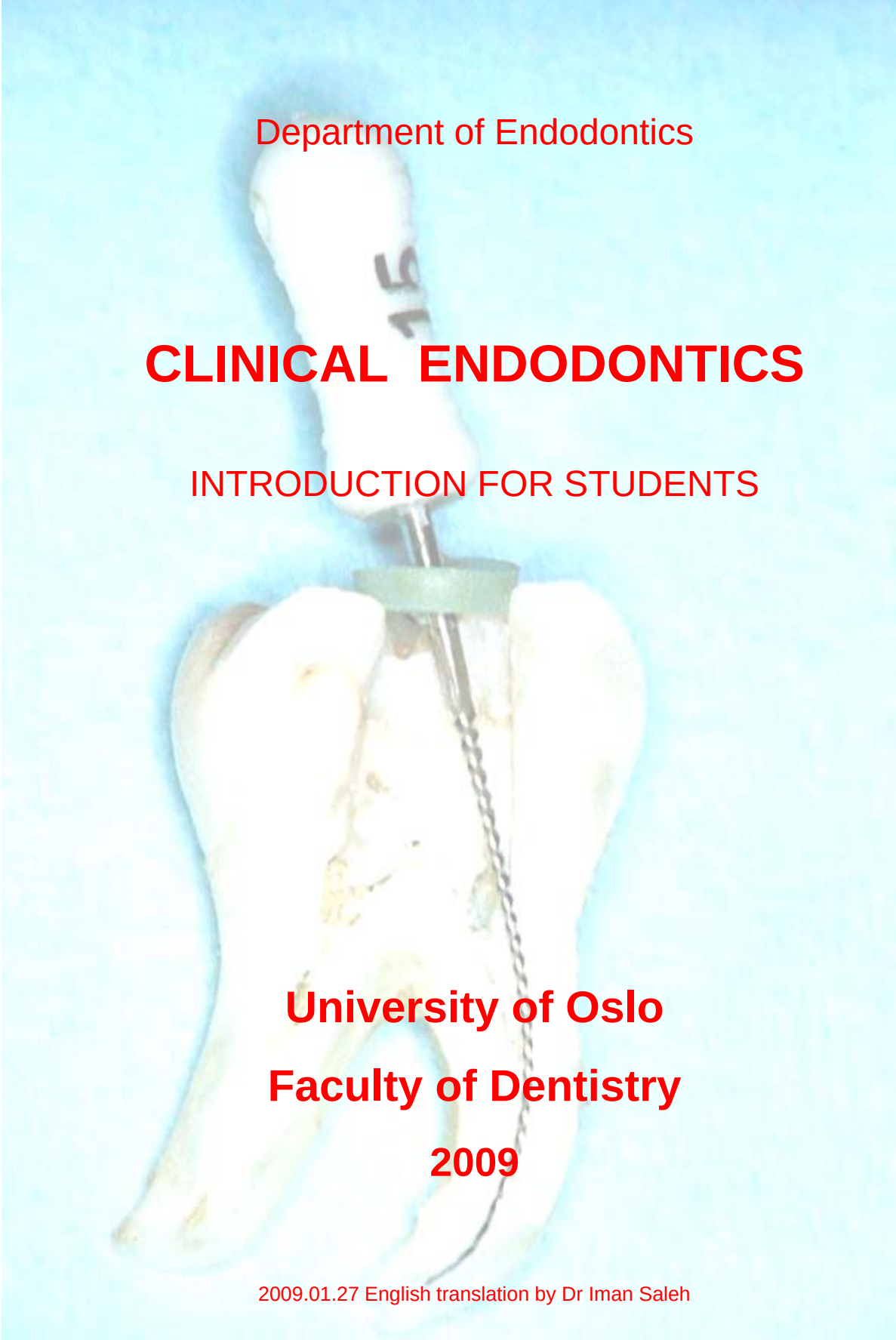




Department of Endodontics

CLINICAL ENDODONTICS

INTRODUCTION FOR STUDENTS

**University of Oslo
Faculty of Dentistry
2009**

2009.01.27 English translation by Dr Iman Saleh

The aim of this manual is to make the Erasmus student familiar with the routines followed at the Department and the principles of root canal treatment. This manual has to be read before the clinical demonstration in endodontics and has to be used at the clinic. **BE WELL PREPARED** before each patient session.

SYSTEMATIC ENDODONTIC TREATMENT

This implies that you go through the following steps, for each case. All steps should be immediately written in Salud and each step should be approved and authorized by an instructor. ~~eg et eget evalueringsskjema føres for hver tann.~~

A. Preparation of the patient and unit

B. Journal: examination, diagnosis and treatment plan

1. Case history: medical and dental

Salud: EDR Summary: Questionnaire

Salud: Endodontic Examination: Prelim Assessment

2. Examination: clinical and radiological

Salud: Endodontic Examination: Prelim Assessment, Clinical Findings Clinical
and Clinical Findings X-Ray

3. Diagnosis

Salud: Baseline Restorative Charting/ Endodontic/ Diagnoses

4. Treatment plan

Salud: Baseline Restorative Charting/ Endodontic/ Treatment Planning

5. Inform the patient about the findings, diagnosis and treatment plan

C. Tooth preparation

6. Event. tooth build-up, anaesthesia, rubber dam

Salud: Progress Notes

D. Aseptic treatment

7. Preparation and obturation of the root canal(s)

Salud: Progress Notes

E. Closing: temporary/permanent restoration

8. Coronal obturation; prognosis and postoperative control

Salud: Sluttgodkjenning

This booklet includes the two commonly performed treatment procedures in endodontics: vital pulp therapy (pulpectomy) and nonvital pulp therapy (treatment of necrotic tooth).

The red text indicates the check points for students; **the blue text** is when you have to show the instructor for approval before proceeding further. The instructor must also authorize the diagnosis, treatment plan and the progress notes in **Salud**.

The 8 points for a systematic root canal treatment are marked in red in the following text.

A. Preparation for treatment



The dental unit is disinfected (wiped off) and made ready with all the instruments and materials necessary for the treatment.

This will be shown in the clinical demonstration given before starting with patient treatment.

