Implant mentor program 2026
Session two, day two

Dr. Ali Afshar
Dr. Bill Holden
Saturday January 31st

Five general treatment planning concepts:

First molar occlusion as a treatment goal

Dental implant treatment is only one of four+ options

Dental implants are second stage therapy

Implants are not splinted to teeth

Restoratively driven treatment planning

How are we going to accomplish that in 36 hours???

WEEKEND 1

Friday January 16th	introduction, treatment planning, risk assessment pt, socket grafting, bone quality
Saturday January 17th	risk assessment procedure, restorative treatment planning, single implant restoration, introduction to bone drilling

WEEKEND 2

Friday January 30th	armamentarium, placement theory, hands on, instruments, equipment, healing abutments, case presentations
Saturday January 31st	soft tissue mgmt, paperwork, IPC, setup, complications, CBCT, drilling guides, more case presentations

WEEKEND 3

Saturday February 7th	live surgery day, dinner later that evening
Sunday February 8th	~4½ hours surg debrief, implant maintenance, implementation

(*note that session 4 is a Sunday*)

Course schedule for today:

SESSION 2, DAY 2.

Saturday January 31st

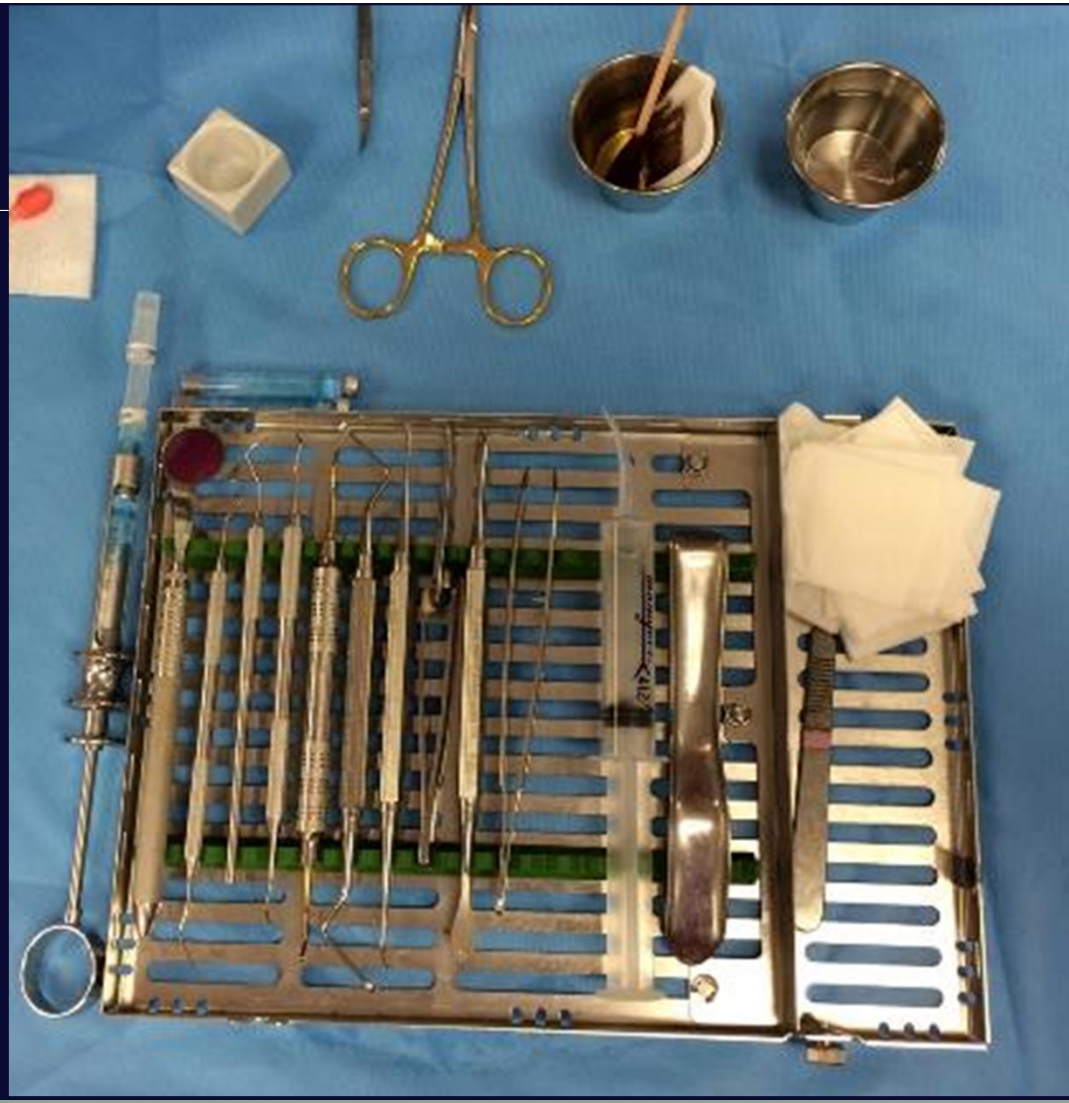
Morning
- Instruments
- Soft tissue management
- Overview of paperwork
- IPC / operatory setup
- Restorative review and hands-on

Afternoon
- Healing abutment selection
- Correcting osteotomies
- Managing common complications
- Drilling guides—an overview
- Case presentations and live surg prep
- Bonus material if time: more txp cases

And lots more opportunities to "Drill, baby, drill"

Instrument list

- XCP or whatever radiographic holder you prefer
- Air-water syringe tip
- Your typical exam kit—mirror, explorer, probe, cotton pliers, articulating paper forceps if desired
- Needle driver and Scissors
- Scalpel handle with millimetres marked
- Anaesthetic syringe
- Minnesota retractor
- Molt 2/4 curet
- Periosteal elevator, small to medium in size
- 60 cc irrigation syringe, Monoject 412 works well
- Ceramic dish for bone, a dappen dish or old Alvogyl jar will work to start
- Iodine cup for saline, or two if you want to toss used small parts into saline
- One additional instrument to keep clean for handling saved bone, use an old Hollenback or any old instrument you have laying around



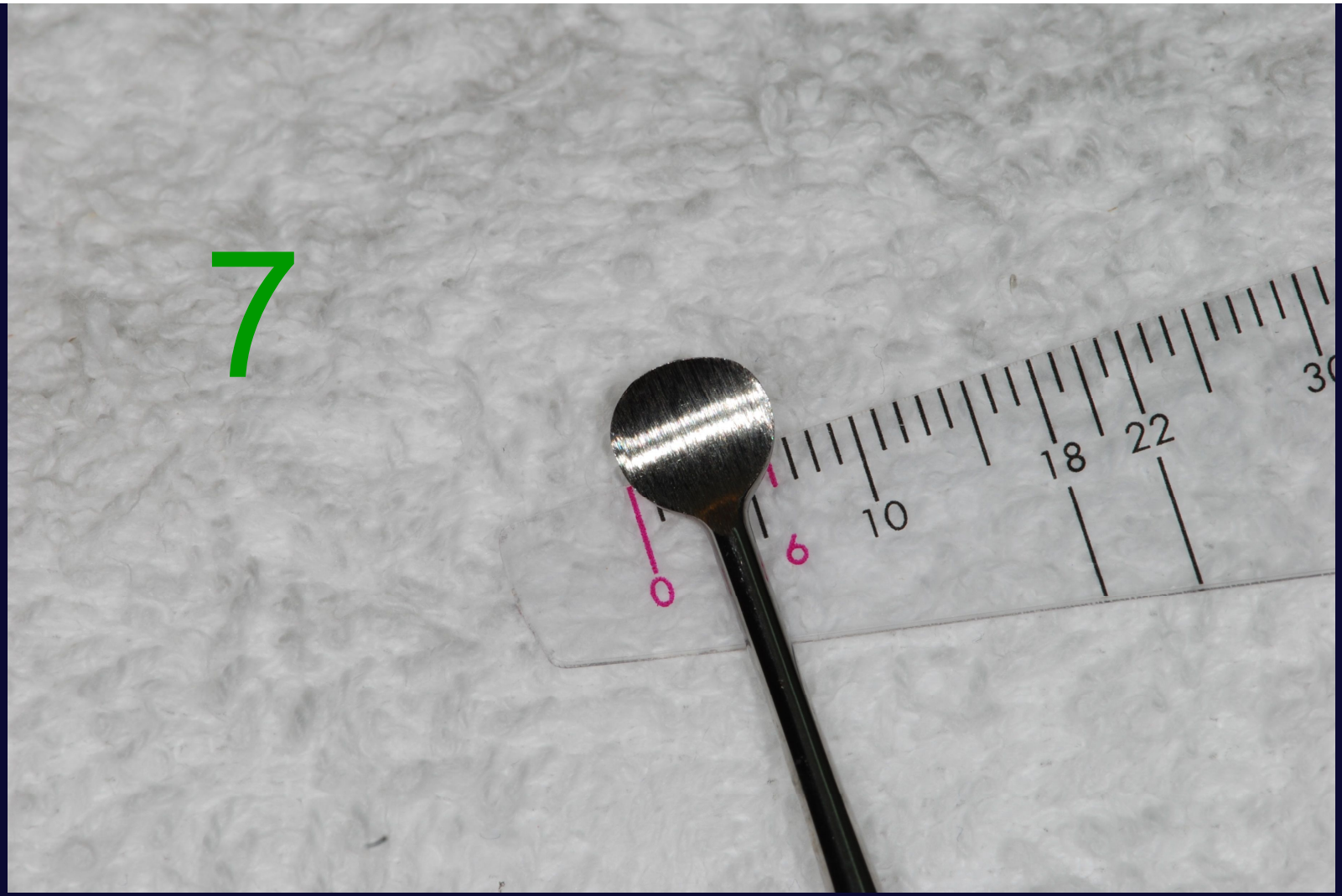
Our typical cassette

Again, most are instruments you already know/have

The Surgical Room has put together two cassette options to purchase if you prefer.

Their options include a Hu-Friedy set, or a DentalUSA set.

The instrument list is on your thumb drive.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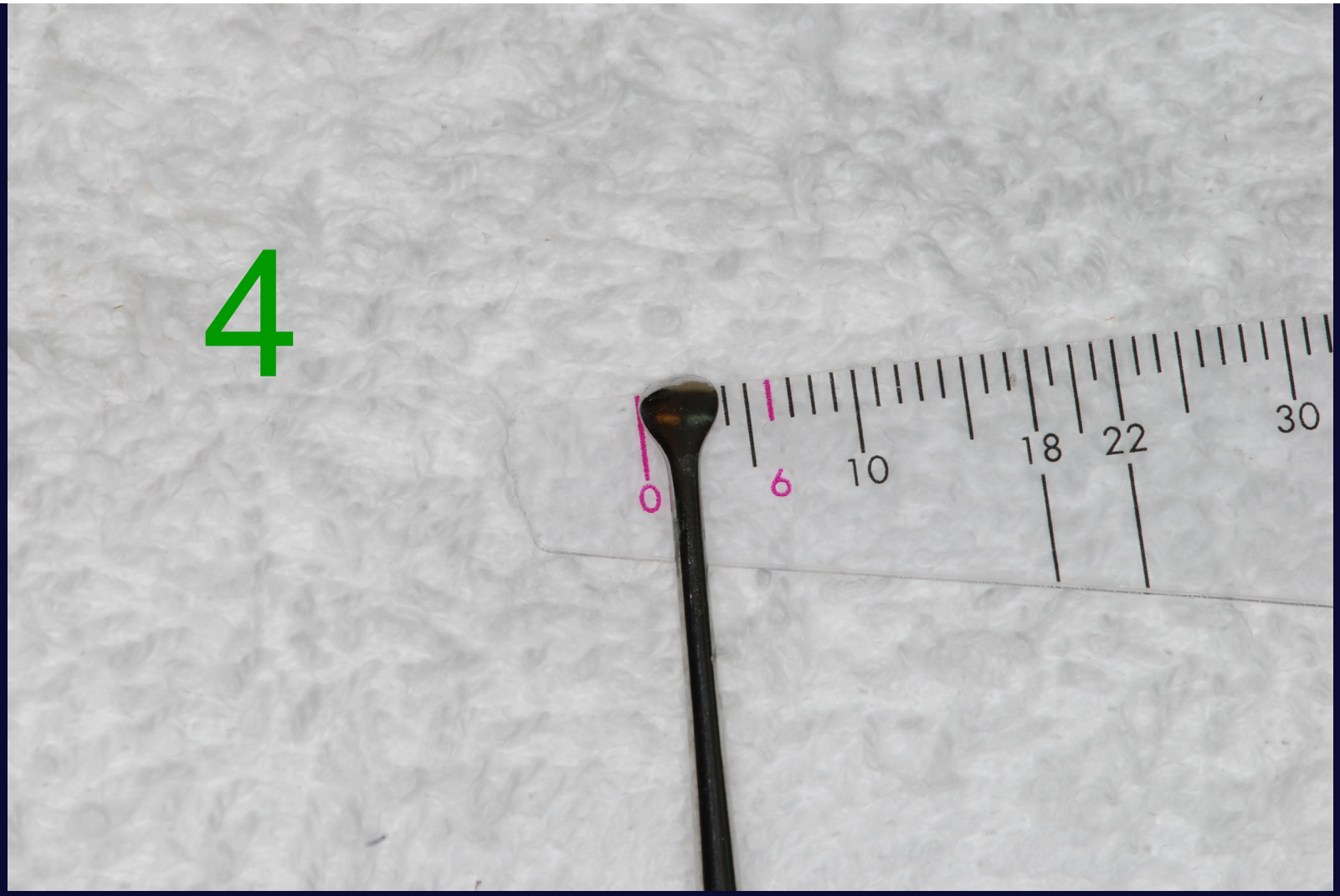
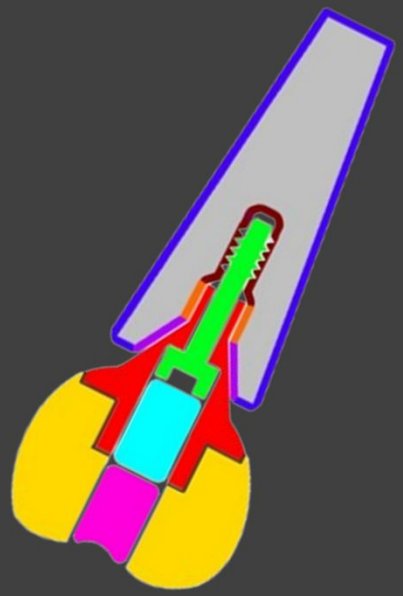


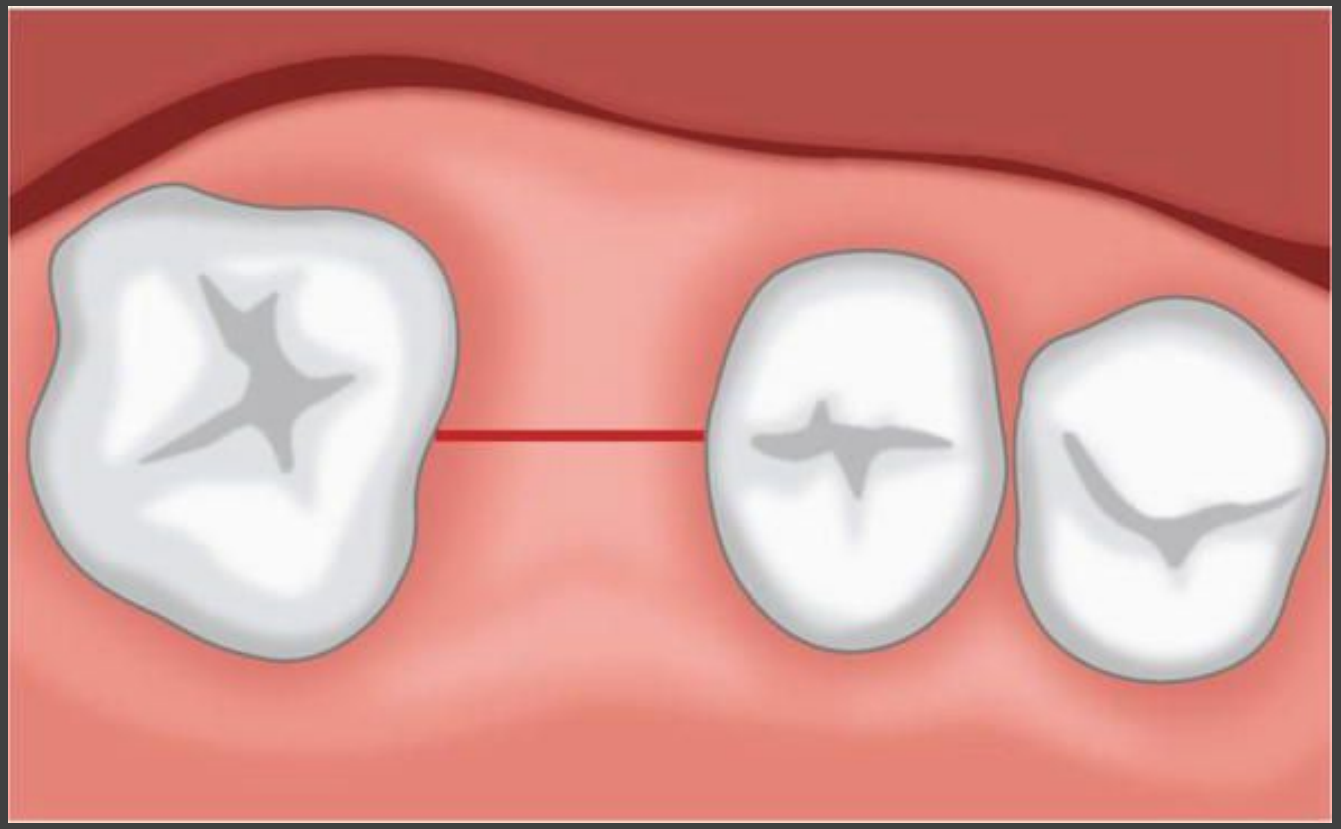
Think of it as the “Molt 4/7 Curet”

