Implants and the dental assistant

Bill Holden BSc DDS DABOI

Reeves College Dental Assisting program

Monday March 3rd, 2025

Princess Elizabeth Dental Training Centre

PACE ACADEMY OF GENERAL DENTISTRY PROGRAM APPROVAL FOR CONTINUING EDUCATION

Approved PACE Program Provider for AGD credit. Approval does not imply acceptance by a state or provincial board of dentistry or AGD endorsement. The current term of approval extends from July 1st, 2024 to June 30th, 2027. Provider ID# 360503

Objectives for today:

1. What is an implant dentist?
2. Recognise implants in the mouth and on radiographs
3. Basic understanding of types of cases where implants are used
4. Overview of typical implant placement procedures
5. Overview of typical implant restorative procedures
6. What do our assistants do?

What is an implant dentist?

1

There are nine recognised dental specialties in Canada:

Dental Public Health
Endodontics
Oral and Maxillofacial Surgery
Oral Medicine and Pathology
Oral & Maxillofacial Radiology
Orthodontics and Dentofacial Orthopaedics
Paediatric Dentistry
Periodontics
Prosthodontics

Disciplines not recognized as specialties here include:

Dental anaesthesia
Orofacial pain
Temporomandibular dysfunction
Sleep disordered breathing
Dental implantology

What does an implant dentist do?

- tooth removal and plasty/grafting
- implant placement surgery
- dental implant restorations
- associated bone/soft tissue grafting
- maintains implants and restorations, including older or unusual cases
- removal of failing implants
- teaching
- research

This is what we do, full time, every day.

Recognising implants

2

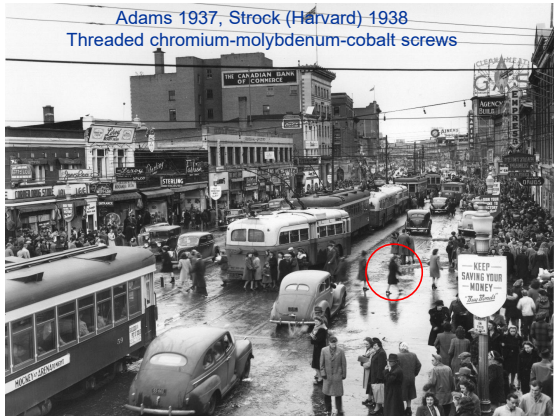
Approx 600 BC

Fig 1a Lingual view of the carved shell tooth.

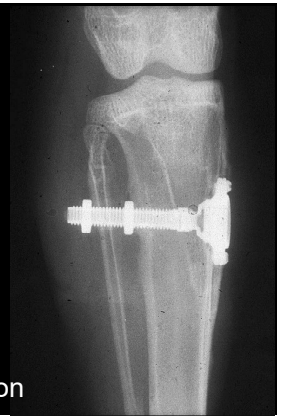
Fig 1b Labial view of the carved shell tooth.

Maggiolo- immediate gold tubes
Nice, France 1809

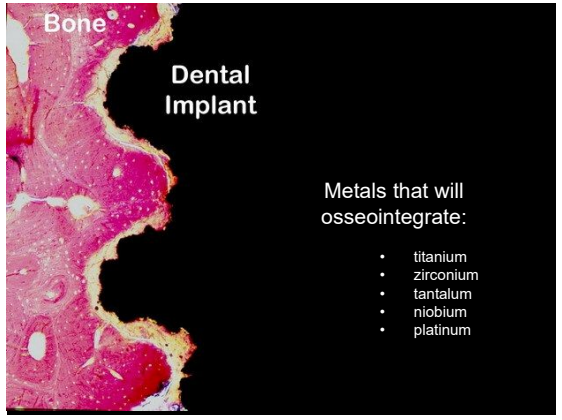
Adams 1937, Strock (Harvard) 1938
Threaded chromium-molybdenum-cobalt screws



Per Ingvar Brånemark

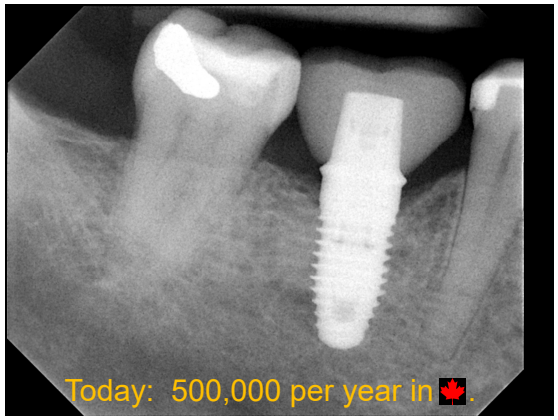


The story of osseointegration

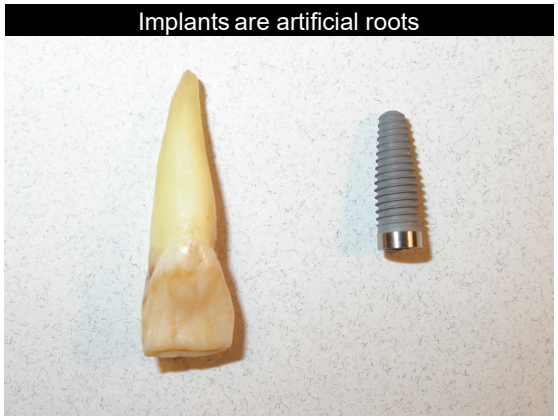


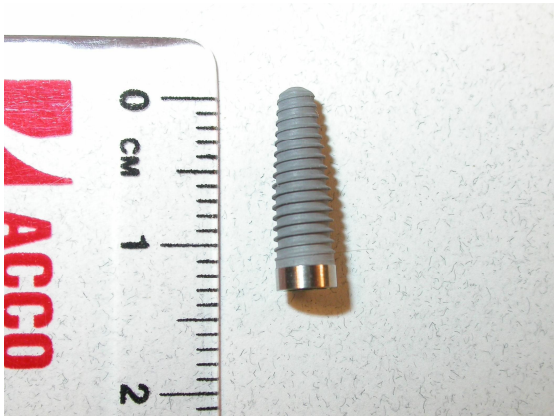
Metals that will osseointegrate:

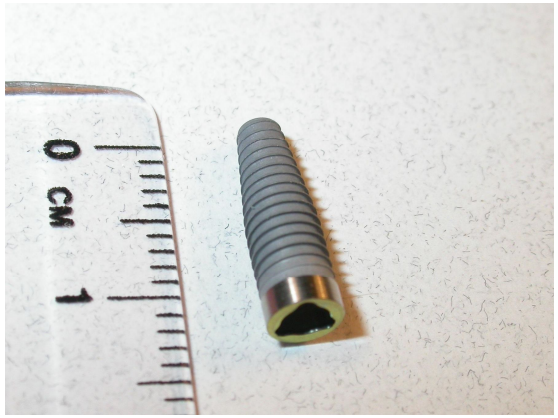
- titanium
- zirconium
- tantalum
- niobium
- platinum

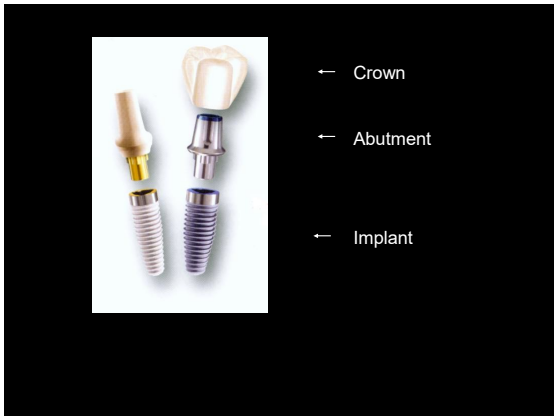


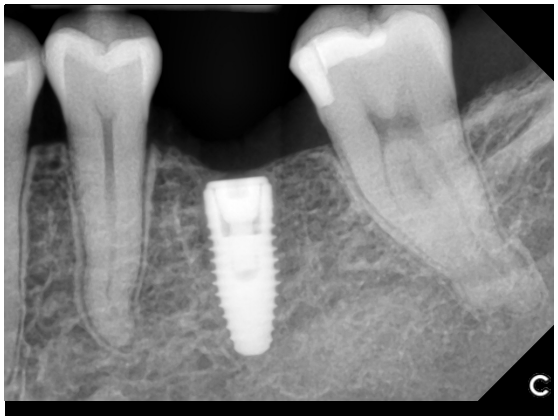
For our purposes, an implant is a root-sized screw.

