

Are Dental Implants Right for You? The Facts

Asbjørn Jokstad, DDS, PhD
Professor and Head, Prosthodontics
Nobel Biocare Chair in Prosthodontics
Faculty of Dentistry, University of Toronto



Questions

questions for public - Microsoft Word

File Edit View Insert Format Tools Table Window Help Adobe PDF Acrobat Comments

Type a question for help

Normal + Arial, Arial 12 **B** *I* U [List Icons] [Table Icon] [Page Icon] 100% [Read Icon]

20 40 60 80 100 120 140 160 180

 Faculty of Dentistry
University of Toronto

Prosthodontics

ASBJØRN JOKSTAD, D.D.S., Ph.D.
PROFESSOR AND HEAD OF PROSTHODONTICS
NOBEL BIOCARE CHAIR IN PROSTHODONTICS

Public open Day, Dec 4, 2006.

Implant Supported Prosthetic Treatment Process:

1. What is a dental prosthesis?
2. What is a dental implant?
3. How can dental implants support a dental prosthesis?
4. What are the benefits of a dental implant supported dental prosthesis compared to a conventional prosthesis?
5. What are the steps for implant prosthetic treatment?
6. How long does implant prosthetic treatment take?
7. Can I extract a tooth and restore it immediately using a dental implant?

Before treatment

8. Who provides implant supported dental prostheses?
9. Am I too old or too frail for implant supported dental prostheses?
10. Are my jaws fit to receive dental implants?

Page 1 Sec 1 1/2 At 140mm Ln 22 Col 5 REC TRK ENT OVF English (U.S.)



1. What is a dental prosthesis?



Crown



Bridge
("FPD")



"etch-bridge"

Fixed (Tooth-supported)



1. What is a dental prosthesis?

Tooth +
Gum -
support
“RPD”



Removable
Gum-supported
“Denture”



1. What is a dental prosthesis?



Crown
Fixed

Bridge “etch-bridge”
 (“FPD”)
(Tooth-supported)



Tooth + Gum - support
 “RPD”

Removable
Gum-supported
 “Denture”

Replaces mostly hard tissue

Replaces hard + soft tissues



2. What are dental implants?

- Beginning in the 1950s researchers observed that the metal titanium formed a very strong bond to surrounding bone, a process termed "osseointegration."
- After years of careful research and study, dental implants (titanium cylinders placed into the jawbone to support replacement teeth) were refined with high success rates.





2. What are dental implants?

- Implants are artificial tooth roots, made of pure titanium or titanium-alloy, which are inserted into the jaw, where it performs the function of the root of a natural tooth that has been lost.
- A replacement tooth, made by a dental technician, almost indistinguishable from its natural counterpart, is attached to this implant by the dentist
- Dental implants can be regarded as substitutes for the roots of missing teeth.



3. How can dental implants support a dental prosthesis?

- Dental implants act as anchors for a replacement tooth or crown or a set of replacement teeth.
- The patient gets a solid replacement that looks like the natural tooth.





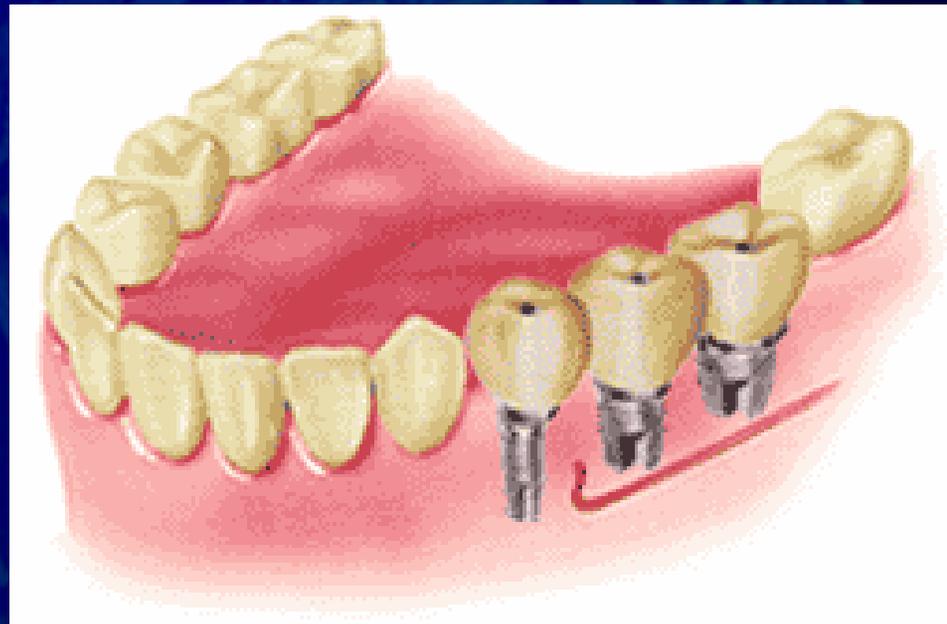
3. How can dental implants support a dental prosthesis?



Replacement of single teeth



3. How can dental implants support a dental prosthesis?

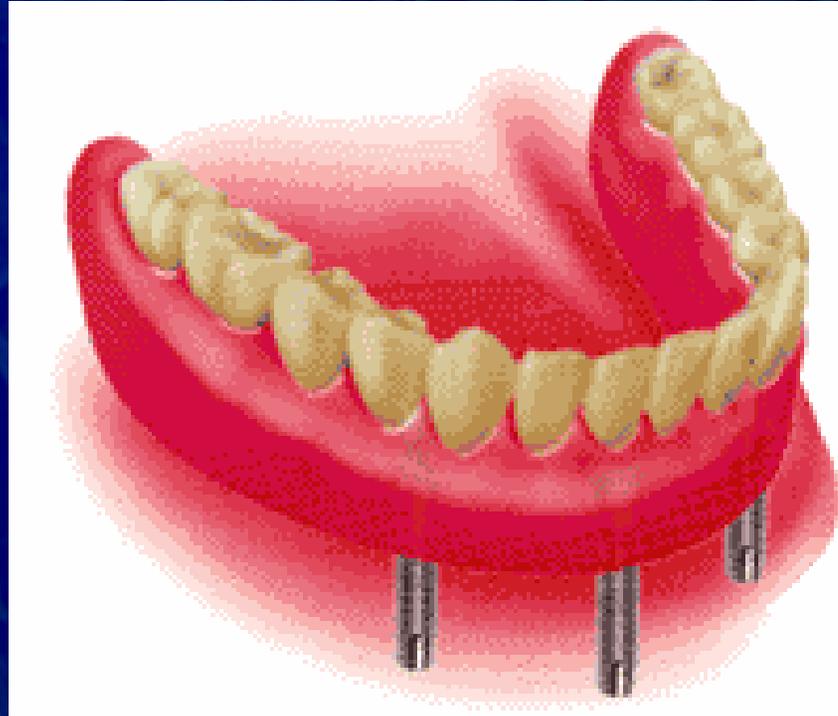


Implants for bridge-support





3. How can dental implants support a dental prosthesis?



For securing a removable denture





3. How can dental implants support a dental prosthesis?



(Tooth-supported)

Fixed

Implant-supported

(Tooth+gum or gum -supported)

Removable





4. Benefits of implant-supported compared to conventional removable dental prostheses?

- Many patients report improvement over conventional dentures, such as:
 - Replacement teeth look, feel and function more like natural teeth
 - Improved taste and appetite
 - Improved cosmetic appearance
 - The ability to chew without pain or gum irritation



4. Benefits of implant-supported compared to conventional removable dental prostheses?

- Most patients can eat and chew again without pain or irritation. Foods that were unavailable are now back in the diet.





4. Benefits of implant-supported compared to conventional removable dental prostheses?

- Foods that were unavailable are back in the diet.
- Implants eliminate the need for distasteful adhesives. There is no longer a need to use "glue" when the dental prosthesis is supported by implants.





4. Benefits of implant-supported compared to conventional removable dental prostheses?

- Foods that were unavailable are back in the diet.
- There is no longer a need to use "glue" .
- Implants can improve the taste of food. With less plastic covering the roof of the mouth, most patients can enjoy natural flavors and sensations again.





4. Benefits of implant-supported compared to conventional removable dental prostheses?

- One additional and very important benefit can be the reduction or elimination of bone shrinkage or “atrophy”, commonly related with loss of teeth.
- Bone atrophy not only affects jaw function, but can cause adverse facial cosmetic changes.





4. Benefits of implant-supported compared to conventional removable dental prostheses?

- Implants can improve the patient's health with the ability to chew a wider variety of foods: *Eat whatever one like.*



4. Benefits of implant-supported compared to conventional removable dental prostheses?

- Implants can improve the patient's health with the ability to chew a wider variety of foods: *Eat whatever one like.*
- Implant supported restorations help increase ones self-esteem. *Smile with confidence.*



4. Benefits of implant-supported compared to conventional removable dental prostheses?

- Implants can improve the patient's health with the ability to chew a wider variety of foods: *Eat whatever one like.*
- Implant supported restorations help increase ones self-esteem. *Smile with confidence.*
- Implants increase the retention and stability of the teeth. *Express oneself clearly or simply be understood.*



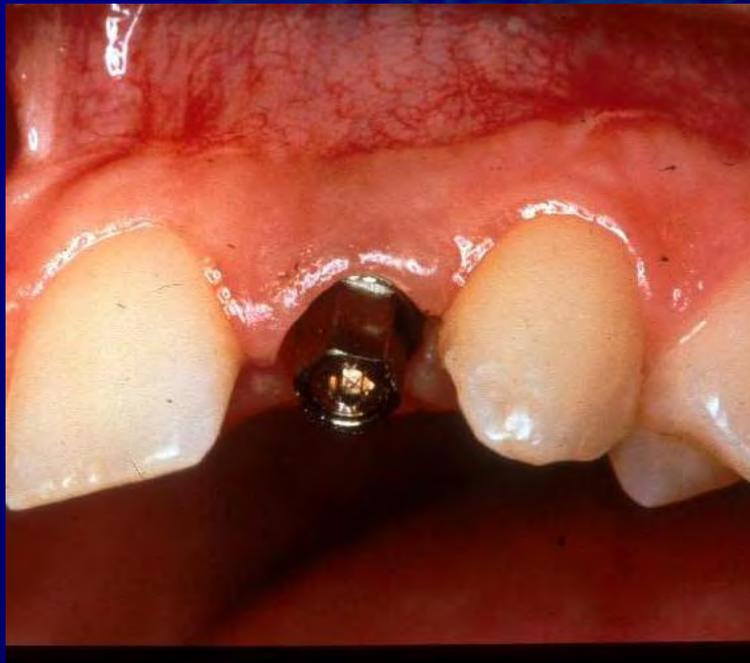
4. Benefits of implant-supported compared to conventional removable dental prostheses?