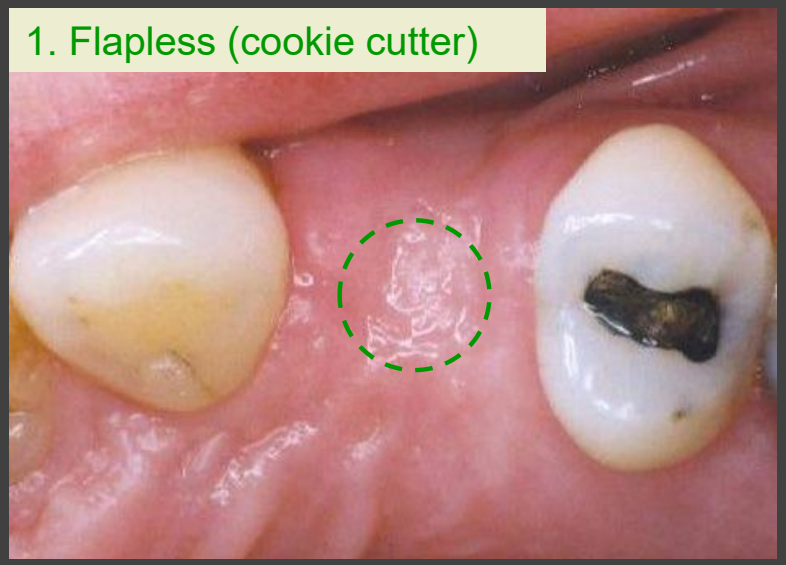
Soft tissue management

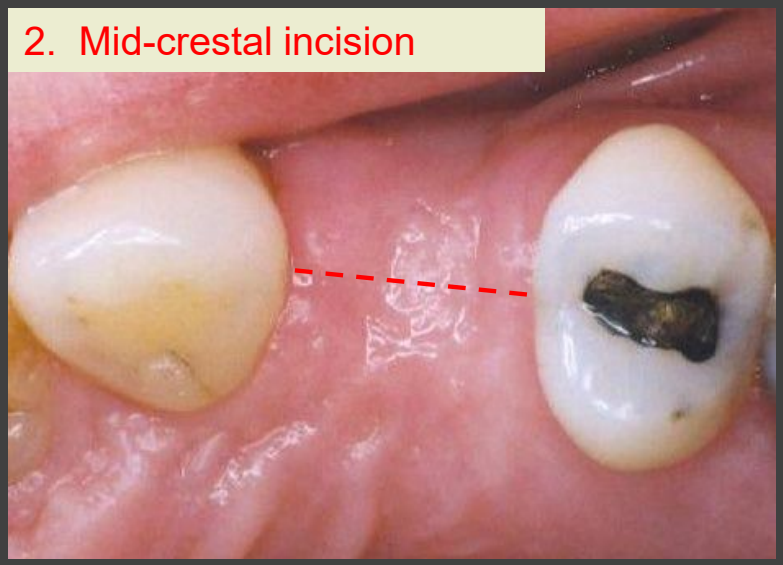


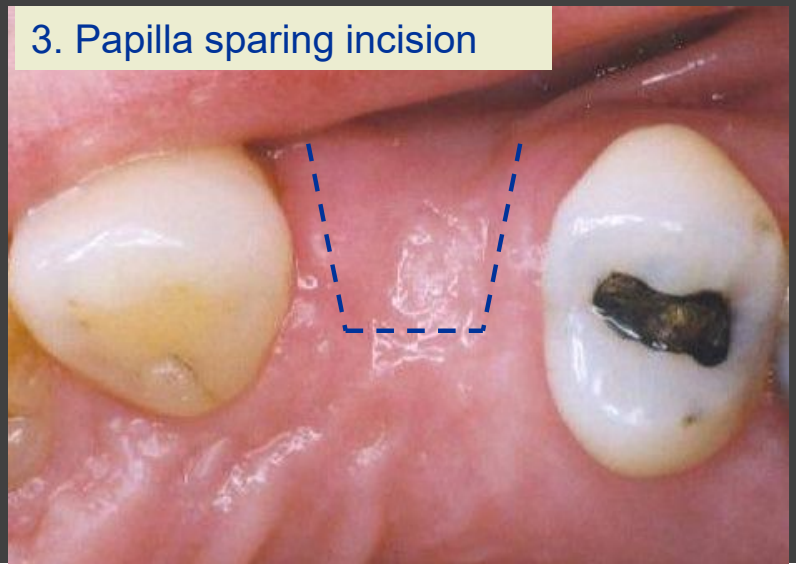
2SA2

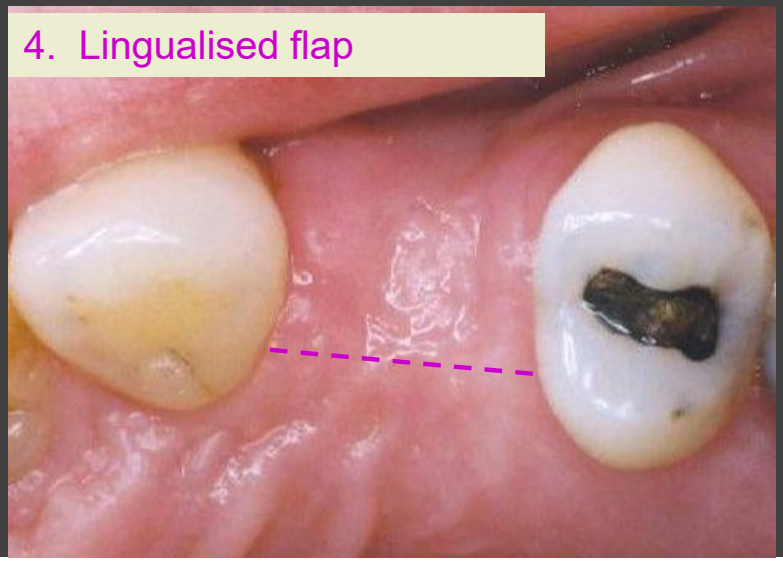
This is what the training manuals will tell you to do. It is generally wrong.



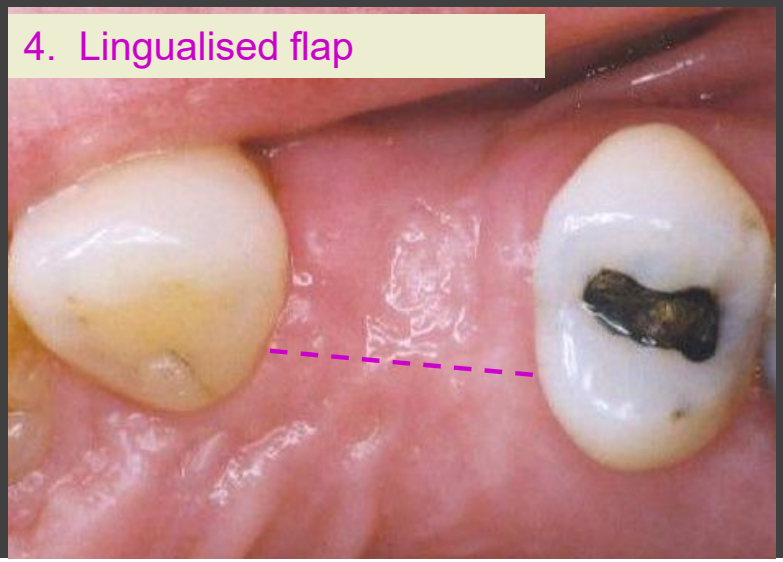

1. Flapless (cookie cutter)


2. Mid-crestal incision


3. Papilla sparing incision


4. Lingualised flap

The vast majority of cases you do in the beginning will be with this approach.



Remember: we are teaching you concepts related to soft tissue around POSTERIOR implants. Some, but not all, of these would apply to cases in the aesthetic zone.

Our goals

- A thick band of keratinised gingiva circumferentially around the eventual implant crown

- Access for vision and bone manipulation

The way to achieve this

- Lingualised incisions to split the limited remaining KG

- Reflect tissue from area to be manipulated only

Flap design concepts

1. There are two kinds of flaps in implant dentistry:
   small flaps and big flaps
2. Small flaps need only expose the buccal “edge of the cliff”

How far do we want to reflect our flap?

To the “edge of the cliff”

Flap design concepts

1. There are two kinds of flaps in implant dentistry:
   small flaps and big flaps
2. Small flaps need only expose the buccal “edge of the cliff”
3. Releasing incisions “1 + 1”, one tooth and one papilla away
4. Releasing incisions never over the center of a root
5. Broad based full thickness flaps
6. Spare papilla over crown margins
7. Thin bone will die if exposed


Vertical releasing incision required?
Starting point is 1+1, one tooth plus one papilla
1
1

Scalpel choices

- Very much a personal preference thing
- If in doubt, start with a #15 or 15C blade
- #12 blade popular for getting right up against distal of adjacent tooth
- Change blade often in larger procedures

Closure of a surgical incision may involve the use of:

- Sutures
- Staples
- Tissue adhesive/adhesive strips
- Laser welding of the tissues
- Adherent dressings
- No material at all

Suturing armamentarium:

- Needle drivers (NOT haemostats)
- Suture scissors*
- Tissue forceps
- Surgical thimbles…not often used in dentistry

*Not an area to go cheap on. Buy good quality, and treat them like jewelry.

Mayo needle holder

Mathieu needle holder

Castroviejo needle holder

Curved Iris scissors

Adson-Brown
serrated tissue forcep

Tissue forceps

- Serrated, not plain or “1x2”
- Important for curettage
- Some prefer angled or micro

What suture to buy and stock?

For implant dentistry, you probably need to stock three kinds of sutures:

- A short term resorbable (*e.g.* plain/chromic gut)
- A long term resorbable (*e.g.* Vicryl PGA)
- A skinny papilla suture (*e.g.* 6-O polyviolene) with a dainty round-cross-section needle

Silk is now rarely used due to wicking.

And cheap sutures suck, you get what you pay for.

Occasionally you will need a vertical mattress suture.

Overview of paperwork

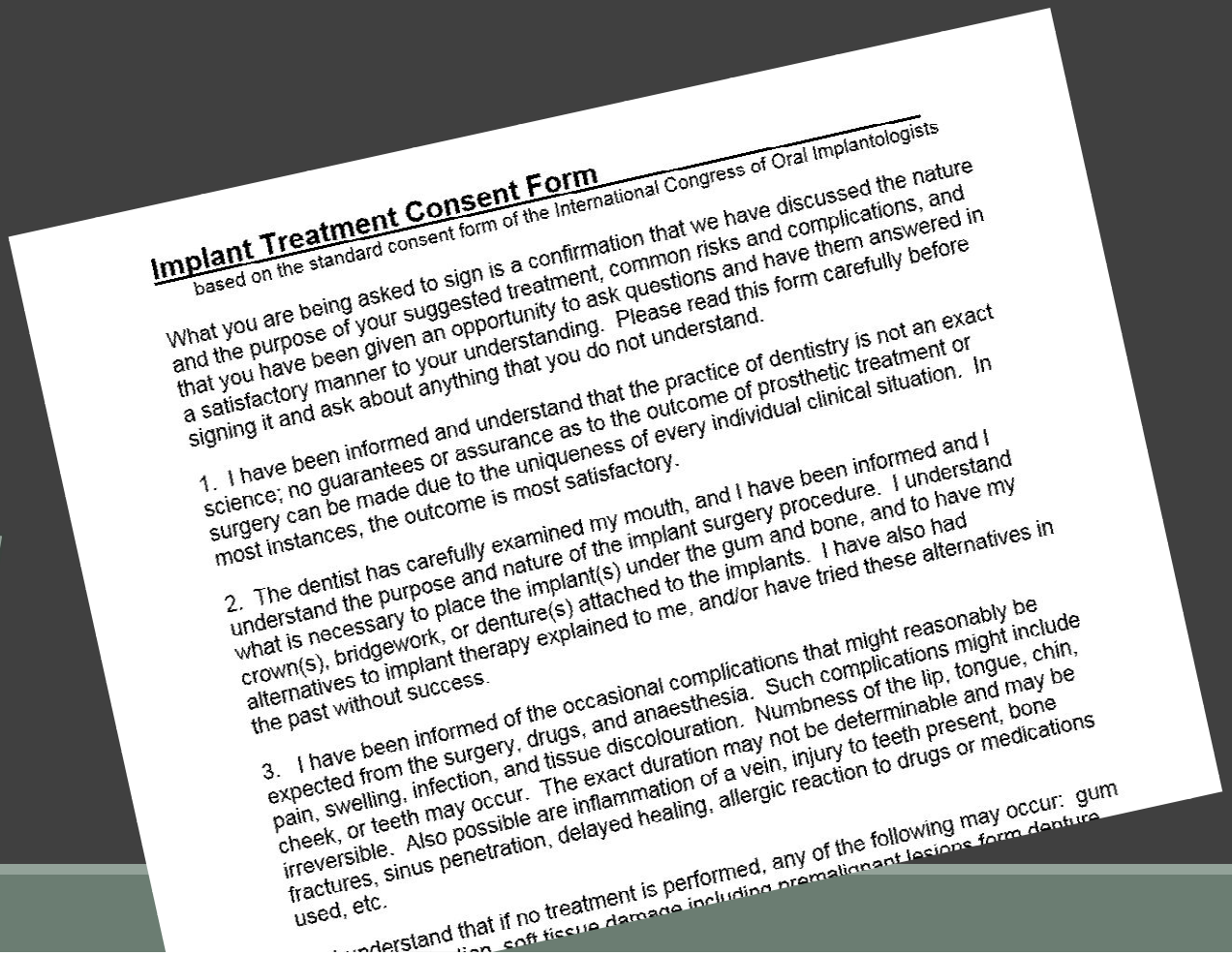
2SA3

A. Patient chart

- Graphic charting on some kind of odontogram
- Medical history WITH updates
- Periodontal probing
- A written diagnosis is helpful in complex cases
- Treatment plan and estimated cost
- Notes for every patient contact
- Pre, intra, and post operative radiographs
- Photographs are golden
- Never adjust chart entries, but you can append them

B. Informed consent document

History of this document



Implant Treatment Consent Form

based on the standard consent form of the International Congress of Oral Implantologists

What you are being asked to sign is a confirmation that we have discussed the nature and the purpose of your suggested treatment, common risks and complications, and that you have been given an opportunity to ask questions and have them answered in a satisfactory manner to your understanding. Please read this form carefully before signing it and ask about anything that you do not understand.

1. I have been informed and understand that the practice of dentistry is not an exact science; no guarantees or assurance as to the outcome of prosthetic treatment or surgery can be made due to the uniqueness of every individual clinical situation. In most instances, the outcome is most satisfactory.

2. The dentist has carefully examined my mouth, and I have been informed and I understand the purpose and nature of the implant surgery procedure. I understand what is necessary to place the implant(s) under the gum and bone, and to have my crown(s), bridgework, or denture(s) attached to the implants. I have also had alternatives to implant therapy explained to me, and/or have tried these alternatives in the past without success.

3. I have been informed of the occasional complications that might reasonably be expected from the surgery, drugs, and anaesthesia. Such complications might include pain, swelling, infection, and tissue discolouration. Numbness of the lip, tongue, chin, cheek, or teeth may occur. The exact duration may not be determinable and may be irreversible. Also possible are inflammation of a vein, injury to teeth present, bone fractures, sinus penetration, delayed healing, allergic reaction to drugs or medications used, etc.

I understand that if no treatment is performed, any of the following may occur: gum

9. A dentist in obtaining informed consent for treatment must discuss:

a) The diagnosis or differential diagnosis,
b) the exact nature and the anticipated benefits of the proposed procedures, tests or treatments and the cost,
c) reasonable and accepted alternative procedures, tests, or treatments that are generally available, including no treatment and their estimated cost,
d) the consequences of not undertaking the proposed procedures, tests or treatments,
e) the common and significant risks of the proposed procedures, tests or treatments,
f) serious risks, even if unlikely,
g) future costs of care and life expectancy of treatment,
h) special risks, that although uncommon, may have particular relevance to the patient, and
i) responses to any questions the patient may have about their medical history and dental treatment.

(Can be written or implied, but written sure works better in defense!)

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4. I understand that if no treatment is performed, any of the following may occur: gum tissue inflammation, soft tissue damage including premalignant lesions form denture movement, loss of bone, loosening or loss of teeth, infection, jaw joint problems, headaches, referred pain, chewing problems, and loss of facial skin and muscle tone.

5. I understand that, on occasion, upon entering the surgical site, it may be discovered that implant placement is not possible due to a lack of available bone or other factors.

6. My dentist has explained to me that there is no way to accurately predict the gum and bone healing capacity in each patient, and that in some cases implants fail and have to be removed.

7. I understand that smoking, excessive alcohol consumption, poor diet, and high blood sugar may affect gum healing and may limit success of the treatment, I agree to follow my dentist's instructions and take all medications and vitamins exactly as prescribed.

8. I understand that the long-term success of the implant surgery is dependent upon good oral hygiene and home care. I also agree to attend for recommended follow-up visits including professional dental cleaning and follow-up x-rays.

9. I understand that if inadequate bone is present for implant success, grafting may be required in the surgical site in an attempt to create more bone. I consent to the use of graft materials and supports including de-mineralised freeze-dried bone, synthetic bone substances, collagen, dissolving membranes, and titanium tacks and fixtures.

10. I consent to the use of x-rays, photographs, and study models for teaching purposes, provided that my identity is not revealed.

I request and authorise medical/dental services for me, including implant surgery. I have been fully informed of the nature of the treatment, alternatives to treatment, and reasonably foreseeable risks of complication, and hereby consent to treatment.

_____	_____	_____
patient name	signature	date
_____	_____	_____
witness name	signature	date

Implant/Grafting Treatme

based on the standard consent form

What you are being asked to sign is
and the purpose of your suggested
that you have been given an opport
a satisfactory manner to your unde
signing it and ask about anything th

1. I have been informed and unde
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2. The dentist has carefully exam
understand the purpose and natu
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irreversible. Also possible are
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used, etc.

4. I understand that if no trea
tissue inflammation, soft tissu
movement, loss of bone, loo
headaches, referred pain, cl

5. I understand that, on occ
that implant placement is n

The dentist has explain

Implant paperwork includes:

A. Your regular chart w medical history
B. Surgical consent form
C. Surgical report

Load Number:
Package: Surgical Kit,Kit 1,Tutt 1,Cycle 3046,13-12-2024,Expiry: N/A
Package: Surgical Kit,Kit 2,Lexa 6,Cycle 3058,12-12-2024,Expiry: N/A
Package: X-ray,Kit 2,Lexa 7,Cycle 1953,16-12-2024,Expiry: N/A
Package: X-ray,Kit 4,Lexa 6,Cycle 3071,16-12-2024,Expiry: N/A
Package: Handpiece,Kit 3,Lexa 6,Cycle 3069,16-12-2024,Expiry: N/A
Package: General Instr.,Kit 2,Lexa 6,Cycle 3072,16-12-2024,Expiry: N/A
Package: General Instr.,Kit 3,Lexa 7,Cycle 1953,16-12-2024,Expiry: N/A
Package: General Instr.,Kit 1,Lexa 7,Cycle 1938,12-12-2024,Expiry: N/A
Package: Hygiene Misc.,Kit 1,Lexa 6,Cycle 2983,22-11-2024,Expiry: N/A
All class I and V indicators passed

Sites:26 27 place implants
Local Anesthetic by: Infiltration
Local Anesthetic used: Articaine 4% (Epi 1:100,000)
Quantity: x 2.5 carps
Steroid: None cc

Clinical Notes: Informed consent reviewed and signed by patient.
Sterile gloves used by dentist and assistant. Patient prepped and draped with sterile technique.
DBH scaled and cleaned the distal of the 25 with scaler, tartar present
Remaining band of KG divided with lingualised full thickness incision, crestal portion reflected.
Removed soft tissues with tissue forcep
Osteotomy prepared, implant surface treated with gentamycin 0.3% solution,
and torqued in place as follows:
26 - 45 N-cm
27 - 20 N-cm

Sample surgical report ↑

Implant Site (s), Size and Brand:
Straumann BLT SLA
26 - 4.1 x 8 mm RC
27 - 4.1 x 8 mm RC Healing abutment placed, BOTH 6. 5 x 4 mm

Cookie Cutter used to modify the tissues
Ethicon Chromic 4-0 interrupted gut sutures to close.