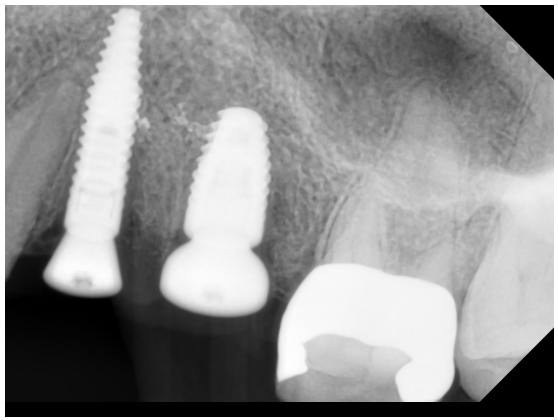


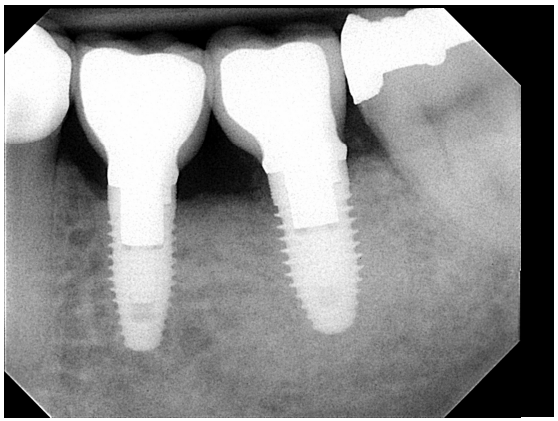


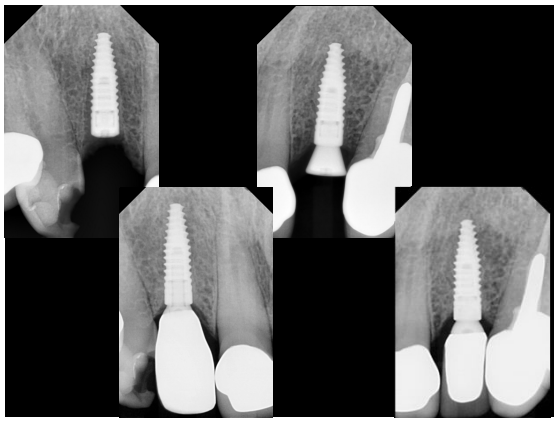

0
CM
1

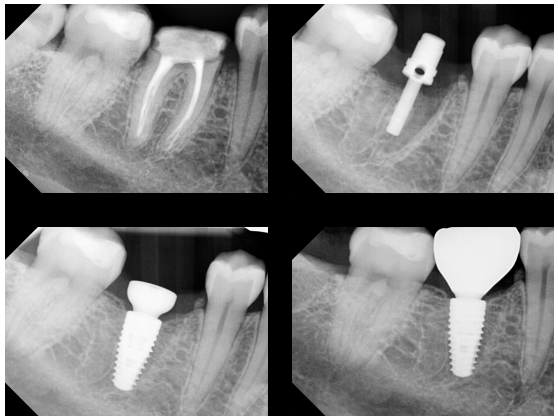

Crown
Abutment
Implant

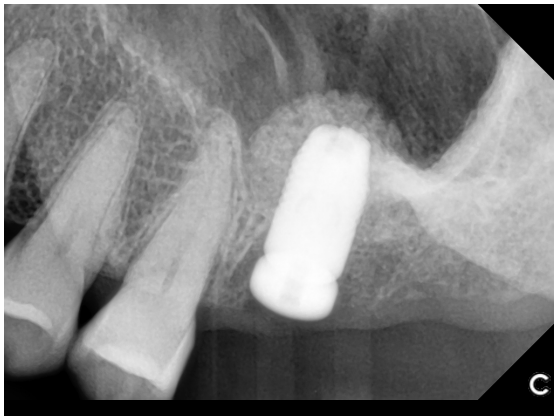


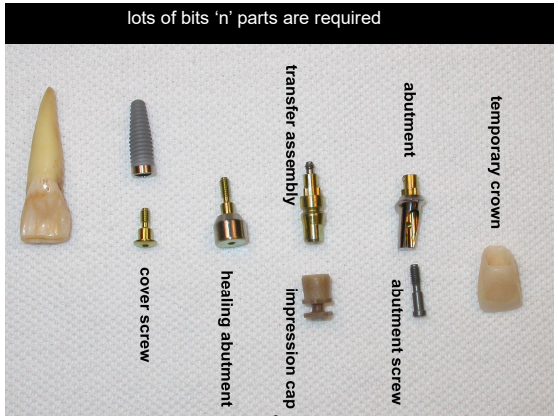


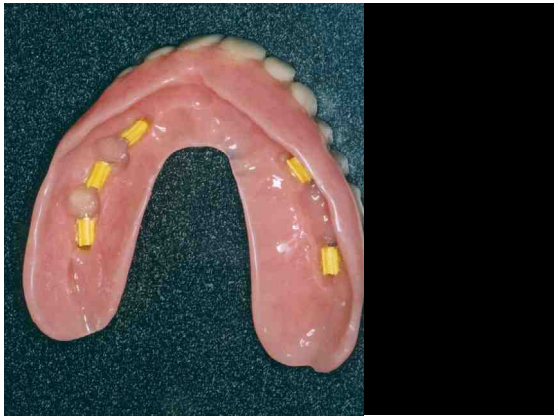


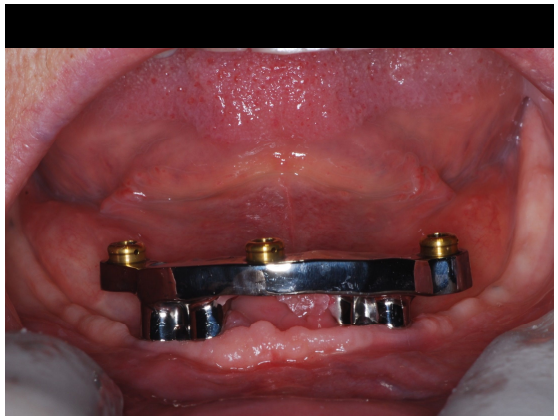


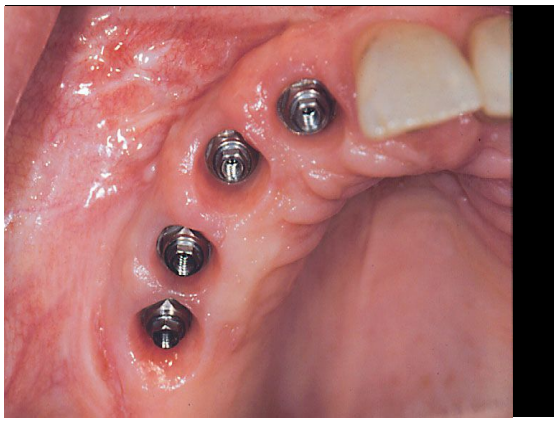



C


lots of bits 'n' parts are required
cover screw
healing abutment
transfer assembly
impression cap
abutment
abutment screw
temporary crown

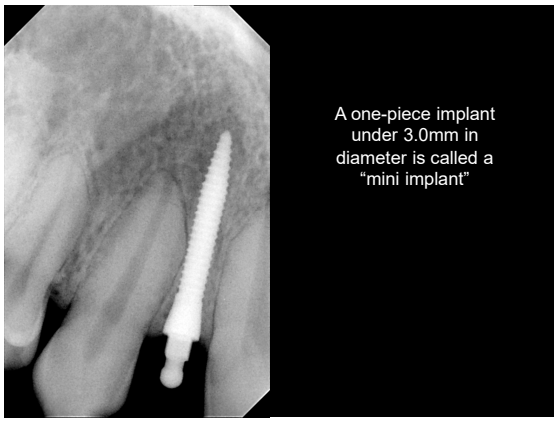




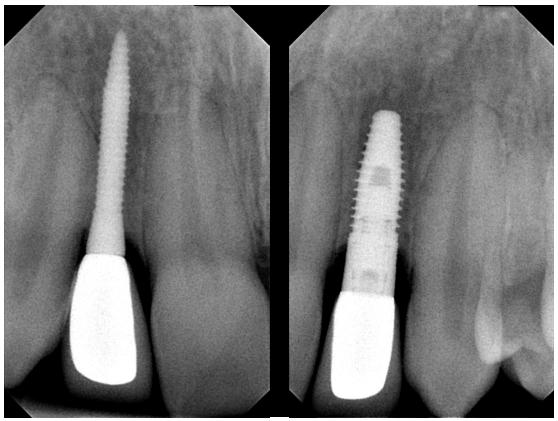


Many other kinds of dental implants exist, besides root form implants.

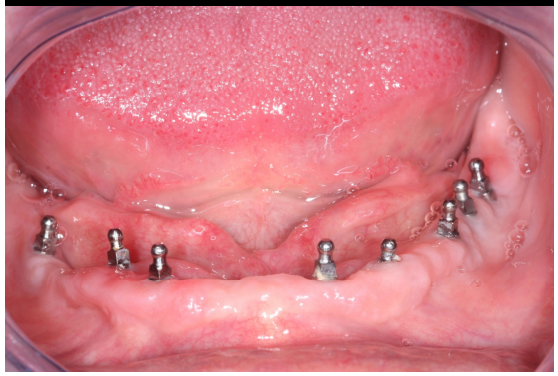
Only two you will encounter frequently in Edmonton:



A one-piece implant under 3.0mm in diameter is called a “mini implant”



Minis get a bad reputation because of improper use ☹



Where are implants used?

3

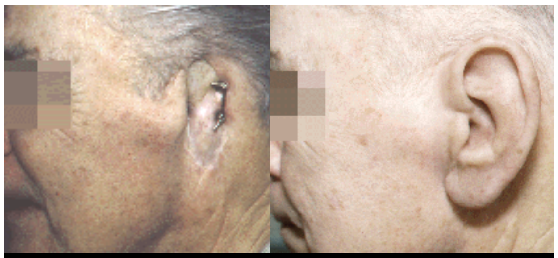
- Replacing a single tooth or teeth
- Stabilizing dentures and other prostheses

Dental implants are used…

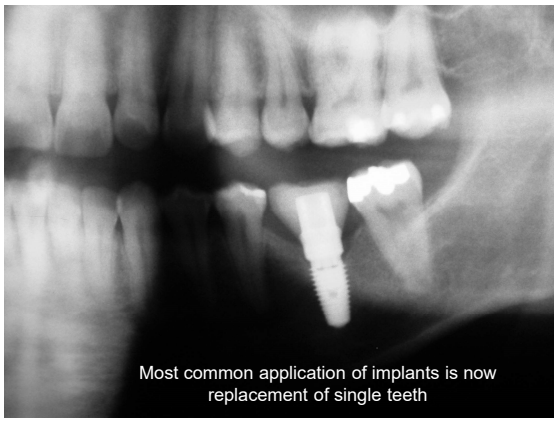
- **To replace missing single teeth**
- To replace multiple missing teeth
- To retain and/or support a removable prosthesis
- To screw a full arch restoration down to
- To retain other prostheses and BAHAs
- For orthodontic anchorage and to perform distraction osteogenesis

BAHA

"Bone Anchored Hearing Aid"

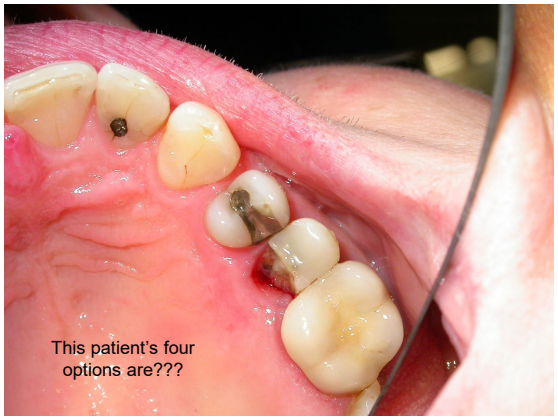


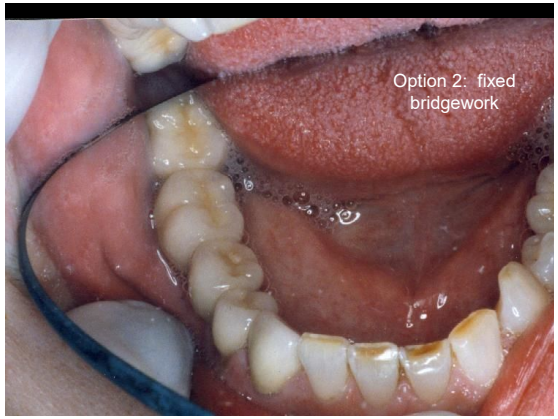
Implant retained aesthetic prosthesis—great fun at parties!