- Implants can improve the patient's health with the ability to chew a wider variety of foods: *Eat whatever one like.*
- Implant supported restorations help increase ones self-esteem. *Smile with confidence.*
- Implants increase the retention and stability of the teeth. *Express oneself clearly or simply be understood.*
- Decrease the likelihood of continued bone loss and improve ones external facial structure.



4. Benefits of implant-supported compared to conventional fixed dental prostheses?

- Adjacent teeth can be preserved when, for instance, teeth are lost in an accident.





4. Benefits of implant-supported compared to conventional fixed dental prostheses?

- Adjacent teeth can be preserved.
- A bridge does not offer this possibility as the teeth next to the gap have to be abraded and crowned.
- Implants do not disrupt or negatively impact other healthy teeth in the mouth.





4. Benefits of implant-supported compared to conventional fixed dental prostheses?

- Adjacent teeth can be preserved.
- A bridge does not offer this possibility as the teeth next to the gap have to be abraded and crowned. Implants do not disrupt or negatively impact other healthy teeth.
- Dental implants help the patient to keep their remaining teeth, because they are able to “share the load” with the prosthetic teeth.





5. What are the steps for implant prosthetic treatment? (1/4)

- A titanium screw is inserted into the jaw bone where there are no teeth.

Stage 1 surgery





5. What are the steps for implant prosthetic treatment? (2/4)

- A titanium screw is inserted into the jaw bone where there are no teeth.
- The screw is then protected with a cover, and the jaw is given a few months to heal.

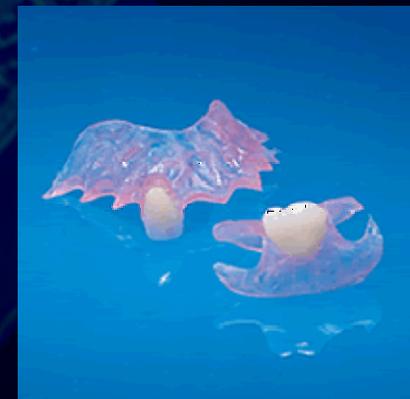
Stage 1 surgery





5. What are the steps for implant prosthetic treatment? (3/4)

- A temporary crown, etch-bridge or removable prosthesis is used to minimize any cosmetic or chewing inconvenience.





5. What are the steps for implant prosthetic treatment? (4/4)

- A titanium screw is inserted into the jaw bone
- The screw is covered + a few months to heal.
- The final step is to uncover the implant and attach the permanent crown to the implant.

Stage 2 Surgery





Video





6. How long does implant prosthetic treatment take?

- The healing time for implants is similar to time required for a broken bone to mend.



6. How long does implant prosthetic treatment take?

- The healing time for implants is similar to time required for a broken bone to mend.
- Depending on physical and medical situation, the titanium implants fuse to bone in the jaw in the space of 2-6 months.



6. How long does implant prosthetic treatment take?

- The healing time for implants is similar to time required for a broken bone to mend.
- Depending on physical and medical situation, the titanium implants fuse to bone in the jaw in the space of 2-6 months.
- Treatment for the simple cases could take anywhere from 4-8 months, based on where the implants are placed and the type of restoration desired.



6. How long does implant prosthetic treatment take?

- The healing time for a broken bone to mend.
- Titanium implants fuse to bone : 2-6 mths
- Treatment for the simple cases: 4-8 mths

- If a tooth is extracted, the time to heal is usually 6 – 12 weeks before the implant is placed at the point where the tooth was removed.
- Recent advances by implant manufacturers are reducing the time for initial implant procedures.



7. Can I extract a tooth and restore it immediately using a dental implant?

- Some dentists place dental implants immediately after tooth extraction
- Some dentists even place a temporary or permanent restoration on the dental implant immediately after surgical placement
- There seems to be a higher risk of unsuccessful treatment outcome with these approaches



Before treatment



8. Who provides implant-supported dental prostheses?

- The general dentist is usually the first resource for this service.
- The key is the implant dentist's training, experience and credentials.
- Competent dentists include general dentists, periodontists, prosthodontists and oral surgeons who perform the surgical and/or restorative procedures.



8. Who provides implant-supported dental prostheses?

- Since implant prosthodontics usually involve two phases of treatment: 1. surgical placement of the implant and 2. placement of the restoration some dentists feel they can offer better care by using the different expertise of other team members, e.g. performing the surgery or the restoration.
- Other practitioners feel that performing both the surgery and the restoration within one office is optimal for many patients.



8. Can any licensed dentist legally perform implant surgery or restoration?

- Yes. However, education and experience is critical. The dentist or dental specialist should be questioned about his or her training in implant therapy and in-office implant experience.
- A recommendation should be requested from ones own dentist if he or she is not involved in implant therapy
- Another possibility is to talk to treated patients of record and to referring dentists



8. Is it safe to have dental implant surgery performed outside the hospital, in an office-based facility?

- Most cases are. Safety refers to the nature of the procedure and the medical and/or anesthetic needs of the patient



9. Am I too old or too frail for implant-supported prostheses?

- Dental Implant patients are of all ages
- Dental implants may be the right choice for anyone missing one or more teeth due to injury, disease or decay.
- Dental implants are especially practical for patients who can no longer wear removable prostheses.
- Good health and adequate bone are the most critical factors in evaluating implant candidates



9. Am I too old or too frail? (1/2)

Dental implants cannot be placed when:

- Vital anatomical structures can be damaged
- There is still active skeletal growth
- There is active infection & inflammation
- There are general surgical contraindications
- Systemic diseases are likely to compromise the implant surgery



9. Am I too old or too frail? 2/2

Dental implants are more unpredictable if :

- insufficient bone
- insufficient space
- Previous radiation therapy of head & neck
- Skeletal discrepancies
- Poor quality bone
- Current or past history of drug/alcohol abuse
- Extensive tobacco use
- Poor oral hygiene
- Severe tooth grinding or clenching



10. Do I have enough bone?

- It is important for a patient to have enough bone to support the implant.
- If there is not enough bone, there are many safe and effective ways to correct bone deficiency.
- A thorough clinical and radiological examination will usually determine if it is advisable to add additional bone material



11. What Do I Need to Do to Prepare for Dental Implants?

- As is the case for any surgery, it is best if the patient is in good health.
- Smoking and excessive drinking can have a negative affect on the process, and may cause dental implants to fail.
- Many dentists will require that the patient should quit smoking before beginning the dental implant treatment process.

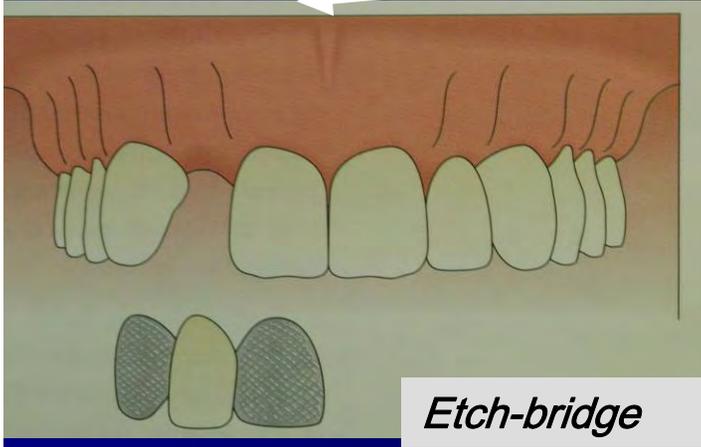


12. Are there alternatives to dental implants?

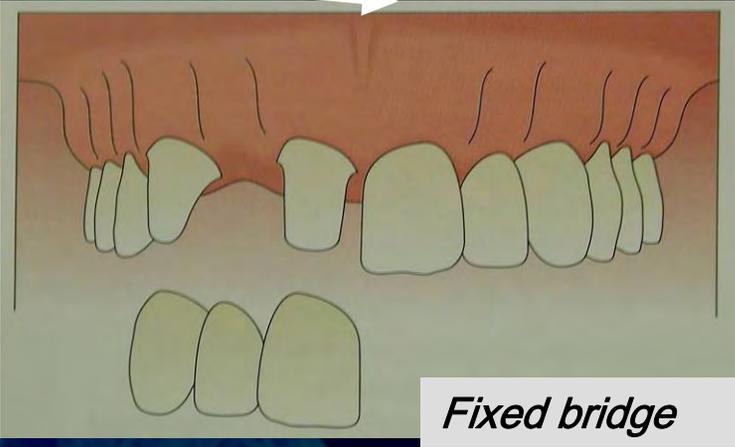
- Traditional dentistry can provide replacements for missing teeth using bridges, removable partials and dentures; however, each of these has its problems.
- The dentist should describe all reasonable alternatives before proceeding to make a treatment decision together as to what is best for the patient.