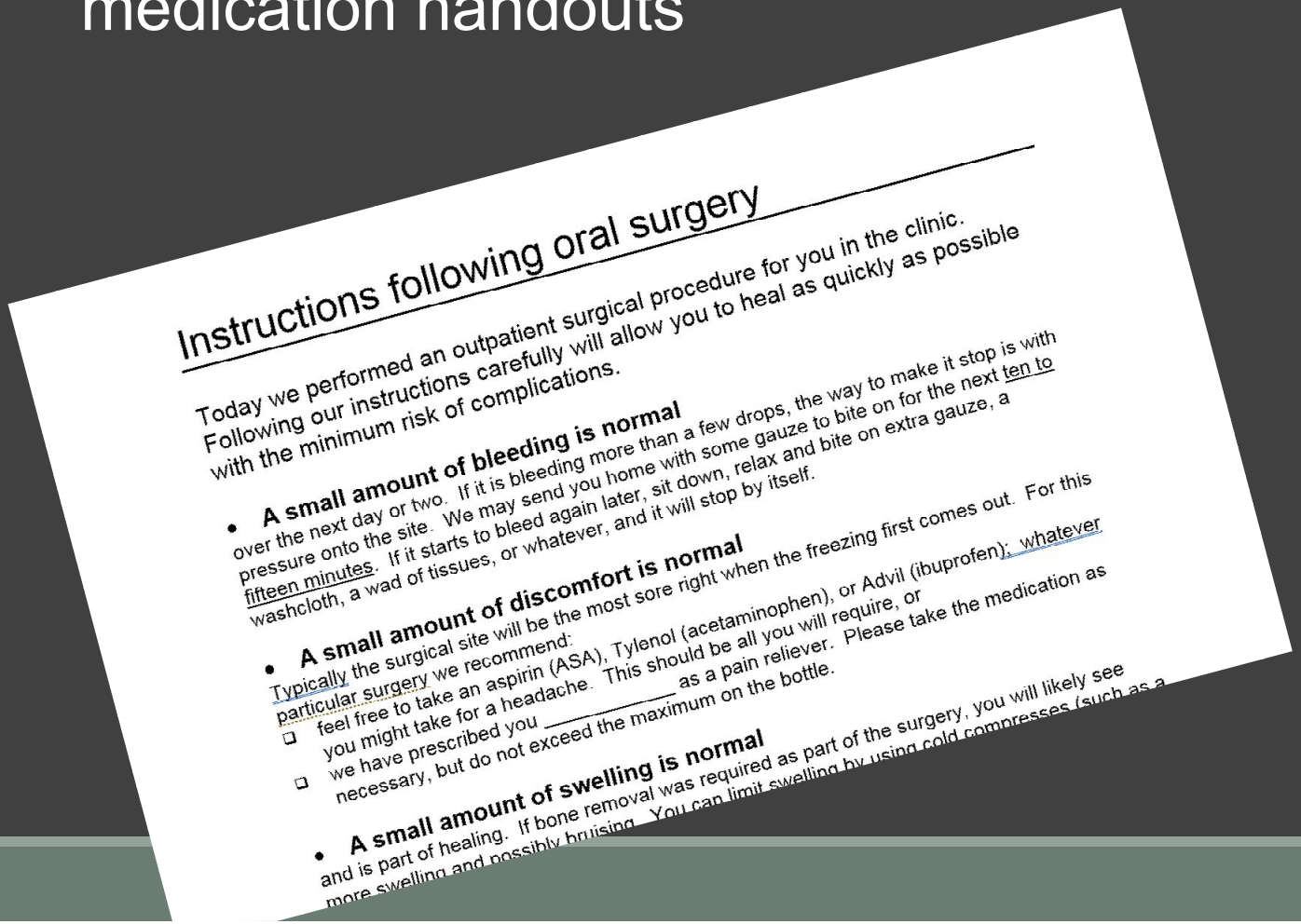
Post-op Instructions given to patient written and verbally.
Disp Amoxicillin 500 mg tid x 5 days one disp to Pt prior to leaving office
Disp Ketorolac 10 mg x 1 tab disp to Pt prior to leaving office
Patient Tolerated Procedure well and discharged un-compromised.

Complications:None
EBL: less than 5cc

Next Visit: 16 weeks 2nd Stage Straumann
26 27 BOTH RC with healing abutments
KD

Sample surgical report ↑ A copy is on your take home USB

D. Post-op and medication handouts



Instructions following oral surgery

Today we performed an outpatient surgical procedure for you in the clinic. Following our instructions carefully will allow you to heal as quickly as possible with the minimum risk of complications.

- **A small amount of bleeding is normal**

over the next day or two. If it is bleeding more than a few drops, the way to make it stop is with pressure onto the site. We may send you home with some gauze to bite on for the next ten to fifteen minutes. If it starts to bleed again later, sit down, relax and bite on extra gauze, a washcloth, a wad of tissues, or whatever, and it will stop by itself.

- **A small amount of discomfort is normal**

Typically the surgical site will be the most sore right when the freezing first comes out. For this particular surgery we recommend:

- ❑ feel free to take an aspirin (ASA), Tylenol (acetaminophen), or Advil (ibuprofen); whatever you might take for a headache. This should be all you will require, or
- ❑ we have prescribed you _____ as a pain reliever. Please take the medication as necessary, but do not exceed the maximum on the bottle.

- **A small amount of swelling is normal**

and is part of healing. If bone removal was required as part of the surgery, you will likely see more swelling and possibly bruising. You can limit swelling by using cold compresses (such as a

Remember, a lot of our patients are already taking 37 medications

Some have a caregiver

All will forget your instructions

Medications following implant or bone graft surgery

Today we performed an outpatient surgical procedure for you in the clinic. Following our instructions carefully will allow you to heal as quickly as possible with the minimum risk of complications.

In order for you to heal as quickly and successfully as possible, we will often prescribe one or more medications to be taken over the next few days. Taking several different medications can be confusing, and this sheet is to help you. If you have any questions or problems, please don't hesitate to call.

- **Multivitamin supplement**

Vitamin supplements are probably overused by healthy people, but there is good evidence that water-soluble vitamins (Bs and C) speed healing following oral surgery. The supplement we have given you may turn your urine a bright yellow colour—this is harmless. Please advise us if you are already taking some kind of vitamin supplement.

- Take the five tablets you have been given once a day until finished.
- Continue taking the one you normally take every day.

- **Antibiotic**

Antibiotics are definitely overused by healthy people. We do not prescribe antibiotics for every case; it depends on how the area looks during your surgery.

- Amoxycillin 500mg Take one capsule three times a day until finished, or
- Clindamycin 300mg Take one capsule four times a day until finished, or
- Amoxycillin/Clavulanic acid Take one caplet every twelve hours until finished, or
- _____

- **Steroid**

Steroids are drugs that control inflammation, and they can be helpful in limiting swelling. The trade-off is that they slow healing. Often we will inject a steroid medication next to the site rather than giving you pills.

- Dexamethasone 4mg ("**Decadron**") Two tablets the morning of your surgery, one and a half tablets the next day, and a half tablet on the second day after.
- We have injected steroids next to the site, so you do not need to take any pills.

- **Anti-inflammatory**

Non-steroidal anti-inflammatory drugs, or "NSAIDS", include aspirin and similar drugs that control pain, fever, and inflammation. This makes them the most useful pain-relievers in dentistry, as most pain in dentistry, including that following implant surgery, is due to inflammation.

- Ibuprofen 200mg ("**Advil**") Take two tablets when the freezing is coming out, then two tablets every four to six hours as needed for discomfort. Do not exceed 12 tablets per day.
- Ketorolac 10mg ("**Toradol**") Take one tablet every four to six hours as needed for discomfort.

- **Other pain reliever**

Most implant cases do not require anything more than ibuprofen, however we will occasionally prescribe other medications, especially in clients who are allergic to NSAIDS.

- Acetominophen with codeine 30mg ("**Tylenol#3**") Take one to two tablets every four to six hours as needed for discomfort.
- Acetominophen with oxycodone 5mg ("**Percocet**") Take one tablet every eight hours as needed for discomfort.

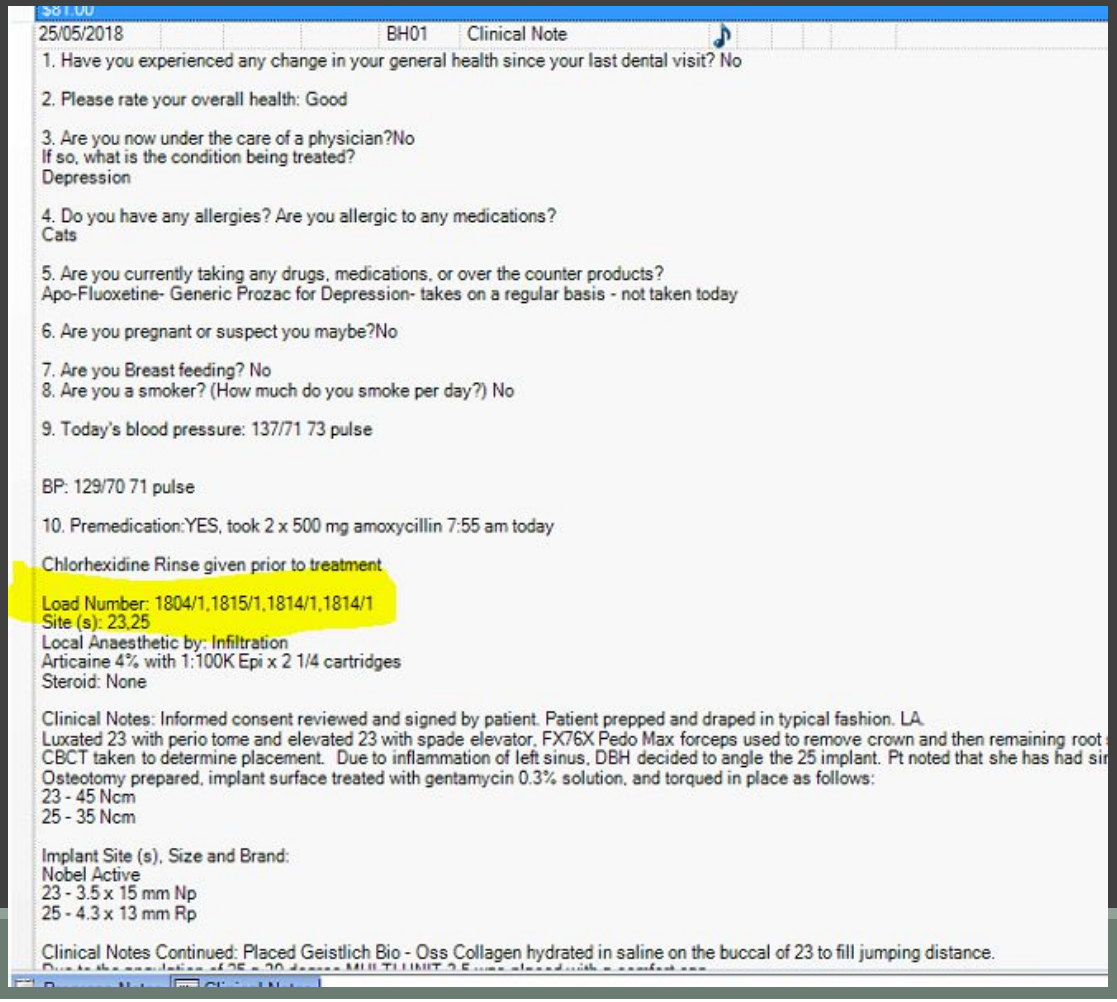
_____

E. Implantable device record

- We STRONGLY suggest you keep a separate duo-tang or binder for this purpose
- Pt name, date, and 2nd sticker from vial or package
- One sticker goes in the patient chart, the other goes in the record book
- If paperless, sticker goes on the paper consent form prior to scanning into the computer "chart"
- If you move, a copy goes with you

In the next section we will discuss what constitutes an "implantable device".

F. Steriliser load records



25/05/2018 BH01 Clinical Note

1. Have you experienced any change in your general health since your last dental visit? No

2. Please rate your overall health: Good

3. Are you now under the care of a physician?No
If so, what is the condition being treated?
Depression

4. Do you have any allergies? Are you allergic to any medications?
Cats

5. Are you currently taking any drugs, medications, or over the counter products?
Apo-Fluoxetine- Generic Prozac for Depression- takes on a regular basis - not taken today

6. Are you pregnant or suspect you maybe?No

7. Are you Breast feeding? No
8. Are you a smoker? (How much do you smoke per day?) No

9. Today's blood pressure: 137/71 73 pulse

BP: 129/70 71 pulse

10. Premedication:YES, took 2 x 500 mg amoxycillin 7:55 am today

Chlorhexidine Rinse given prior to treatment

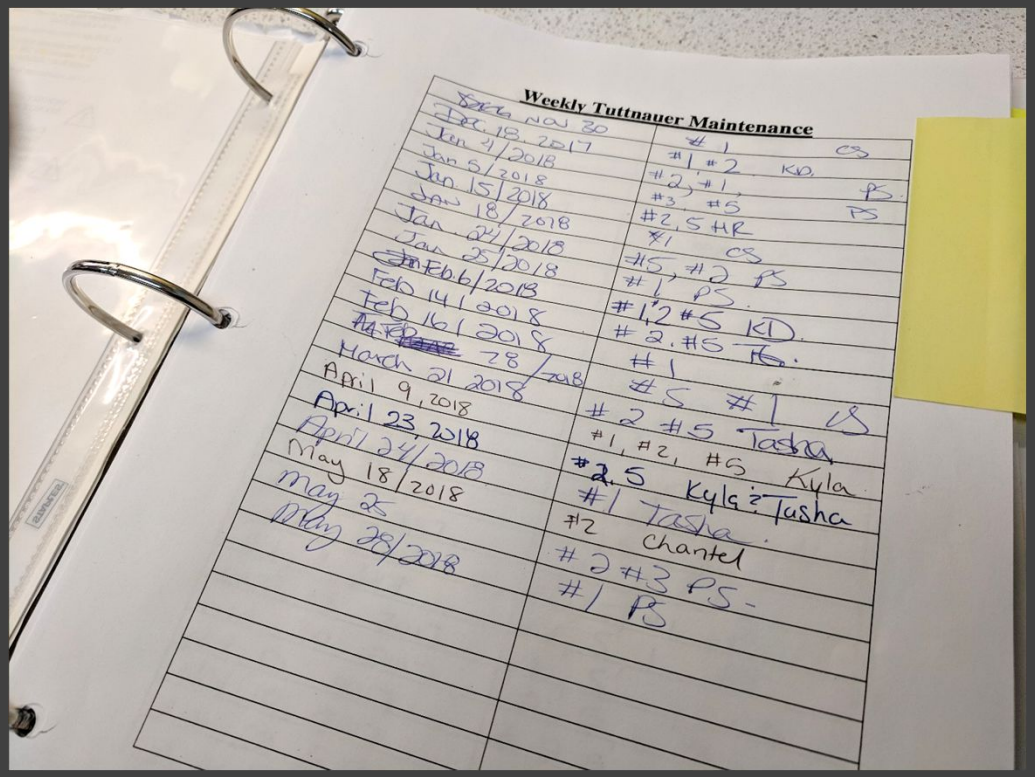
Load Number: 1804/1,1815/1,1814/1,1814/1
Site (s): 23,25
Local Anaesthetic by: Infiltration
Articaine 4% with 1:100K Epi x 2 1/4 cartridges
Steroid: None

Clinical Notes: Informed consent reviewed and signed by patient. Patient prepped and draped in typical fashion. LA.
Luxated 23 with perio tome and elevated 23 with spade elevator, FX76X Pedo Max forceps used to remove crown and then remaining root
CBCT taken to determine placement. Due to inflammation of left sinus, DBH decided to angle the 25 implant. Pt noted that she has had si
Osteotomy prepared, implant surface treated with gentamycin 0.3% solution, and torqued in place as follows:
23 - 45 Ncm
25 - 35 Ncm

Implant Site (s), Size and Brand:
Nobel Active
23 - 3.5 x 15 mm Np
25 - 4.3 x 13 mm Rp

Clinical Notes Continued: Placed Geistlich Bio - Oss Collagen hydrated in saline on the buccal of 23 to fill jumping distance.

G. Steriliser test and maintenance log



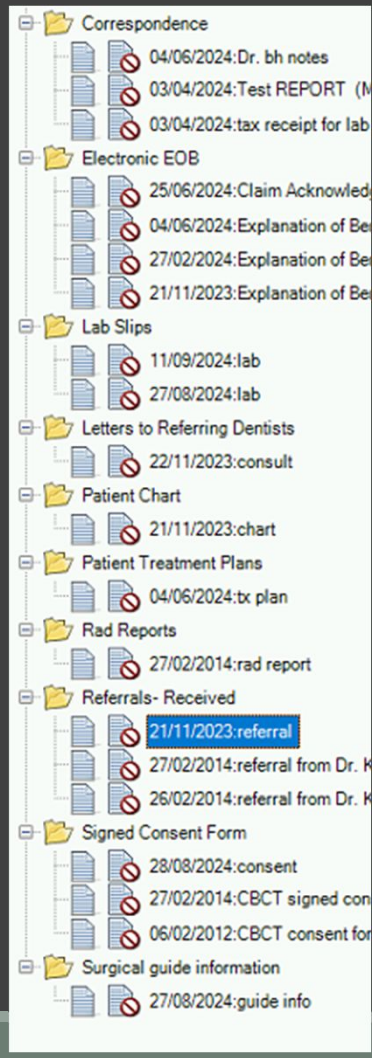
Implant paperwork includes:

A. Your regular chart w medical history
B. Surgical consent form
C. Surgical report
D. Post op handouts, medication handouts
E. Implantable device record
F. Steriliser load records to chart
G. Steriliser test/mtce log
H. Laboratory prescriptions

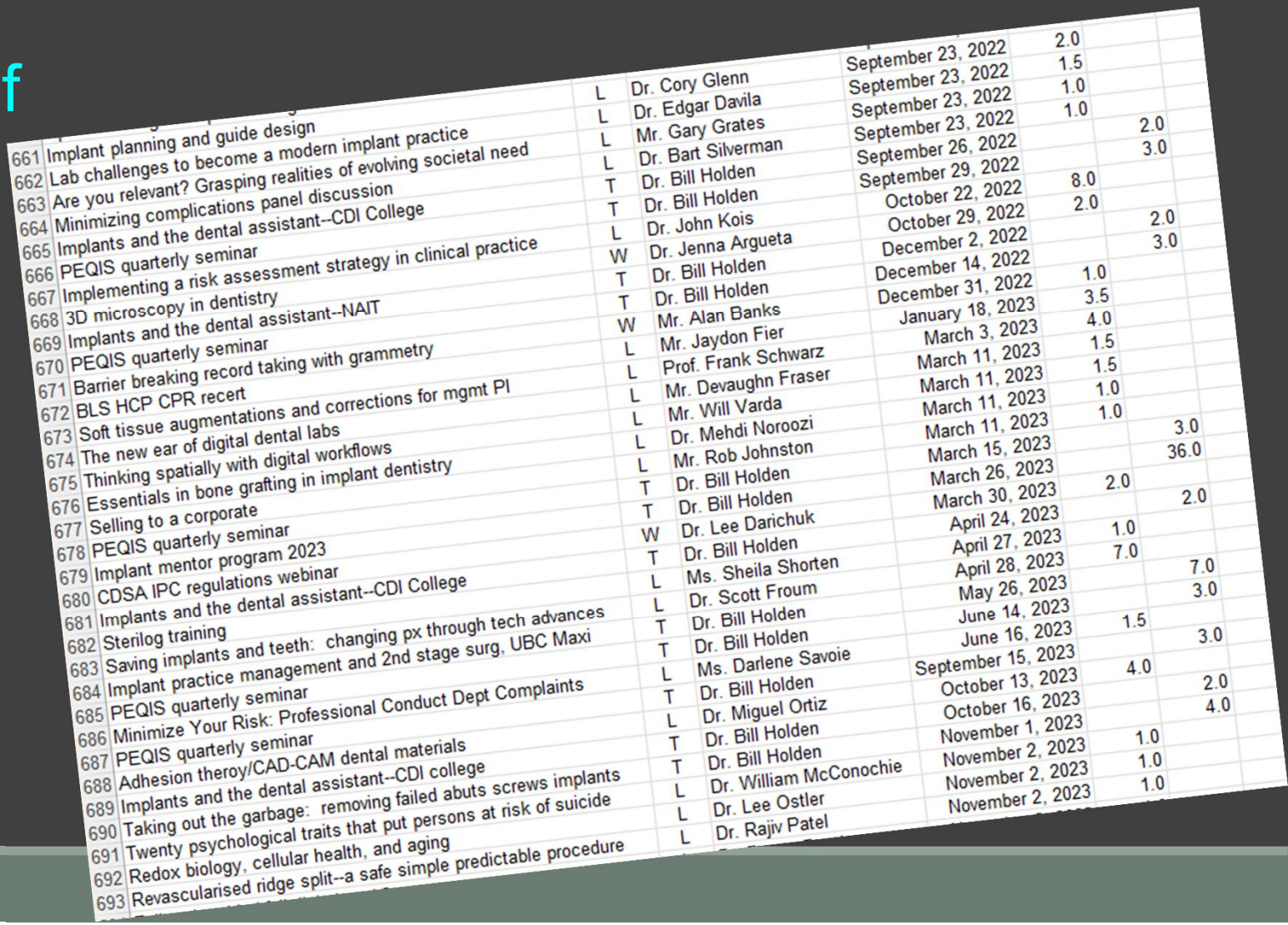
Other random *implant* paperwork

- incoming and outgoing referral slips
- incoming and outgoing letters
- radiology or other reports
- pt medication lists
- drawings from consultation appointment
- treatment plan/estimates
- surgical guide printouts
- insurance correspondence
- copies of pt texts and emails
- WHMIS, MIFU, RPB, IPC, EIEIO