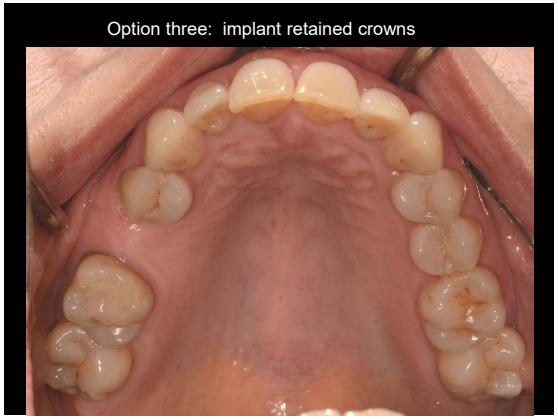


Most common application of implants is now replacement of single teeth

So lets look at our options for a single missing tooth…

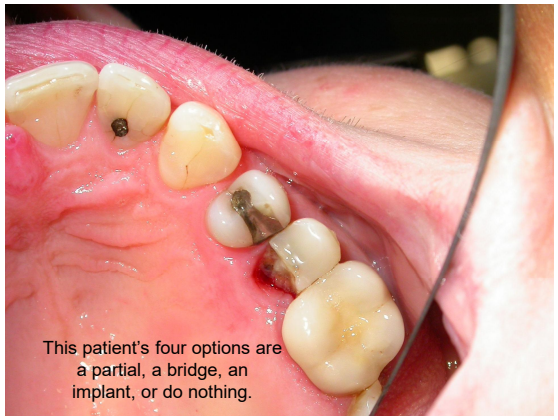






Option 4: Do nothing!

Sometimes this is the right treatment plan



Now lets look at our options for multiple missing teeth

For patients with no teeth in the arch, our options are…

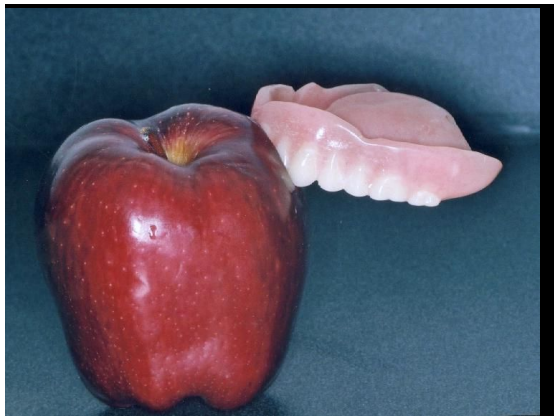
- Go without ("gum it")
- A conventional plastic denture
- Implants with individual attachments
- Implants with joined attachments (bar w clips)
- Implants with a fixed prosthesis*
- Implants with crowns and bridgework

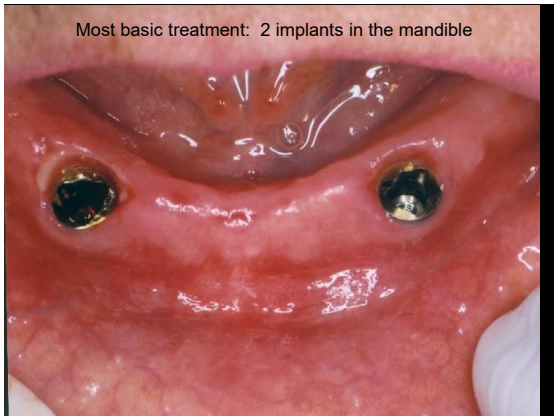
* This is the most rewarding treatment there is in dentistry *

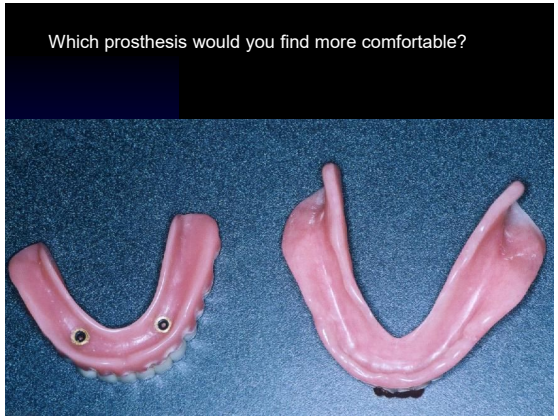
Dentures are associated with poor overall health, discomfort, and reduced quality of life.

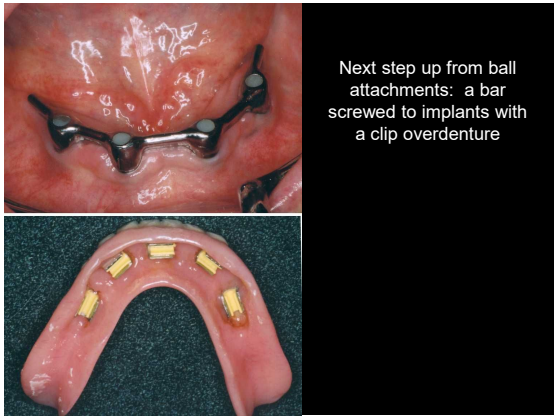
Conventional dentures are often painful

Conventional dentures do not stay in well

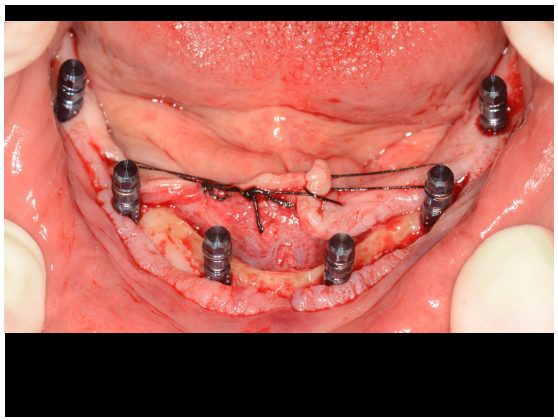


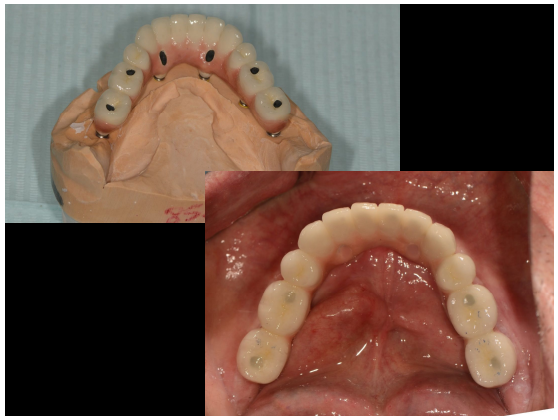

Most basic treatment: 2 implants in the mandible


Which prosthesis would you find more comfortable?

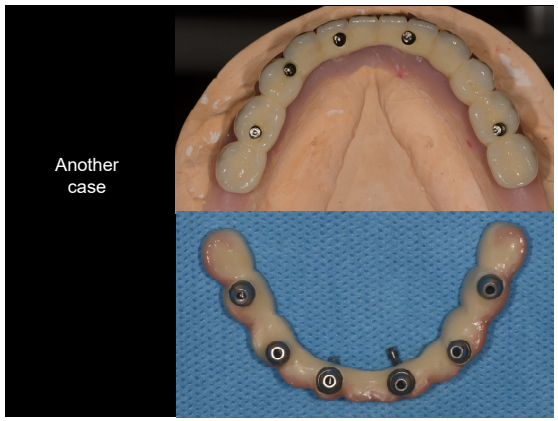

Next step up from ball attachments: a bar screwed to implants with a clip overdenture

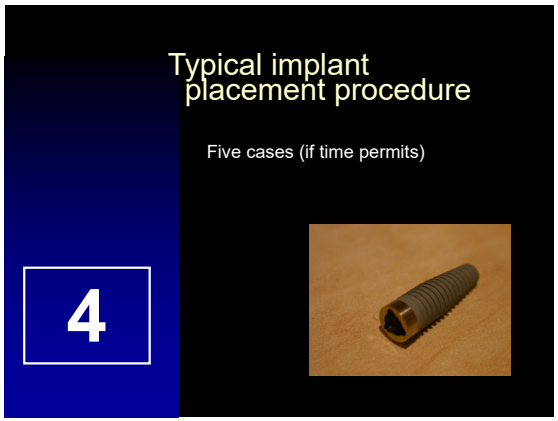
6.50 mm





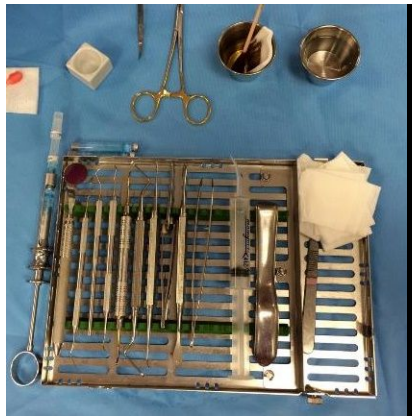
Fixed implant restorations are life-changing for these patients