0.5% chlorhexidin in 70% ethanol for disinfection of the tooth & rubber dam

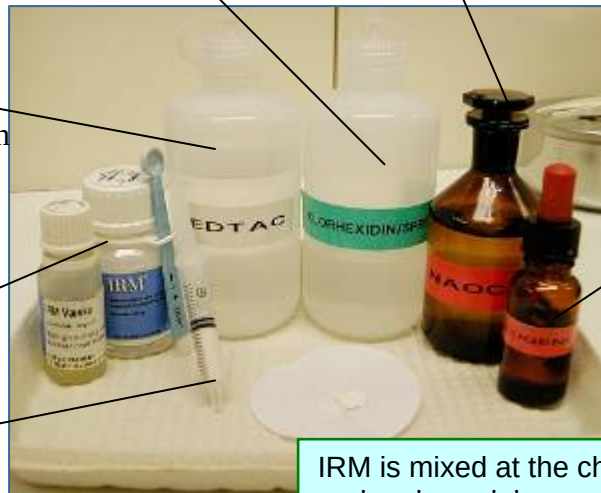
1% sodium hypochlorite for root canal irrigation

15-17% EDTA for root canal irrigation

IRM, temporary filling material

Eugenol for use in treatment of acute cases

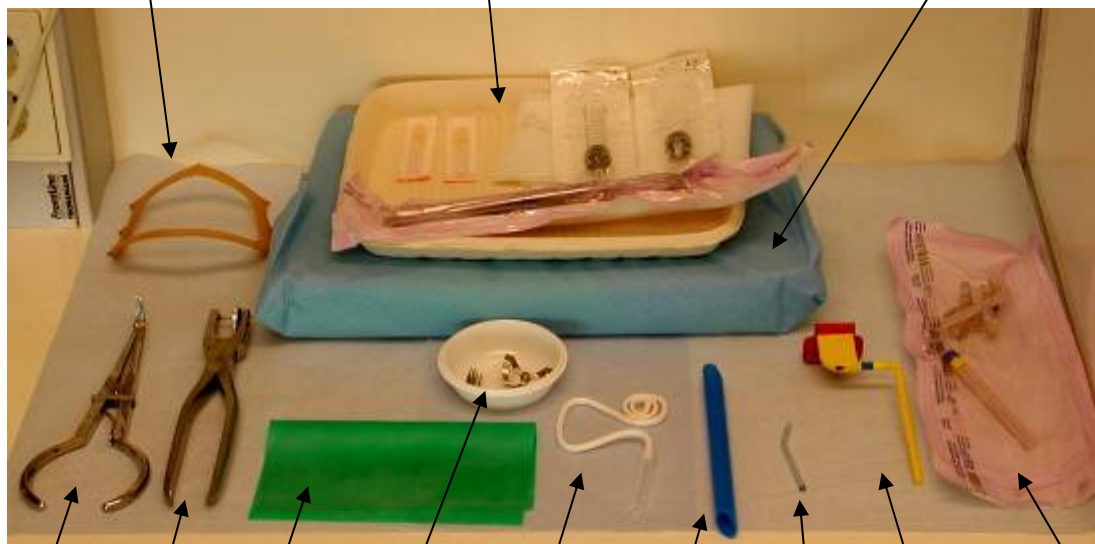
Ready-mixed $\text{Ca}(\text{OH})_2$ paste in syringe



IRM is mixed at the chair using a spatula and a glass slab + Cavit-G, which is used in the canal orifices, in between visits

Frame Paper points, syringes & tips, exam.set

Endocassette



Clamp holder

Hole puncher

Rubber dam

Bur & clamp

Suction tip

High suction

Three-in-one syringe

Parallel-holder

Endo-Ray-holder

B. Journal: examination, diagnosis and treatment plan

This is provided that the main journal and a chair ordered for you are registered in Salud (talk event. with the secretary at the department). Now you take the patient in and start taking the journal in Salud.

(1) Taking the case history: medical and dental.

First of all you ask the patient about any changes in his/her health condition since the last case history was taken. (New patients should always fill out a medical consent form in the general part of Salud)

Discuss with the instructor, if uncertain, the need for special measures, for ex. prophylactic antibiotics.

Let the patient describe the symptoms with his/her own words. Leading questions may be proposed, if necessary, for complementary information.

The patient symptoms and other information are ticked in in Salud: Endodontic Examination: Prelim Assessment.

(2) Examination: clinical and radiological.

Extraoral inspection for swelling (asymmetry); eventually, palpation of lymph nodes.

Standard intraoral examination includes inspection, palpation, percussion and sensibility test. The contralateral or neighbouring teeth are tested as controls.



Electric pulp tester

You take now a radiograph of the tooth that needs treatment, using the parallel holder for the Digora-plate.



Parallel technique



After sending the radiograph to PACS, you can open it in Salud by pressing on the X-ray button, and then choosing the radiograph. Drag it over to the big window to view it.

You now make a

(3) Diagnosis

The findings gathered from the case history, as well as the clinical and radiological examination, are registered accurately in Salud: Endodontic Examination: Prelim Assessment, Clinical Findings Clinical & Clinical Findings X-Ray.

*This will lead to **diagnosis**, which **is not** marked in "Endodontic Examination: Diagnosis", but in **Salud: Baseline Restorative Charting/ Endodontic/ Diagnoses**.*

(4) Treatment Plan

According to the diagnosis a **treatment plan** is chosen. This is also marked in the journal in **Salud: Baseline Restorative Charting/ Endodontic/ Treatment Planning**.

The diagnoses of the different forms of pulpitis indicates **pulpektomi**, but for non-vital teeth or apical periodontitis it will be **nekrosebehandling**

An instructor should be called for approval of the journal and the treatment plan and the authorization in Salud.

(5) You give now **the patient** the following **information**:

"We have now, according to your symptoms and to the examination done, come to the decision that the tooth is infected/infamed and that it needs a root canal treatment. This may take one or more visits and will cost you kr. xxx,-(check the price list). If the treatment is not done now, the prognosis for the tooth will be poor and you may risk it will have to be taken out on the long run."

C. Tooth preparation

(6) Access and isolation

These procedures are to be followed in all appointments. Eventually, put **anaesthesia**. Then, you do the **drilling** and **cavity preparation** using a long round bur for turbine and contra-angle. *Measure the distance from the crown/a cusp tip to the floor of the pulp chamber on the radiograph, in order to avoid perforation.* Check that all **the carious tooth structure is removed**.

An instructor is called for approval of the cavity preparation.

In some cases you may need to build up the tooth to avoid salivary contamination during treatment. The **rubber dam** is then mounted. It has to be tight to avoid leakage throughout the whole appointment.

*In the other appointments, the rubber dam is mounted **before** removing the temporary filling and re-establishing the cavity and the canal orifices.*

An instructor is called for approval of the rubber dam.

D. Aseptic treatment

(7) a. The root canal treatment.

Cover the patient's clothes with a nylon sheath to protect it from sodium hypochlorite. Protect the patient's eyes and face by covering it with protecting glasses. **Use yourself protecting glasses.** **Disinfect the working area** with a chlorhexidin (0,5%/70%)-moistened gauze for a minimum of 2 minutes. Remove the outer (blue) paper of the endodontic cassette. Keep the inner paper (green) over the bracket table, without blocking the trash holder. Open the endodontic cassette and put the medicament dish, mirror, probe, tweezers and foam box in the cover of the cassette using the bur tweezers. Fill the medicament dish with NaOCl (1%) solution.



Endodontic cassette: note how the mirror, probe and tweezers are put on the right edge and not inside the cover.



The endodontic cassette should **never** look like that!

A 10 ml disposable syringe is filled with 1% NaOCl from the medicament dish, the tip is slightly bent against the sterile paper inside the cover, and NaOCl (CHX) is injected in the pulp cavity.

You take now a **tooth length radiograph (indikatorbilde)**.

Measure the length of the tooth on the radiograph in PACS. Right click on the mouse, menu: distance = "**Avstand**".