"if in doubt, scan it in"

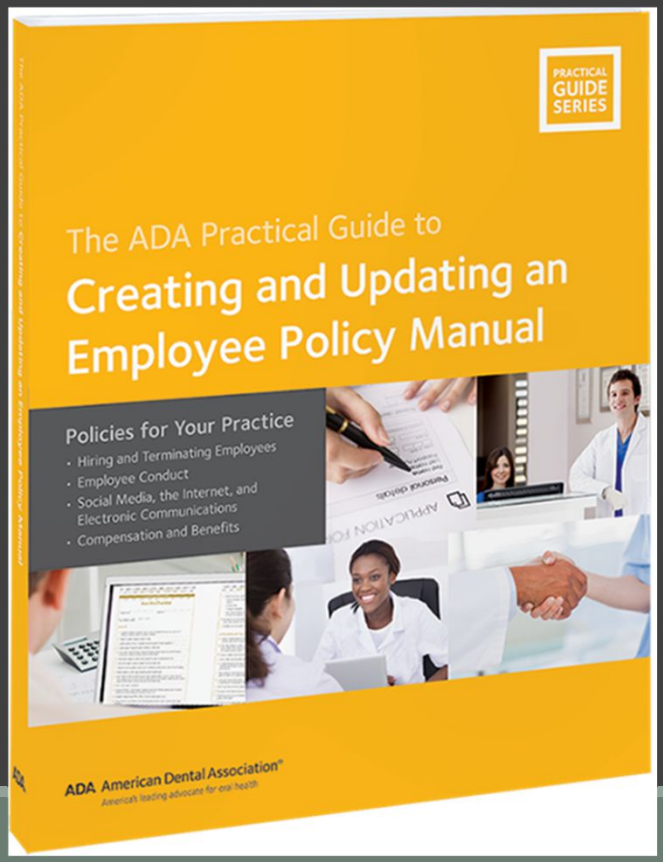


Also: start a spreadsheet of every CDE course you take/teach

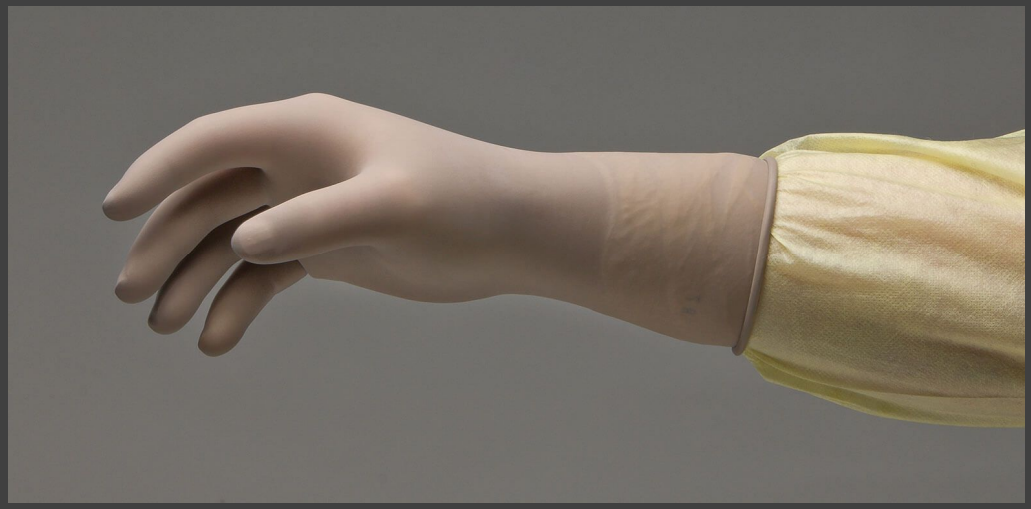


661	Implant planning and guide design	L	Dr. Cory Glenn	September 23, 2022	2.0		
662	Lab challenges to become a modern implant practice	L	Dr. Edgar Davila	September 23, 2022	1.5		
663	Are you relevant? Grasping realities of evolving societal need	L	Mr. Gary Grates	September 23, 2022	1.0		
664	Minimizing complications panel discussion	L	Dr. Bart Silverman	September 23, 2022	1.0		
665	Implants and the dental assistant--CDI College	T	Dr. Bill Holden	September 26, 2022		2.0	
666	PEQIS quarterly seminar	T	Dr. Bill Holden	September 29, 2022		3.0	
667	Implementing a risk assessment strategy in clinical practice	L	Dr. John Kois	October 22, 2022	8.0		
668	3D microscopy in dentistry	W	Dr. Jenna Argueta	October 29, 2022	2.0		
669	Implants and the dental assistant--NAIT	T	Dr. Bill Holden	December 2, 2022		2.0	
670	PEQIS quarterly seminar	T	Dr. Bill Holden	December 14, 2022		3.0	
671	Barrier breaking record taking with grammetry	W	Mr. Alan Banks	December 31, 2022	1.0		
672	BLS HCP CPR recert	L	Mr. Jaydon Fier	January 18, 2023	3.5		
673	Soft tissue augmentations and corrections for mgmt PI	L	Prof. Frank Schwarz	March 3, 2023	4.0		
674	The new ear of digital dental labs	L	Mr. Devaughn Fraser	March 11, 2023	1.5		
675	Thinking spatially with digital workflows	L	Mr. Will Varda	March 11, 2023	1.5		
676	Essentials in bone grafting in implant dentistry	L	Dr. Mehdi Noroozi	March 11, 2023	1.0		
677	Selling to a corporate	L	Mr. Rob Johnston	March 11, 2023	1.0		
678	PEQIS quarterly seminar	T	Dr. Bill Holden	March 15, 2023		3.0	
679	Implant mentor program 2023	T	Dr. Bill Holden	March 26, 2023		36.0	
680	CDSA IPC regulations webinar	W	Dr. Lee Darichuk	March 30, 2023	2.0		
681	Implants and the dental assistant--CDI College	T	Dr. Bill Holden	April 24, 2023		2.0	
682	Sterilog training	L	Ms. Sheila Shorten	April 27, 2023	1.0		
683	Saving implants and teeth: changing px through tech advances	L	Dr. Scott Froum	April 28, 2023	7.0		
684	Implant practice management and 2nd stage surg, UBC Maxi	T	Dr. Bill Holden	May 26, 2023		7.0	
685	PEQIS quarterly seminar	T	Dr. Bill Holden	June 14, 2023		3.0	
686	Minimize Your Risk: Professional Conduct Dept Complaints	L	Ms. Darlene Savoie	June 16, 2023	1.5		
687	PEQIS quarterly seminar	T	Dr. Bill Holden	September 15, 2023		3.0	
688	Adhesion theroy/CAD-CAM dental materials	L	Dr. Miguel Ortiz	October 13, 2023	4.0		
689	Implants and the dental assistant--CDI college	T	Dr. Bill Holden	October 16, 2023		2.0	
690	Taking out the garbage: removing failed abuts screws implants	T	Dr. Bill Holden	November 1, 2023		4.0	
691	Twenty psychological traits that put persons at risk of suicide	L	Dr. William McConochie	November 2, 2023	1.0		
692	Redox biology, cellular health, and aging	L	Dr. Lee Ostler	November 2, 2023	1.0		
693	Revascularised ridge split--a safe simple predictable procedure	L	Dr. Rajiv Patel	November 2, 2023	1.0		

One last thing to talk about before we leave paperwork: the “Office Manual”.



Infection control and operatory setup



2SA4

CDSA

College of Dental Surgeons of Alberta

Standard of Practice: Infection Prevention and Control Standards and Risk Management for Dentistry

January 2023

Surgical Aseptic Technique and Sterile Field

Recommendations for Asepsis for Invasive Surgical Procedures Conducted Outside of Operating Rooms or in Community-Based Healthcare Settings

For starters, we need to understand what is a…

- Critical item
- Implantable device
- Class 5 or 6 indicator
- A biologic monitor, or “BI”

Patient Care Items – Modified Spaulding Classification

Category	Description	Management	Examples
Critical Items	Penetrates soft tissue or bone	Items that are not single- use disposable must be sterilized and stored wrapped until point of use. Single-use disposable items must not be re-processed.	Air/water syringe tips Anaesthetic syringes Endodontic instruments, including files (hand and rotary), reamers, and broaches Gauze for surgery Handpieces Instrument trays Metal Matrix Bands Mouth mirrors (when used during a procedure where tissue is cut or manipulated) Orthodontic Bands Periodontal instruments including ultrasonic tips Polishing cups, points and mandrels Restorative / operative instruments Rotary burs and diamonds Rubber dam clamps Scalers Stainless Steel Crowns Surgical instruments Surgical suction tips
Semi-Critical Items	Touches intact mucous membrane or non-intact skin	Items that are not single-use disposable, must be sterilized, may be stored unwrapped in a clean, dry, covered area and handled with clean hands or forceps. Single-use disposable items must not be re-processed. Heat-sensitive items must receive high-level disinfection between patient use.	Articulating ribbon holder Cotton rolls Crown removing instruments Gauze for non-surgical procedures Impression trays Lab burs Mouth mirrors (when used for examination only) Mixing spatula Nasal hoods Orthodontic pliers Rubber dam frame Rubber dam and rubber dam clamp forceps Suction tips other than for surgery Wedges

Source:
ADA&C IPC
Standards
of Practice

ISO 13485 2003
PLAIN ENGLISH DEFINITIONS

Implantable Medical Device

An *implantable medical device* is a medical device that:

- is partly or totally inserted into the human body or a natural orifice and is expected to stay there for 30 days or more, or
- is used to replace an epithelial surface or the surface of the eye and is expected to stay in use for 30 days or more.

Surgical or medical procedures are used to insert or apply implantable medical devices and surgical or medical procedures must be used to remove them

Class 1 monitors only confirm that a given item has gone through the steriliser system. The most obvious example is tape.

Chemical indicators

Class 5 monitors measure multiple parameters of sterilisation (e.g. temperature AND pressure AND time), and can conclude a package has been sterilised.

Class 6 monitors (emulators) are cycle specific.

In addition to your regular IPC practices…

1. Recognition of single use items
2. Cleaning drills and surg kit
3. Surgical gloves, PPE, and drapes
4. Sterile irrigant and tubing
5. Increased steriliser monitoring requirements

documented.

11.4. The sterilization process must be tested, monitored, documented and audited. For all sterilizers:

11.4.1. The following must be completed to ensure that effective sterilization has been achieved:

- Mechanical monitoring – Mechanical or electronic failure alarms for time, temperature, and pressure must be in place, and their correct functioning recorded for each cycle; integrated printouts or data retrieval devices recording these parameters are recommended and preferred but this information may be recorded by staff on designated recording forms.

- Chemical monitoring – Each instrument pack or cassette must have an external Class 1 process indicator applied to, or visible from, the exterior of the package, and an internal chemical indicator that is a Class 4 multi-parameter indicator or a Class 5 integrating indicator. Class 5 integrating indicators must be used inside the material and/or instrument packs whenever implantable devices are used.
- Biologic monitoring – Sterilizers must be monitored with an appropriate biological indicator (BI) each day and for each type of cycle used (i.e., wrapped and unwrapped cycles if both are used).
- Bowie-Dick Test monitoring – A Bowie-Dick test must be performed for all pre-vacuum capable sterilizers in an empty chamber daily.

11.4.2. Daily operation of the sterilizer must be documented for each cycle that is run and any malfunction shall be noted and appropriate action taken to ensure that the dental instruments and devices are either properly treated or are returned for reprocessing.

11.5. Sterilizers must be subjected to biologic testing and monitoring on installation, and following disruptions to their normal activity with three biologic monitor tests and, in the case of pre-vacuum sterilizers, three biologic monitor tests and three Bowie-Dick tests. A log must be kept of all

instruments and devices are either properly treated or are returned for reprocessing.

11.5. Sterilizers must be subjected to biologic testing and monitoring on installation, and following disruptions to their normal activity with three biologic monitor tests and, in the case of pre-vacuum sterilizers, three biologic monitor tests and three Bowie-Dick tests. A log must be kept of all biological monitoring results.

11.6. Flash sterilization of critical instruments, where the instruments are unwrapped or not in cassettes, must only be used in emergency situations and must never be used for implantable equipment/devices.

11.7. A biologic monitor must be used with each load of surgical instruments if implantable dental or medical devices (for example, dental implants, bone grafting screws, temporary anchorage devices, bone plates, etc.) are being placed. These instrument packs and implantable devices or materials must not be used until the results of the biologic monitor test are known, and must be tracked for date, load and sterilizer used, and this information must be recorded in the patient's record at the time of placement.

11.8. In the event of a failure in the sterilization process (failure of the sterilizer, failure of chemical indicators or the failure of the biological indicator) there must be a process in place to investigate the cause of the event, document actions taken, and recall sterilization loads if necessary.

12.0. Storage and Use of Reprocessed Dental Instruments and Devices

12.1. Packages containing the sterile dental instruments or devices must be labeled with the sterilizer number, load number of that sterilizer and sterilization date that they were reprocessed.

12.2. Sterile dental instruments or devices must be maintained as sterile until the point of use. If the integrity of the package or container has been compromised (e.g., wet, torn, visibly soiled) the contents must not be used and the devices must be reprocessed.

12.3. Reprocessed dental instruments or devices must be stored in a clean, dry location in a manner that prevents contamination or damage.

instruments and devices are either properly treated or are returned for reprocessing.

11.5. Sterilizers must be subjected to biologic testing and monitoring on installation, and following disruptions to their normal activity with three biologic monitor tests and, in the case of pre-vacuum sterilizers, three biologic monitor tests and three Bowie-Dick tests. A log must be kept of all

12.21 Implantable Devices

11.6. ... or not in cassettes,

12.21.1 Every load containing implantable devices shall be monitored using a biological indicator PCD.

12.21.2 A biologic indicator must be used with each load of surgical instruments if implantable devices (for example, dental implants, bone grafting screws, temporary anchorage devices, bone plates, etc.) are being placed. These instrument packs and implantable devices or materials must not be used until the results of the biologic indicator test are known, and must be tracked for date, load and sterilizer used, and this information must be recorded in the patient's record at the time of placement.

11.7.

12.21.3 Implantable devices shall be quarantined until the results of the biological indicator test are available.

12.21.4 Early release of implantable devices shall not be used to compensate for inventory shortages or scheduling problems.

11. ...al ...ate

12.21.5 Early release of implantable devices shall only be done in situations where there is an urgent, unplanned need (e.g., trauma-related devices) and if an implantable device must be released before the biological indicator test results are available, the following apply:

- Evaluation of a Type 5 or Type 6 chemical indicator in the biological indicator PCD, the specific cycle physical parameters, and any visible chemical indicators shall be assessed, and the results documented in the patient's record at the time of placement.

1. ...lizer

12.22 Documentation of sterility assurance shall include a printout or electronic cycle parameter record, a load control label, a load contents record, and associated chemical or biological numbers.

12.2. Sterile dental instruments or devices must be maintained ... If the integrity of the package or container has been compromised (e.g., wet, torn, ...d) the contents must not be used and the devices must be reprocessed.

12.3. Reprocessed dental instruments or devices must be stored in a clean, dry location in a manner that prevents contamination or damage.

1. Single use items

“A single-use device is designed to be used on one patient for a single appointment and then discarded, not re-processed for use on that same patient at a later date, or on another patient (e.g., cleaned, disinfected or sterilized).

“Examples of single-use or disposable devices include syringe needles, prophylaxis cups and brushes, implant parts, temporary anchorage devices, bone grafting materials and certain orthodontic brackets. Single-use materials and devices are often marked with the following symbol:

In Alberta it's tougher…

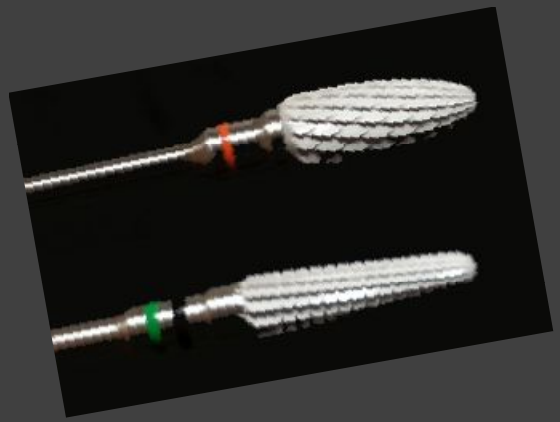
Some manufacturers list their implant drills and other parts as single-use in order to increase sales,

(But then it gets worse…)

Items where the manufacturer does not provide written re-processing instructions become single use by default.

It gets better ☹

Any item for which manufacturer's reprocessing instructions do not exist, defaults to become single use



What does all this affect?

- Many restorative burs
- SOME implant drills, notably the Nobel Precision (lance) and 2mm Pilot
- All healing abutments, cover screws, temp abuts, Locator abuts

- Cookie cutters are okay
- Items “tried in” are okay
- Items replaced in pt are okay
- Some (not all) impression copings and analogs are ok

SHOP BY DEPARTMENT

- EDUCATION & MARKETING
- EXAMINATION & HYGIENE
  - Fluorides (18)
  - Mouth Mirrors (38)
  - Napkins, Chains & Cups (18)
  - Organizers & Set-Up Trays (126)
    - Chairside (6)
    - Cabinets & Organizers (50)
    - Set-Up Trays & Accessories (61)
    - Disposable Set-Up Trays (9)
  - Patient Comfort & Protection (21)
  - Prophy & Hygiene (267)
  - X-Ray & Diagnostics (59)
- GIFTS
- HOME CARE & PREVENTIVE
- OFFICE
- RESTORATIVE & SPECIALTIES
- SAFETY
- STERILIZATION
- TREATMENT SUPPLY & EQUIPMENT

Extra-tall 16 Compartment Tuff 'Tainer Box

The multi-purpose **Extra-tall 16 Compartment Tuff 'Tainer Box** stores, organizes and protects supplies from airborne contaminants. "Lock-in" grooves with removable dividers allow for an infinite variety of compartment combinations and sizes. Hinged lid snaps tightly shut with two locking clasps. Made in USA of tough, translucent polypropylene plastic. Surface disinfect only. Features built-in handle and feet for upright storage. Measures 15 5/8"L x 9 1/2"W x 3 1/8"H. Individual compartments are 3 3/4"L x 2 1/8"W x 2 7/8"H.

7069314 Extra-tall 16 Compartment Tuff 'Tainer Box

Quantity	Regular Price	Member Price
1+	$16.99	$15.29

Customize and Purchase this item:

Quantity 1

ADD TO YOUR CART

be first to ADD REVIEW

new, unused

used, cleaned, sterilized

Wadhwani et al. 2015

Healing abutments cannot be re-used

When do we replace our implant drills?

When they are dull. Well, duh. Number of uses does not correlate with dullness. However some drills, including Nobel pilot and lance, plus ALL NobelActive drills, are single use.

What about healing abutments?

Healing abutments are single use. 

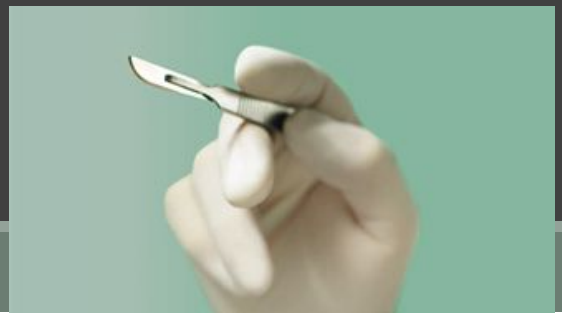
What constitutes a “use”? What about items tried-in but not used, can they be re-processed? Not made clear, but our interpretation is if sent home with pt.