Another
case

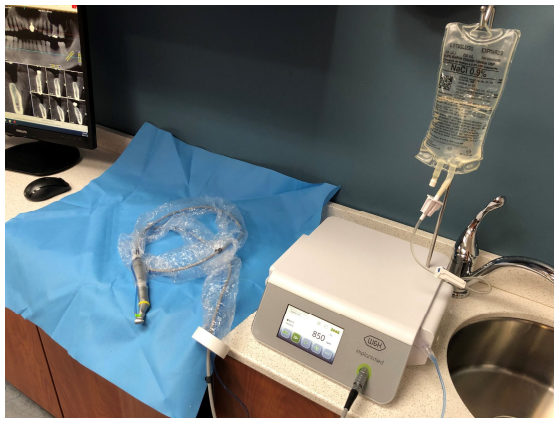

Typical implant
placement procedure
Five cases (if time permits)
4

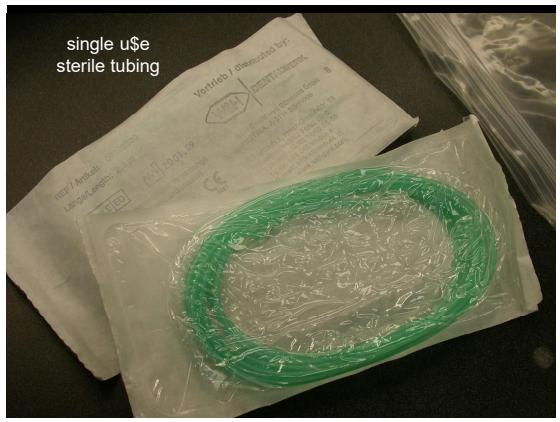
IPC is a big deal in implant surgery.

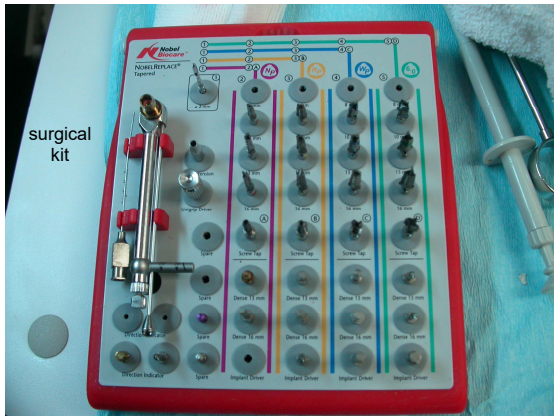
It is complex, time-consuming, and expensive



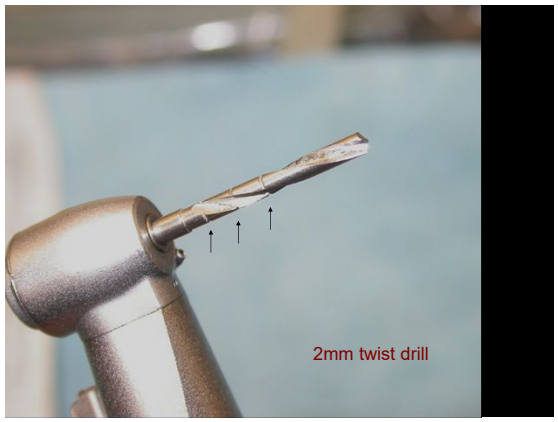
The hand instruments used are not unusual or complicated.

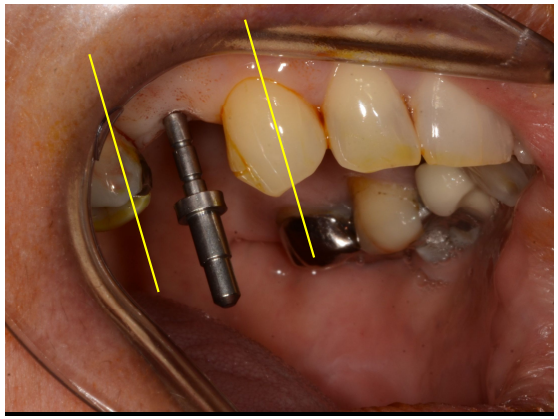


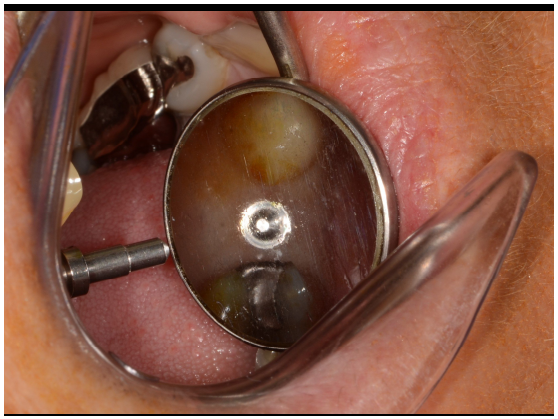


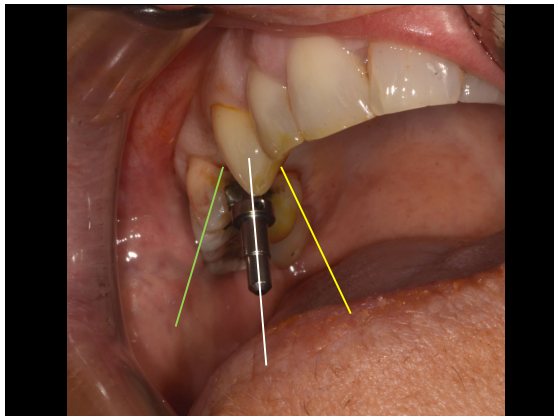


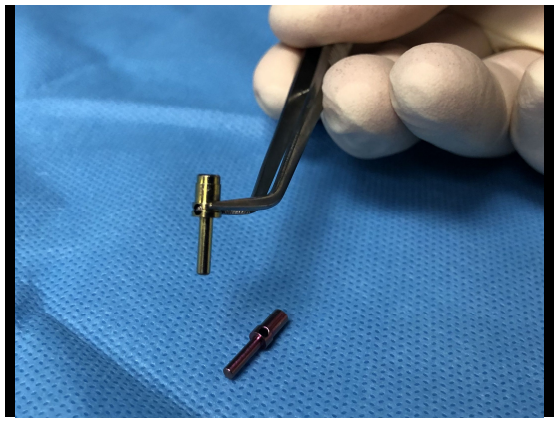
Case one. Is this a good implant case?
What tooth # is it?

