

Standard of Care in dentistry

The standard of care is continually evolving with the advent of new materials, new procedures and new court rulings. Before applying the standard of care, dentists should consider new available treatments, as well as their state's current interpretation of the standard of care.

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Advantages to conventional removable dentures:

- Initially it can look esthetically attractive and natural
- Less costly in terms of initial treatment cost
- May be the only option for some conditions

Disadvantages to conventional removable dentures:

- Continuously causes BONE LOSS
- Long term esthetics can be compromised due to bone loss that creates changes to the face and appearance of the mouth, jaw and chin.
- Movement of the denture can irritate
- Collapse of the lower third of the face accelerates the aging process by increasing the number of pronounced wrinkles around the mouth
- Some patients experience gagging

- Speech can be affected
- Taste can be compromised
- Chewing function is only 25% as efficient as natural or permanent teeth.
- Therefore there is a 75% decrease in function efficiency
- Adjustments are often needed
- Metal clasps are visible and can affect abutment teeth

Study reported in the Journal of Periodontology that removable partial dentures have a negative impact on the gingiva. Supporting teeth had more signs of periodontal disease. After 10 years only 56% of teeth that hold a removable partial denture remain intact.

Advantages to dental implants as support for removable dentures:

- Less movement
- No mobility of abutment teeth over time
- No decay
- Can replace full or partial dentures in the maxilla and mandible
- Increase retention and increased stability

Candidates for implants

According to the World Health Organization, 6-10% of the world's population is missing some or all of its teeth

Attachments developed as esthetic, completely invisible, alternative to traditional prosthetic retention systems such as clasps. These ensure stable retention of partials and dentures.

TYPE OF PROSTHESES

- Implant supported fixed prostheses
- Implant supported removable prostheses
- Implant retained removable overdentures

Advantages of freestanding implants over splinted implants

- Reduced number of fabrication steps
- Reduced treatment costs
- Fewer implants required
- Less vertical space required
- Prefabricated stock retention devices can be used

Disadvantages

- Implants need to be relatively parallel
- Correct angulation needed

DESIRABLE CHARACTERISTICS OF ATTACHEMENTS

- Good retentive strength
- Longevity of the components
- Ease of component replacement
- Adequate structural strength
- Retention of the attachment matrix in the overdenture
- Minimal dimensional requirements
- Different amounts of retention or adjustability

Unique challenges to fabricating maxillary implant retained overdentures:

- Anatomic shape of the bone
- Implants often tipped facially
- Creates angulation problems in restoration

**FREQUENTLY ASKED
QUESTIONS CONCERNING
DENTAL IMPLANTS**

Q: How do I know if I am a candidate for dental implants?

A: There are two basic criteria for people who desire dental implants.

- You must be relatively healthy, meaning no uncontrolled medical problems, such as uncontrolled diabetes, uncontrolled hypertension, or immunosuppressive diseases.
- You must have enough bone to be able to place something in to it.

Q: What are dental implants?

A: Dental implants are titanium fixtures that are surgically embedded into the jaw bone and simulate the root of a tooth. They are used to attach a single tooth, multiple teeth or even to stabilize a denture so it does not move around.

Q: Are the procedures painful?

A: Most people relate that the implant placement procedure is similar to a simple or easier extraction. You are slightly sore, but not debilitated. Many state that following the procedure that if they knew what the surgery was going to be like, they would have done it a long time ago. Everyone is different, however, so our patients are provided the proper pain medications, as necessary.

- Q: How long do implants last?
- A: Modern dental implants have been successful for over 30 years. Dental implants are intended to be permanent, however, many things contribute to their long term success including home care and regular maintenance. Cigarette smoking can cause problems with implant healing. Engineering is an important part of the success of the dental implant reconstruction. Placing the correct type and number of implants is important.

- Q: What is the cost of dental implant therapy?
- A: The investment made in proper and comprehensive implant therapy is an investment in your overall health and quality of life. Appearance is improved and facial structures are preserved. There are many factors involved in cost including the number of implants and the type of teeth placed over them. A thorough consultation is required to determine final cost, but all fees are presented prior to any commitment for treatment.

- Q: Will my insurance cover implants?
- A: The type of coverage you have determines whether implants are a benefit. Some insurance companies cover the cost of implants.

Q: Do implants require special care?

A: No, regular maintenance visits are important as is daily home care.

Q: How long does the entire process take?

A: This depends on the position that the implants are placed and what we are intending to do with our restoration. The implants are placed and sutures are usually removed in about one week. Following a proper healing time (usually 4-5 months), the implants are uncovered and impressions are made for the final teeth. This may take a month or so depending on the complexity of the situation.

Q: Will I leave your office without teeth?

A: We will always try to provide you with some type of transitional or temporary tooth.

Q: Are dental implants experimental?

A: Absolutely not. Implants have been thoroughly researched and the current technology results in an outstanding success rate in the hands of the well trained and experienced clinician.

Q: Can implants be placed the same day as an extraction?

A: Whether an implant can be placed on the same day as an extraction depends on the amount of bone that is available and whether there is any infection around the existing tooth. When teeth are lost, bone will shrink in several dimensions. Placing an implant immediately can reduce this bone loss and provide a better esthetic result.

Q: What are some of the benefits to dental implants?

A: Increased confidence when smiling, speaking and eating, especially if dentures or partials are replaced or retained with dental implants.