Note the approximate tooth length from the apex to a cusp tip and deduct from it first 10% and then 1 mm. *This is to compensate for eventual miscalculations and to avoid overinstrumentation.*

For example:

If the distance you registered on the preoperative radiograph was 20mm, then the length on the file you are going to take the tooth length radiograph with will be: $(20\text{mm} - 10\%) - 1\text{mm} = 17\text{mm}$.

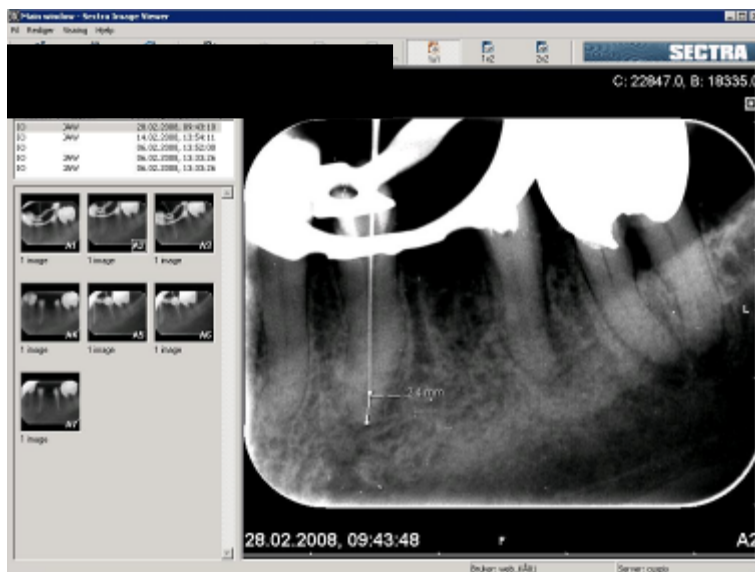
Adjust the rubber stopper on the file to this length and insert the file into the canal. The highest point of the crown is your reference. A K-file that fits into the canal apically is used. Nr 015 is the minimum size that can be properly seen on the radiograph.



Using the Endo-Ray film holder

The tooth length radiograph must be approved by an instructor.

The procedure to be followed is the same as that for a preoperative radiograph, but using the Endo-Ray film holder that allows a paralleling technique while the clamp is in place.



Any required length adjustments are to be done now. Measure the distance from the file tip to the root apex and calculate how many mm you have to add on (or evt deduct from) so that the tooth length is 1-1.5 mm from the apex. If the distance from the file tip to the root apex was too long (>5mm), then adjust the length and take a new radiograph. Upon agreement with your instructor on the tooth length, you can prepare the canal to the required size.

Pulpectomy: The working length is 1-2 mm from the radiographic apex.

Non-vital pulp therapy: We try to reach the full length to get the most effect of instruments and medicaments. The working length is 1 mm from the radiographic apex. Avoid overinstrumentation!!

The canal **is instrumented** following the standard technique, under irrigation with NaOCl 1% (0,5% CHX).

1. Hand instruments are used (K-files) until nr **20** fits loosely into the canal to the working length.
2. A NiTi-fil 40 is inserted into the canal until resistance is met. This length is measured to the reference point and is called the starting length (**start-lengden**) (SL). (If SL is less than 5 mm shorter than the working length, then only hand instruments are used.)
3. Rotary instruments are used to SL with 40/10 (**Black**) NB! Use the endodontic contra-angle handpiece! NB! *Let the handpiece work passively into the canal orifice to avoid step formation.*
4. Hand instrumentation to the working length with **NiTi-fil 25**
5. **Rotary** instrumentation to SL + 2 mm with 35/08 (**Green**)
6. Hand instrumentation to the working length with **NiTi-fil 30**
7. **Rotary** instrumentation to SL + 4 mm med 30/06 (**Blue**)
8. Hand instrumentation to the working length up to the required size (apical box, see figure at the end)
9. Oval/ribbon-shaped canals should in addition be shaped using Hedström files or rotary with brushing movements
10. If necessary, rotary preparation of the coronal part of the canal can be done. Remember to remove one of the petals from the rubber stopper on the instrument after use.

Avoid over- and under-instrumentation.

After finishing the apical box preparation, irrigate the canal thoroughly with EDTA 15% and dry it with paper points. **The instructor should approve the canal preparation.**

Checklist for the usage of rotary instruments:

1. The cavity preparation should be done so that a straight line access to all the canals is achieved.
2. Never apply force on the hand piece or file. Do not press the file into the canal when resistance is met.
3. Extremely curved or s-shaped canals and other atypical morphologies should be hand instrumented to a dimension larger than nr 20 both apically and coronally before rotary instrumentation.
4. Remember to remove one of the petals from the rubber stopper on the instrument after use. Throw away the file if you suspect any damage.
5. Use rotary instrumentation on all but extremely difficult cases – practice your technique!
6. Rotary instrumentation SHOULD not be used to by-pass a step in the canal!
7. Avoid "start-and-stop". The file should rotate on its way in, is held in the canal with minimum pressure, and is taken out again while still rotating.
8. Always watch the length for not to instrument beyond the apex. With PreRace (or other "orifice openers") the last 2-5 mm are hand instrumented.

(7) b. Intermediary dressing

If the tooth is not filled at this appointment, then a calcium hydroxide is applied as a temporary antibacterial dressing. It is applied either with a lentulo spiral or with a reamer, refer to demo. The calcium hydroxide is applied for a minimum of one week and a maximum of 3 months.

Non-vital pulp therapy: *There should always be a dressing of calcium hydroxide or calcium hydroxide with chlorhexidine in case of non-vital pulp therapy. When the conditions allow it, the teeth can be root filled in one visit, if the tooth is not necrotic/infected.*

If there is enough space, Cavit-G (gray) is applied over the canal orifices, ca. 2 mm thick. An IRM filling is applied again over it. It should not be too high. **The instructor should approve it.**

When the patient comes back, the tooth is made ready for aseptic treatment again: **NB! The rubber dam is mounted first**, the working area is disinfected with chlorhexidine/alcohol and the temporary filling is removed. The disinfection procedure is repeated after opening to the pulp cavity. The calcium hydroxide is removed by instrumentation and irrigation with NaOCl, and at the end the canals are thoroughly irrigated with EDTA 15%, and dried with paper points.

Remember to register all the phases of the treatment in **Salud: Progress Notes**:

Som ruller ned i en rekke detaljer....

NB: Remember to obtain authorization from the instructor whenever it is required!!!

(7) c. Root filling

Pulpectomy: If the tooth is completely instrumented at the first visit and it has been symptom-free before the start of the treatment, then it can be root filled in one visit.

Non-vital pulp therapy: This is always at the 2. visit or later. You have to check whether the tooth is still tender to percussion or palpation: A minimum requirement for obturation of the tooth is that it is symptom-free. It is your responsibility to control that. Another prerequisite is that the canals are dry, i.e., absence of any exudation, an indication that the periapical inflammation is gone.