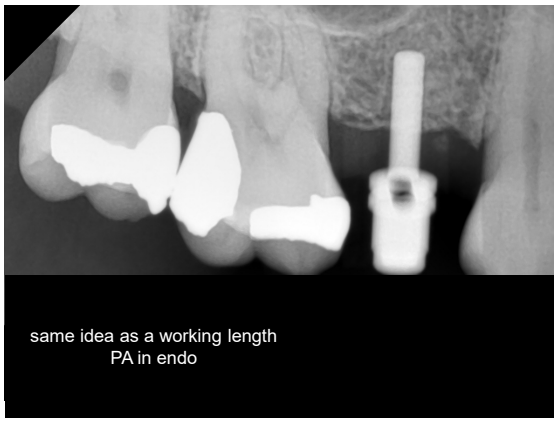


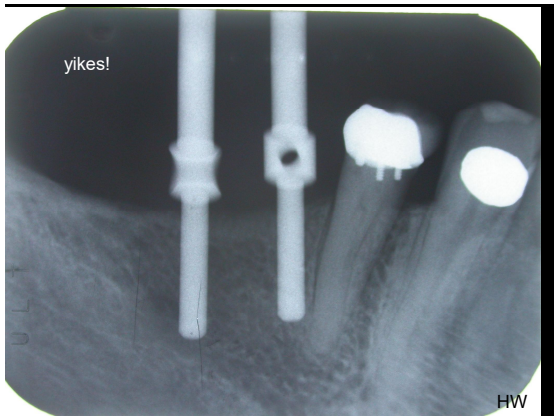


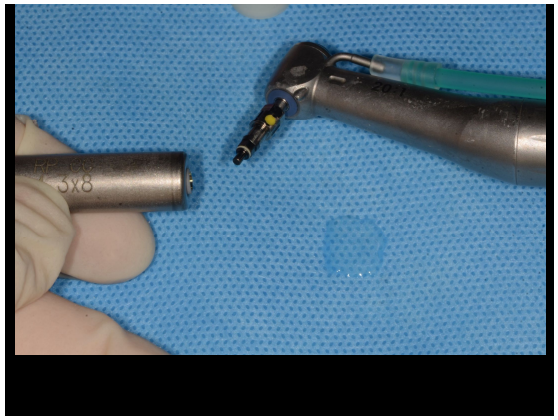


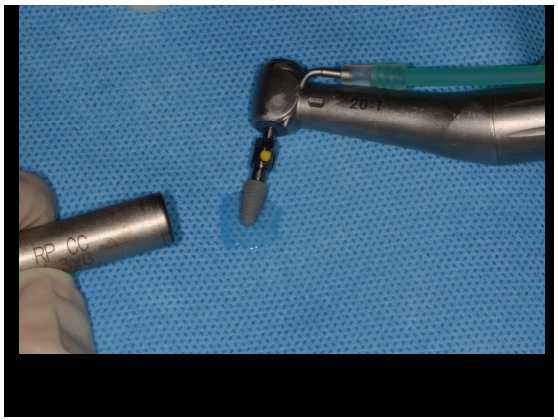


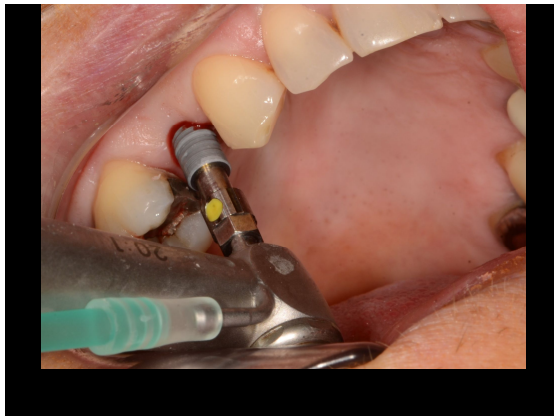


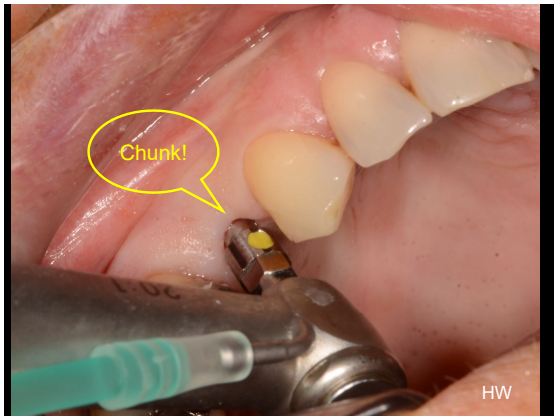

same idea as a working length
PA in endo

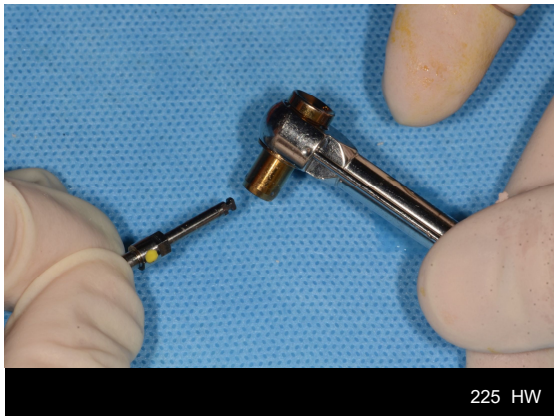

yikes!
HW

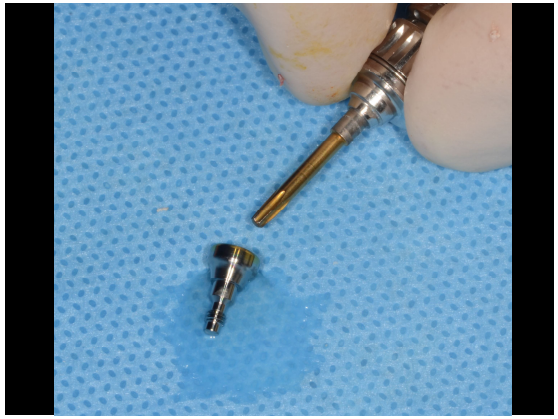


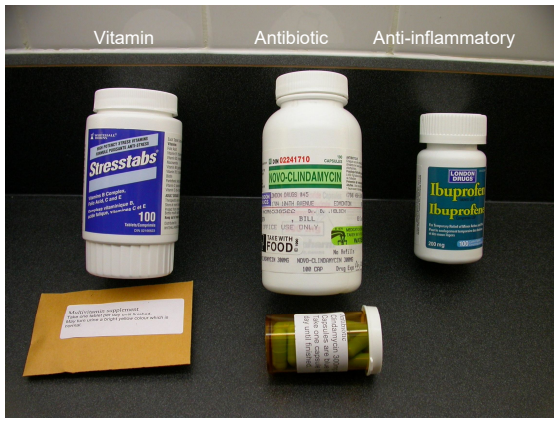


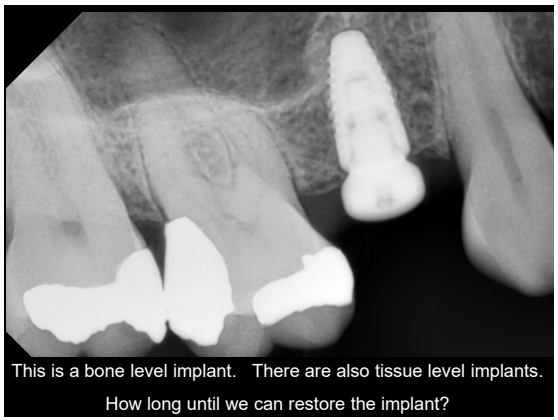



Chunk!
HW


225 HW

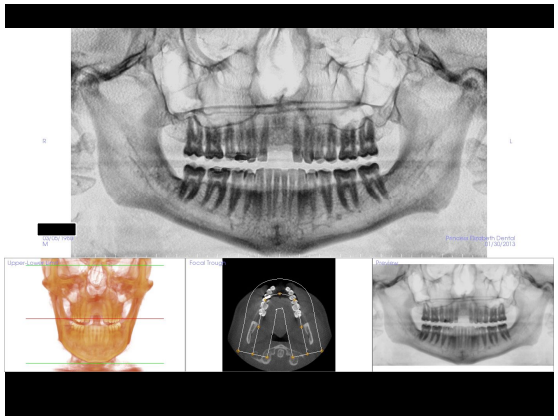


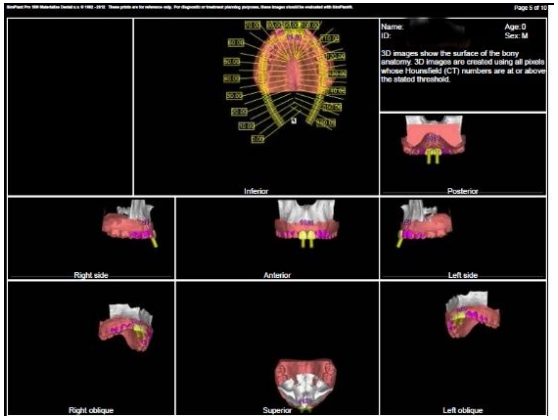


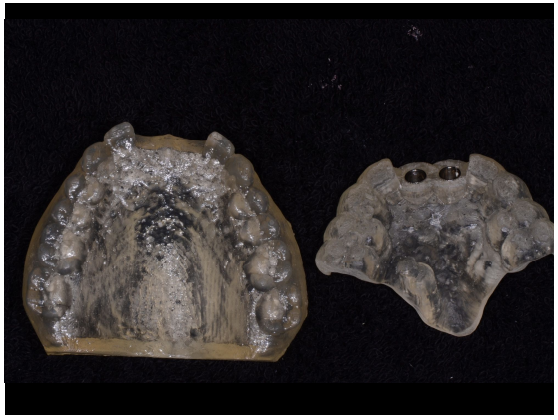


The only thing that can be guaranteed in dentistry, is that patients will hate their flipper.