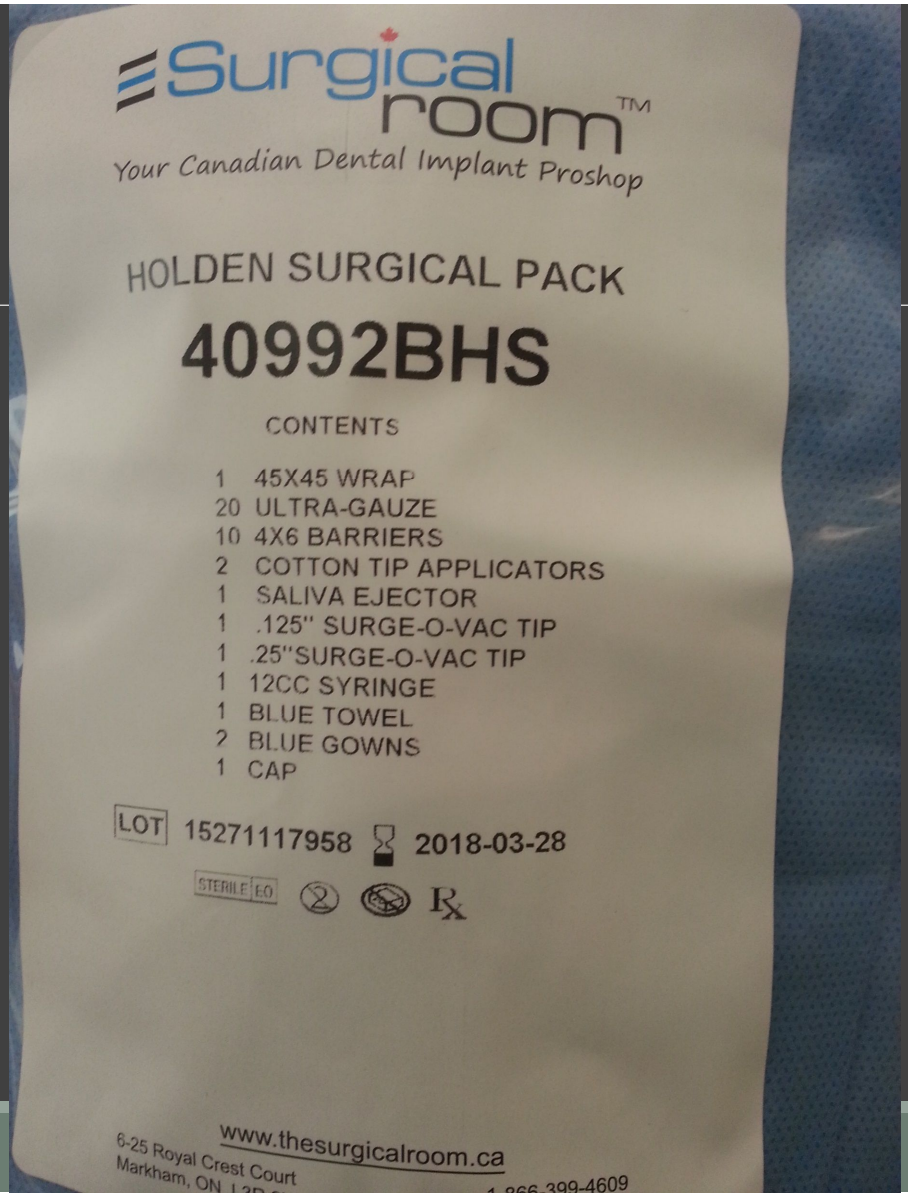
2. Cleaning instruments and surg kit

- Make life easier: place all used bits & parts in dish of saline
- Everything that comes out of surg kit must be scrubbed
  +/- run through ultrasonic
- Demonstration of Nobel syringe to clean irrigation ports
- Items should be clean enough to use before re-sterilisation
- Always re-sterilise loaner kits, etc., in your own office
- Items that can be taken apart, take them apart
- And yes, piles and piles of biologic monitor$

3. Surgical gloves, PPE, and drapes

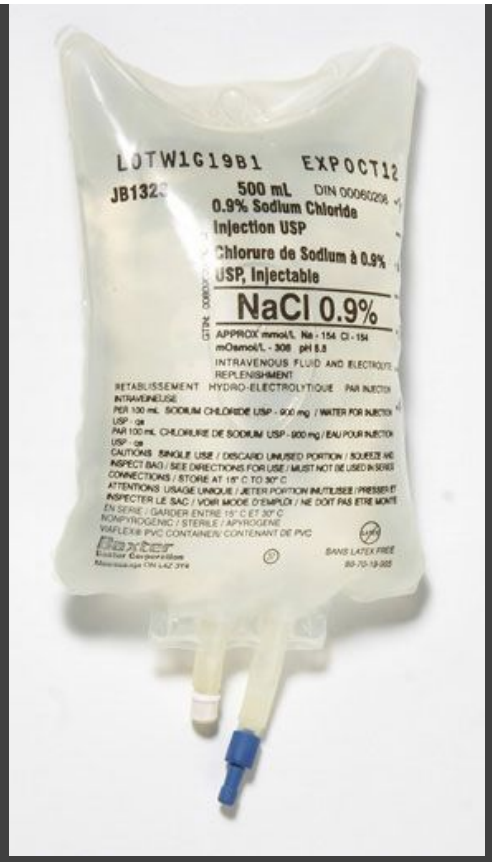
- Surgical gloves required for dentist
- Don't fart around, get them for intra-oral assistant as well
- Consider sterile towels to dry hands
- What do you do if pt is latex allergic?
- Gowns: none vs isolation vs surgical
- Stylish hats
- What about the COVID era?





We use a blue towel as our pt drape.

Remember that the CSR wrap on your surgical cassette can become your table cover.



4. Sterile irrigant & tubing

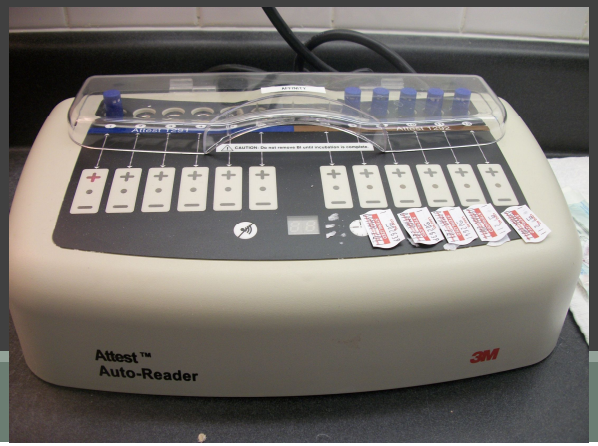
What about for refilling dishes, rehydrating grafts and media, etc.?

Use the implementation checklist!

Operatory setup is mostly covered if you follow the checklist, which is included on your final USB drive. Print it off and use it!

5. Steriliser monitoring

1. Each implant pack must have a class 5/6 strip inside it, and a BI in the same load, and the load quarantined until the BI test passes
2. The result must be recorded in the chart incl load #
3. No flashing of instruments
4. You can't fight city hall



Suggested IPC protocols for implant placement

1. Double CSR wrapped surg kit and instrument pack w CI 5/6 indicator, BI in load, record load # in chart
2. Separate sterile pack of disposables: gauze-Qtips-suctions-needles-drape-gowns-monoject, etc. Simplest to buy pre-fab pre-sterilised packs.
3. Clean out and double wipe operatory
4. Sterile irrigant and disposable irrigation tubing
5. Sterile table drape to work from—can be the inside of the instrument pack CSR wrap

Suggested IPC protocols for implant placement

6. Sterile barrier protection to light handle and implant handpiece, plus tray/table if used
7. Patient drape of some kind, swab face and surgical site with disinfectant or rinse with chlorhexidine
8. DDS and RDA to wear isolation gowns, scrub and wear sterile surgical gloves; head cover is optional
9. All staff clear on where sterile field is on work surface; all additions (implant, blade, suture) dropped in

Common complications

2SA5

How to get yourself in trouble with dental implants—a recipe:

1. Don’t do a complete examination
2. Don’t formulate a (written) treatment plan and estimate
3. Place the implants first
4. Treat one side/arch at a time
5. The “implant of the year” club

Beware of “Less Syndrome”

Just SOME of the complications you may encounter:

- Inadequate vertical and horizontal restorative space
- Limited jaw opening & Interarch distance
- Inadequate alveolar width for optimal Bucco-lingual positioning
- Incorrect angulations (bucco-lingual and mesio-distal)
- Malalignment
- Nerve injury
- Irregular, sharp or too narrow crestal ridge
- Extensive resorption of the mandibular alveolar bone
- Curved extraction socket
- Acute or chronic infection at the insertion site
- Retained root tips at the insertion site
- Overheating the bone during implant site preparation
- Sinus and Nasal floor perforation
- Accidental partial or complete displacement of dental implants into the maxillary sinus
- Accidental displacement of dental implants into the maxillary incisive canal
- Deep and Shallow implant placement
- Complications in flapless implant placement
- Implant fracture
- Excessive torque during insertion / compression necrosis
- Inadequate Initial Stability/ loose Implant
- Postoperative pain and its management
- Incision line opening & proper suturing techniques
- Cover screw exposure during the healing period
- Bone loss during the healing period/ Thread exposure
- Implant mobility during second-stage surgery
- Implant Periapical Lesion (IPL) and the retrograde peri-implantitis
- Radiotherapy and dental implants / osteoradionecrosis
- Shallow vestibule secondary to ridge augmentation

Common complications, their recognition and management

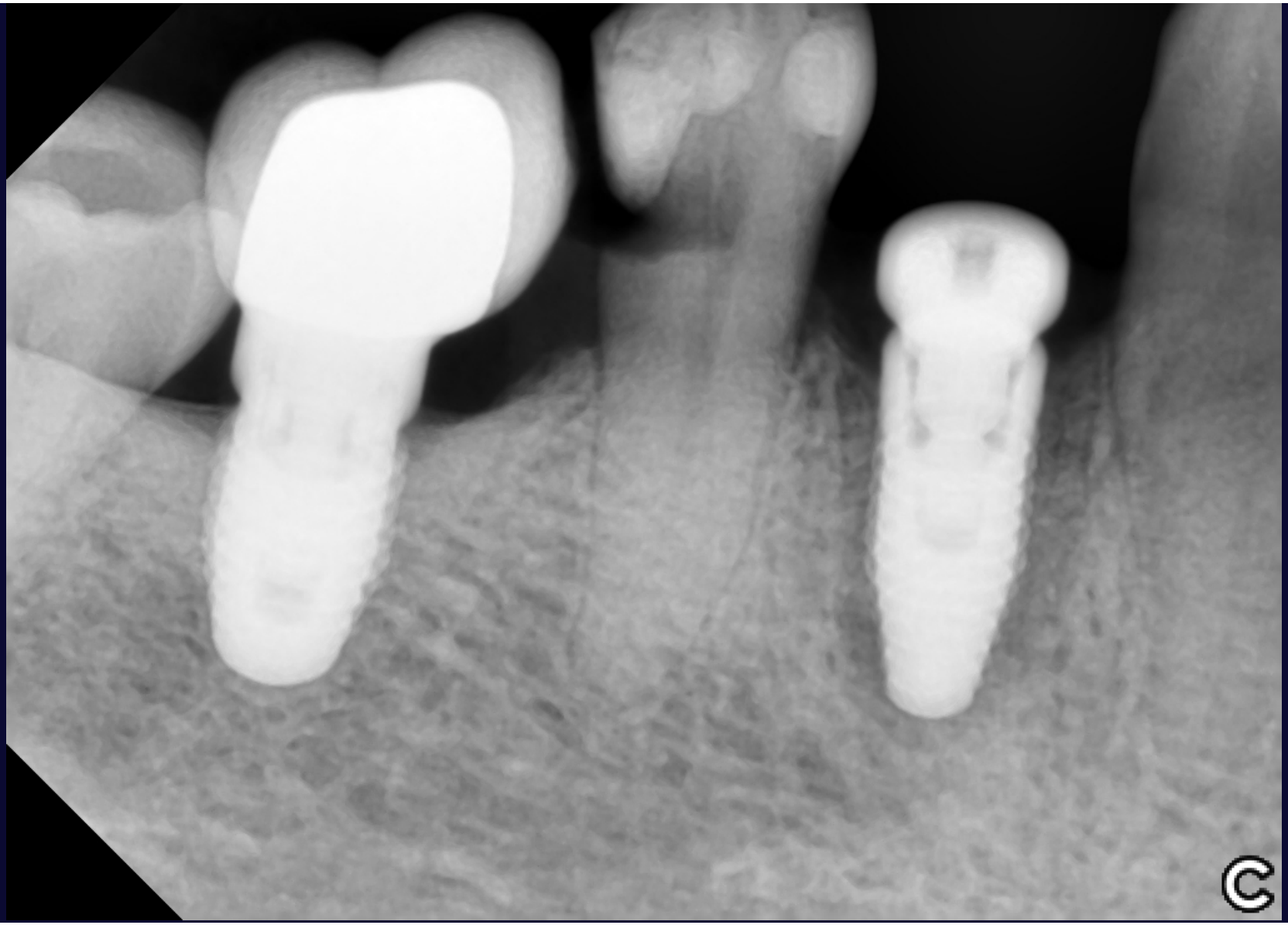
- Informed consent should include warnings of **reasonably foreseeable** complications
- You do have a legal and ethical obligation to recognise complications and either manage or refer
- If you work is within the standard of care, and the patient does not advise you of problems or does not return for recommended follow up (and you document this), you are not liable

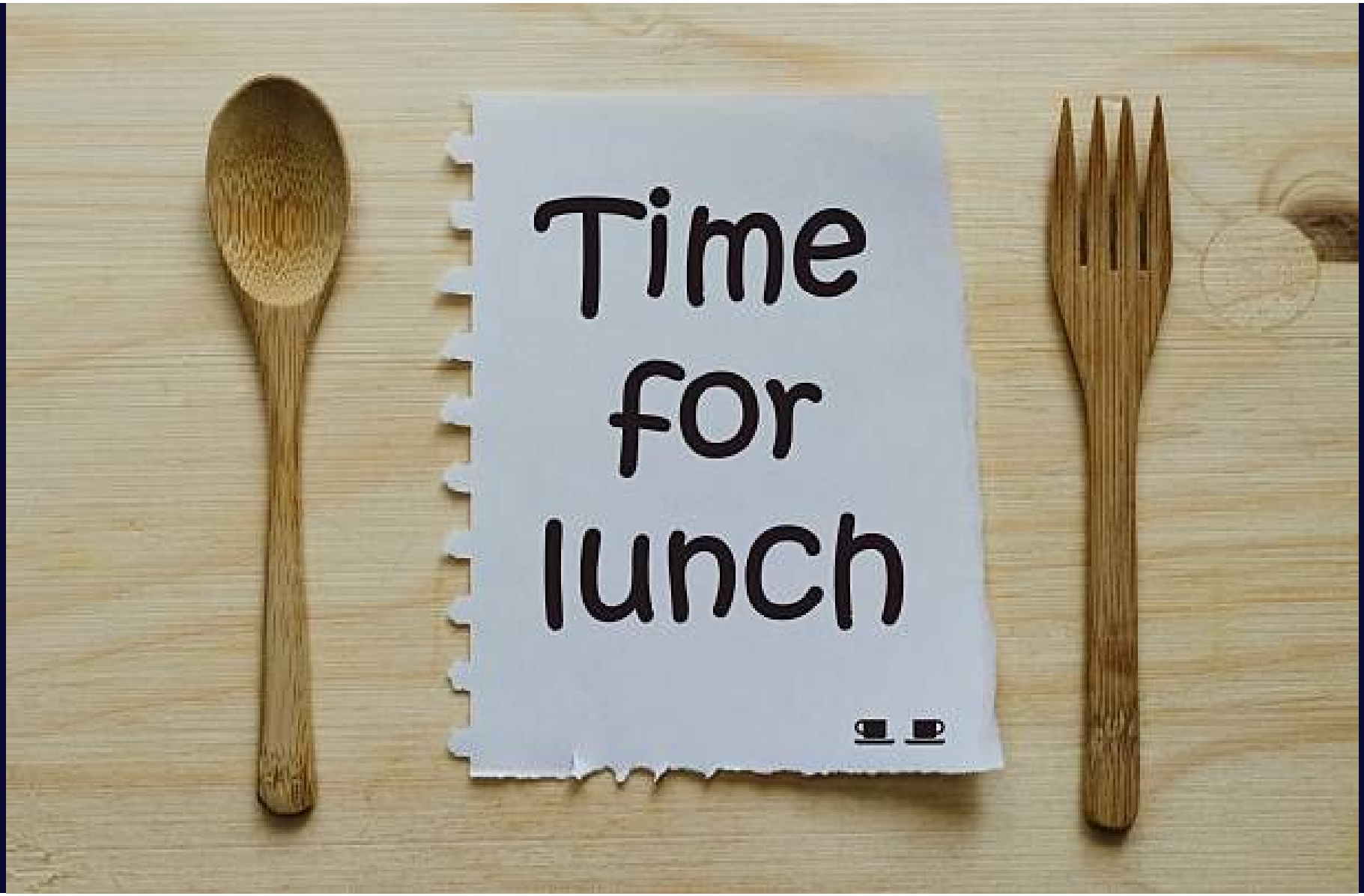
10 x ☹

1. ☹ Not enough bone on access
2. ☹ Bleeding
3. ☹ Drill/implant in wrong position
4. ☹ Poor initial stability
5. ☹ Post op pain or infection
6. ☹ Recession or attached gingiva problems
7. ☹ Bone loss
8. ☹ Impression material
9. ☹ Implant screw loosening
10. ☹ Implant failure

The next grafting skill you should learn?

- Obviously socket grafting, but then…
- Probably the internal sinus bone graft (“sinus bump”)
- AFTER you have at least 100 basic implant placements under your belt
- Even we do not do every type of graft here in the centre




Time
for
lunch

Drilling guides — an overview

2SP1

Drilling guides are…

-a way to “measure twice and cut once”

-a way to prepare by doing the surgery in advance

A horse with many names

- Surgical stent
- Surgical stint (sic)
- Surgical guide
- Implant placement index
- Surgical template
- Drilling guide*

*we prefer this term

What do we want to achieve?

- Faster implant placement
- Safer implant placement
- Better final implant position for optimal restorability
- Communicate desired placement to another operator

Remember: drilling, and therefore implant position, has three components:

Platform location—"Where do we start drilling?" Easy to learn

Implant angulation—"What direction should it point?" Harder

Platform depth—"How deep do we sink the implant?" Hardest part to teach and learn!

Position of the implant platform

In most instances, the adjacent or contralateral teeth will dictate.

Knowledge of average tooth M-D dimensions is essential.

Remember the rule of 7s and 10s.

Orientation

Implants are ideally oriented perpendicular to load.

In reality, the bone and adjacent teeth dictate direction to a large degree, especially in the maxilla.

The implant should point at the opposing tooth’s central groove or functional cusp.

When should I consider making a guide?

- Free end space
- Challenging restorative situation
- Bulk of bone ≠ desired implant position
- Limited opening or visibility
- Communicating desired restorative position to another operator
- While still learning

But….

Implant drilling guides can lead to a false sense of security. They are NOT a substitute for careful intraoperative analysis.

Some drilling guides can be a weak link in the infection control chain.

Many drilling guides we see are unstable in the mouth and are therefore useless.

Guides interfere with irrigation, vision, and tactile sensitivity.

