Initial Therapy

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Non-surgical Therapy

Scaling:

Instrumentation of the crown and root surfaces of the teeth to remove plaque, calculus, and stains from these surfaces.
Non-surgical Therapy

Root planning:

A treatment procedure designed to remove cementum or surface dentin that is rough, impregnated with calculus, or contaminated with toxins or microorganisms.

American Academy of Periodontology
Glossary of Periodontal Terms, 2001
The purpose of scaling and root planing is to restore gingival health by removing plaque and calculus that initiate gingival inflammation.
Scaling and Root Planing

**Figure 36-14.** Basic characteristics of a curette: spoon-shaped.

**Figure 36-15.** Basic characteristics of a scalpel: triangular.

**Figure 36-13.** The curette is the instrument of choice for subgingival scaling and root planing.
Scaling and Root Planing

Curet

Sickle scaler

45~85°

85°

Universal curet

Gracey curet
Instrument Sharpening

**Sharp:**

Fine line at the junction between face of blade and lateral surfaces running the length of the cutting edge (does not reflect light)

*FIG. 8-2* A, A sharp cutting edge does not reflect light. B, A dull cutting edge appears as a bright area at the junction of the face and lateral surface.
Instrument Sharpening

The angle between the face of the blade and the lateral surface of any curette is 70 to 85 degrees.

Proper technique maintains a 100 to 110 degrees angle between the face of the blade and the surface of the stone.
Instrument Sharpening

- Maintain proper angle
- Use a controlled sharpening stroke
- Avoid excessive pressure
- Lubricate the stone
- Sharpen instruments at the first sign of dullness
Non-surgical Therapy

Healing after SRP:

Pocket reduction due to gingival **recession** after 1 week

Pocket reduction due to **gain of attachment** after 3 weeks
Non-surgical Therapy

So… when should a re-eval appointment be?
Non-surgical Therapy

Tissue healing does not occur overnight, and in most cases, it is not possible to assess true tissue response for at least one month after the completion of instrumentation.
Non-surgical Therapy

The chances of removing all of the subgingival plaque are good if the pocket depth are $<3 \text{ mm}$. If the pocket depth range from $3$ to $5 \text{ mm}$ the chances of failure are greater than chances of success. If the pocket depth is $>5 \text{ mm}$ the chances of failure dominate.

Waerhaug 1977
Non-surgical Therapy

Roots were **completely free of calculus**:

- 86% when probing depths were 1-3 mm
- 43% when pockets were 4-6 mm
- 32% when pockets were >7 mm

Caffesse 1986
Non-surgical Therapy

Reduction in initial PD and attachment levels.

**1-3 mm**
reduction in PD is 0.03mm
loss of attachment is 0.34mm

**4-6 mm**
reduction in PD is 1.29mm
gain of attachment is 0.55mm

**>7 mm**
reduction in PD is 2.16 mm
gain of attachment is 1.19 mm
Non-surgical Therapy

What is the process of the reassessment appointment?

What are the reasons for a non-responsive area?
After Initial Therapy

Initial Situation

6 weeks after Initial Therapy
Dentinal Hypersensitivity:

The short, exaggerated, painful response elicited when exposed dentin is subjected to certain thermal, mechanical, or chemical stimuli.
Dentinal Hypersensitivity

- Mechanical stimuli
  - Toothbrush bristles
  - Fingernail
- Thermal stimuli
  - Ice cream
  - Iced tea
- Chemical stimuli
  - Grapefruit
Dentinal Hypersensitivity

- Associated with exposed dentin
- Due to recession of gingival margin that normally covers the dentin
- May be localized or generalized
- Not all recession is hypersensitive.
Dentinal Hypersensitivity

Dentinal tubules penetrate the dentin.

Tubules are long miniature tunnels extending through the dentin.

Tubules are partially filled with cytoplasm from pulp cells.

Changes in temperature create hydrodynamic forces in fluid-filled tubules that stimulate nerve endings.
Dentinal Hypersensitivity

Instrumenting areas with existing hypersensitivity may result in sharp pain. Local anesthesia may be necessary.

Most instrumentation of root surfaces does not cause dental hypersensitivity.

The smear layer is crystalline debris from the tooth surface that covers dentinal tubules inhibiting fluid flow, thus preventing sensitivity.
Dentinal Hypersensitivity

1 Remaining cementum
2 Treated root surface
3 Potassium-containing dentifrice
4 Fluoride-containing dentifrices or gel
5 Bonding and filling materials
6 Covering the root surface by means of mucogingival surgery
Dentinal Hypersensitivity

Management of patients undergoing nonsurgical periodontal therapy includes warning patients about the possibility of hypersensitivity before beginning any treatment.
Take Home Message

- Must determine what is the outcome you want for your patient - resective or regenerative therapy
- Non-surgical therapy can be effective
- There are patients and sites where non-surgical therapy may not be effective.
- This must be recognized at the **re-evaluation visit**
Take Home Message

Plaque-associated gingivitis → Surgery usually not indicated
Slight chronic periodontitis → Surgery usually not indicated
Moderate chronic periodontitis → Surgery sometimes indicated
Severe chronic periodontitis → Surgery usually indicated
Take Home Message

Long-term success is based on the patient’s compliance.

Wilson 1987
Take Home Message

Long-term success is based on the patient’s compliance.

Wilson 1993
Take Home Message

Methods to increase compliance:

☑ Accommodating patient’s schedule.
☑ Communication with referring dentists.
☑ Making an appointment during the previous visit.
☑ Sending reminder card.
☑ Notifying the patient if failed to keep an appointment.
☑ Patient education explaining the need of maintenance.

Wilson 1993
Review Questions

1. Which of the following is NOT a goal of nonsurgical periodontal therapy?
   A. Minimize the bacterial challenge to the patient
   B. Eliminate the need for daily self-care
   C. Stabilize the attachment level on the teeth

2. Successful periodontal debridement always results in the complete removal of all cementum from a root surface exposed due to clinical attachment loss.
   A. True
   B. False

3. The end point for periodontal debridement is which of the following?
   A. Return of soft tissue health
   B. Increased pigmentation of the gingiva
   C. Decreased need for daily self-care
4. The type of healing that occurs following successful root instrumentation is a long junctional epithelium.
A. True
B. False

5. Pain caused by dentinal hypersensitivity can result from mechanical, thermal, or chemical stimuli.
A. True
B. False

6. Management of mild dentinal hypersensitivity following nonsurgical periodontal therapy can include all of the following EXCEPT:
A. Meticulous efforts at daily self-care
B. Using chemical agents in toothpastes to occlude (block) dentinal tubules
C. Applying acidic solutions to the exposed tooth roots
7. When considering a decision for referral to a specialist in periodontics which of the following types of patients should normally be referred?

A. Patients with moderate plaque-induced gingivitis
B. Patients with slight chronic periodontitis
C. Patients with severe aggressive periodontitis
Thank You!