Single tooth lost



Etch-bridge



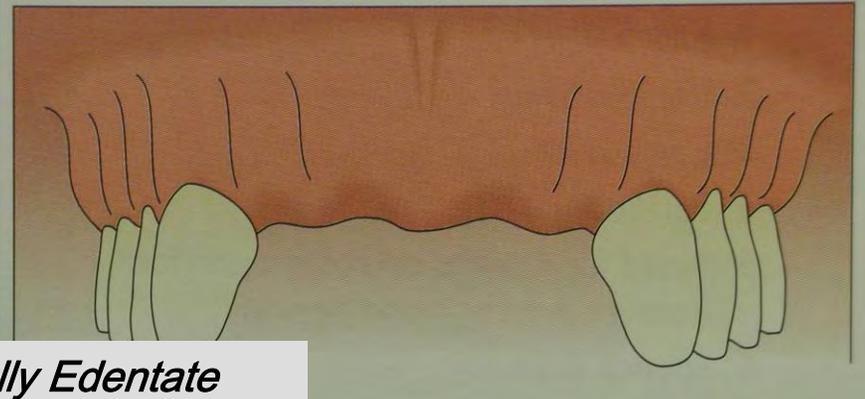
Fixed bridge



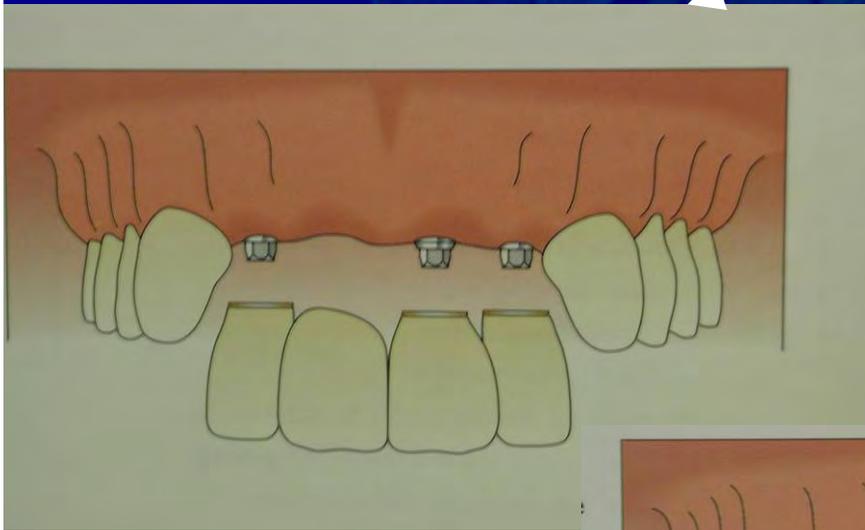
Removable dental prosthesis



Implant-supported crown



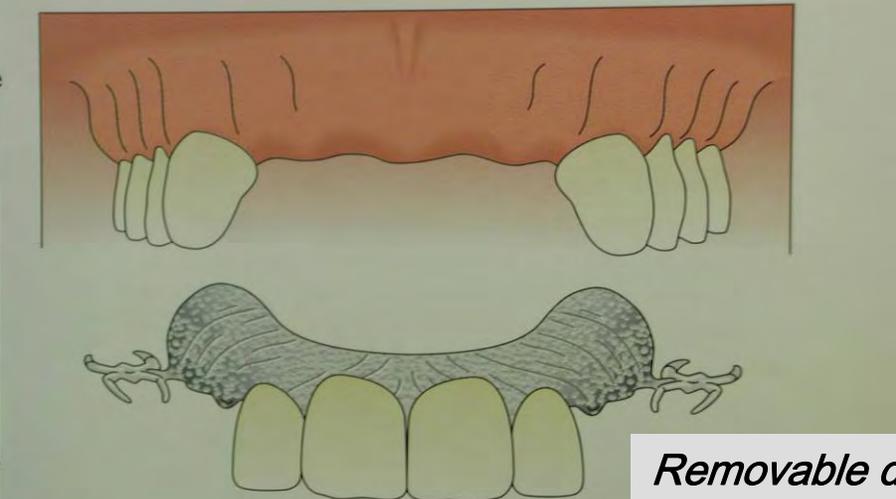
*Partially Edentate
Upper Jaw Front*



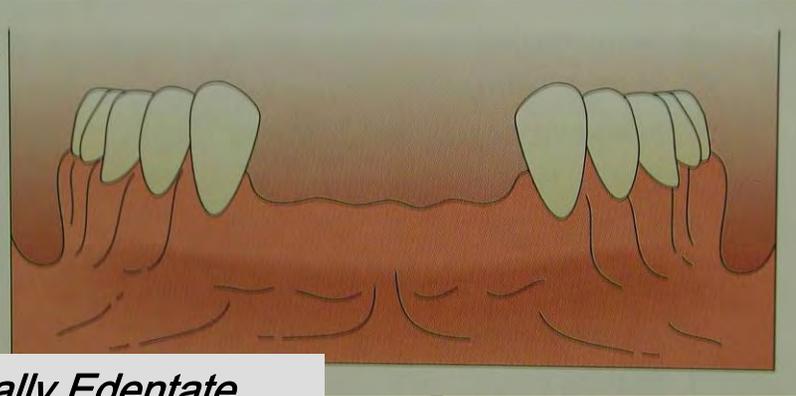
Implant-supported FDP



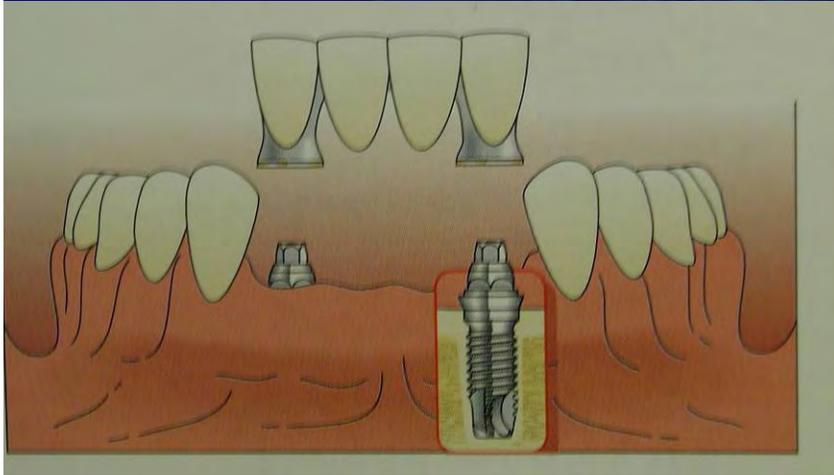
Fixed bridge



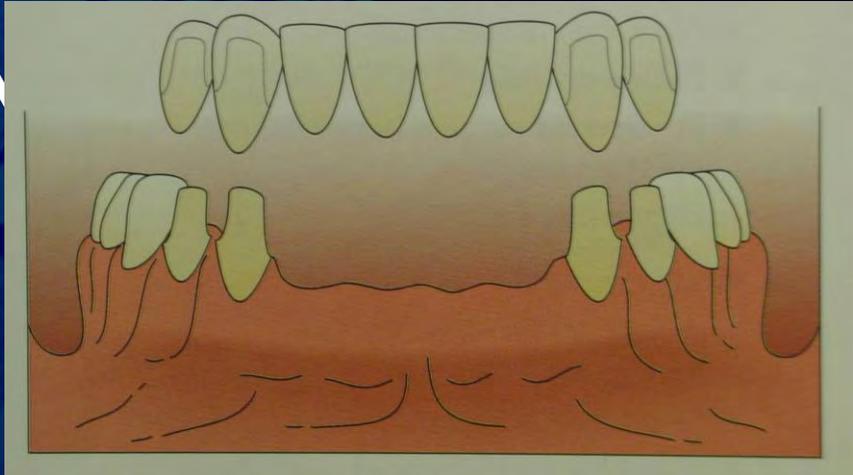
Removable dental prosthesis



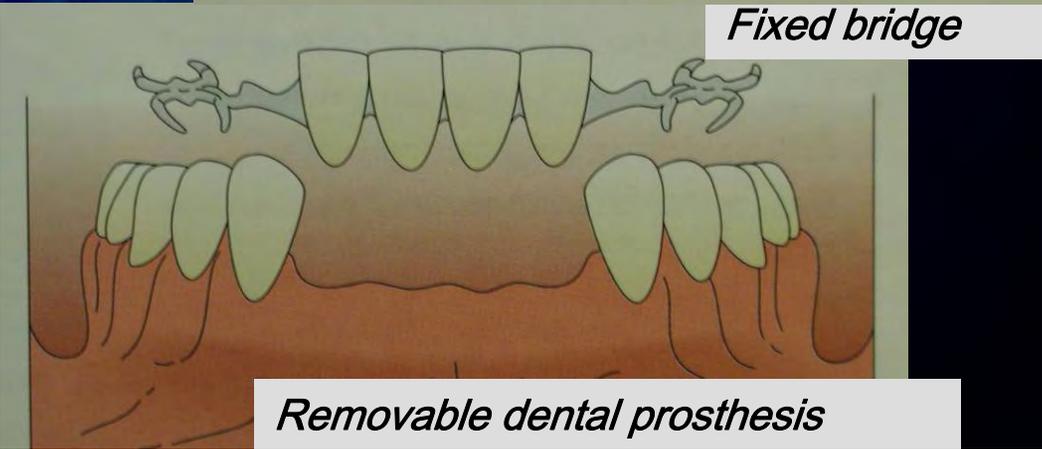
*Partially Edentate
Lower Jaw Front*



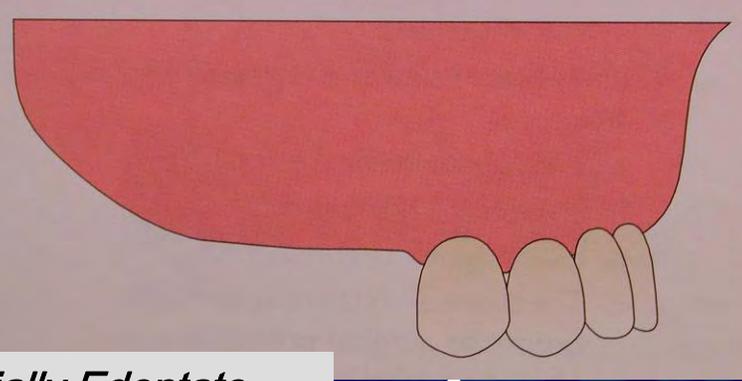
Implant-supported FDP



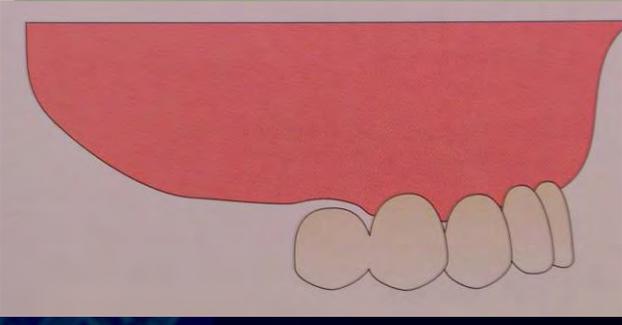
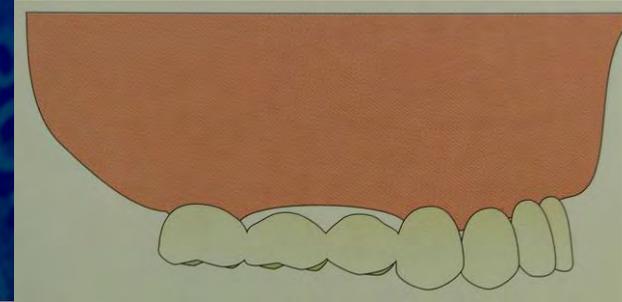
Fixed bridge



