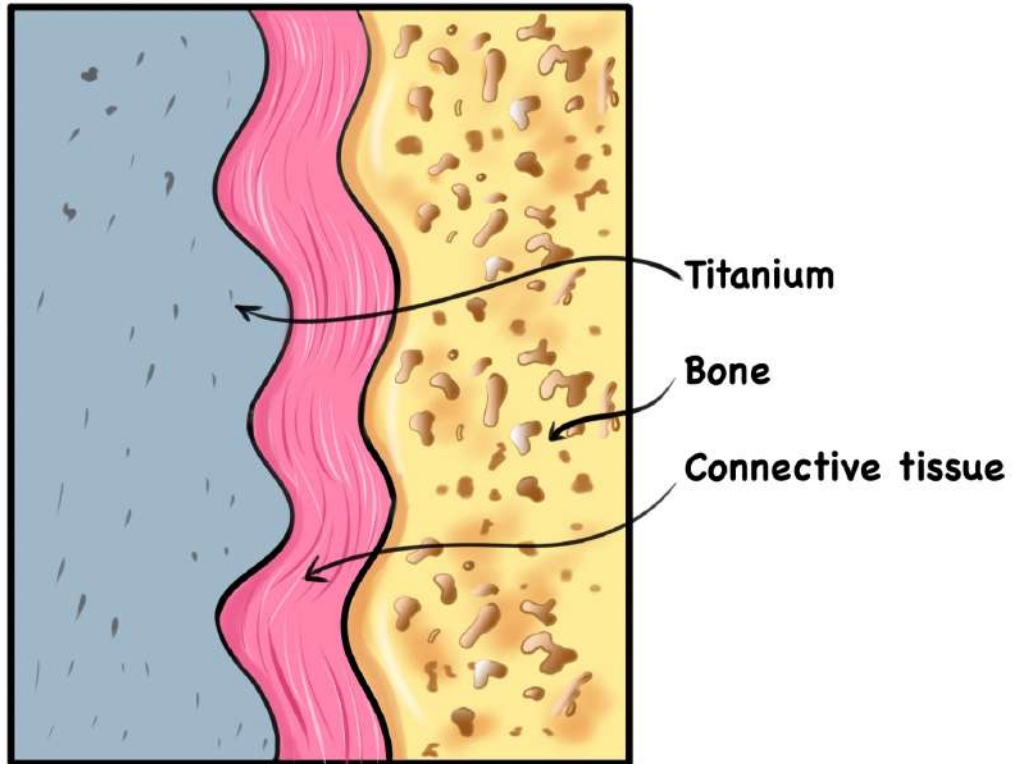
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Bone and implant integration:

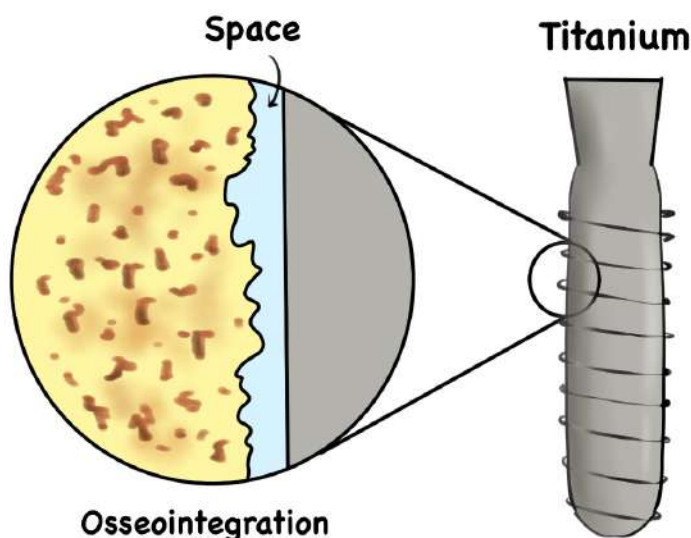
1. **fibro-osseous integration:**

Connective tissue fibres at bone implant interface, old concept, causes implant failure in long run.



