Factors Affecting Implant Loss

Charles J. Goodacre, DDS, MSD
Continuing Education Units: 1 hour


Disclaimer: Participants must always be aware of the hazards of using limited knowledge in integrating new techniques or procedures into their practice. Only sound evidence-based dentistry should be used in patient therapy.

Implants are highly successful but certain oral and systemic conditions increase the risk of failure. This presentation will review these risks and suggest appropriate management when such conditions are present.

Conflict of Interest Disclosure Statement
• Dr. Goodacre reports no conflicts of interest associated with this work.

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Overview

To optimize success and minimize complications with dental implants, it is imperative to know the factors that can cause implant loss. This presentation will identify the oral and systemic factors that have been identified in the dental literature and describe methods of minimizing or preventing their occurrence.

Learning Objectives

Upon completion of this course, the dental professional should be able to:

• Know the implant loss rates associated with each type of implant prosthesis.
• Determine the time when implant loss is most likely to occur.
• Discuss the impact of implant length and bone quality.
• Identify the factors that cause increased implant loss.
• Describe the affect that certain systemic factors have upon implant loss.

Course Contents

• Introduction
• Implant Loss Rates
  ◦ Loss Rates by Type of Prosthesis and the Arch
  ◦ Time When Loss Occurs
  ◦ Effect of Implant Length
  ◦ Effect of Bone Quality
  ◦ Effectiveness of Periodontal Evaluation Methods Around Implants
• Systemic Conditions
  ◦ Effect of Smoking
  ◦ Effect of Radiation Treatment
  ◦ Effect of Diabetes
  ◦ Other Systemic Conditions
• The Current Status of Bisphosphonate Use
  ◦ Individuals Who Have an Increased Risk of Bone Osteonecrosis
  ◦ Considerations for “At Risk” Individuals
  ◦ ONJ Data Related to Implants
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• Recommendations for Patients About to Begin Therapy
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Course Test Preview
To receive Continuing Education credit for this course, you must complete the online test. Please go to: www.dentalcare.com/en-US/dental-education/continuing-education/ce440/ce440-test.aspx

1. Which of the following prostheses has the highest implant loss rate?
   a. Maxillary implant fixed partial dentures.
   b. Maxillary implant fixed complete dentures.
   c. Maxillary implant overdentures.
   d. Mandibular implant fixed partial dentures.

2. What is the most frequently reported complication with fixed partial dentures that attach to both teeth and implants?
   a. Tooth mobility
   b. Tooth intrusion
   c. Abutment tooth loss
   d. Retainer loosening

3. When designing fixed partial dentures that attach to both implants and natural teeth, which of the following recommendations have been made?
   a. Design only short-span prostheses.
   b. Use rigid connectors.
   c. Abutment teeth should have normal bone support, be upright, and not root canal treated.
   d. All of the above.

4. Which of the following implant prostheses has the lowest implant loss rate?
   a. Implant overdentures.
   b. Implant fixed complete dentures.
   c. Implant fixed partial dentures.
   d. Implant single crowns.

5. When implants are lost after prosthesis placement (post-prosthetic implant loss), what is the most common time period during which the loss occurs?
   a. During the first year after prosthesis placement.
   b. During the second year after prosthesis placement.
   c. During the third year after prosthesis placement.
   d. During the fourth year after prosthesis placement.

6. Which type of bone has the highest implant failure rate?
   a. Type I
   b. Type II
   c. Type III
   d. Type IV

7. Which of the following statements are true regarding the impact of smoking upon implant loss?
   a. Smokers have a higher implant loss rate.
   b. Once the implant is integrated, the survival is the same.
   c. Modified implant surfaces produce similar survival in smokers versus nonsmokers.
   d. All of the above.
8. Which of the following are true statements regarding the effect of therapeutic doses of radiation upon implant survival?
   a. Implants are more likely to be lost in a radiated mandible than an irradiated maxilla.
   b. Implants are more likely to fail in the anterior area of the mouth than in the posterior area.
   c. Implants less than 13 millimeters in length are more likely to fail than longer implants.
   d. Implant survival in irradiated patients is the same at 5 years as it is at 10 years following radiation treatment.

9. Well controlled diabetics have equivalent implant survival as non-diabetic patients.
   a. True
   b. False

10. Bisphonate (BIS) associated osteonecrosis of the jaw is most commonly associated with tooth extraction.
    a. True
    b. False
References

About the Author

Charles J. Goodacre, DDS, MSD
Dr. Goodacre received his DDS degree from Loma Linda University School of Dentistry in 1971. He completed a three-year combined program in Prosthodontics and Dental Materials at Indiana University School of Dentistry and in 1974, earned his MSD degree. He began full-time teaching at Indiana University School of Dentistry in 1974 and has three times received awards from senior dental classes as the outstanding clinical instructor or outstanding lecturer. He served as Chairman of the Department of Prosthodontics at Indiana University, and currently is Dean of the Loma Linda University School of Dentistry.

Dr. Goodacre is a diplomate of the American Board of Prosthodontics, past-president of the American Board of Prosthodontics, a fellow of the Academy of Prosthodontists, fellow of the American College of Prosthodontists, and holds membership in the American Academy of Fixed Prosthodontics.

He has co-authored the 4th edition of Johnston’s Modern Practice in Fixed Prosthodontics, has written textbook chapters for pediatric dentistry and endodontics, and served as an editor of the International Journal of Prosthodontics for 10 years.

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