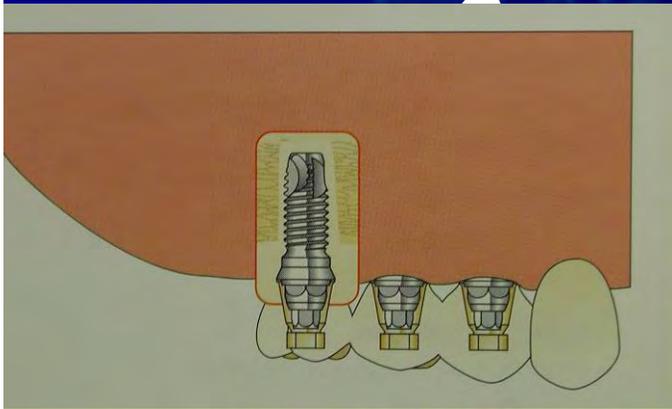
Removable dental prosthesis



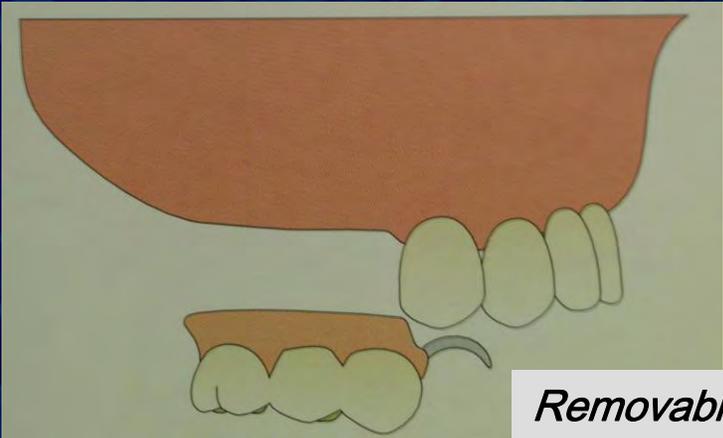
Partially Edentate Upper Jaw



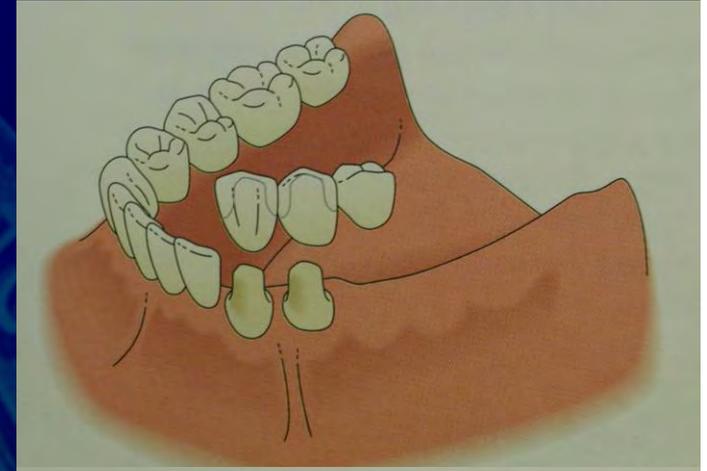
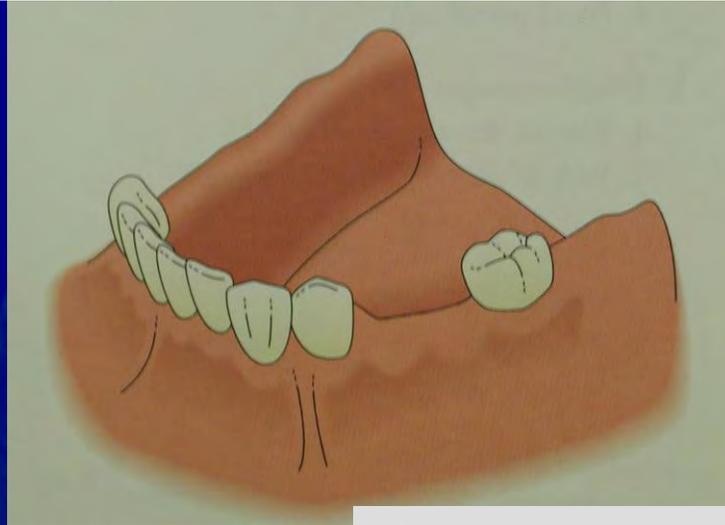
Fixed bridges