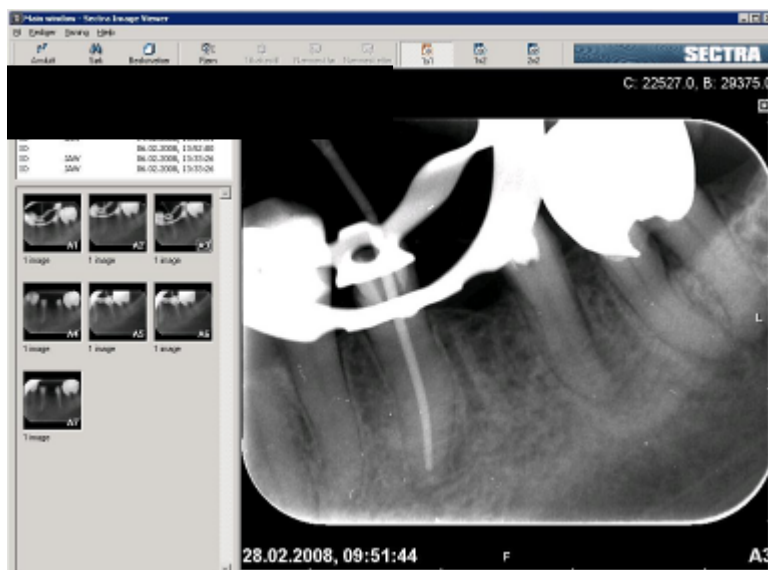
A gutta percha **master-point**, of the same dimension as the last instrument used apically is fitted. A mark is made with tweezers on the point at the right length before inserting it into the canal.



Gutta-percha point marked at the right length

A radiograph (**masterpointbilde**) is taken with an Endo-Ray holder to control that the gutta percha point is in place.

The radiograph is shown to an instructor for approval.



When the instructor approves the masterpoint-radiograph, you can fill the canal.

The canal is filled with gutta percha and sealer, following the principles for the standard technique: AH+ sealer is mixed (equal length from each tube). The master-point is covered with sealer and is inserted into place in the canal. Finger spreader B or C is used to make place for the accessory points (size B or C respectively) that are also covered with sealer before they are inserted into the canal.

A control radiograph is taken and is shown to the instructor before excess gutta percha is removed.

E. Avslutning

(8) a. Top filling.

After the application of calcium hydroxide in the canal, Cavit is applied over the canal orifices before the IRM top filling. After root filling the gutta-percha and sealer are removed to just below the canal orifice(s). The sealer is removed from the cavity using a cotton pellet dampened with chlorhexidine. The temporary filling (IRM) is placed in contact with the root filling ca. 2 mm into the canal orifices. A permanent filling may occasionally be placed during this session, with Cavit over the canal orifices. Then the rubber dam is taken off and

a postoperative radiograph (sluttbilde) is taken with a parallel holder and is approved by an instructor.



(8) c. Prognosis

You have to inform the **patient on the prognosis** for treatment now, and that first at the one-year control, it is possible to assess the final result with certainty. A written recall will be sent for this investigation, which is important for the patient and for the quality assurance within the field of endodontics.

The treatment has to be immediately approved by the instructor. Check that all required items are authorized by the instructor.

Be ready for a discussion of the treatment and the prognosis.

(8) d. Final case assessment (Sluttgodkjenning)

This is done together with the instructor in Salud:

Progress Note

Patient Information
Hospital No: 0072349
Patient Name: Roski, Jøseph

Progress Note Information
Appointment Date: 16.10.2007 08:30
Treatment Information: END502 - END502 Sluttgodkjenning endodonti
Mouth Area: 47
Surface Area: 47

Operator: Eileen Huseby (EH52)
Supervisor: Iman Saleh (IS01)
Recorded Date: 16.10.2007 12:33:03
Authorized By: Bernt Dahl Sten (BS03)

Komplikasjoner
Eksternbasen
Inntakneffektur
Kor
Måling
Overkudd

Komplikasjoner (annet)

Status for tannen

Blotvev
Ferdig

Perkusjon

Smerte

Restaurering
Permanent fylling

Funksjon
en approximal kontakt

Antagonist

Pesio røntgen
< 1/3

Rotfylling tetthet
Homogen

Rotfylling overkudd
Ikke overkudd

Apex-fylling-avstand (mm)
2 mm

Vellykket/mislykket
100 Vellykket

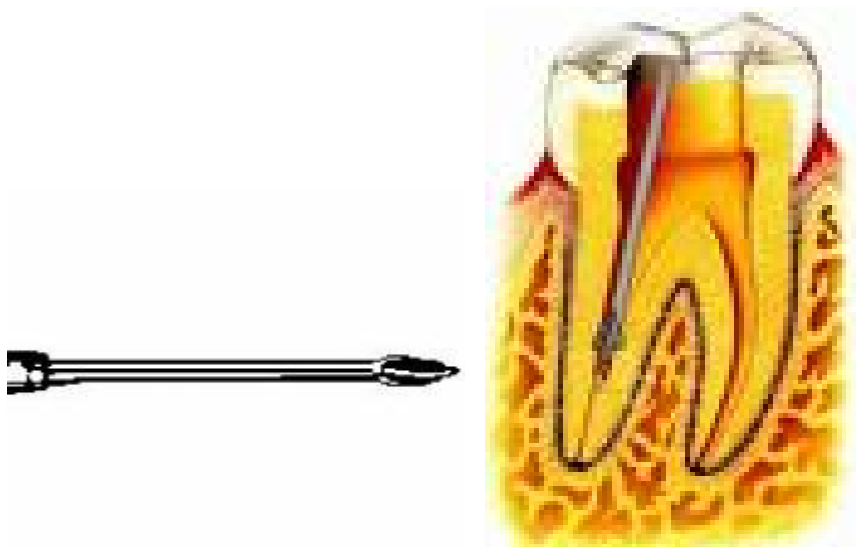
PAI score

Lesjonens størrelse (største utstrekning målt i mm)

Kommentarer

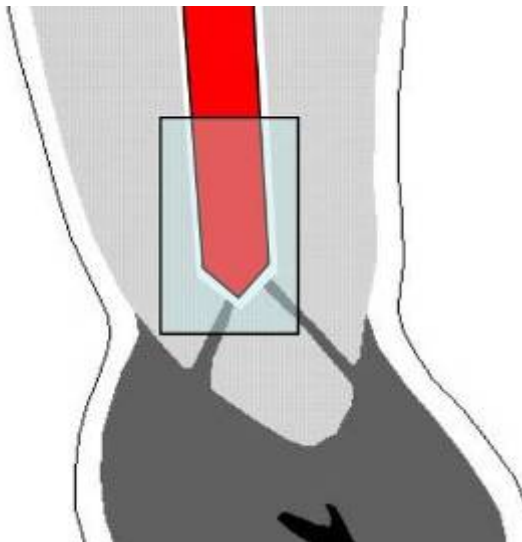
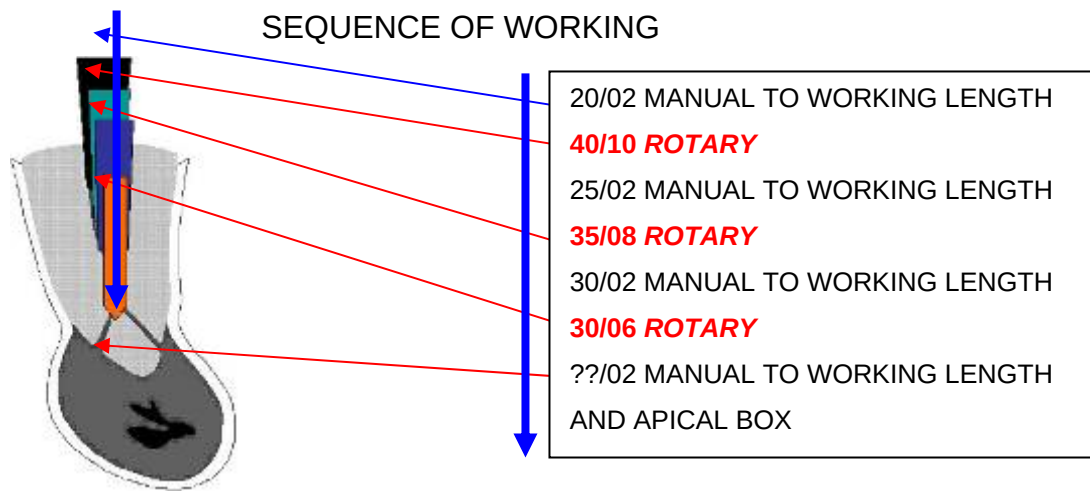
Notes on retreatment

