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Guidelines for implant overdenture treatment with standard or narrow diameter implants: A clinical rationale

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EDUCATIONAL OBJECTIVES

The overall goal of this course is to provide the reader with an overview of implant overdenture treatment options, along with a better understanding of how to choose between using standard or narrow diameter implants.

Upon completion of the course, participants should be able to:

1. Summarize the traditional number and location of implants supporting removable mandibular and maxillary prostheses.
2. Understand the advantages and drawbacks of using both standard and narrow diameter implants for overdenture therapy.
3. Discuss the prosthetic options available with both.
4. Make use of a decision tree for the optimal abutment choice when planning overdenture therapy.

ABSTRACT

Debate exists over whether standard or narrow diameter dental implants should be used for implant overdenture therapy. This article reviews the characteristics of each, principles relating to the use of standard or narrow diameter implants, and indications for each type. Additionally, a decision tree to aid with choosing between standard or narrow diameter implants is presented.

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CE Quiz N°2

1. **Implants supporting mandibular removable prostheses typically are placed in the interforaminal region because:**
 - a. Alveolar bone resorption in the posterior is often substantial
 - b. The presence of the inferior alveolar nerve commonly limits implant placement options
 - c. The anterior mandible contains few critical nerves and blood vessels
 - d. All of the above
2. **Maxillary implant-retained overdentures:**
 - a. Usually are supported by two or three implants
 - b. Are best supported by angled implants
 - c. Are best supported by implants positioned evenly throughout the arch
 - d. Are best supported by implants placed as anteriorly as possible
3. **If a patient lacks sufficient bone to accommodate implants with a diameter greater than 3mm:**
 - a. Narrow diameter implants may be an alternative
 - b. A tissue-supported prosthesis is likely to be the best option
 - c. The ridge may only be augmented using a ridge-splitting technique
 - d. Use of a 3.25mm diameter implant may still be successful
4. **Narrow diameter implants:**
 - a. Typically have a more conservative thread design
 - b. Have less overall surface area
 - c. Accept many types of abutments and platforms
 - d. Can be used to support single- and multiple-implant fixed restorations
5. **Older patients considering narrow diameter implants:**
 - a. Should be discouraged from choosing this option
 - b. Should understand that narrow diameter implants will only support a removable prosthesis
 - c. May have to undergo bone-grafting procedures before having them placed
 - d. Should consider their cost, relative to standard diameter implants
6. **To ensure proper blood supply and minimal alveolar remodeling:**
 - a. Two-stage implant placement is always preferable
 - b. Implants should generally be surrounded by at least .5mm of bone
 - c. Implants should generally be surrounded by at least 1.0-1.5mm of bone
 - d. Implants should generally be surrounded by at least 3mm of bone
7. **On average, crestal bone:**
 - a. Tends to be wider in the molar region of both arches
 - b. Tends to be wider only in the maxillary molar region
 - c. Resorbs more slowly than the bone below the crest
 - d. Is usually unaffected by periodontal disease
8. **For treatment-planning purposes, a 3.4mm standard diameter implant requires a minimum buccal-lingual width of:**
 - a. 6.4mm
 - b. 5.4mm
 - c. 3.8mm
 - d. 2.4mm
9. **Measurement of the tissue depth to determine the attachment height:**
 - a. Is not always essential
 - b. Is only important if standard diameter implants are being placed
 - c. Should always be done after the implants have been placed
 - d. Should be completed prior to implant placement if the implants are less than 3mm in diameter
10. **If the primary stability of narrow diameter implants is insufficient:**
 - a. They should be removed
 - b. There is no cause for concern because narrow diameter implants do not require primary stability
 - c. They should be allowed to heal submerged for 4-6 months
 - d. A soft liner can be applied to the inside of the denture to minimize the chances of premature occlusal loading

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