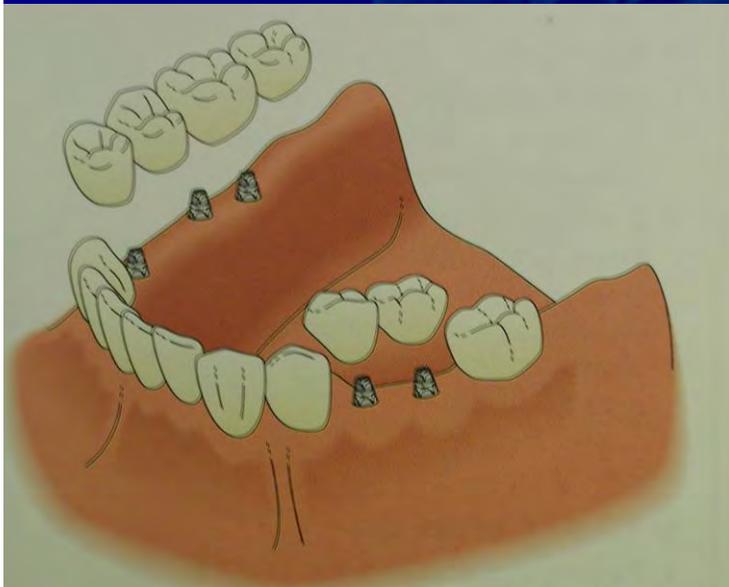
Implant-supported FDP



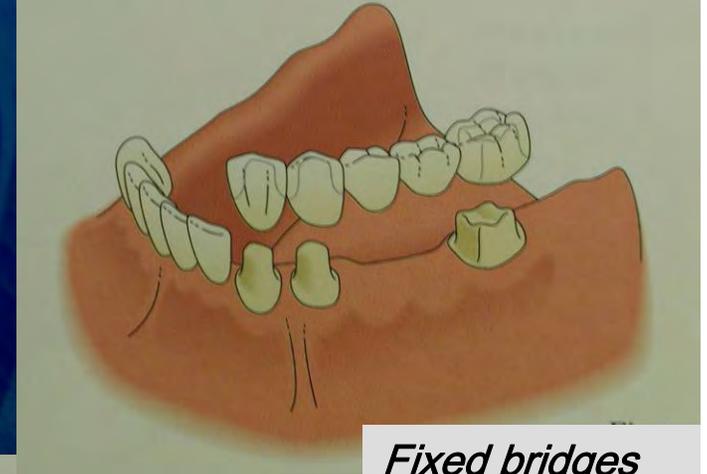
Removable dental prosthesis



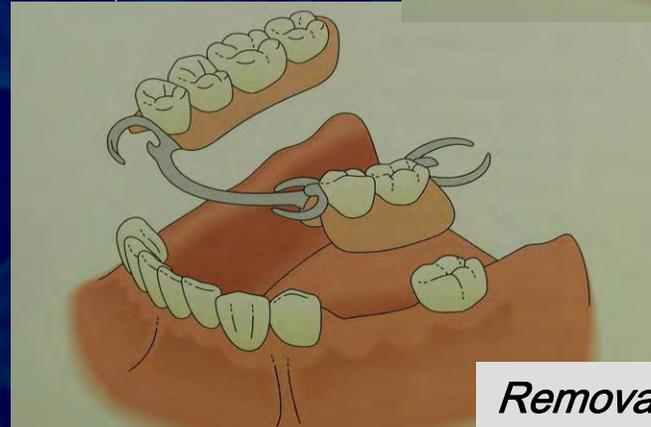
*Partially Edentate
Lower Jaw*



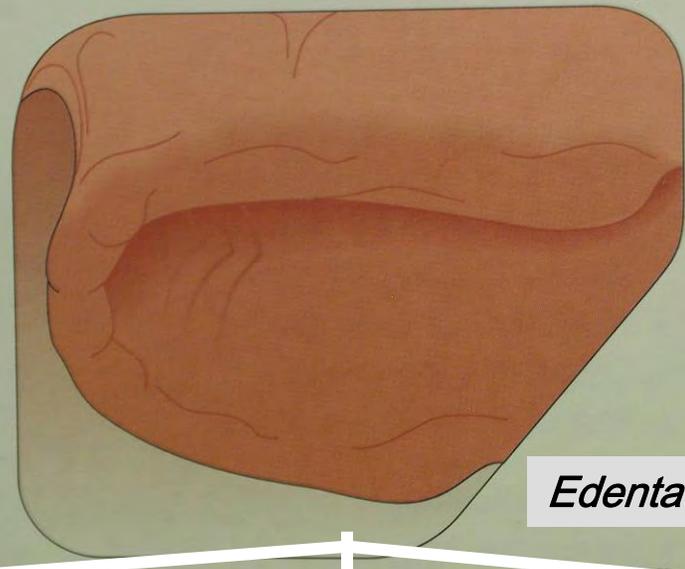
Implant-supported FDP



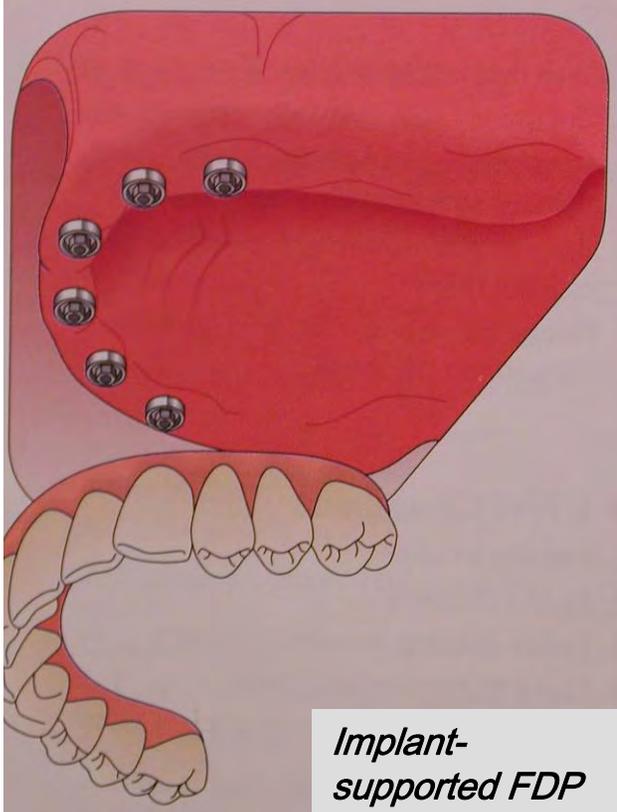
Fixed bridges



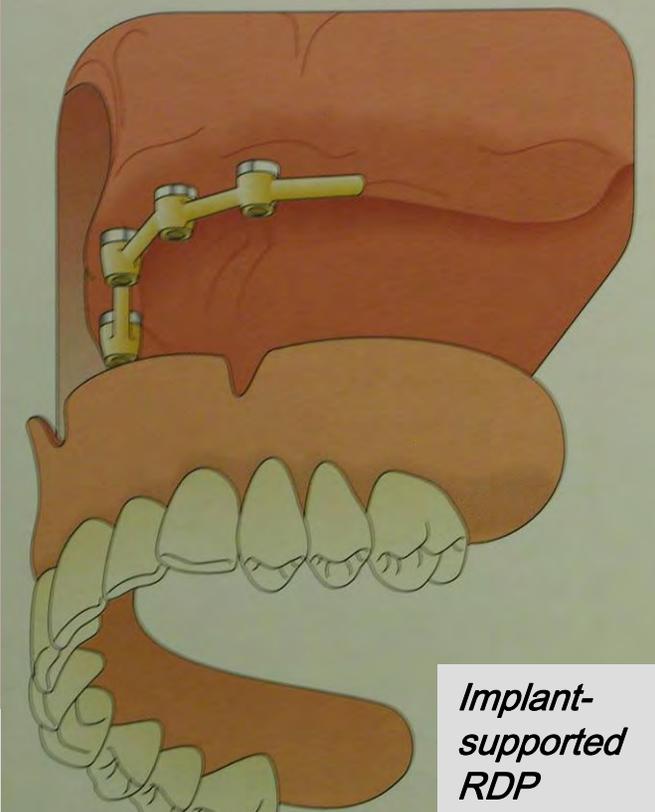
Removable denture



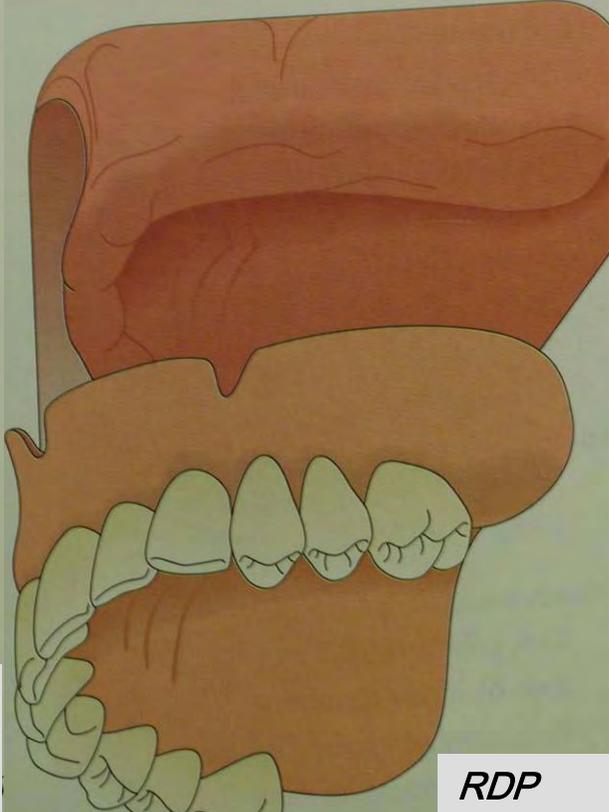
Edentate upper jaw



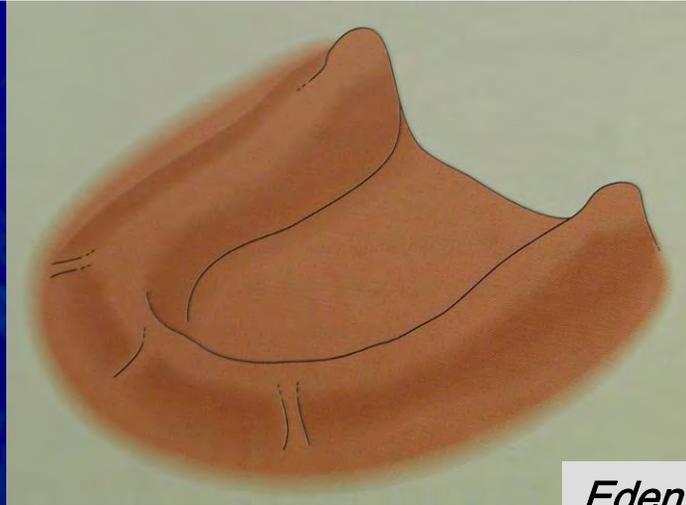
Implant-supported FDP



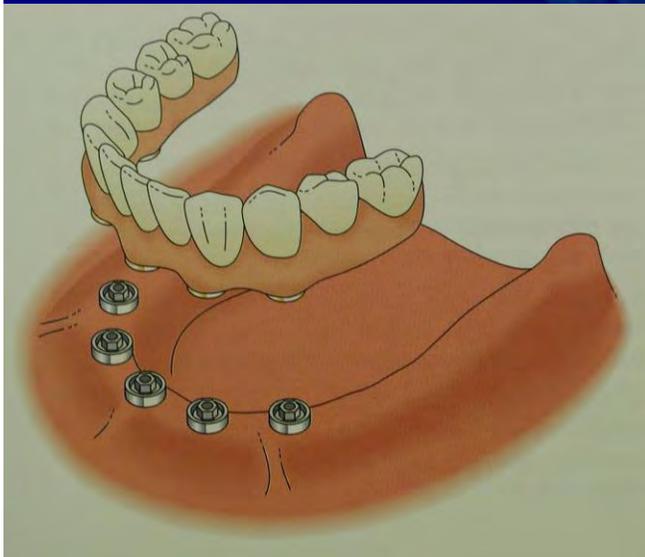
Implant-supported RDP



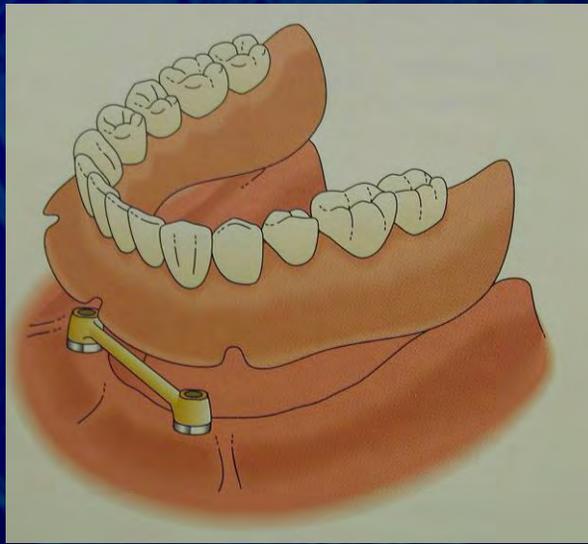
RDP



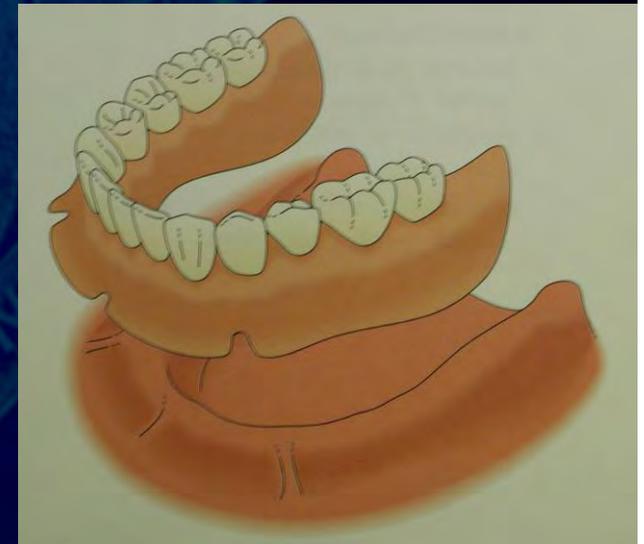
Edentate lower jaw



Implant-supported FDP



Implant-supported RDP



Removable denture



13. How Much Do Dental implants Cost?

- The cost of dental implants depends on the type of implant received and the health of the patient's mouth, jaw and gums
- The cost of implanting one tooth can be anywhere between \$1,600 to \$5,000, and a full mouth reconstruction can be as much as \$50,000.
- Dental implants rarely fail, so the patient doesn't need to buy them twice.
- Check with the dental insurance to see what portion of the dental implant cost they may cover



13. Are dental implants expensive?

- There is a greater initial investment for dental implants compared to dentures and partials.
- They should last for years, particularly if there are no anatomical hindrances
- Independent surveys of implant patients show that they felt the investment was worth every penny and would do it again.