It is called retreatment when the tooth has been previously root filled. The principles for treatment are the same as for non-vital pulp therapy, but the old root filling can make some practical problems: It has to be removed first to be able to disinfect the pulp space effectively. Removal occurs mechanically, preferably with H-files that we use between the root filling and the canal walls. To make it easier, a Gates-Glidden bur (see picture) can be used. It breaks easily, but it is designed so that the breakage occurs at the shaft, which makes it easy to remove the broken fragment.



GG-burs (small dimensions, red or blue marking line) are used from the coronal pulp and for few mm down the straight part of the root filled canal. In this way the H-files can later easily find their way along the root filling. If the root filling is tight and well condensed, a drop of chloroform can be applied carefully into the canal orifice. Chloroform dissolves gutta-percha, so that the files get a better hold. With some patience (and refill as the chloroform evaporates quickly) most of the old root fillings could be removed completely. NB! Chloroform dissolves also rubber dam and gloves, and can affect clothes having plastic components.

REFRESHMENT FROM THE PRECLINICAL:

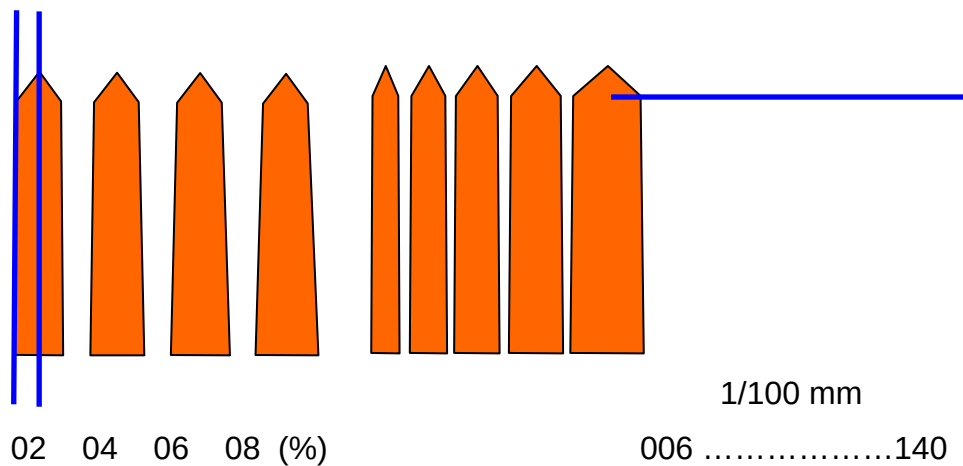


The Principle of apical box:

The box should be wide enough to enable the removal of necrotic tissues and infected materials, and should end on a shelf inside the root to hinder the extrusion of the gutta-percha point through the root apex during the root canal filling.

TAPER, CONICITY

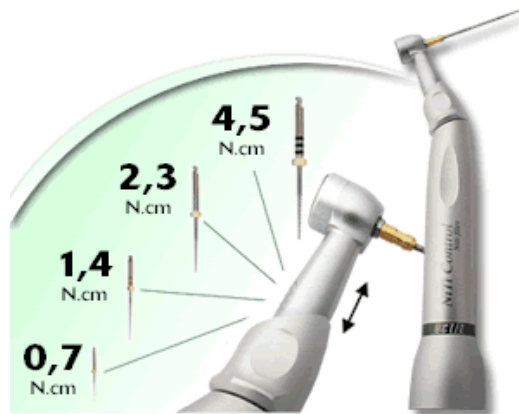
ISO SIZE



COLOUR CODE

The size increases from light to dark colours

ROSA GRÅ LILLA HVI GUL RØD BLÅ GRØ SVA HVI GUL RØD BLÅ



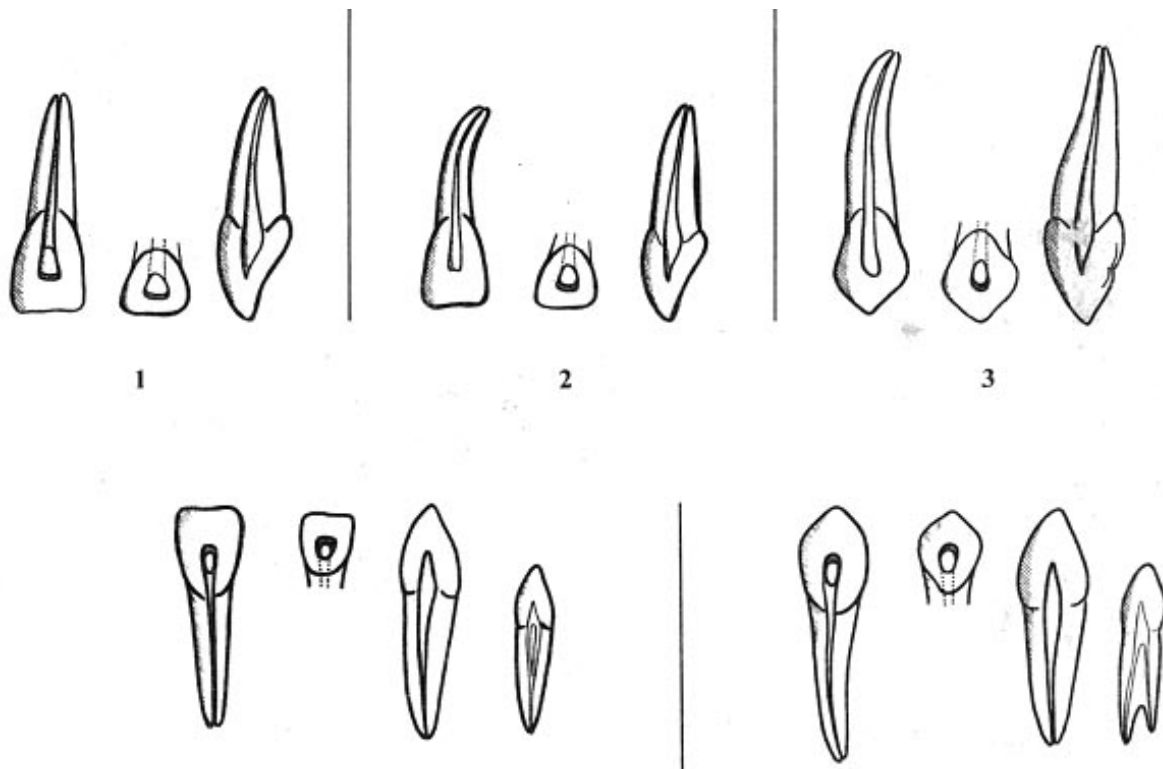
Size/ Taper
40/10 35/08 30/06
Torque 0,7-1,4