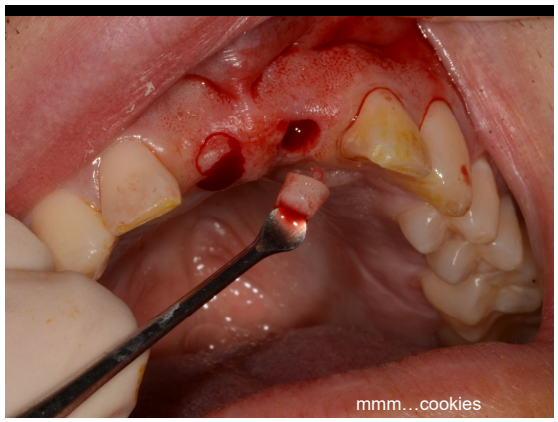
Case three – guided implant placement



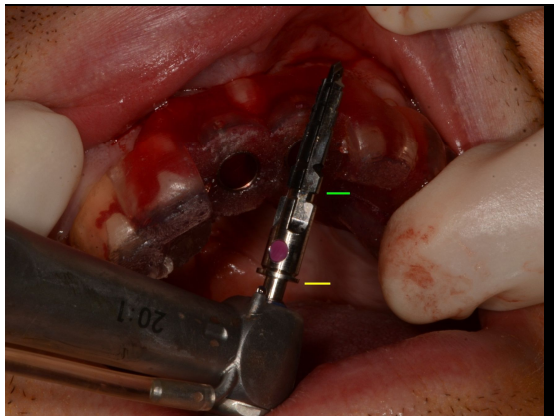


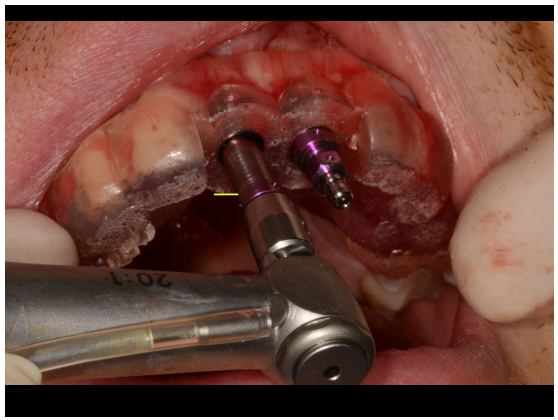


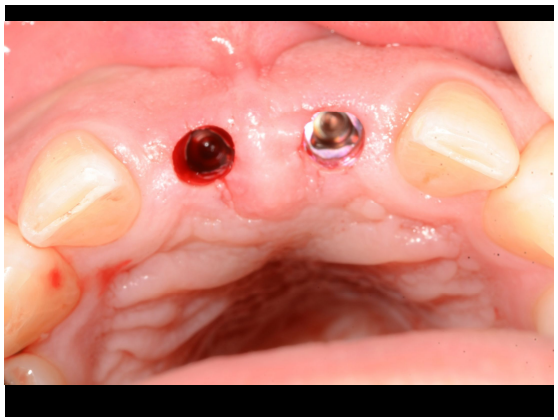
20:1

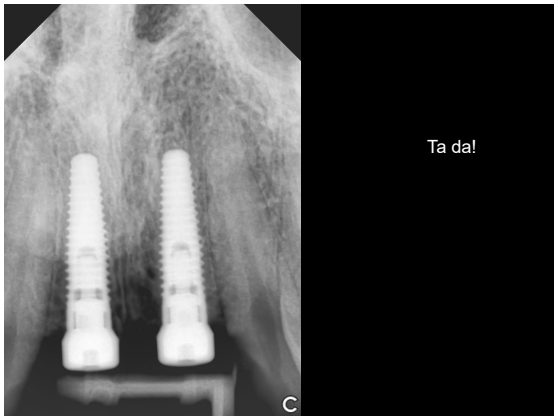

mmm…cookies

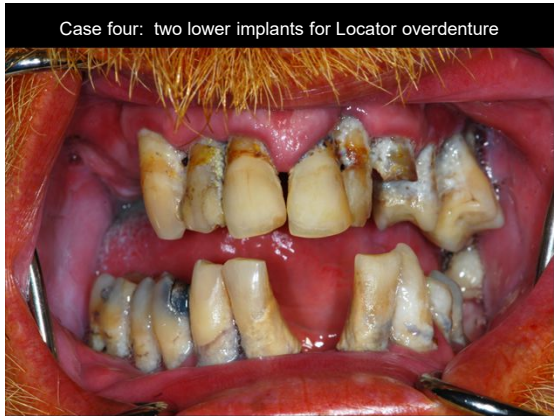
20:1

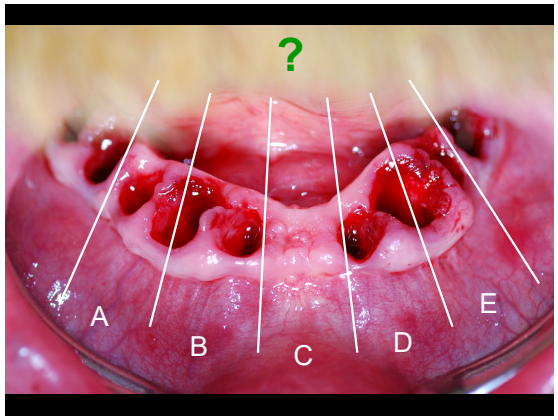


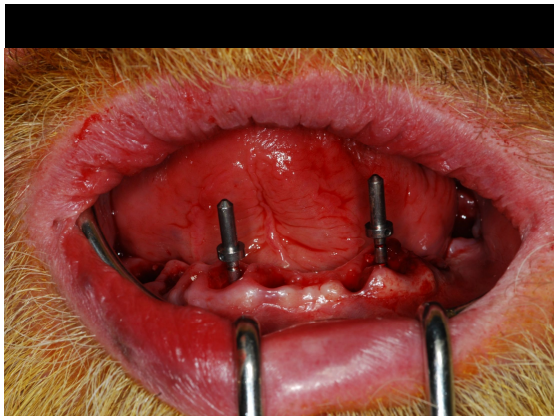


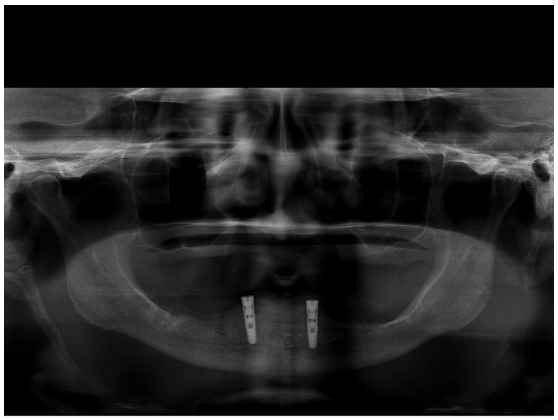



Ta da!

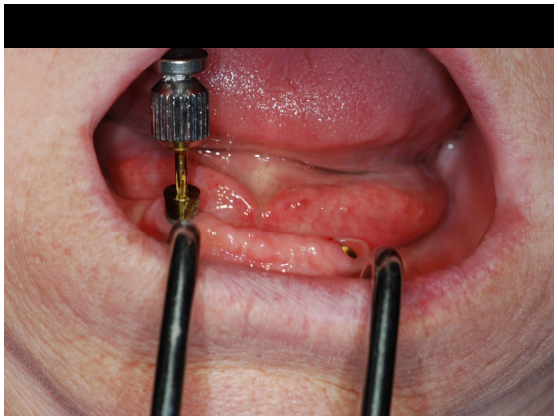

Case four: two lower implants for Locator overdenture

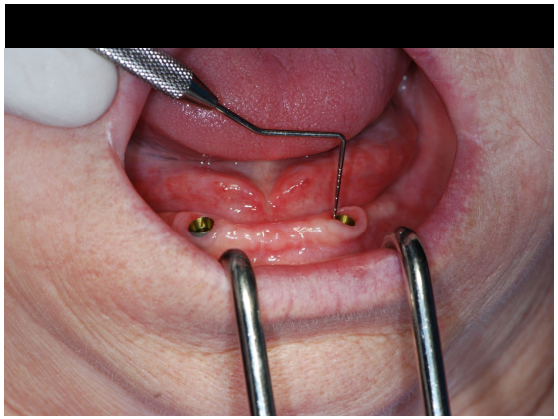

?
A
B
C
D
E

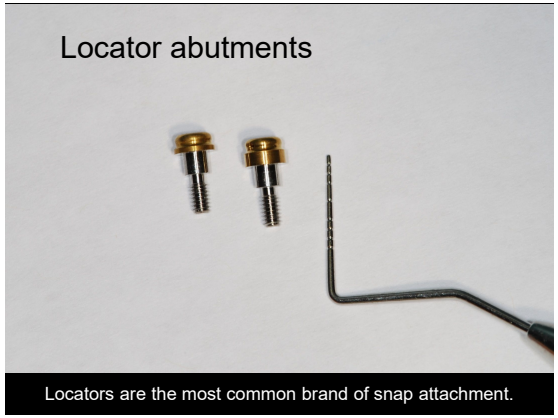


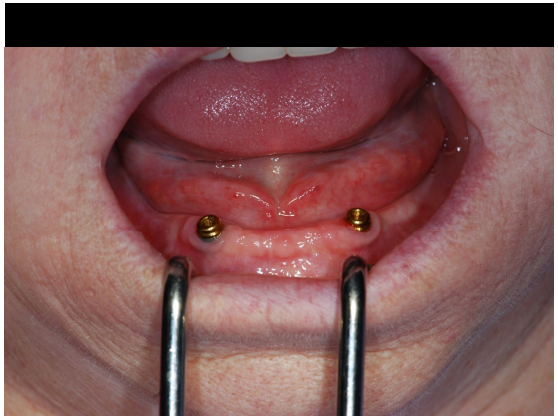


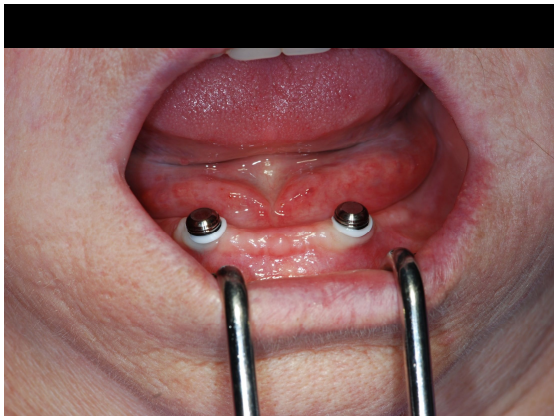
healing abutments

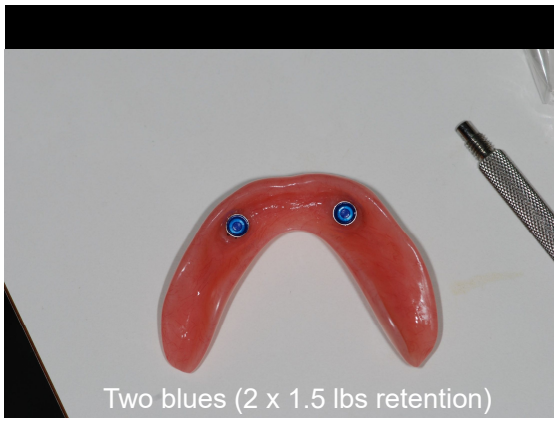





Locator abutments
Locators are the most common brand of snap attachment.






Two blues (2 x 1.5 lbs retention)

Some of these patients have to learn oral hygiene from scratch…

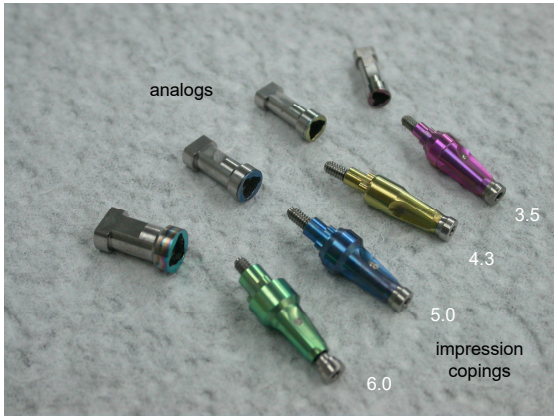
three to four months later…

time to restore our healed implant(s)!