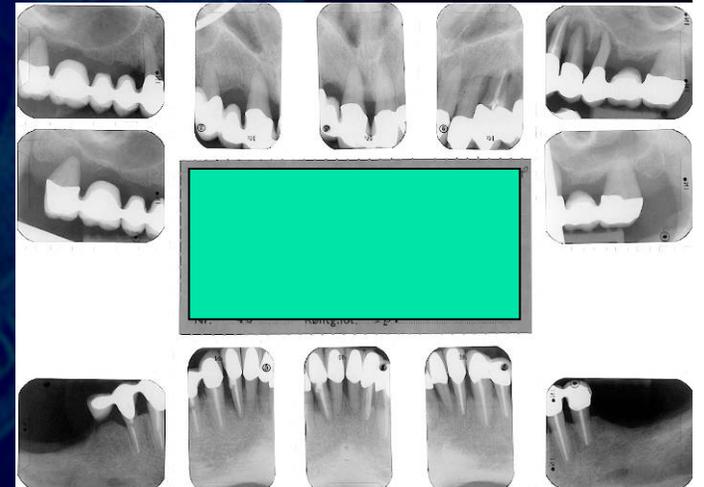
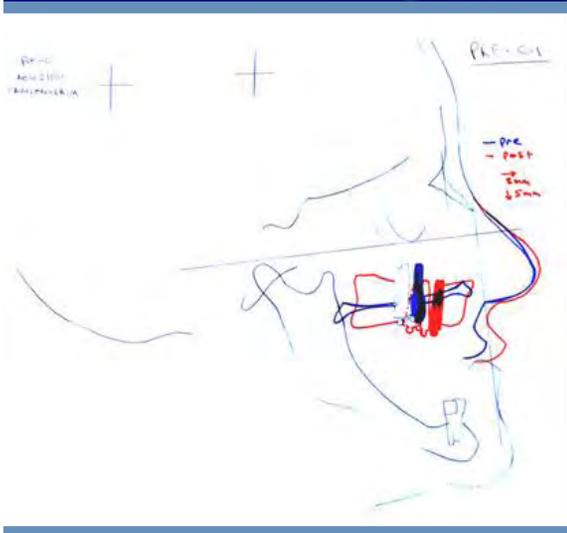
14. What happens during the treatment planning phase?

1. Prosthodontic assessment:
2. Surgical consultation:
3. Radiological assessment





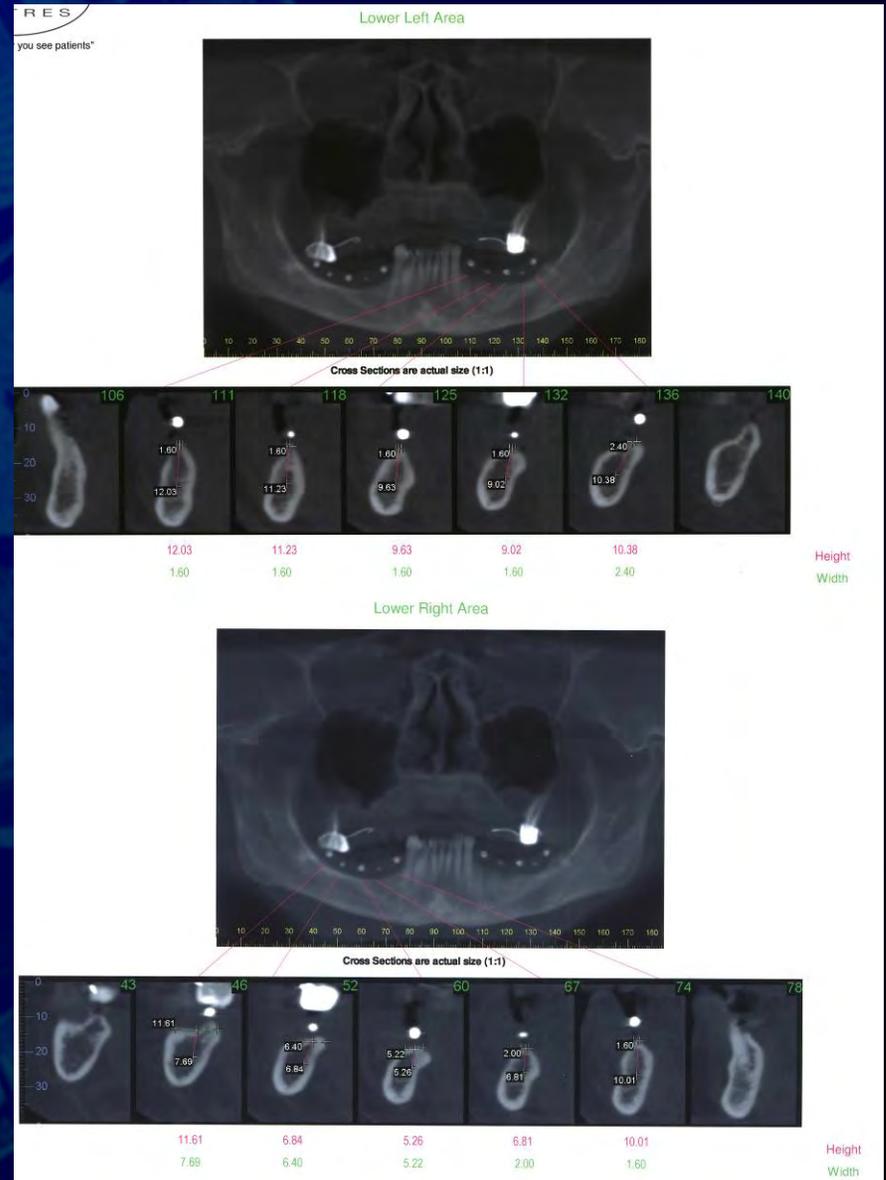
14. What happens during the treatment planning phase?





14. What happens during the treatment planning phase?

Computer x-rays





15. What material are Dental implants made of?

- Titanium, titanium alloys or surfaces that are coated with titanium are used
- Pure titanium intended for medical applications is used, which does not cause any known intolerance reactions or allergies.
- Titanium is a very resistant material in the body and is biologically inert
- A decreasing number of dental implants are made from calcium-phosphate



16. Is one dental implant system better than the others?

- There are many Health Canada & FDA approved implant systems available to Canadian dentists.
- Many shapes, sizes and brands of dental implants are available.
- More than 80 different dental implant manufacturers market about 250 dental implant systems





Under and after the surgery



17. What happens during the (first stage) surgery?

1. A sedative for relaxation if desired
2. Patient will be awake and able to communicate with the surgeon (although drowsy if sedative is taken).



17. What happens during the (first stage) surgery?

1. A sedative for relaxation if desired
2. Patient will be awake and able to communicate with the surgeon (although drowsy if sedative is taken).
3. A local anaesthetic is normally sufficient
4. Patient is covered with sterile drapes.



17. What happens during the (first stage) surgery?

1. A sedative for relaxation if desired
2. Patient will be awake and able to communicate with the surgeon (although drowsy if sedative is taken).
3. A local anaesthetic is normally sufficient
4. Patient is covered with sterile drapes.
5. An incision is made in the tissues overlying the bone in the proposed implant site(s)
6. The tissues are pulled back so that the surgeon can gain access to the bone



17. What happens during the (first stage) surgery?

1. A sedative for relaxation if desired
2. Patient will be awake and able to communicate with the surgeon (although drowsy if sedative is taken).
3. A local anaesthetic is normally sufficient
4. Patient is covered with sterile drapes.
5. An incision is made in the tissues overlying the bone in the proposed implant site(s)
6. The tissues are pulled back so that the surgeon can gain access to the bone
7. Gently drilling of the site(s) for the dental implant(s).
8. Placement of the implants in the prepared sites
9. Suturing → healing



18. Do I get my teeth immediately after surgery?

- The dentist will ensure that in the interim healing period, the patient's look and feel is made natural.
- Thus, the patient will normally never need to be without teeth.
- Check in case of referral to surgeon specifically for implant surgery whether interim teeth will be delivered immediately following surgery.



19. Does it hurt afterwards?

- Usually, discomfort is not a problem. In fact, many have said that having a tooth pulled was more painful.
- For the placement of an implant(s), the dentist will use one of many anesthetic regimens so there won't be any discomfort.
- After the surgery, when leaving the office, appropriate medications will normally be provided.



20. Can I go to work after surgery?

- For single implants, the recovery time is often less than it would take to recover from a regular tooth extraction.



20. Can I go to work after surgery?

For placement of multiple implants under an existing denture, recovery may vary.

- In very rare instances, it can take up to a week before the patient is comfortable enough to resume normal activities.



20. Can I go to work after surgery?

For placement of multiple implants under an existing denture, recovery may vary.

- In very rare instances, it can take up to a week before the patient is comfortable enough to resume normal activities.
- It is advised to often cleanse the site of surgery by vigorous rinsing and swishing of warm salt water to dislodge any debris clinging to the sutures.



20. Can I go to work after surgery?

For placement of multiple implants under an existing denture, recovery may vary.

- In very rare instances, it can take up to a week before the patient is comfortable enough to resume normal activities.
- It is advised to often cleanse the site of surgery by vigorous rinsing and swishing of warm salt water to dislodge any debris clinging to the sutures.
- Liquid food for the first 2 days following surgery and a soft diet for 10 days is advisable while the gums are healing. Eating hard foods during this period, e.g. steak and nuts, is discouraged



21. Are there risk of complications during surgery ?

Including, but not limited to, bleeding and bruising

Post-surgical pain

Temporary speech problems

Delayed healing

Post-surgical infection

Bone fracture

Loss of bony ridge

Osteomyelitis

Damage to opposing dentition

Chronic pain

Local or systemic infection

Abscess

Fistula to nose or sinus

Sequestrum

Haematoma

Gingivitis

Transient or permanent damage to the nerves in the jaw



22. What's the difference between "one-" and "two-stage" surgery?

Two surgical procedures techniques are used:

Single stage technique

The dental implant is inserted and remain exposed in the mouth

Two stage technique

One-stage surgery:

The dental implant is inserted and covered over to not be exposed in the mouth

Two-stage surgery:

The dental implant is uncovered and exposed in the mouth



Restorative phase



23. What happens during the restorative treatment phase?

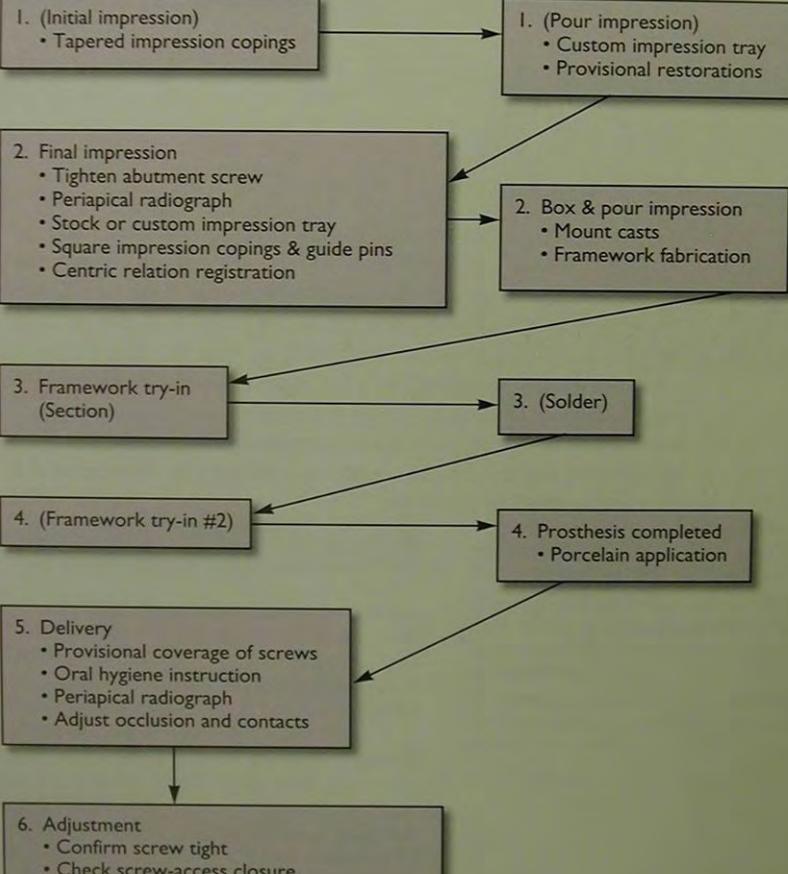


Fixed Partial Denture Supported by Osseointegrated Implants

Those procedures in parentheses are optional or not necessary with every patient example.