Different types of guides used

- Stock rings, snowmen, etc.
- Edentulous vacuform
- Dentulous vacuform
- Acrylic
- Acrylic with single sleeve
- Acrylic with nested sleeves
- Stock denture tooth with a hole in it

—and can be tooth, tissue or bone supported

Using your model-based drilling guide

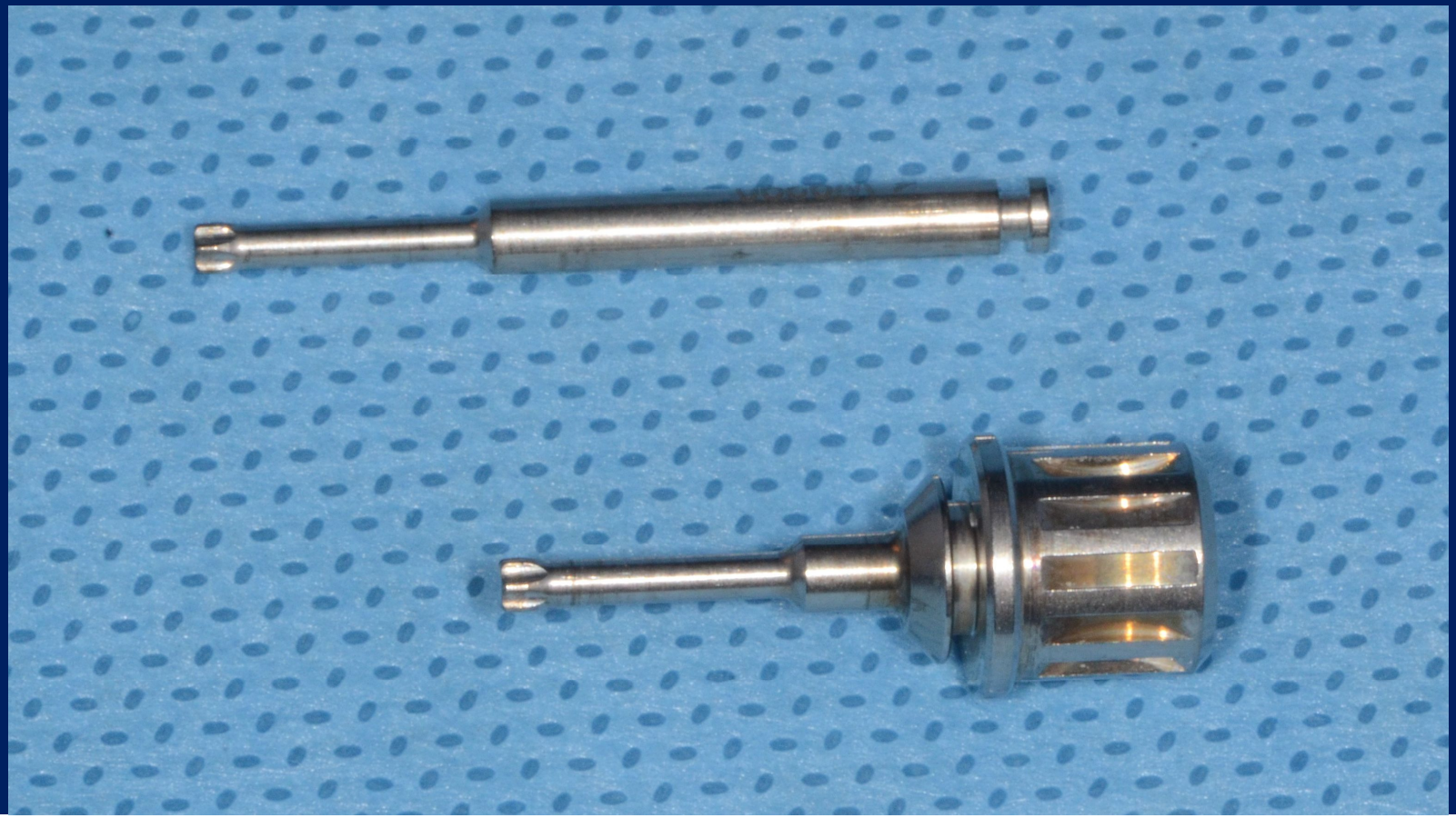
- Store on model at least first night overnight
- Disinfect with spray-soak protocol
- Be prepared to cut down if inadequate opening for drill/handpiece
- Be prepared to cut off chunks if it won’t fit
- Sleeves can be sterilised and re-used many times

Screws, screwdrivers, and torque wrenches

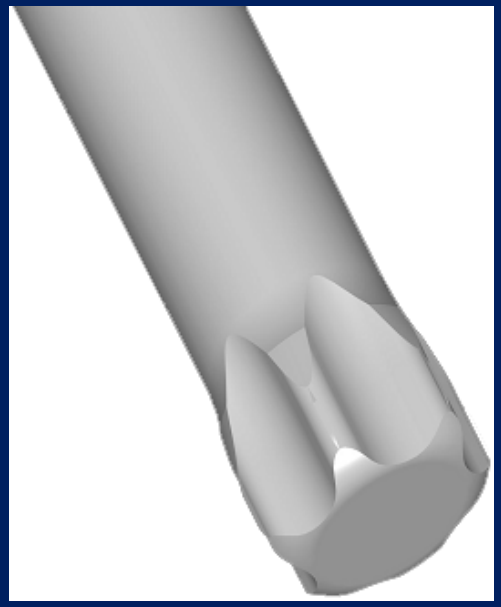
1SP3

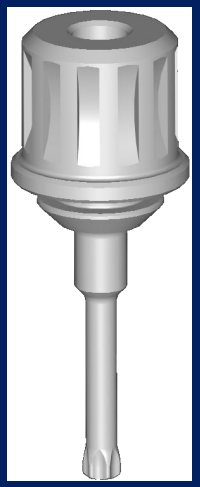
Screwdrivers

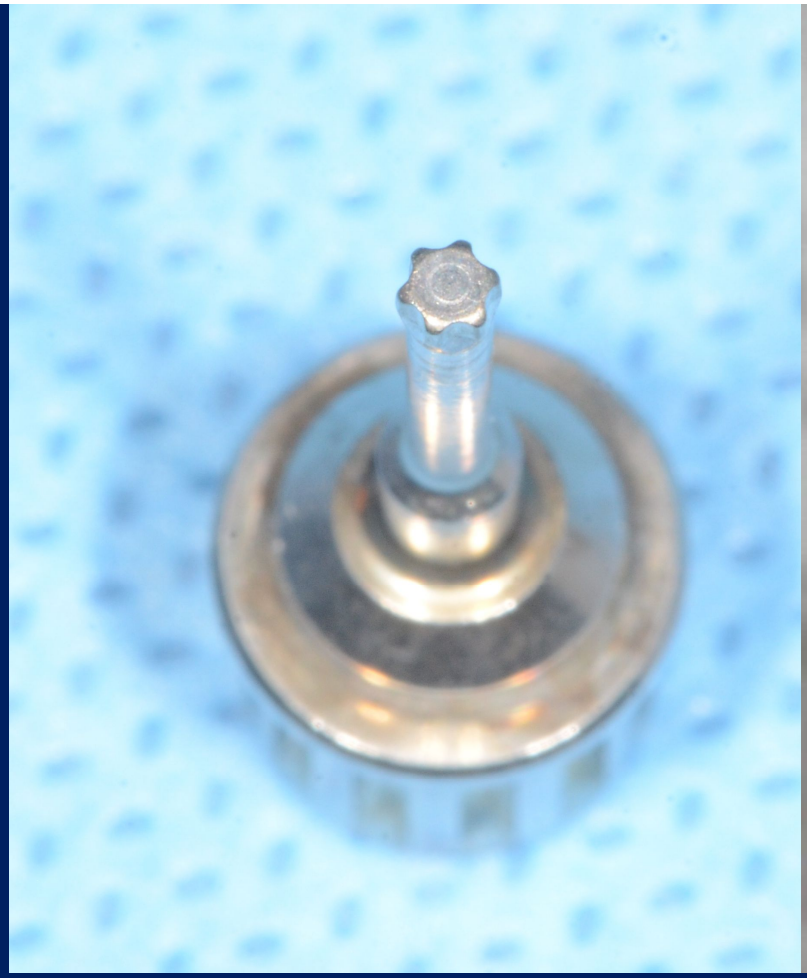
Straumann latch and
solid SCS screwdrivers



The Straumann “SCS” screwdriver and screws: stands for “Screw Carrying System”







Straumann SCS ≠ Nobel Unigrip

..can be interchanged for screws, but not for torquing

One more part to learn: abutment screws

So use a torque wrench

- different styles available
- different implant companies and different components require different amounts of torque
- tong-style torque wrenches come apart to clean
- always store breakneck torque wrenches in broken position, and calibrate them q 2 yrs
- most Straumann restorative applications are at

  35 N-cm

Abutment Screw Torque and Driver

Manufacturer	Torque N-cm							Driver	
© 2018 genieoss.com	15	20	24	25	30	35	45	Titanium Screw	Gold Screw
Atlantis™ titanium and zirconia abutments utilize the same torque and driver setting as the original implant manufacturer									
Astra 3.0	X							0.050"- 1.27mm hex	
Astra 3.5-4.0		X						0.050"- 1.27mm hex	
Astra 4.5-5.0				X				0.050"- 1.27mm hex	
Astra EV 3.0, 3.6, 4.2, 4.8, 5.4				X				0.050"- 1.27mm hex	
BioHorizons® External, Internal, Internal Tapered					X			0.050"- 1.27mm hex	
Biomet 3i™ External Hex						X		0.048"- 1.22mm hex	Square
Biomet 3i™ Certain® *		X						0.048"- 1.22mm hex	
BlueSkyBio One Stage					X			Star & 0.048" hex	
BlueSkyBio Trilobe					X			Unigrip & 0.048" hex	
BlueSkyBio Internal Hex & Molar					X			0.050"- 1.27mm hex	
BlueSkyBio Conus 12 & Three					X			0.050"- 1.27mm hex	
BlueSkyBio Max					X			0.048"-1.22mm hex	
BlueSkyBio Quatro					X			0.048"-1.22mm hex	
Brånemark (Nobel Biocare)						X		Unigrip	Square
Camlog™ & Conelog®		X						0.050"- 1.27mm hex	
Dentium Super Line & Implantium					X			0.050"- 1.27mm hex	
Dentsply Friadent/Frialit & Xive			X					0.048"-1.22mm hex	
Dentsply Ankylos® C/X	X							0.039"-1mm hex	
Glidewell iNCLUSiVE® Tapered 3.7, 4.7, 5.2						X		0.050"- 1.27mm hex	
Hiossen/Osstem HG mini (3.5)		X						0.048"-1.22mm hex	
Hiossen/Osstem HG standard (4.0, 4.5, 5.0)					X			0.048"-1.22mm hex	
Imtec® 3M Endure™						X		0.050"- 1.27mm hex	
Implant Direct™					X			0.050"-1.27mm hex	
Keystone/Lifecore Genesis* & Prima™ *					X			Square	
Keystone/Lifecore Renova®					X			0.048" 1.22mm hex	

Google:

"Genieoss torque and driver"

GLIDEWELL DIRECT
CLINICAL AND LABORATORY PRODUCTS

Titanium Screw Guide

IMPLANT SYSTEM	Prosthetic Screw Connection	Prosthetic Screw Thread	Mfg. Recommended Torque
3i Certain Internal	0.048" (1.22mm) Hex	M1.6 x 0.35	20 Ncm
3i Certain External	Square	M2 x 0.40	32-35 Ncm
Ankylos C/X	1mm Hex	M1.8 x 0.35	15 Ncm
Astra OsseoSpeed			
X-Small	0.050" (1.27mm) Hex	M1.4 x 0.30	15 Ncm
Small	0.050" (1.27mm) Hex	M1.6 x 0.35	20 Ncm
Large	0.050" (1.27mm) Hex	M2 x 0.40	25 Ncm
BioHorizon Internal/External	0.050" (1.27mm) Hex		30 Ncm
Brånemark			
Brånemark System NP	Unigrip	M1.6 x 0.35	35 Ncm
Brånemark System RP	Unigrip	M2 x 0.40	35 Ncm
Brånemark System WP	Unigrip	M2.5 x 0.45	35 Ncm
Camlog ScrewLine			
3.3, 3.8, 4.3mm	0.050" (1.27mm) Hex	M1.6 x 0.35	20 Ncm
5.0, 6.0mm	0.050" (1.27mm) Hex	M2 x 0.40	20 Ncm
Endopore (Sybron)	0.050" (1.27mm) Hex		30 Ncm
Inclusive Tapered	0.050" (1.27mm) Hex	1-72 UNF	35 Ncm
Keystone Prima Connex	Square	M1.8 x 0.35	30 Ncm
Keystone Restore			30 Ncm
SD Restore	0.048" (1.22mm) Hex, Square	1-72 UNF	30 Ncm
RD Restore	0.048" (1.22mm) Hex, Square	M2 x 0.40	30 Ncm
WD Restore	0.048" (1.22mm) Hex, Square	M2.5 x 0.45	30 Ncm
Keystone Renova	0.048" (1.22mm) Hex	M1.8 x 0.35	30 Ncm
MIS Seven	0.050" (1.27mm) Hex	1-72 UNF	30 Ncm
Neoss	Neoss Proprietary	M2 x 0.40	32 Ncm
NobelActive			
NobelActive 3.0	Unigrip	M1.4 x 0.30	15 Ncm
NobelActive NP	Unigrip	M1.6 x 0.35	35 Ncm
NobelActive RP/WP	Unigrip	M2 x 0.40	35 Ncm
NobelReplace			
NobelReplace NP	Unigrip	M1.8 x 0.35	35 Ncm
NobelReplace RP	Unigrip	M2 x 0.40	35 Ncm
OCO Biomedical	0.050" (1.27mm) Hex	1-72 UNF	30 Ncm
Straumann Tissue-Level			
Narrow Neck	SCS	M1.8 x 0.35	35 Ncm
Regular Neck	SCS	M2 x 0.40	35 Ncm
Wide Neck	SCS	M2 x 0.40	35 Ncm
Straumann Bone-Level			
Narrow Cross-fit	SCS	M1.6 x 0.35	35 Ncm
Regular Cross-fit	SCS	M1.6 x 0.35	35 Ncm
Sybron Pro			
Sybron Pro (Internal Octa)	0.050" (1.27mm) Hex	M2 x 0.40	35 Ncm
Sybron Pro (Internal Hex)	0.050" (1.27mm) Hex	M2 x 0.40	35 Ncm
Zimmer Spline	0.050" (1.27mm) Hex	1-72 UNF	30 Ncm
Zimmer Screw-Vent	0.050" (1.27mm) Hex	1-72 UNF	30 Ncm

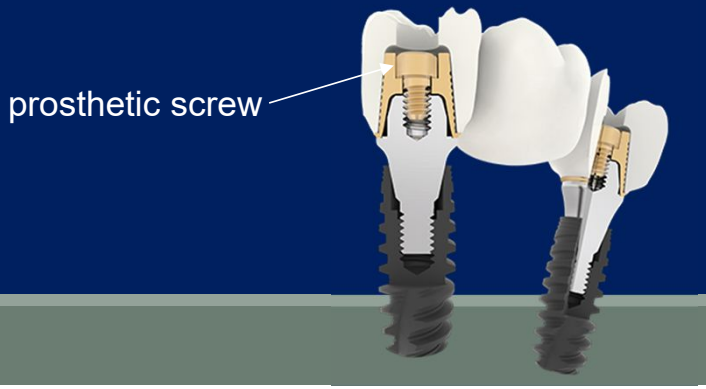
This guide is on your handout disk.

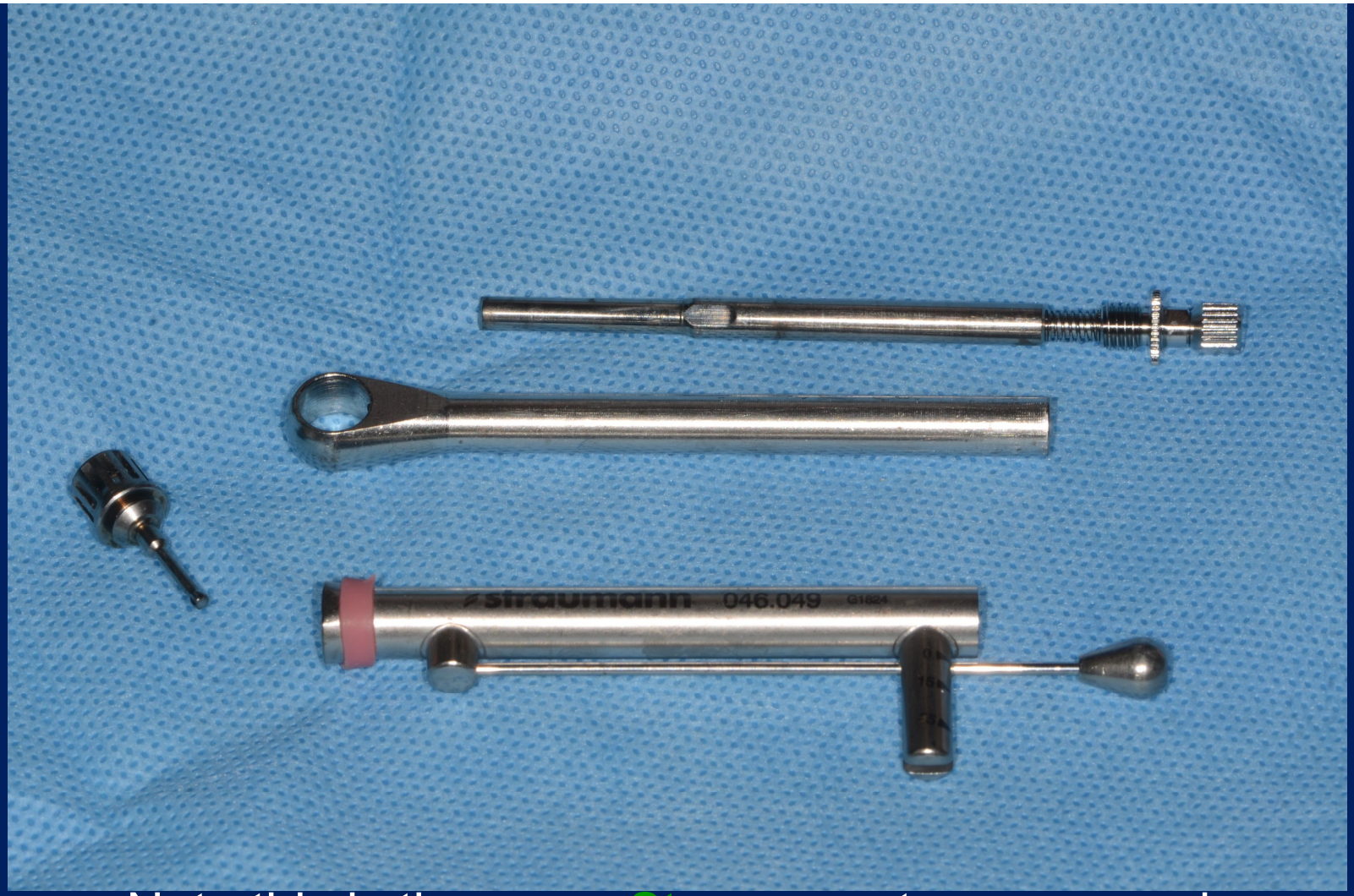
If in doubt, call or email us.

Exceptions to 35 N-cm for Nobel and Straumann

- prosthetic screws, which go into
  - multi unit abutments (MUAs) or screw retained abutments
- NobelActive 3.0
- abutment screws into 30 degree MUAs

all of the above go to **15 N-cm**





Note this is the same Straumann torque wrench
for both surg and prosthetics.

Torquing abutments

- Treat your torque wrench like jewelry
- Cement retained? Hold abutment in haemostat while torquing screw
- Remember, abutment screws cost ~$65 each
- Block out screw head

Torque wrenches hands-on / demo

How to take implant level impressions

2SP4

Two ways to take a final impression of an implant…

Abutment level:

A piece, shaped like a prepared tooth, is screwed to the implant, and is prepared in or out of the mouth, and a conventional C&B impression is taken

Implant level:

A record is taken of where the implant is positioned, and the abutment is fabricated in the laboratory at the same time as the crown

You could just prep an abutment in the mouth. Advantages of implant level impressions:

- Faster and easier impressions (no cord, bleeding control less critical, accuracy at margin less critical, etc.)
- Option to make one-piece screw-retained crown
- Opportunity to pick best abutment on model, and mill it to perfect angulation, draw, and margin height
- If stock abutment not ideal, lab can custom make one
- Crown made on/with actual abutment rather than die is more accurate
- Prepping titanium in the mouth is ~HELL~.