Yup, you need both long and short screwdrivers

Prosthetic kits

Prosthetic Kit	32309
Kit includes	
Prosthetic Kit Box	32322
Screwdriver Machine Unigrip™ 20mm	29151
Screwdriver Machine Unigrip™ 30mm	29153
Screwdriver Machine Multi-unit 21mm	29158
Manual Torque Wrench Prosthetic	29165



Nobel classic

3.5 magenta 4.3 gold 5.0 blue 6.0 green

Zimmer

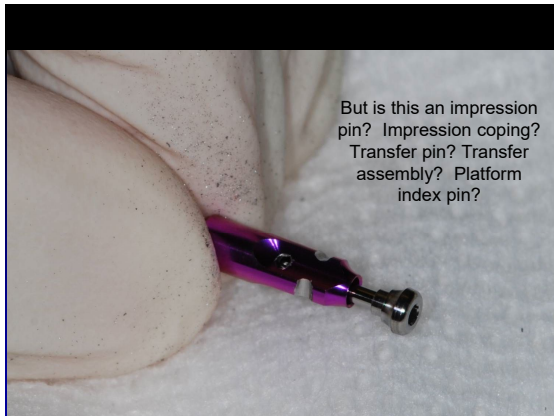
3.5 green 4.5 purple 5.7 yellow

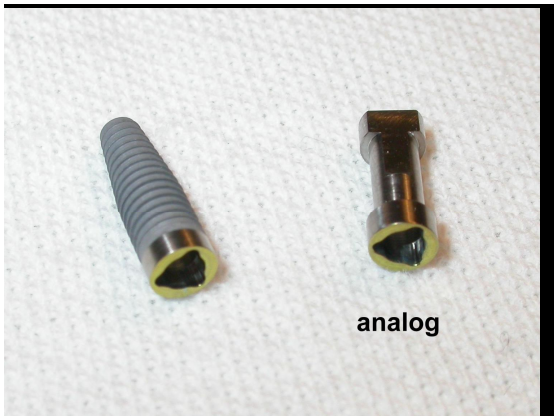
Straumann

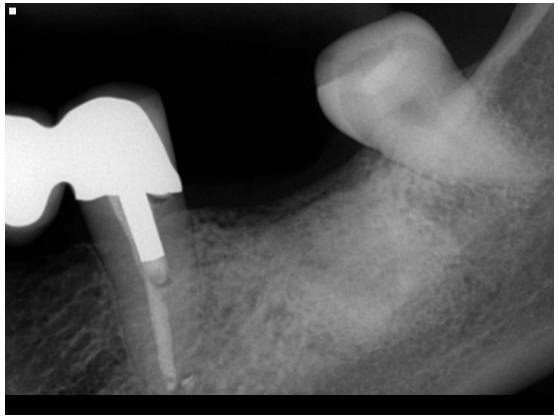
2.9 blue 3.3 gold 4.1 pink

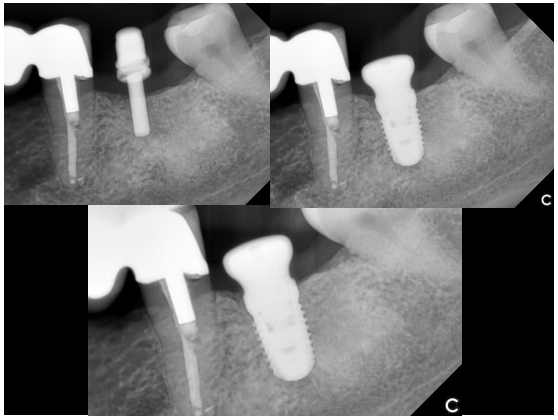
Astratech classic

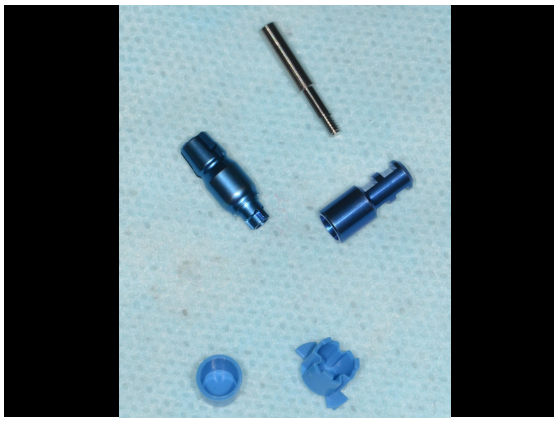
3.0 yellow 3.5/4.0 aqua 4.5/5.0 lilac

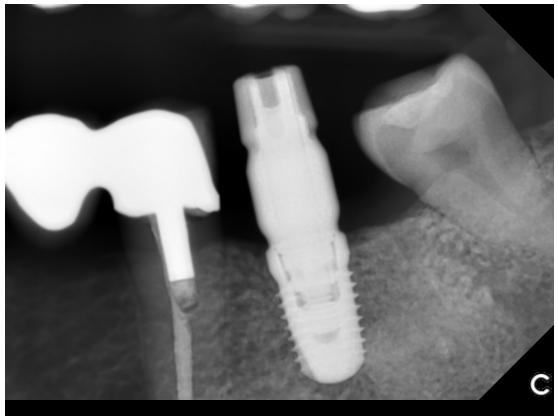

But is this an impression pin? Impression coping? Transfer pin? Transfer assembly? Platform index pin?

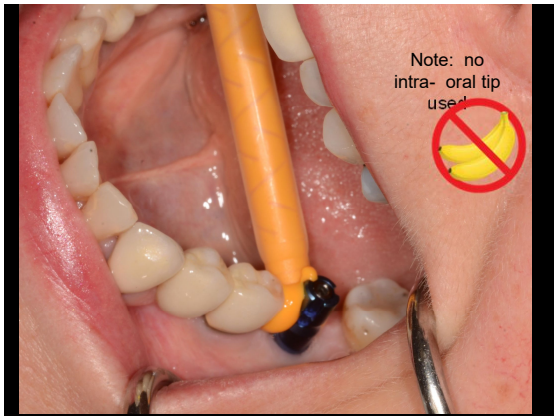

analog

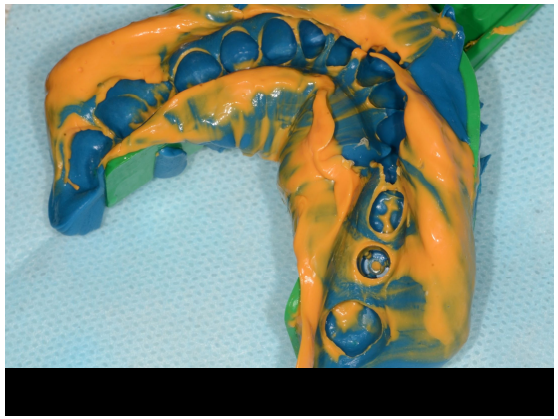


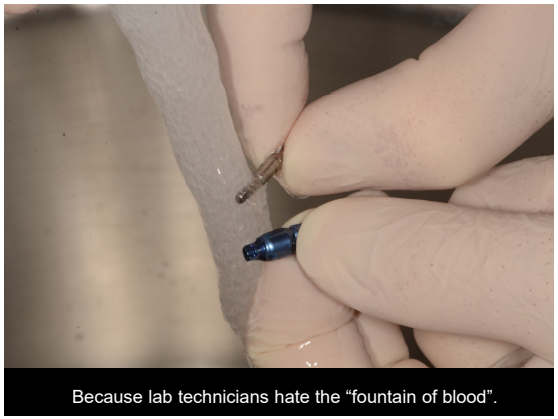




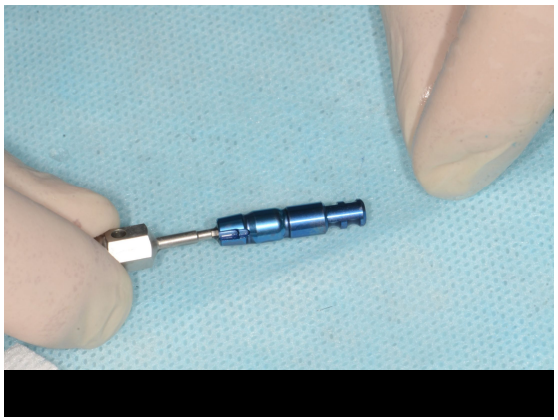


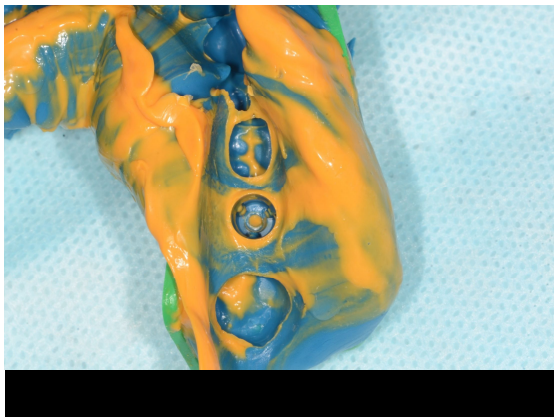

Note: no
intra- oral tip
used

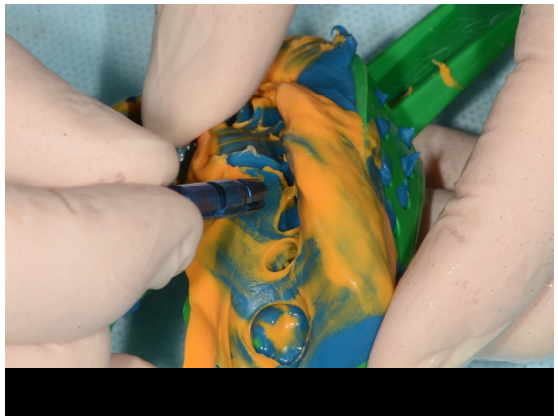


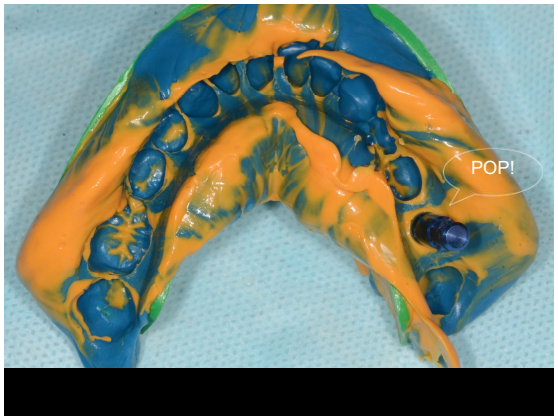


Because lab technicians hate the “fountain of blood”.