Reduction handpiece with torque-control

1:128 for 40000 rpm -> ca 300 rpm
Torque = force x arm; the higher the
value, the higher the force before
automatic shut-off

ROOT CANAL ANATOMY– FRONT TEETH

Anatomy: 1 canal 100% Norm: 60 Variations: -	Anatomy: 1 canal 100% Norm: 55, down to 35 for curved canal Variations: Apical curvature in 50%	Anatomy: 1 canal 100% Norm: 60 Variations: Apical curvature in 60%
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Anatomy: 1 canal 60%, 2->1 40% Norm: 40; 60 if 2->1 canal Variations: Apical curvature in 30%	Anatomy: 1 canal 80%, 2 canals 20% Norm: 60 Variations: Apical curvature in 30%. Can have bifid root
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Adjust the apical dimension according to this scheme, the patient's age and the degree of obliteration shown on the radiograph.

ROOT CANAL ANATOMY – PREMOLARS AND MOLARS

Anatomy: 2 canals 75%, 1 in 15%, 2->1 in 10%

Norm: B canal 40, P canal 45, 1 canal 55

Variations: Apical curvature in 35%. Difficult standardization

Anatomy: 1 canal 60%, 2 in 40%

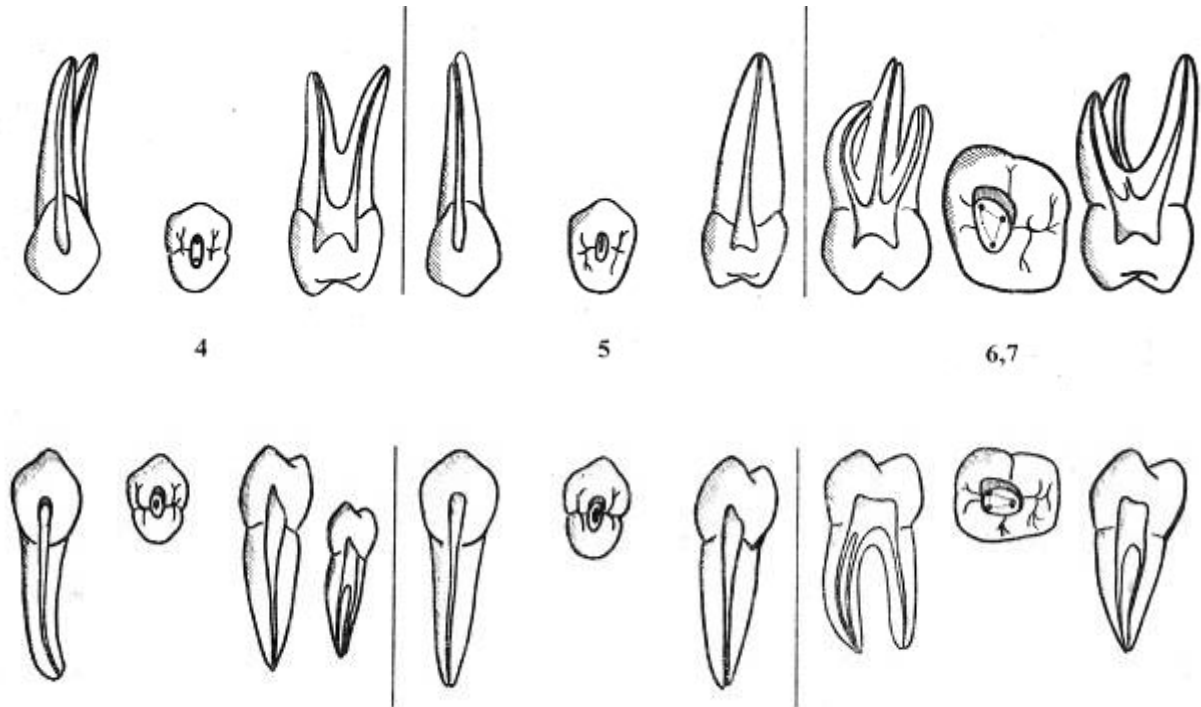
Norm: B canal 40, P canal 45, 1 canal 55

Variations: Apical curvature in 60%.

Anatomy: 3 canals 20-40%, 4 in 80-60%

Norm: MB canal 40, DB canal 40, P canal 55

Variations: Apical curvature MB root 80%



Anatomy: 1 canal 80%, 2 in 20%

Norm: B canal 40, L canal 45, 1 canal 60

Variations: Apical curvature in 40%.

Anatomy: 1 canal 90%, 2 in 10%

Norm: B canal 40, L canal 45, 1 canal 60

Variations: Apical curvature in 50%.

Anatomy: 3 canals 80%, 2 in 15%, 4 in 5%

Norm: MB canal 40, ML canal 40, D canal 55

Variations: Apical curvature M root 70%. M Difficult standardization

Adjust the apical dimension according to this scheme, the patient's age and the degree of obliteration shown on the radiograph.

GUIDELINES FOR FILLING OUT THE ENDODONTIC PART IN SALUD

Three screens in Salud give access to history, examination, diagnosis, and treatment plan.

Generell anamnese – sykdommer General history--diseases

This scheme should be filled out beforehand.

I Journal/EDR Summary use first Endodontic, then Restorative.

Endodontic

The screenshot displays the 'Solid Dental Suite 3.12.1 - Live Oracle System Desktop Day' application. The 'Prelim Assessment' tab is active, showing a form for recording patient symptoms. The form is organized into several sections: 'Type' (Pain, Swelling, Sensitivity), 'Quality' (Sharp, Dull, Pulsating, Steady, Enlarging, Spontaneous, Provoked, Reproducible, Occasional, Intensity), 'Location' (Area, Localized, Diffuse, Reflected, Radiating), 'Chronology' (Consistent, Momentary, Inception), 'Affected By' (Hot, Cold, Biting, Chewing, Percussion, Sweet, Population, Manipulation, Head Position, Activity, Time of day), and 'Lingering' (Intermittent). Each section contains radio buttons for 'Yes' and 'No' and text input fields for further details. The bottom status bar indicates 'Patient Selected: 0521988'.

Prelim Assessment is analogous to General Dental History

Type

Pain: Every pain that has affected the patient. Not the occasional discomfort, but something that has annoyed him/her.

Swelling: Now or earlier.