Actually there is a third way to record implant position… using intra-oral scanning

- Essentially an implant level impression
- Quality has dramatically improved over last 8 yrs
- Inadequate accuracy for larger cases
- Not all cases can be scanned, you will still need to be able to do conventional impressions

The “One abutment—one time” philosophy

- Primarily pushed by Team Atlanta
- Idea is to prevent damage to soft tissue from removing healing abutment
- Science is mixed
- We believe drawbacks outweigh benefits and still recommend implant level impressions wherever possible

However, you still need to be able to take tissue level impressions occasionally…

- In old cases where no new parts are available
- In cases with one-piece implants
- In cases where implant is damaged or you have had to prepare implant body to hide the margin
- In cases with screw receiving abutments

Stuff you will need

1. Screwdrivers (long and short)
2. Impression copings
3. Implant analogs

Otherwise, normal setup for a C&B final impression (impression material, trays, tray adhesive, etc.)

Now we have to choose between two kinds of implant impression types…

Closed tray

Open tray

⁂We recommend that you stay with closed tray impressions while learning. This is absolutely fine for straightforward cases.

It should be mentioned that our dentists and technicians are strongly opposed to using quadrant trays for this kind of work.

Can it be done? Yes. Should it? Absolutely not.

Full arch triple trays are possible, however the impression coping has to be so short to be out of occlusion that it loses significant accuracy.

Just go with the simple way-

full arch closed trays.

Recipe for implant level impression appt

1. Remove healing abutment or temporary crown
2. Attach impression coping to implant
3. Radiograph if required to confirm seating
4. Closed tray C&B impression—no cord required
5. Remove impression coping, attach analog to it
6. Place impression coping/analog combo in impression
7. Replace the healing abutment or temporary crown
8. Opposing model, bite, shade, as usual

Straumann BLT 4.1 x 12 RC

So what parts do we need?

- Straumann RC closed tray impression coping
- Straumann RC analog
- Straumann (SCS) screwdriver
- Regular crown and bridge impression stuff

RC BONE LEVEL IMPLANT

Restorative platform Ø 4.1 mm and Ø 4.8 mm

Implant-level impressions, closed tray technique		
025.4201		RC Impression post, with guide screw and cap
025.4101		RC Implant analog
Implant-level impressions, open tray technique		
025.4202		RC Impression post, with guide screw
025.4205		RC Impression post, with guide screw, long
025.4101		RC Implant analog

NC BONE LEVEL IMPLANT

Restorative platform Ø 3.3 mm

Implant-level impressions, closed tray technique		
025.2201		NC Impression post, with guide screw and cap
025.2101		NC Implant analog
Implant-level impressions, open tray technique		
025.2202		NC Impression post, with guide screw
025.2205		NC Impression post, with guide screw, long
025.2101		NC Implant analog
Temporary option for provisionalization, open or closed tray		
024.2370		NC Temporary meso abutment D 5.0 mm

RC BONE LEVEL IMPLANT

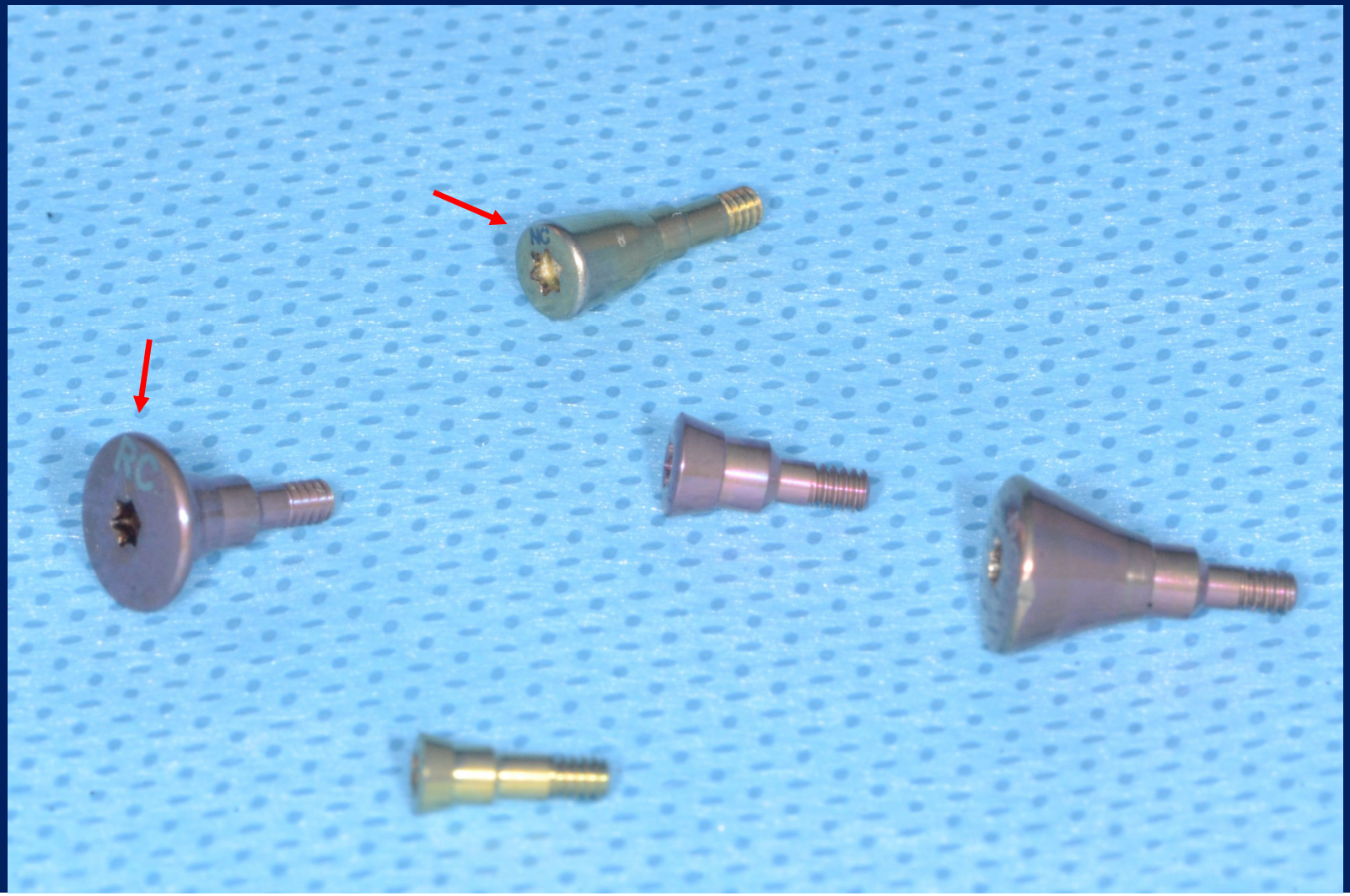
Restorative platform Ø 4.1 mm and Ø 4.8 mm

Implant-level impressions, closed tray technique		
025.4201		RC Impression post, with guide screw and cap
025.4101		RC Implant analog
Implant-level impressions, open tray technique		
025.4202		RC Impression post, with guide screw
025.4205		RC Impression post, with guide screw, long
025.4101		RC Implant analog
Temporary option for provisionalization, open or closed tray		
024.4370		RC Temporary meso abutment D 7.0 mm

Order parts as you need them, and build up an inventory over time.

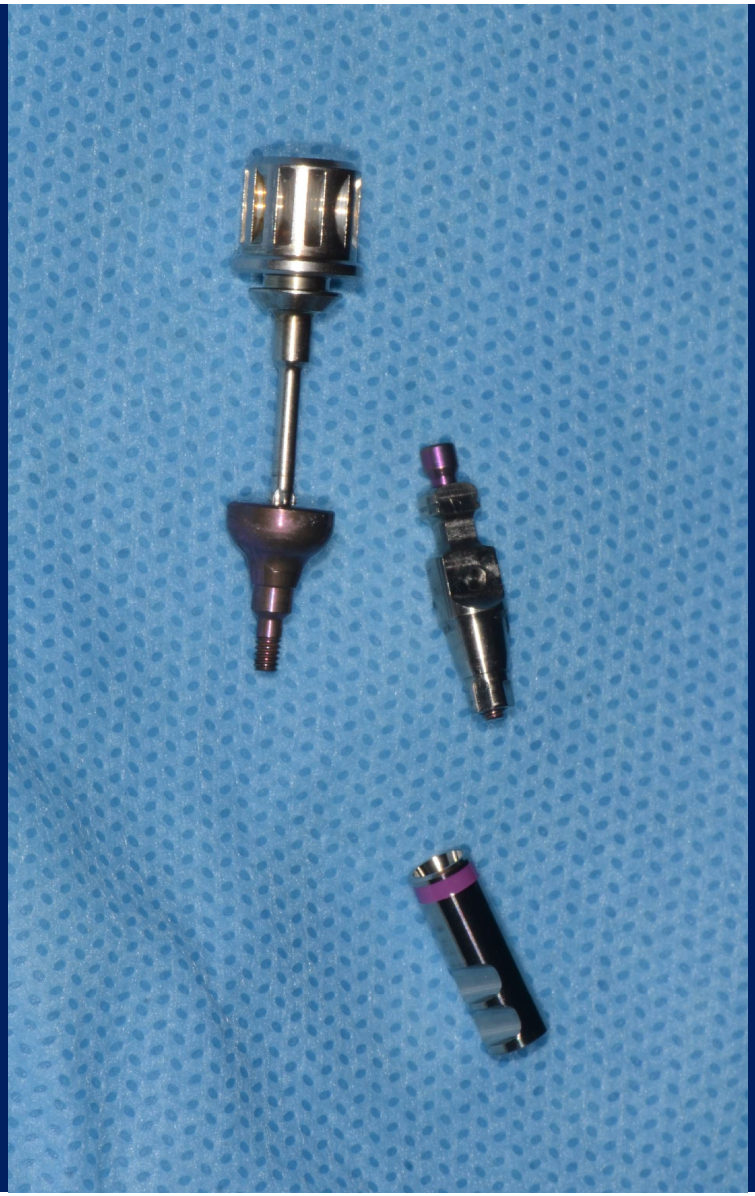
Note that some parts are marked single-use.

Healing abutments will also tell you the implant platform



screwdriver

healing abutment



impression coping

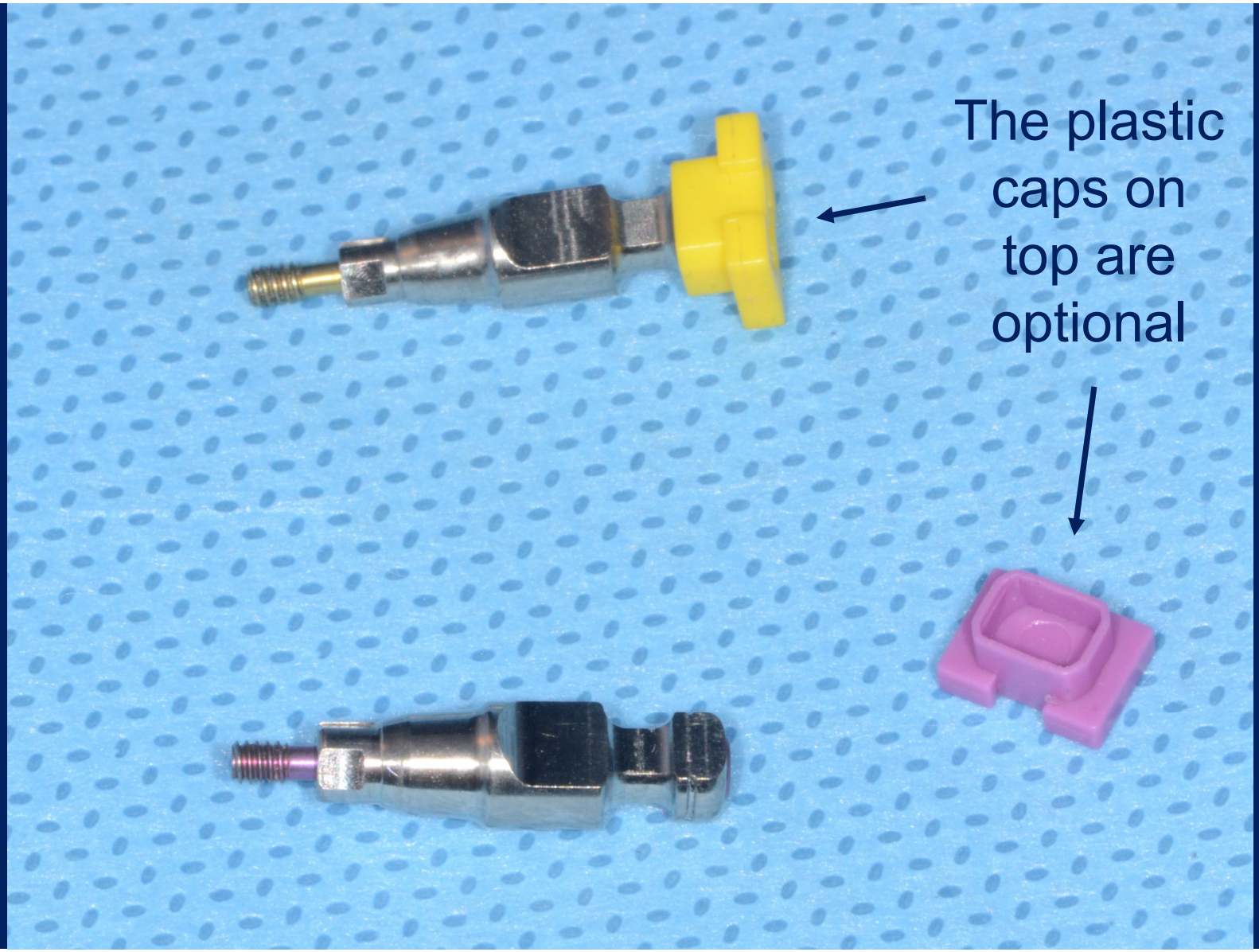
analog

Healing abutments and cover screws

- colour-coded by size
- vary in height and width
- occasionally two-piece
- case also may come back in a temporary crown

Ø5.0 BL RC Conical Healing Abutment**		
024.4222S		RC Healing Abt., conical, D 5.0 mm, H 2.0
024.4224S		RC Healing Abt., conical, D 5.0 mm, H 4.0
024.4226S		RC Healing Abt., conical, D 5.0 mm, H 6.0

Ø6.5 BL RC Conical Healing Abutment**		
024.4242S		RC Healing Abt., conical, D 6.5 mm, H 2.0
024.4244S		RC Healing Abt., conical, D 6.5 mm, H 4.0
024.4246S		RC Healing Abt., conical, D 6.5 mm, H 6.0


The plastic caps on top are optional

1. Remember, one of the four “flat” surfaces should be to the buccal.
2. If you are unsure of whether the impression coping is seated, take a PA.

But wait: what kind of impression material should we use???

Whatever final impression material you use for tooth crown & bridge now.

Pretty similar, right?

- Most root form implants can be restored with the same impression technique
- Remember, same impression copings/analogs for NobelActive as NobelReplace Conical
- Likewise, same impression copings/analogs for Straumann bone level as Straumann BLT

It’s hands-on time…

- Each table should have a Straumann and Nobel impression copings and analogs.
- Remove healing abutment from implant, affix impression coping, and take impression.
- Affix analog to impression coping and “pop” it into impression
- Clean impression material off of teaching model and replace healing abutment

2SA4

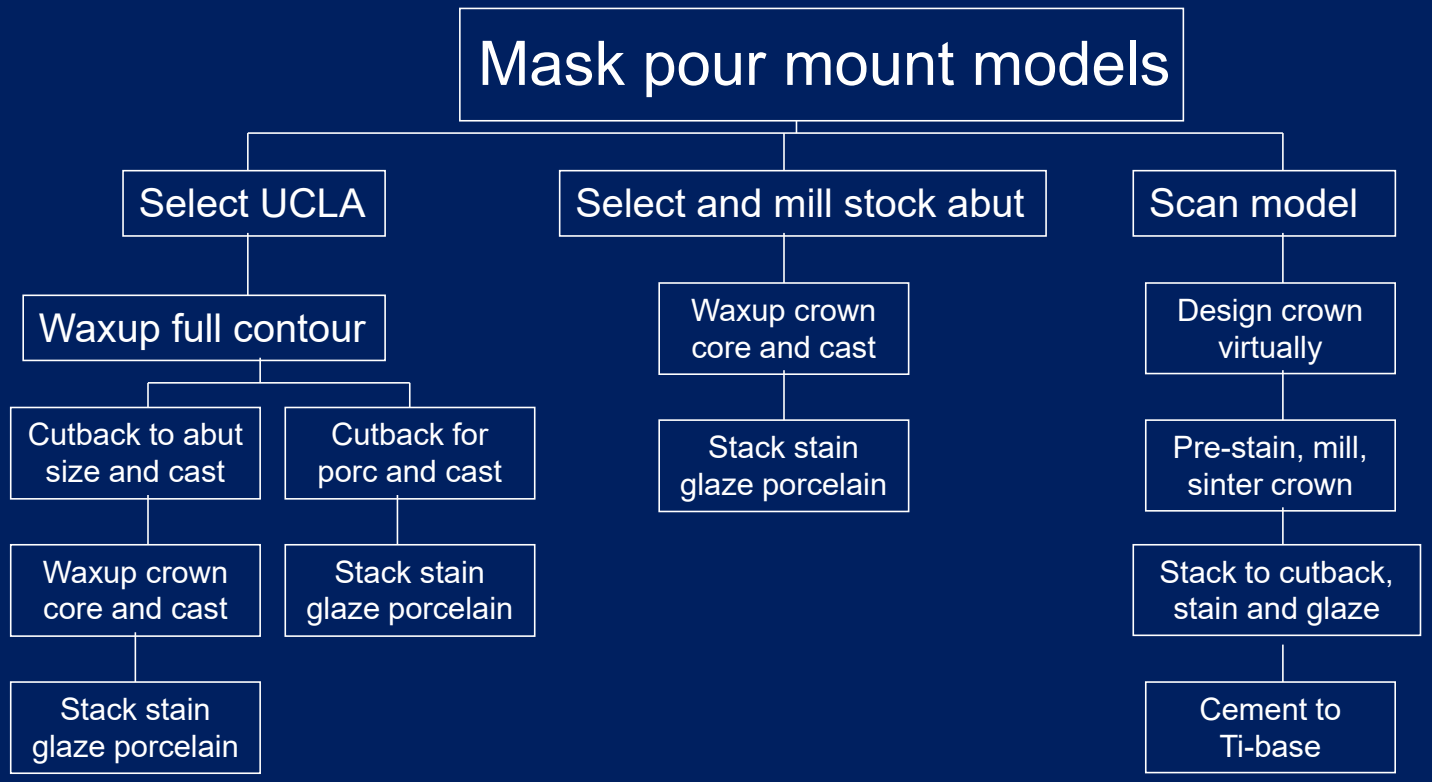
Laboratory procedures

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.

Some typical non-digital lab protocols



…and these don't even include intra-oral scan protocols.