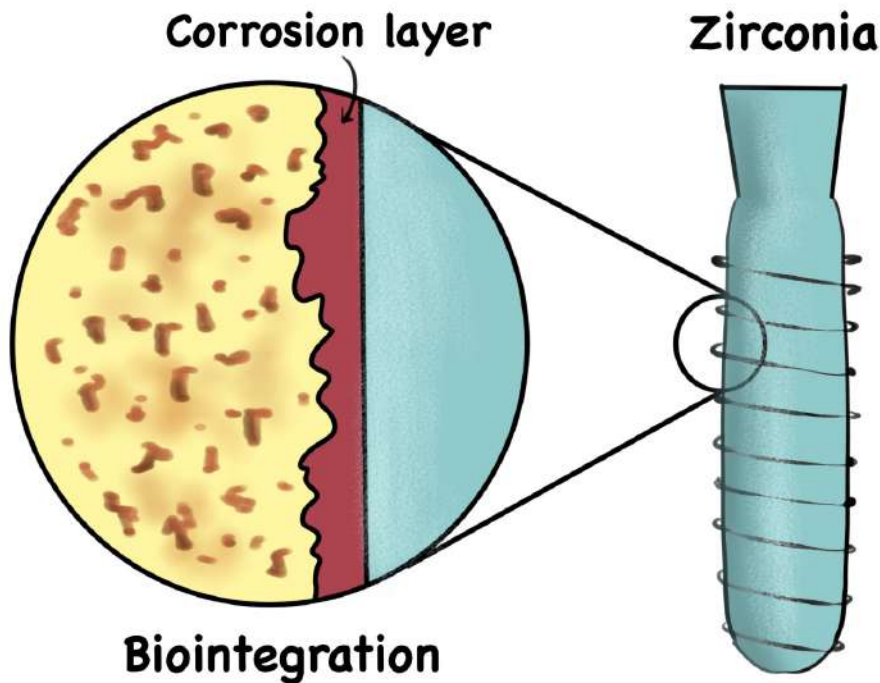
2. **Osseointegration:**

Introduced by Per Ingvar **Branemark** at university of **Lund** in Sweden. it is a direct structural and functional connection between ordered living bone and the surface of a load carrying implant.



3. Biointegration

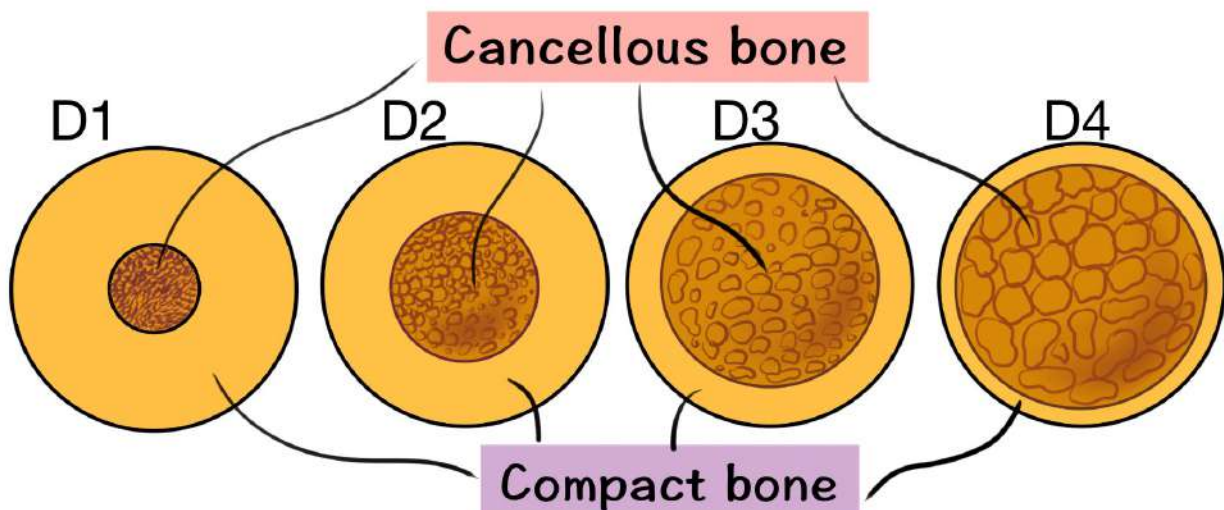
- Implant and bone are fused to one another & are continuous
- Occurs with Ceramic & Ceramic coated metal implants
- E.g : Calcium & Tricalcium phosphate, Hydroxyapatite, Bioglass