Sensitivity: Annoying, subjective sensitivity to hot or cold.

Discoloration: Of the tooth in question (eg, blue, brown or trauma)

Chronology

Consistent: Pain/discomfort all the time versus every now and then

Momentary: Obvious pain at stimulus, but disappears quickly

Inception: What triggers the pain? Ex: Hot food, ice cream, chewing.

Lingering: The pain lingers after the stimulus has gone.

Intermittent: The pain comes and goes with or without stimulus

Quality:

Enlarging: The pain increases in intensity after onset.

Intensity: Use the patient's own words; try, as well, to use a VAS-scale: 0 is no pain, 10 is the ever worst.

Affected By

Here it should be no room for doubt on the questions.

Location

Area: Write the tooth number; evt two-three teeth, evt jaw; evt side.

Referred: The pain has its origin in an area separate from where the patient feels it. Indicate from where you believe it is coming.

Clinical Findings Clinical reflects the clinical examination

Soft Tissue

Normal: The colour of the mucosa is just as otherwise in the mouth

Sinus tract. (=fistula)

Lymphadenopathy: Swollen or tender lymph nodes

TMJD: Temporomandibular joint dysfunction

Increased PPD: Periodontal probing depth: Pockets deeper than 3 mm are registered. One recording (the deepest) for the actual tooth.

Tooth:

Prior access: It has been opened to the pulp cavity and occasionally done some instrumentation previously.

Abutment: For a bridge or a partial prosthesis

Rinsed canals: Describe shortly if some canals (which one) has been instrumented completely.

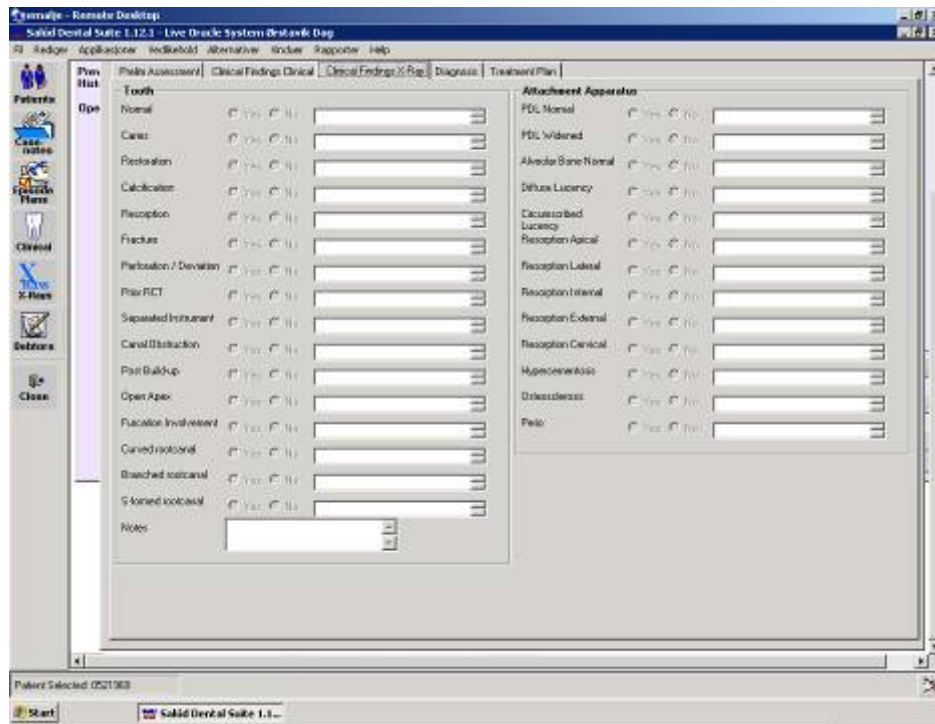
Special Tests

Test the tooth in question and at least one control (neighbouring) tooth

EPT: Electric Pulp Tester

Heat: is not used here

Biting/chewing: Take a cotton roll, put it on the tooth to be tested, let the patient bite, and ask if it is tender.



Clinical Findings X-Ray. You should have at least one periapical radiograph of the tooth with the roots freely exposed.

Tooth:

Normal: "Yes" in most of the cases unless for example "fused tooth", hypoplastic enamel, abrasion/attrition and crown fracture that is "No". Root filled teeth are considered as "normal".

Calcification: Abnormal obliteration of the pulp.

Resorption: When internal resorption is suspected, 2 radiographs are taken at different horizontal angles.

Fracture: Indication on the radiograph of a fracture, vertical or horizontal.

Perforation/Deviation: A trace of instrumentation that has (nearly) resulted in a perforation to the PDL

Prior RCT: Prior root canal treatment. Root filling material in the canals.

Separated Instrument: A file fragment in a root canal.

Canal Obstruction: Yes: in case of Calcification or Separated instrument.

Open Apex: A tooth with an incompletely formed root; eventually a trace of previous over instrumentation.

Furcation Involvement: Bone loss in the furcation area.

Curved Root Canal: Unusual curvature. More than ca 30 degrees

Branched Root Canal: The radiograph indicates 2->1 canal or 1->2 canals

Attachment Apparatus:

PDL: Periodontal ligament: Normal: "No" if there is a lesion or the lamina dura is diffuse.

PDL Widened: If the PDL is more than double its thickness where the pulp exits as compared to the supporting PDL.

Alveolar Bone Normal: In most of the cases you will write "Yes", if there is no atypical pockets or unusual mineral content.

Hypercementosis: The root gets the shape of a club from cementum deposition.

Osteosclerosis: It is an increase of the mineral concentration in an area around or at a root.

Perio: The radiographic judgement of the periodontal status in the area, particularly the tooth in question: In case of doubt: if more than 2/3 of the root has bone support gives "No".

Diagnosis: Should be filled out, but has to be supplemented in Restorative.

Diagnosis Pulp

Diagnosis Periapical

Acute Apical Periodontitis: Clinical symptoms of acute inflammation in the periodontium apically; no radiographic signs

Acute Apical Abscess: Swelling and/or obvious rubor in the mucosa/skin over the tooth in question

Chronic periapical inflammation: Radiographic sign of apical lesion and negative sens-test of the pulp.

Phoenix Abscess: Acute clinical symptoms + radiographic sign of apical lesion.

Osteosclerosis: Condensing apical periodontitis: Negative sens-test or an old amputation of the pulp together with bone condensation apically.

Etiology:

Idiopathic: = unknown

Periodontal: We believe that a periodontitis has led to the pulp space infection.

Prior RCTx: Yes if a poor root filling is evident: too short/long/poorly condensed.

Intentional: Yes if we will do the root filling for a prosthetic reason.

Systemic: Yes if it is part of oral clean-up prior to cardiovascular surgery.

Treatment Recommendations: Skip it.

Prognosis: IMPORTANT

Endodontic: Your belief that the apical periodontitis can be prevented or eliminated.