Implant crown lab protocol

1. Mask and pour impression
2. Cast or scan for core
3. Stack or press porcelain, etc.

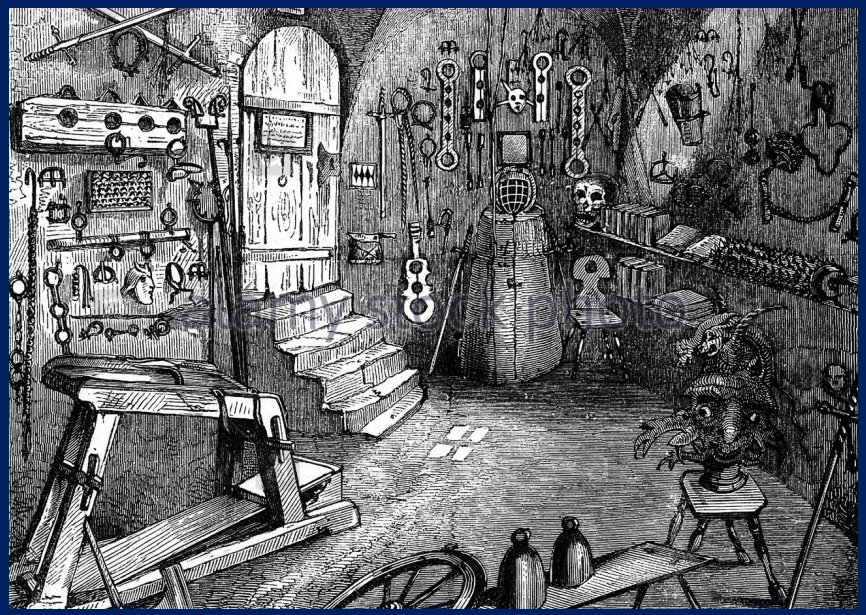
Tooth crown lab protocol

1. Pour main area and pindex
2. Pour base
3. Cut dies
4. Trim dies
5. Cast or scan die for core
6. Stack or press porcelain, etc.

Myth: implant crowns are more difficult and should command a higher lab fee

Go on a field trip. Visit your lab.

Handy tip



Crown designs and materials

Now we have to choose between two kinds of crown:

Cement retained:

- An abutment is affixed to the implant, and a crown is then cemented onto it

Screw retained:

- A crown is made with a hole for a screw to pass through it and attach it to the implant

Note that we don’t have to decide on this until the case is poured up and mounted.

Current consensus in the implant community:

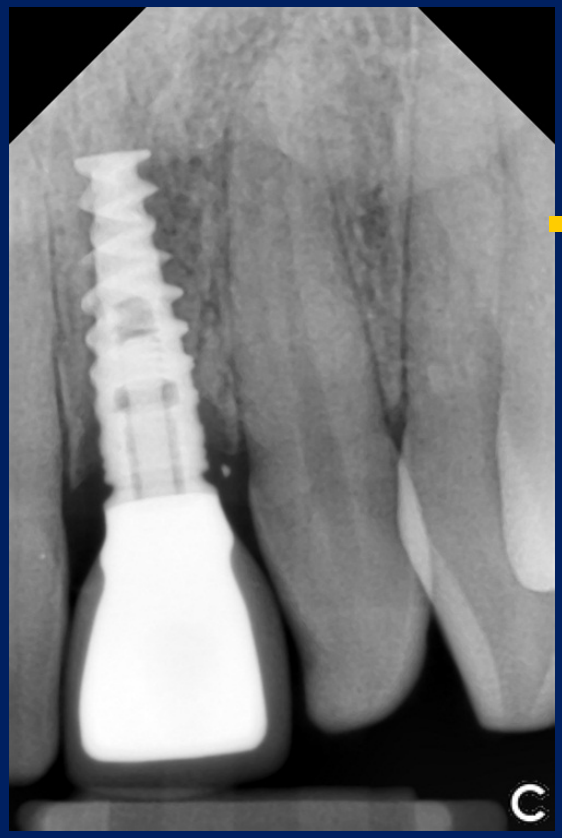
- In most cases, you could do either way and it comes down to personal preference
- Really short crown? Do screw retained
- Screw access will be out the facial? Do cement retained, or angled screw channel
- Screw retained crowns avoid problems with
  - cement sepsis
  - incomplete seating due to soft tissue
  - retrievability

- **We recommend screw retained for the vast majority of simple cases**

Angulated screw channel ("AS" or "ASC") crowns

- A handy option for cases where screw would come out the facial
- Requires specific screwdriver
- Only available from certain labs, but now for most implant platforms
- Additional cost

Angulated screw channel ("ASC") crowns



- Requires specific hexolobular screwdriver

Watch for the **blue** Teflon tape

If doing screw retained we have several materials we can choose from:

- One-piece cast metal nugget
- Cast metal with stacked or pressed porcelain
- Stock abutment with stacked or pressed
- Milled or pressed porcelain glued to Ti-base
- One piece block milled to include connection
- Milled ceramic abut with stacked or pressed
- Cemented-style fabrication with “holey” crown glued on extraorally

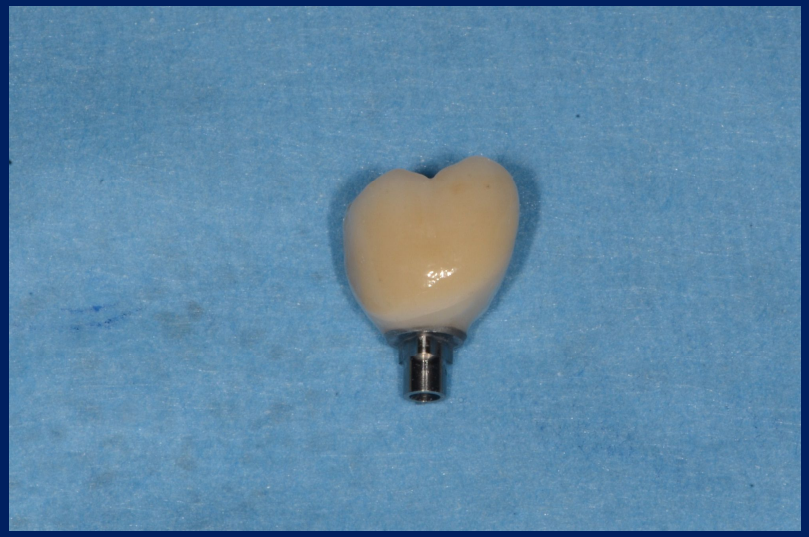
…and 100 other ways

Again, we don’t have to decide on this until the case is poured up and mounted.

Ti-base crowns

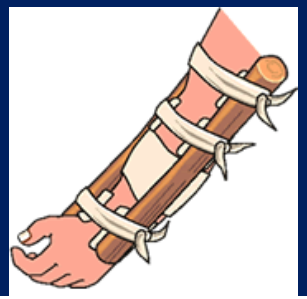
- Typically a milled zirconia crown, cemented extraorally to a stock metal interface
- Often we cement after try-in just in case furnace adjustments required
- Cement line not as well tolerated by tissue as glazed porcelain-to-metal junction
- Difficult to custom stain or repair after cement in place
- Simpler and typically slightly lower cost
- Can be constructed model-free, although we typically still print models

Screw retained can’t compensate for bad design, materials, or execution



Splinted crowns

- Harder to floss
- May be more challenging to construct/repair
- Usually require non-engaging elements to be able to insert into implants as one piece
- Definitely improves resistance to forces
- More important in smaller implants
- More important in maxilla
- More important under heavier loads
- Obviously required if bridgework



So how can we make splinted units that can be inserted?

- Cemented restorations
- Use of non-engaging UCLA(s)
- Use of internal screw receiving abutments
- Use of external screw receiving abutments
- Any combination of above

Note: splinted units includes not just splinted crowns, but any bridgework, overdenture bars, etc.

Splinting units reduces prosthetic complications.

Splinting units only prevents surgical complications in compromised cases.

Splinted units on implants require greater accuracy

- No PDL is present for “fudge factor”
- Decreasing use of cemented → no fudge factor there either
- Opportunities for errors in impression, affixing/inserting analog, transport, pouring model
- Non-passive restorations can lead to implant failure

Crown insertion technique

1SP5

Screw ret implant crown insertion

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

Cemented implant crown insertion

We will require

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

What cement should you use?

- Most any cement is fine as long as you thoroughly remove the excess
- Implant provisional cements used to be our first choice (*e.g.* Improv), but some (*e.g.* Premier Implant Cement) frankly aren't as good. TempBond regular is an option.
- Supposedly you should not use polycarboxylate (Durelon) in contact with titanium

How much cement should you use?

- The smallest amount you can get away with!
- If in doubt, remove and replace to establish thin film thickness
- If in doubt, undercementing is preferable to overcementing
- Not necessary to fill chimney of abutment
- Vented crowns? Not clear if it helps
- Aside from risks from cement excess, excellent fit of implant crowns ↑ risk of incomplete seating

Occlusion and simple implant cases

2SP5

Adjusting occlusion…an implant is **not** a tooth

Teeth have a PDL. Implants do not.

- Specify light or “zero” occlusion on lab Rx
- Adjust all implant crowns carefully, WITH THE PATIENT CLENCHING FIRMLY
- Use good quality articulating paper, and shim stock
- Excess occlusal force (and parafunction) can cause late failure of implants

Adjusting occlusion…an implant is **not** a tooth

Do we want occlusal contact at all?

Do we put a single cuspid implant crown in canine guidance?

Do implant cases require nightguards?

What if the adjacent teeth are all mobile?

What about anteriors in protrusive?

How often should we check the occlusion at recall?

TXP concept: excess force is the enemy of implants

- Implants tolerate forces well down their long axis
- Shear (lateral) forces…not so much ☹
- These forces are concentrated at the ridge crest
- Splinting manages this well
- Implant surface area helps manage this
- **Width** is more important than length
- Implant length beyond 10mm offers little stress reduction

What to do when the crown won't go in

2SP6

You go to insert an implant retained crown.

It won't go in. ☹

What are the five things that could be holding it up from seating in the implant?

- An adjacent tooth (interproximal contact)
- The gingiva
- Bone
- The implant connection (inaccurate)
- The abutment screw (trapped in the crown and sticking out the bottom)

To insert implant crowns you:

- Often have to freeze the area
- Sometimes have to release the gingiva
- Sometimes have to adjust the adjacent contact(s)
- Rarely have to remove bone

Errors are more common with printed models.

Healing abutment selection

2FP4

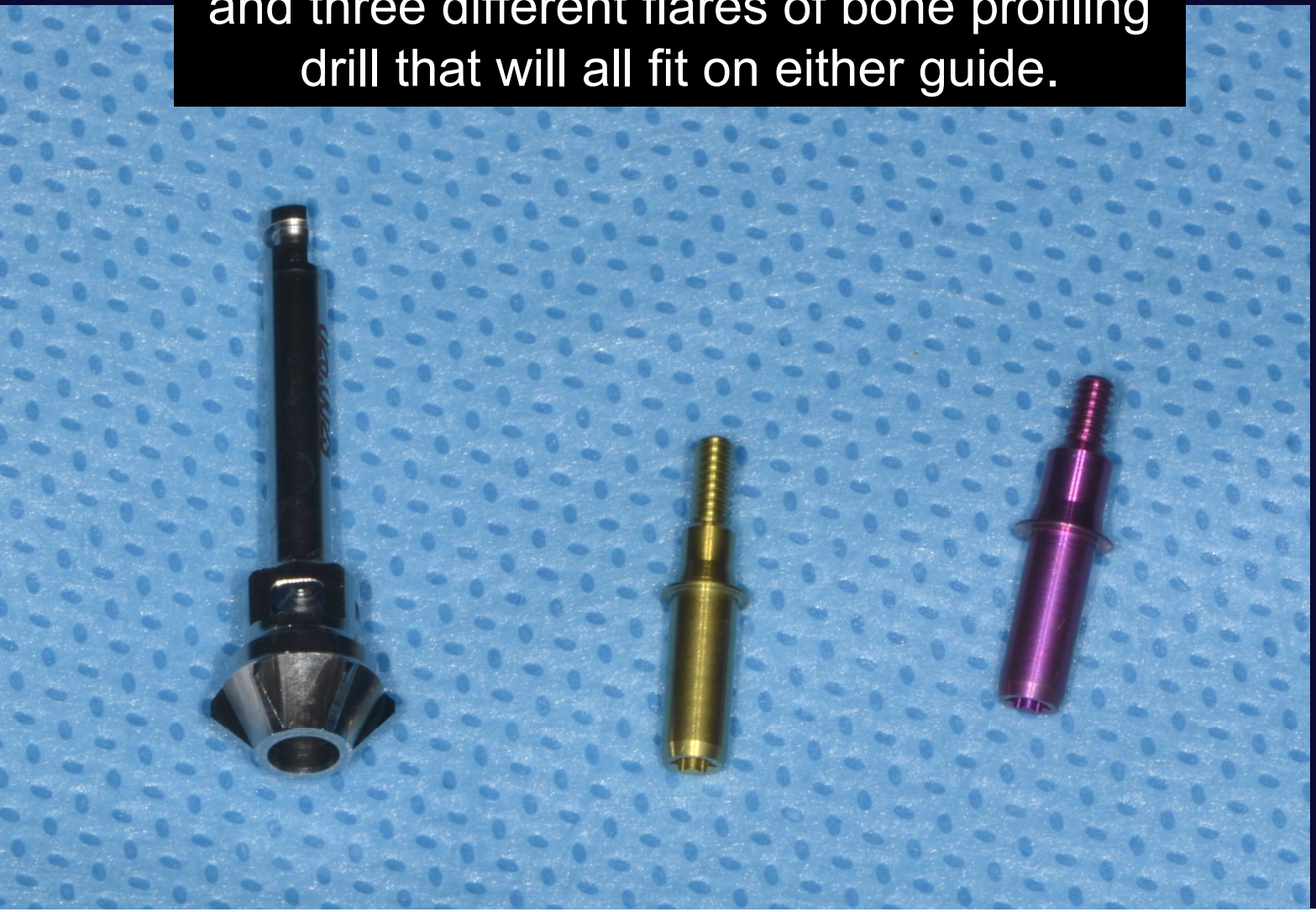
Let's look at and handle some healing abutments

Ø 4.5 mm, H 2.0 mm	Ø 5.0 mm, height 2.0 mm
Ø 4.5 mm, H 4.0 mm	Ø 5.0 mm, height 4.0 mm
Ø 4.5 mm, H 6.0 mm	Ø 5.0 mm, height 6.0 mm
Ø 6.0 mm, H 2.0 mm	Ø 6.5 mm, height 2.0 mm
Ø 6.0 mm, H 4.0 mm	Ø 6.5 mm, height 4.0 mm
Ø 6.0 mm, H 6.0 mm	Ø 6.5 mm, height 6.0 mm

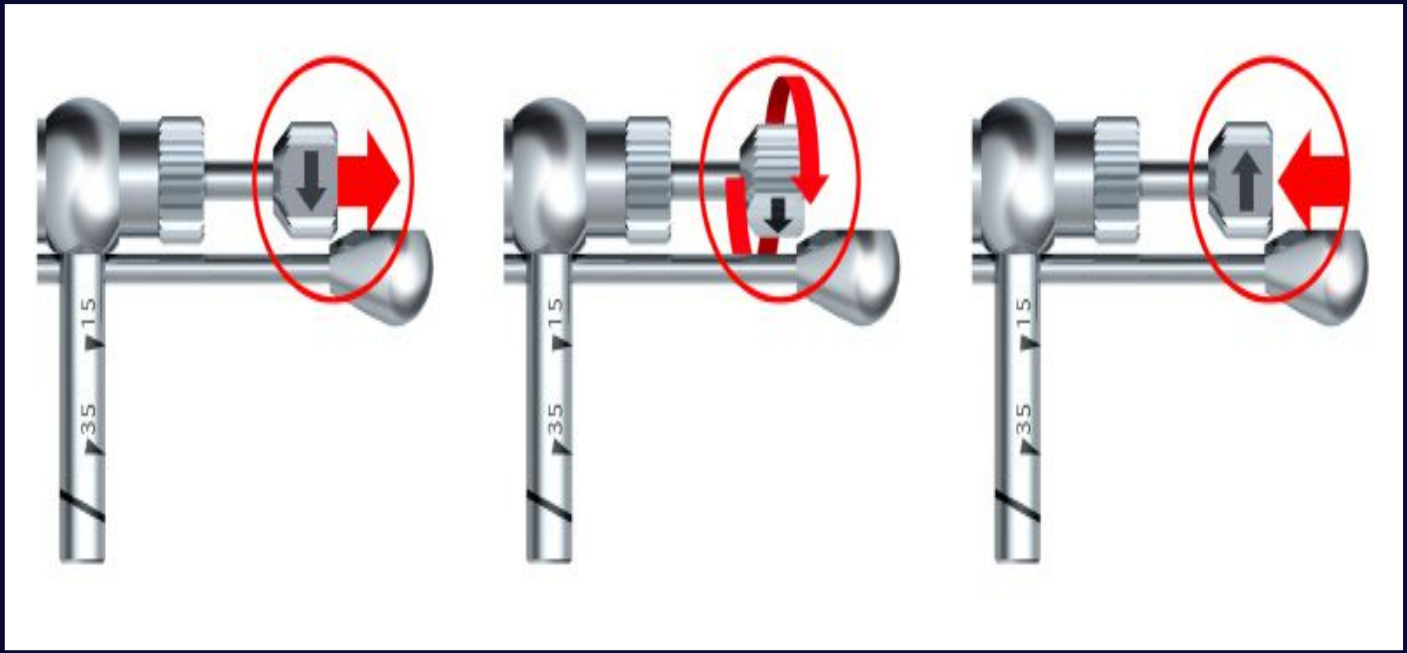
What if the healing abutment will not seat?

Bone profiling sets are intended to be used for removal of surrounding bone and soft tissue remnants around an implant head/platform.

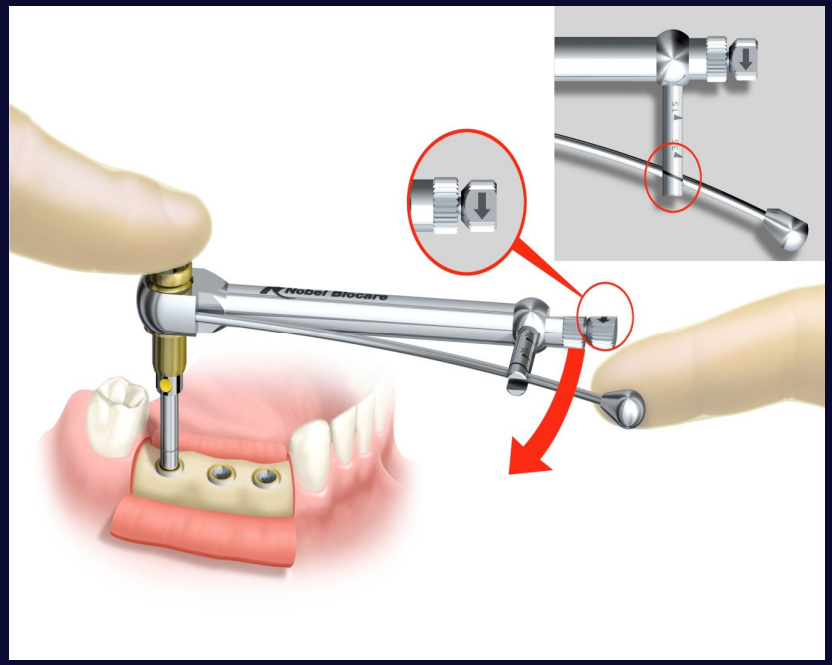
Straumann BL has a NC and a RC guide and three different flares of bone profiling drill that will all fit on either guide.



Modern torque wrenches allow direction change without removing driver



Tinkering



Looking for the “perfect storm” of depth, orientation, and initial stability.

What to do if the implant will not seat fully at 55-60 Ncm?

1. back implant out, keeping clear of saliva
2. place implant somewhere clean and safe
3. further modify site

   e.g. re-drill, re-use cortical drill, use thread tap
4. rinse implant w saline and re-insert

Case presentations and preparation for live surgery day

2SP6

1. Make sure your case is approved and booked w Colleen
2. We assume you are confirming pt yourself
3. Expect to stay at least ½ day (or longer if you wish)
4. Your assistant is welcome but may be put to work
5. Quiet while upstairs
6. Don’t wait for us to bring in your pt for LA
7. Ali and Bill are the worst assistants ever. Sorry. ☺

What to bring on Saturday

- Patient chart incl radiographs (unless sent in)
- Patient models, etc. if you wish
- Whatever safety glasses or loupes you are used to
- Face shields available or you can bring your own
- Dress as you would for regular dentistry, scrub cap or use disposable
- Observe what our staff do for re-processing
- Come downstairs for a break or to eat

And remember, this is not dental school, no one is judging you and we are all colleagues here with the same goals. Learning a new skill should be fun.