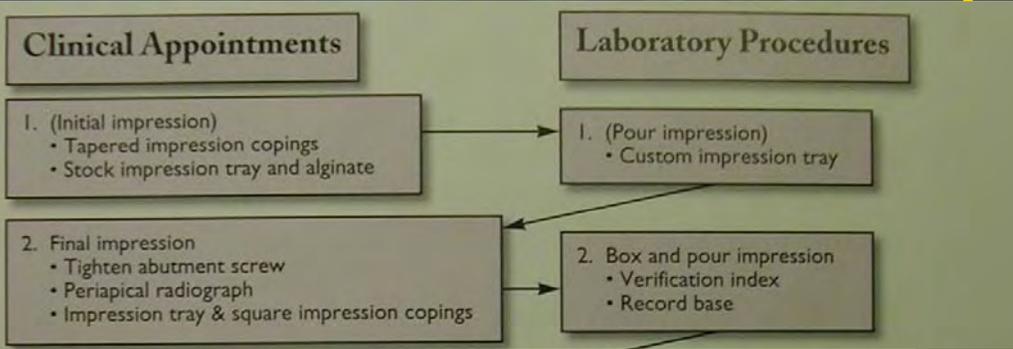
Clinical Appointments

Laboratory Procedures



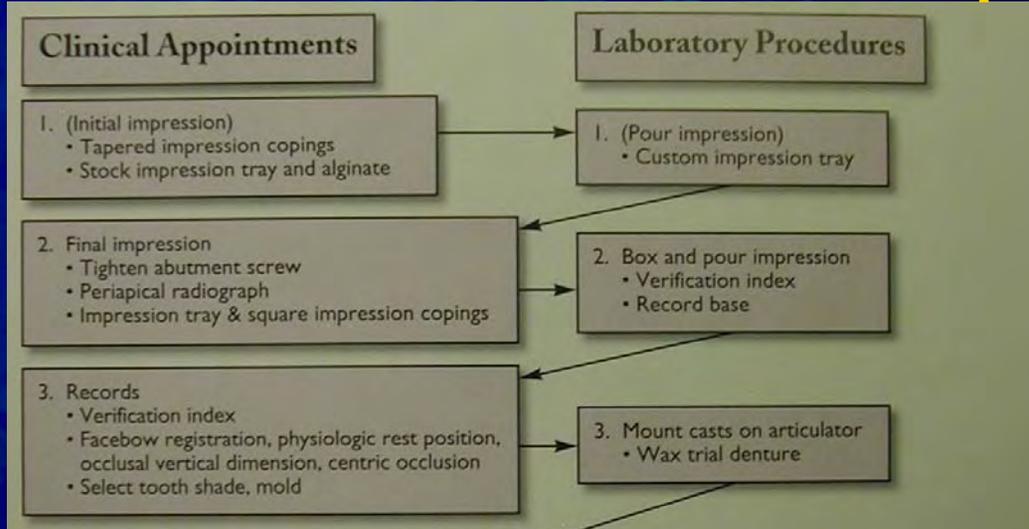


23. What happens during the restorative treatment phase?



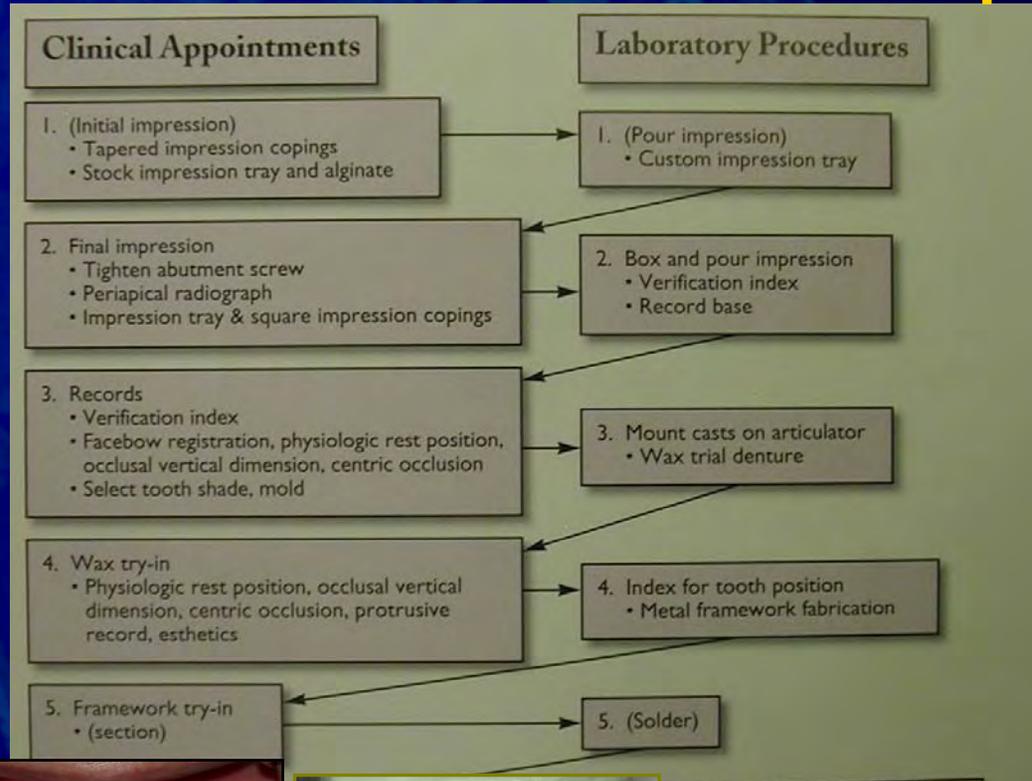


23. What happens during the restorative treatment phase?



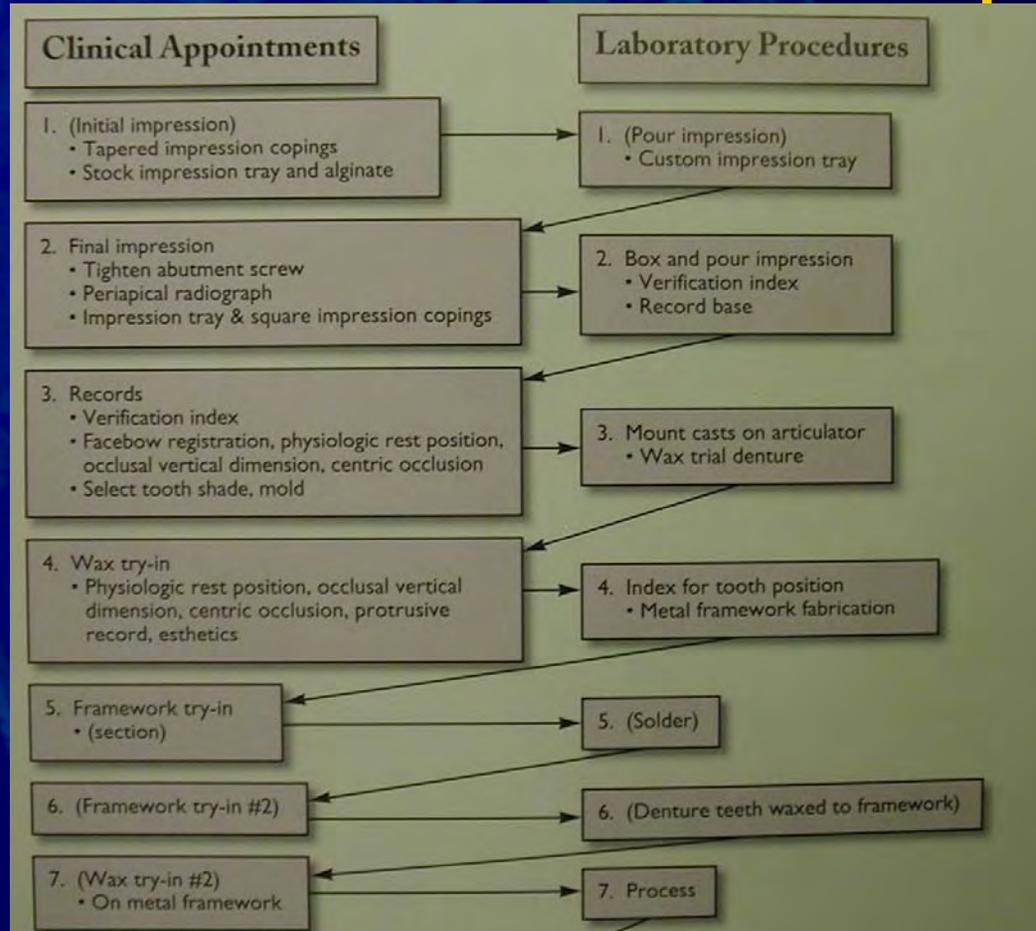


23. What happens during the restorative treatment phase?



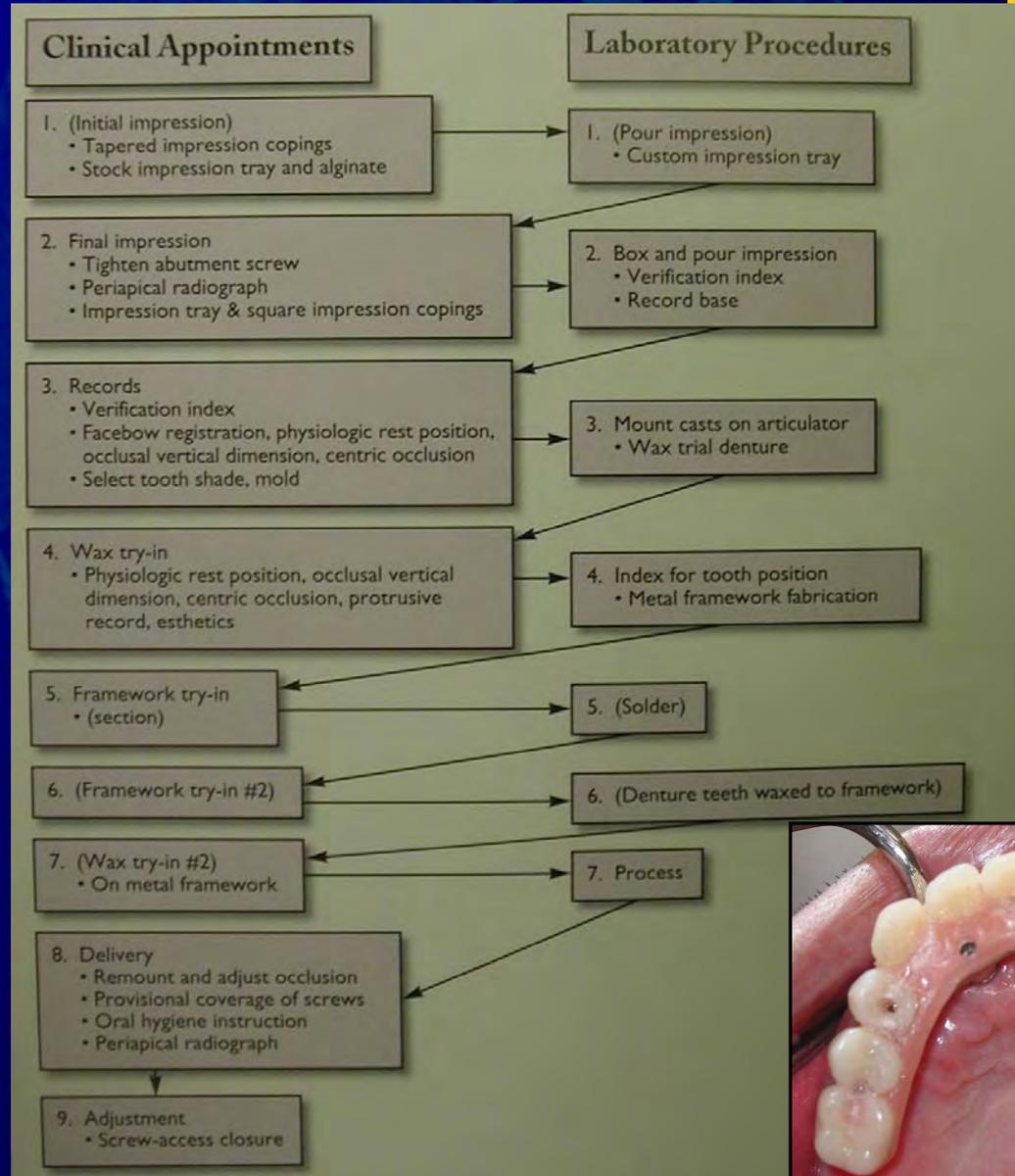


23. What happens during the restorative treatment phase?





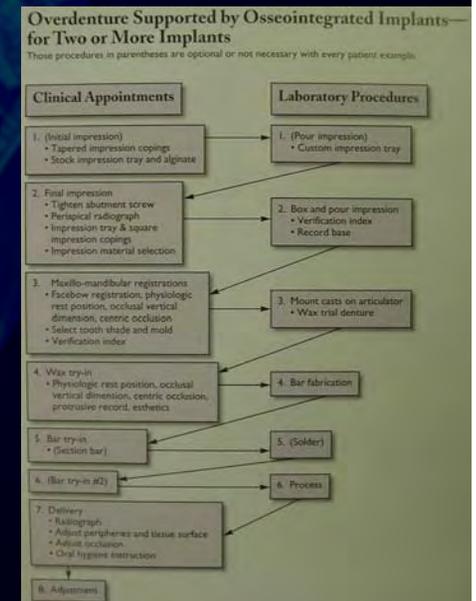
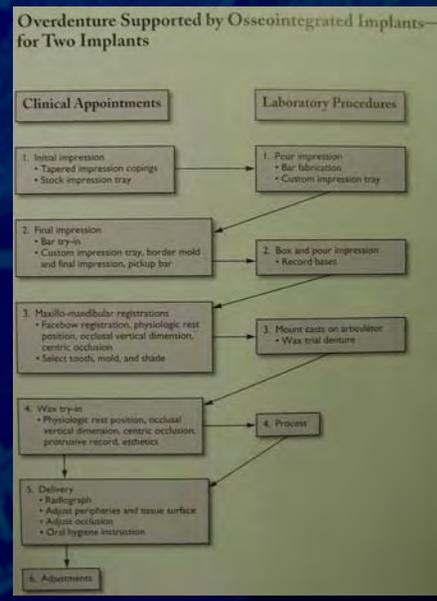
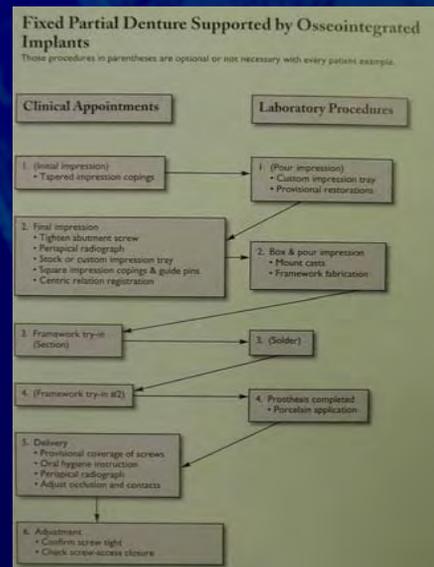
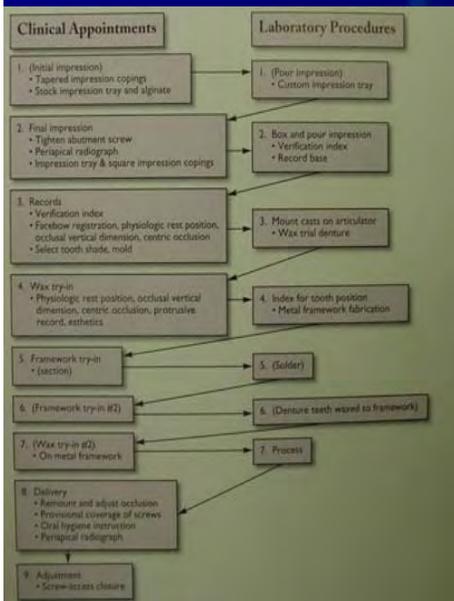
23. What happens during the restorative treatment phase?





24. How long does it take before I get my teeth?

- This depends on the type of dental restoration required - usually it takes around 4-12 weeks.
- Treatment time can vary greatly. Each situation needs a separate evaluation





After treatment



25. What will it feel like when it is done?

- Once the entire procedure is complete and the final restorations placed, an implant supported fixed dental prosthesis will actually feel or function like natural teeth.



26. Risks and Discomforts following treatment

- For the last ten years, success rates at many treatment centers are consistently over 90% with proper personal and professional care.
- Few forms of medical, orthopedic or dental treatment have such high success rates.



26. Risks and Discomforts following treatment

Failure of the implant or attached restorative work

This might require removal of an implant(s), remaking part of the dental restoration, or constructing an alternative prosthetic appliance to replace the missing teeth.



26. Risks and Discomforts following treatment

Failure of the implant or attached restorative work

This might require removal of an implant(s), remaking part of the dental restoration, or constructing an alternative prosthetic appliance to replace the missing teeth.

If an implant has to be removed (“explanted”), a local anaesthetic is administered.