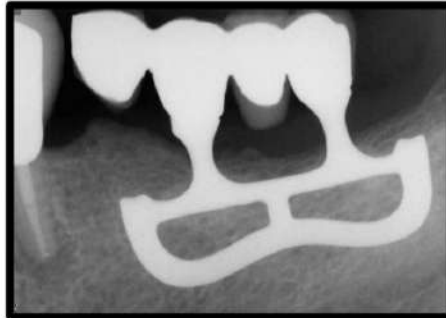
Factors affecting osseointegration:

(Its like placing a pole inside a wet cement. Remember this example, we are going to use it to explain osseointegration)

- Anatomical factor:
- Patient's health and immune system
- Bone quality; viz: D1,D2,D3,D4



- **1960's:** Double-helical spiral implant made of Co-Cr developed by **R. Chercheve** in France
- **1965:** First patient treated with Ti implant by **P.I. Braenmark** for full mouth rehabilitation
- **1968:** **Blade implant** developed by **L. Linkow** to treat partial and total edentulism



- **1983:** Cad-cam solutions for prosthodontic restorations
- **1998:** **All-on-four treatment** concept uses a reduced number of implants for full arch treatment with high success rate



- **2005:** **Nobel Guide/ Nobel Clinician** introduced as first comprehensive concept for 3D treatment planning and guided surgery



- **Immediate function:** as a treatment concept received by the U.S. Food & drug administration (FDA)