- Elimination of denture adhesives
- Improved comfort, speech and appearance.
- Preservation of the integrity of facial structures.
- Adjacent teeth are not ground down for a bridge.
- Implants can be easier and maintain since they are cleaned like natural teeth
- Improved ability to taste food
- Looking and feeling younger
- Restored self esteem
- Improved Quality of life

Implant supported
VS
implant retained

(Bambara, George, Dentistry Today August 2007)

Header Attachments

- Rigid attachments transfer forces to the implants
- Resilient attachments distribute the forces to the soft tissue

What dictates type of prosthesis:

- Number of implants to be placed
- Location of implants
- Amount of implant/soft tissue support needed
- Quality and quantity of bone
- Size of the implants (length vs width)
- Medical considerations
- Psychological considerations

“The vast majority of complications in implant dentistry are related to biomechanics. The complications include early loading implant failure, crestal bone loss, abutment screw loosening, porcelain or acrylic veneer fracture, and uncemented restorations.”

Misch, 2007

The percentage of completely edentulous patients is decreasing, but the actual number of completely edentulous patients is increasing.

Conventional Denture Costs and Profit

- Lab costs for premium processed denture \$ 325
- Case overhead costs ($\$200/\text{hour} \times 2.5 \text{ hours}$) 500
- Total denture case cost 825
- Fee for conventional denture 1200
- Total conventional denture case profit 375
- Hourly profit ($\$325/2.5 \text{ hours}$) 150

Fee Determination for Implant Case

- Implant overdenture lab/component costs \$1883
- Case overhead (\$200/hour X 5.5 hours) 1100
- Total overdenture case cost 2983
- Desired profit/hour (\$150/hour X 2) 300
- Desired case profit (\$300/hour X 5.5 hours) 1650
- Case fee 4633

Challenges to choosing the right attachment

- Ridge height
- Tissue thickness
- Angulation of the implant

- Ceka attachments (preat) 800.232.7732
- Locator attachments (Zest Anchors) 760.743.7744
- ERA attachments (Sterngold) 800.243.9942
- Bredent attachments (xpdent) 877.328.3965
- Hader attachments (Sterngold) 800.243.9942

Approximate cost of attachment

Type of attachment	Abutment Set	Replacement
ERA	\$ 58.00	\$ 5.00
Locator	\$160.00	\$28.00
Hader	\$170.00	\$ 7.00
Bredent	\$119.00	\$ 7.00

The Ceka system is a spring pin which snaps exactly into a conical female. It was developed 35 years ago as an “invisible” alternative to traditional clasps. Once the pin clicks into the female, the patient knows that the prosthesis is properly seated.

- Ceka has wax casting bars that can be cast in any alloy
- The accurate titanium female insert is bonded in after all other procedures are completed

- The Stern ERA system is the most popular resilient dental attachment prescribed today.
- They consist of a metal female component, which is intraorally fixed and a replaceable, high density nylon male anchored in the denture base.
 - Low in cost
 - Easy to use
 - Easy to replace
 - Long lasting

Locator attachments (Zest Anchors, Escondido, CA) act as retentive devices for overdentures. The patient is able to easily align and seat the overdentures.

Implants should be placed in a parallel position.

The attachment resists wear and maintain satisfactory retention for up to 56,000 cycles of function. Nice to use when there is an occlusal clearance problem since it is only 3.17mm in total height. Male portions are easily changed chairside.

LOCATOR IMPLANT ANCHORS (Zest Anchors, Inc.)

- Supragingival attachment
- Available as a straight abutment or at 10 or 20 degrees
- Permits divergence between implants up to 20 degrees (40 degrees with extended range)
- Self aligning to the top of the implants
- Torque into place to 20Ncm
- Low profile
- Saves interocclusal space
- Guides the overdenture into proper alignment similar to a milled bar
- Cost minimal when compared to a milled bar
- Can be set on supporting bars

LOCATORS

- Black processing
- Clear 5 lbs
- Orange 3 lbs
- Blue 1.5 lbs

Bredent attachments can be used on implants that are up to 15 degrees divergent from the path of insertion. They are available in 3 diameters with 3 different tissue heights

Hader clips (Preat Corp.)

- 13 gauge (1.8mm) diameter bar
- Gold housing
- White, Yellow, Red level of retention
- Processing spacer
- Do exhibit some loss of retention over time

Hannes Anchor

(Interchangeable with the IC)

- Intracoronal plunger attachment available in 3 sizes
- Provides mechanical retention only
- Rest seat needed as an occlusal stop
- Reciprocation needs to be built in
- Used in milled bar overdentures
- Low maintenance
- Does not need to be changed as often as plastic type attachments

HOW TO TAKE CARE OF DENTAL IMPLANTS

- Daily care is similar to the care of natural teeth.
- Restored dental implants need to be kept clean and plaque free
- Cleaning after meals is important

Access Oral Care

1-877-94-ACCESS

- Gentle brushing with small soft manual or electric brush
- Low abrasive, tartar control toothpaste
- Dental floss for cleaning around the abutments

- Other adjuncts:
- Antimicrobial mouth rinses
- Interdental brushes or other aids to remove plaque on either side of the implants
- Disclosing tablets to stain the locations of plaque accumulation

“Is this an experimental procedure?”

- **No. Dental implants have been clinically studied for more than thirty years, and are routinely successful today. Many have earned the ADA Seal of Acceptance.**
- **There are millions of satisfied implant patients around the world.**

“How much do they cost?”

- Give the patient a broad range.
- I will give you a specific cost after I understand your situation and needs more clearly.

“Why are they so expensive?”

- Implants are made of high-technology materials and are carefully manufactured to maintain very high quality standards.**
- Implants require a lot of specialized parts and equipment used by the surgeon, dentist and labs.**

“Will my insurance... cover implants?”

Maybe, some insurance companies will now cover dental implant cost including surgery and prosthetics up to the patient's maximum yearly benefits.

Dealing with

Cost Objectives

- **When patients ask you how much they cost**
 - Urge them to find out if they are a candidate.
 - Give them someone's testimony.
 - Buying implants is different than paying for conventional dentistry.