The implant is subsequently removed with the aid of a drill which fits over the implant



26. Risks and Discomforts following treatment

Failure of the implant or attached restorative work

This might require removal of an implant(s), remaking part of the dental restoration, or constructing an alternative prosthetic appliance to replace the missing teeth.

If an implant has to be removed (“explanted”), a local anaesthetic is administered.

The implant is subsequently removed with the aid of a drill which fits over the implant

Depending on circumstances, another implant may be placed after 3 months healing



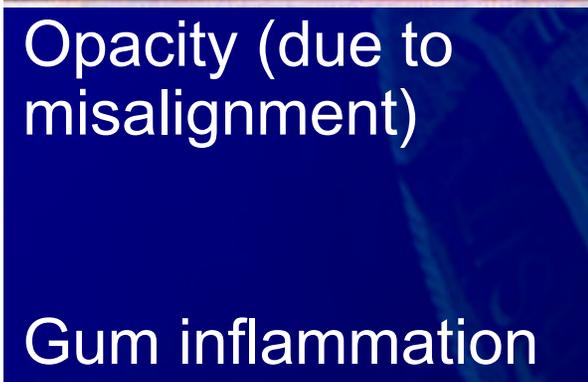
26. Risks and Discomforts following treatment



Perfect result



Exposed implant



Opacity (due to misalignment)

Gum inflammation



Adjacent tooth damage





27. How long do dental implants last?

- As a general rule it can be said that the better care the patient takes of the mouth and teeth, the longer the implants will last.
- Given correct oral hygiene and regular check-ups by a dentist (known as recalls), dental implants can last for decades.
- If properly followed up, one should expect implants to last for 10 years, but there are patients who have had solid dental implants for 35 years.



28. How do I take care of my implants?

- Normal routine home care and professional cleaning visits are advised.
- Most dentists will offer special training and professional dental cleaning.
- Taking care of ones teeth nevertheless has a major influence on the long-term success of the dental implants.



28. How do I take care of my implants?

- Patients should have a routine cleaning and re-care treatment and evaluation regularly – varying between 4 to 12 months depending on treatment.
- An individualized program is usually designed for the patient to optimally care for their new teeth





Bottom line.....

- Dental implants are an effective, safe and predictable solution to the problems resulting from missing teeth.





*Thank you for your
kind attention*