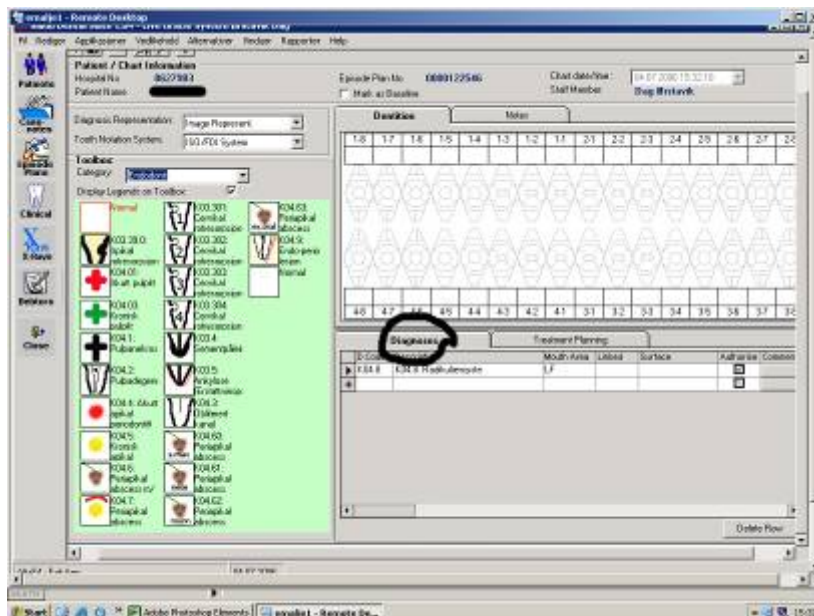
Periodontal: A bone loss of less than 1/3 of the root length is considered doubtful.

Restorative: A badly broken down coronal part or tooth, that is going to be a part of a big prosthetic restoration, should be evaluated.

Treatment Plan: THIS IS NOT FILLED OUT during history taking-

Baseline Restorative Charting – Filter Endodonti; Diagnoses

The established diagnosis is taken from the previous form into the tooth in question here.



Baseline Restorative Charting – Filter Endodonti; Treatment Planning

The accepted treatment is entered here for the tooth in question. You shall first enter the type of treatment for the tooth (pulpectomy END610, disinfection END611, retreatment END612), and then the type of the tooth (front tooth, premolar, molar). You fill out the Progress Notes for the type of the tooth (END 620, 630, or 640), not for the type of treatment.



RADIOGRAPHS

In order to scan the Digora-plate you have to send an order to the scanner. This is done via the “Radiology”-button in the EDR-Summary display.

The screenshot shows the 'EDR Summary' window. The top toolbar contains buttons for Screening, Questions, Radiology (circled in red), Spec. Tests, Prescription, Endodontics, and Print. The main area is divided into several sections: Patient Data, Attendance Information, Previous History, and a list of previous radiographs. The 'Radiology' button is highlighted with a red circle.

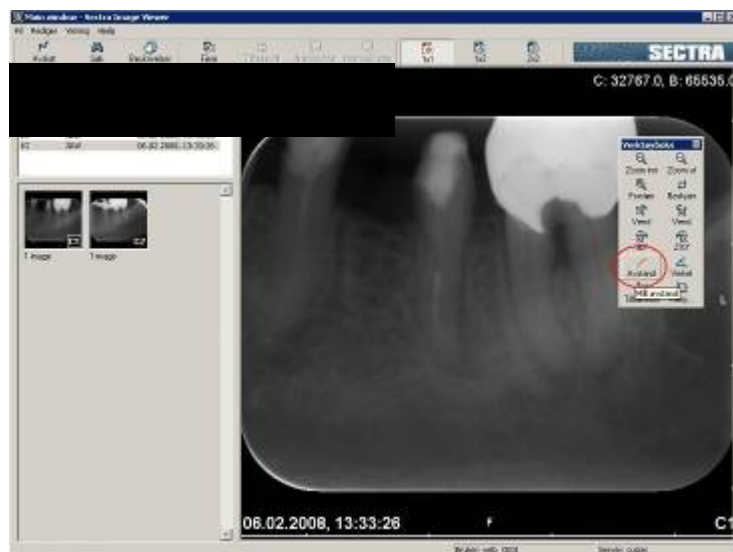
Then you choose the type of the X-ray, intraoral for endodontics (IO), and which scanner you will to use. For endo it will be 6ET_VOKSEN.

The screenshot shows the 'Radiographic Request/Interpretation' window. The 'X-Ray' dropdown menu is set to 'IO' and the 'Modality' dropdown menu is set to '6ET_VOKSEN'. The window also displays patient information, a list of previous radiographs, and a table for requesting new radiographs.

X-Ray	Study	File	Repeat	Modality
IO	NONE	1		6ET_VOKSEN

Save the order and go to the scanner to get the radiograph in PACS and SECTRA.

After having sent the picture to PACS, you can open it in Salud by clicking on the X-ray button, and then choose the order. Drag the radiograph over to the big window to view it.



Medicaments for patients who need endocarditis prophylaxis

Procedures where endocarditis prophylaxis is recommended:

Dental treatment: extraction, removal of calculus, manipulation of root canals, all dental treatment where bleeding is expected.

Surgical procedures and biopsies in the mouth cavity

Recommended antibiotic prophylaxis

Standard per oral antibiotic prophylaxis gives a satisfactory security for all the patients (and those at high risk as well) at all the operations that are done

If a patient was using an antibiotic before a procedure, then prophylaxis is given with another antibiotic.

Standard antibiotic prophylaxis:

Per oral: amoxicillin 500 mg, 4 tablets 1 hour preoperative.

Alternatively: intravenous: ampicillin 2 g 30 min. preoperative.

In case of penicillin-allergy: Per oral: clindamycin 600 mg capsules 1 hour preoperative

Alternatively: intravenous clindamycin 600 mg 30 min preoperative.

Tilslutning gitt fra Hjertemedisinsk avdeling, Thoraxkirurgisk avdeling, Anestesiavdelingen og Hjerteseseksjonen ved Barneavdelingen, Rikshospitalet.

Dato oppdatert: 15. januar, 2007

<http://www.rikshospitalet.no/iKnowBase/Content/406388/antibiotikaprofylakse.doc>

Medicaments for patients who have undergone a surgical operation in the oral cavity:

Analgesic/antiinflammatory tablets:

400 mg ibuprofen (Ibux, Brufen) 2 tablets 3 x daily for antiinflammatory effect

500 mg paracetamol (Paracet, Pinex) 1-2 tablets 3 x day)

Double dose at start; up to 4x per day

Evt paracet/codein (500/30mg) up to 4x daily for very strong pain (elderly)

Antibiotics (when indicated):

First choice:

Penicillin V phenoxymethylpenicillin (Apocillin) 660mg / 1 tablet 5 x daily for 7 days

In case of penicillin allergy:

Clindamycin (Dalacin) 300 mg, 2 capsules 2 x daily for 5 days.

Alternatives: Metronidazol (Flagyl) 400mg, 1 tablet x 3 pr day for 7 days (not for pregnancy and lactation); narrow spectrum, not aerobes and fac. anaerobes; resistance development); Erythromycin (Ery-Max) 250 mg, 2 capsules 2 x daily (every 12. hour) for 7 days; ineffective against anaerobes.

(Doses for adult patients.)