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## QUIZ 14

### QUIZ ON PROSTHODONTICS

#### BONE DENSITY: A KEY DETERMINANT IN DENTAL IMPLANT TREATMENT PLANNING

- In the context of classification by Misch, which scenario is most likely to lead to an underestimation of bone density when using standard radiographs, and why?  
A) Type I bone in the anterior maxilla due to poor radiograph quality  
B) Type III bone in the posterior mandible, due to overlapping structures  
C) Type IV bone in the posterior maxilla, which may appear as Type III on panoramic images  
D) Type II bone in the anterior mandible, which can be mistaken for Type I on CT scans
- According to Misch, which characteristic of bone quality is most critical when planning for implant placement in Type III bone (moderate bone quality)?  
A) Bone volume  
B) Bone mineral density  
C) Trabecular bone structure  
D) Cortical bone thickness
- What is the primary reason that Type IV bone in the posterior maxilla typically requires a sinus augmentation procedure prior to implant placement, as per Misch's guidelines?  
A) Low trabecular bone content that resists implant integration  
B) Insufficient bone volume for proper implant anchorage  
C) Less cortical bone that complicates implant drilling  
D) Increased risk of implant failure due to low mineral density
- Misch suggests that implants in patients with significant bone resorption in the posterior maxilla can benefit from simultaneous sinus lifting and implant placement. Which factor most strongly influences the success of this combined procedure?  
A) Implant length and diameter  
B) The timing of the sinus lift relative to implant placement  
C) The use of autogenous grafts vs. allografts  
D) The overall health of the patient
- In cases of severe vertical bone loss in the anterior maxilla, Misch recommends using a bone grafting technique that provides both horizontal and vertical augmentation. Which technique is most commonly used in this scenario?  
A) Onlay grafting  
B) Block bone grafting  
C) Ridge splitting  
D) Sinus augmentation
- What is the impact of placing dental implants with an over-sized diameter in poor bone quality (Type IV bone) as per Misch's recommendations?  
A) It increases initial implant stability and osseointegration  
B) It decreases the surface area available for bone-to-implant contact, leading to implant failure  
C) It causes an increased risk of implant fracture due to overloading  
D) It leads to better long-term stability by promoting bone remodelling
- According to Misch, in patients with severe bone density reduction (such as those with Type IV bone), what implant material is typically recommended for improving long-term stability and success?  
A) Pure titanium implants  
B) Zirconia implants  
C) Titanium with a roughened or hydroxyapatite-coated surface  
D) Titanium alloy with a smooth surface
- Misch outlines several complications related to bone grafting procedures in the context of implant placement. Which of the following is the most likely complication when performing a sinus lift combined with immediate implant placement?  
A) Nerve injury due to excessive graft material  
B) Graft resorption leading to implant failure  
C) Sinus membrane perforation during implant insertion  
D) Insufficient bone volume in the maxillary arch
- Which of the following imaging techniques is most commonly used for assessing bone mineral density in clinical practice?  
A) Magnetic resonance imaging (MRI)  
B) Dual-energy X-ray absorptiometry (DXA)  
C) Positron emission tomography (PET)  
D) Computed tomography (CT)
- Which of the following medications increases the risk of osteoporosis by decreasing bone mineral density?  
A) Bisphosphonates  
B) Selective serotonin reuptake inhibitors (SSRIs)  
C) Statins  
D) Nonsteroidal anti-inflammatory drugs (NSAIDs)

1.c, 2.c, 3.b, 4.b, 5.b, 6.c, 7.c, 8.c, 9.b, 10.b  
ANSWERS