POP!

So great, now we have an impression, now what?
?
Don't let the patient escape just yet…

Shade selection
A2
A1

What to send to the lab:

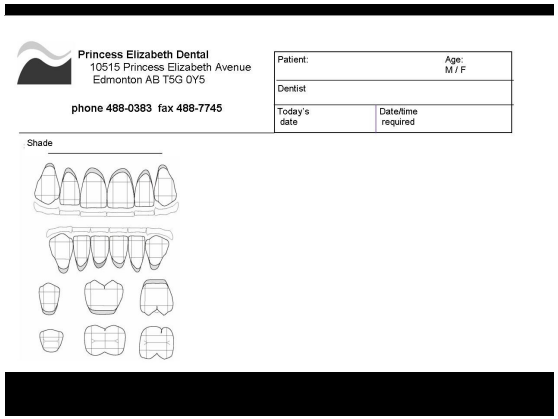
- final impression with impression coping/analog placed
- opposing model
- bite/cant record if required
- facebow or Koisbow if required
- shade
- laboratory Rx…filled out properly!

Optional: pre-op models, photos, etc.

What to send to the lab:

- final impression with impression coping/analog placed
- opposing model
- bite/cant record if required
- facebow or Koisbow if required
- shade
- laboratory Rx…filled out properly!

Optional: pre-op models, photos, etc.



Princess Elizabeth Dental
10515 Princess Elizabeth Avenue
Edmonton AB T5G 0Y5

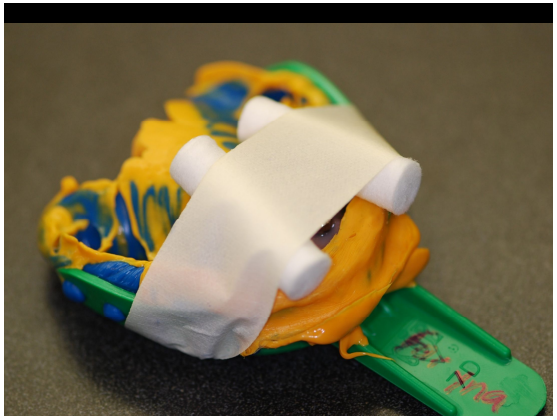
phone 488-0383 fax 488-7745

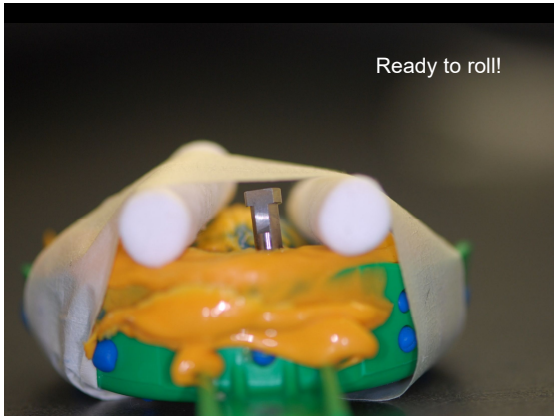
Patient: Age: M / F

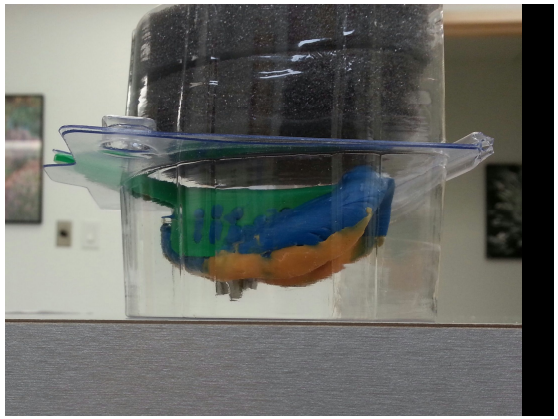
Dentist

Today's date | Date/time required

Shade



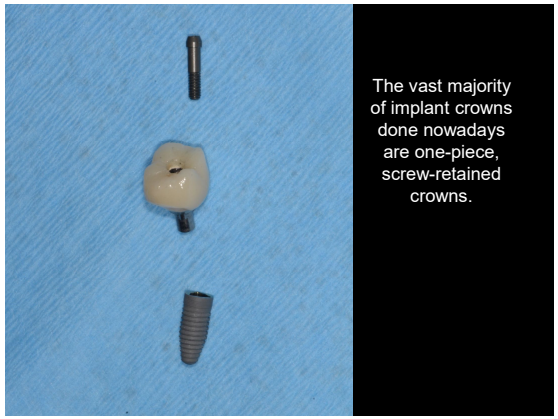




Off to the lab

You should only pour your final impressions in-house if you are going to do it properly.

That means weighing and vacuum mixing.

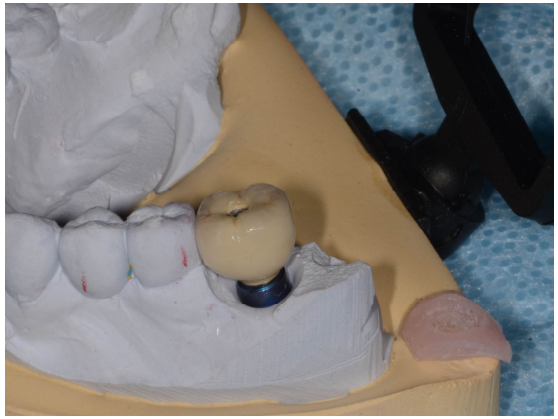


The vast majority of implant crowns done nowadays are one-piece, screw-retained crowns.

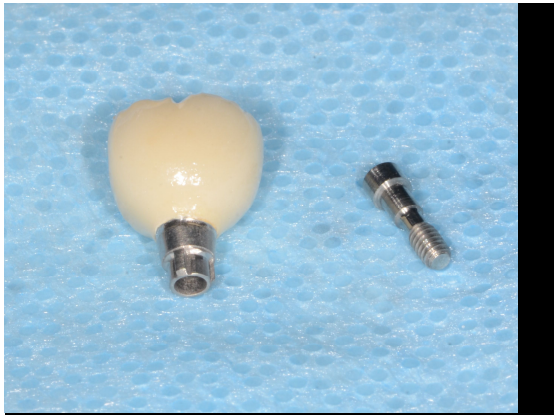
Now let's insert a screw retained implant crown.

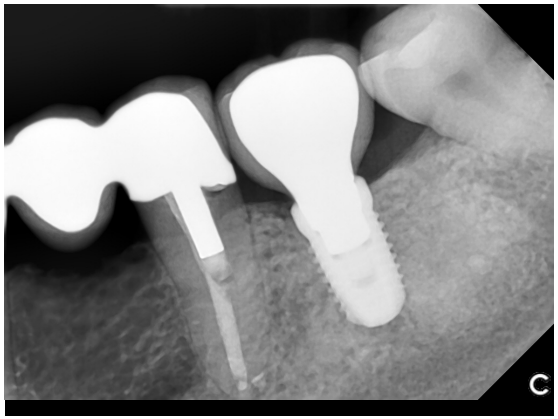
We will require

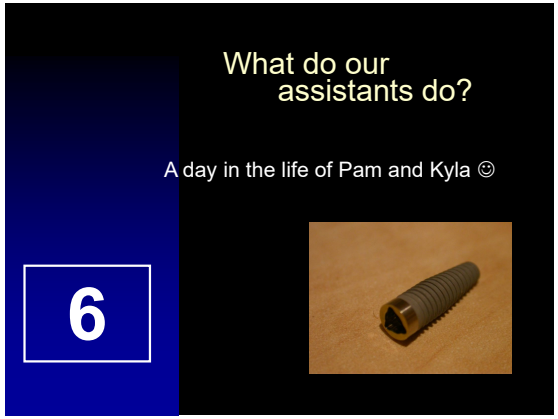
- Completed case from lab
- Screwdrivers (long and short), torque wrench
- Screw blockout material
- Opaquing agent, flowable composite
- Floss, articulating paper, shimstock
- Regular exam kit
- Handpieces and burs to adjust, polish



One more part to learn: abutment screws






What do our assistants do?
A day in the life of Pam and Kyla ☺
6

The International Congress of Oral Implantologists
and
The Association of Dental Implant Auxiliaries and Practice Management
present this certificate of attendance to
Pamela L. Stockman
for the
Dental Assisting Implant Certification Program

The fun stuff!
☺Meeting patients
☺Surgery and procedures

A typical surgery appointment

Setup operatory (10-12 minutes).

Consent form, baseline BP, prep patient.

Scrub, gown up.

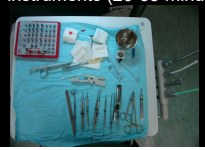
Assist surgery: suction, retract, cut sutures, load/place grafts.

Prepare graft materials, membranes, implants, parts, draw meds.

Final records, discharge instructions and medications.

Take down op, run suctions, process instruments (20-35 minutes)

Phone to check on patient the next day.



A typical final impression appointment

Radiograph.

Scan opposing, scan bite, remove healing abutment and place scan body, re-scan, scan bite, shade selection.

Remove scan body and replace healing abutment.

Fill in lab requisition, post-process STLs, download to USBs.

versus

Other stuff our RDAs do:

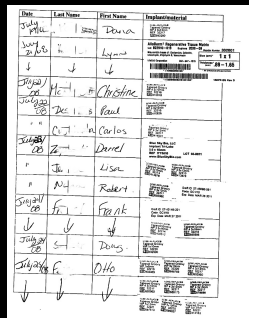
Answer phone calls from other offices

Inventory and ordering

Track lab cases

Office and equipment maintenance

Eat lunch (occasionally)



Everyone's favourite: ordering and inventory

What did we (hopefully) learn today:

Implant dentists exist!

What dental implants look like

Where they are used

What happens in implant placement and restoration procedures

What do implant assistants do