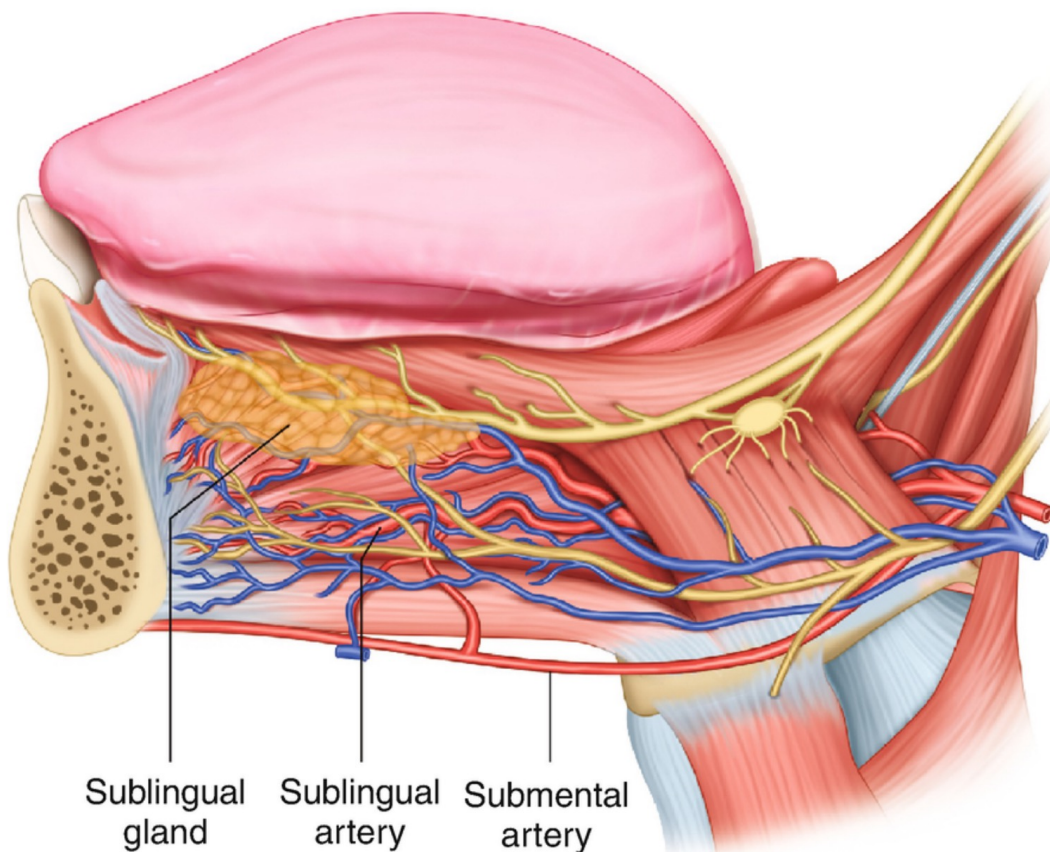
1

In cases of severe bleeding and lingual hematoma during the placement of the implant in the lower incisor region, which artery do you think is injured:



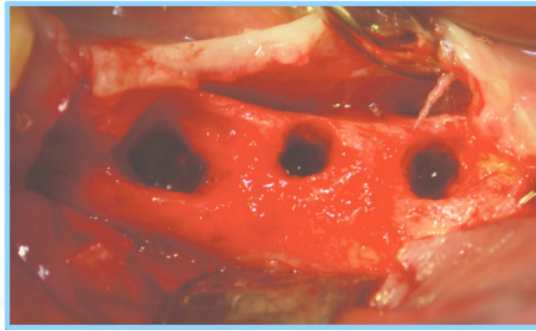
- A Submental
- B Sublingual
- C Inferior labial
- D Transverse facial

Answer B. Sublingual



Q & A

Burnt bone syndrome refers to:

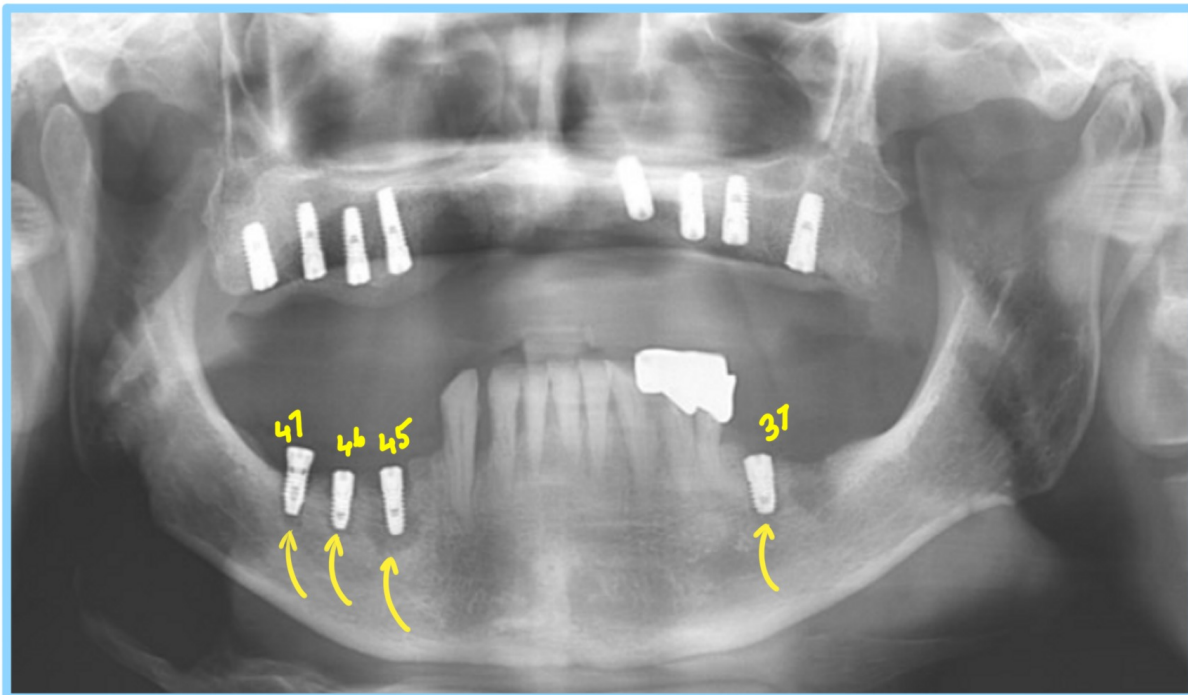


- A** Bone resorption has occurred because of damage to the bone at implant placement. This is caused by failure to cool the bone during the drilling operation.
- B** Bone resorption has occurred because of damage to the bone at implant placement. This is caused by over torque of the implant and pressure necrosis
- C** Bone resorption has occurred because of damage to the bone at implant placement. This is caused by shredding of the bone during implant placement
- D** Progressive crestal bone resorption after implant placement. This is caused by failure to cool the bone during the drilling operation

Answer

A: Bone resorption has occurred because of damage to the bone at implant placement. This is caused by failure to cool the bone during the drilling operation

Explanation



The radiolucency around the middle portion of the #37, 45, 46, and #47 implants was noted, and was particularly remarkable at #37 and #45.

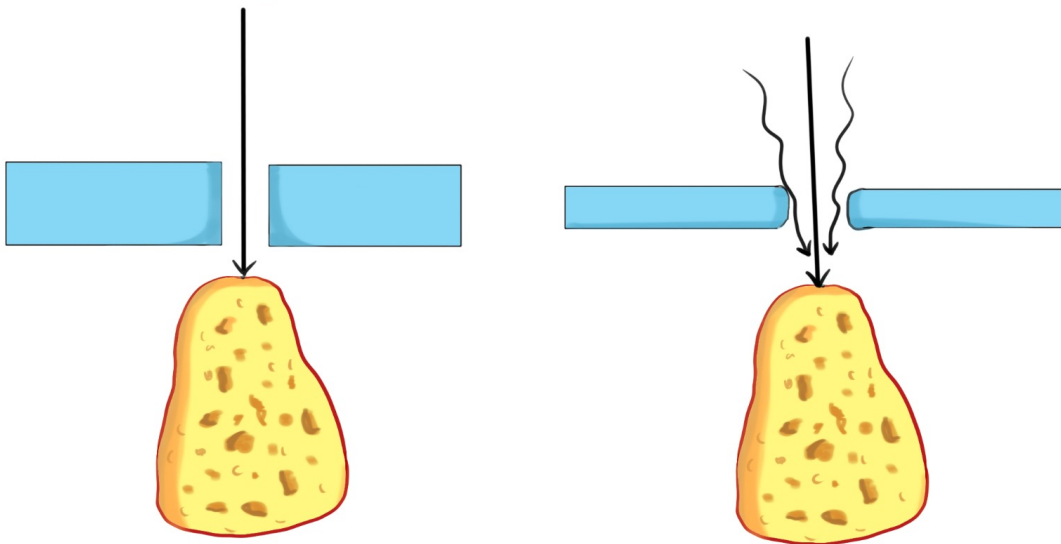
Q & A

To reduce the angle of deviation during an osteotomy, the surgical stent should have:

- A Narrow guide channel
- B Long guide channel
- C Wide guide channel
- D Labial open guide channel

Answer B: Long guide channel

Explanation



Narrow guide channel can have various point of entry hence various angulations. Whereas long guide channel can have only one point of entry, can maintain angulations well