Non-surgical periodontal therapy

First sequence in whole periodontal treatment plan

Many names: initial therapy or non-surgical therapy or phase I periodontal therapy

Procedures are to control gingival inflammation - up to and including evaluation of initial therapy.

Purpose of phase I is to control contributing factors, determine patient expectations, and treat periodontal tissues.
Phase I is most important part of periodontal treatment no matter what. Many cases, future cases will need phase I therapy without periodontal therapy being needed. Clinical studies show long term success of therapy is achievements of phase I therapy.

**Rationale of Phase I Therapy**
- A required part of periodontal therapy, regardless of the extent of disease present.
- In many cases, phase I therapy will be the only set of procedures required to restore periodontal health.
- Clinical researches indicate that the long-term success of periodontal treatment depends on maintaining the results achieved with phase I therapy and much less on any specific surgical procedures.
- The preparatory phase for surgical therapy.

**Procedures included**
- Patient education
- Removal of calculus
- Root planing
- Caries control and correction of faulty restorations
- Antimicrobial therapy/occlusal therapy/minor tooth movement if indicated
- Provisional splinting and prosthesis if indicated
- Evaluation of Initial Therapy

**must remember it starts with patient education - patient usually doesn’t have any bone disease**

Remove calculus, plaque, and perform root planing.
Carious control = local contributing factor for periodontal disease.
Indication that there is candidates for antibiotic therapy. (lecture ten)
- Some patients you may want to prescribe antibiotics
- Some patients you need to make interim dentures - so they aren’t without 8 and 9, for example.
Most common form is chronic periodontitis and the patient often doesn't complain at all. Patient might not want to spend money on it because no discomfort. Need to make them believe they need the treatment.

**Untreated Periodontal Disease**

- Subjects included: 30 patients (age 25-71)
- Diagnosis: Moderate to severe chronic periodontitis
- Declined therapy
- 18-115 months between examination (mean 3.72 years)

Re visits for re-evaluation even though declined therapy so re-examined the patients

1979 = did not use our classification at the time. Bone loss of was the parameter. If moderate now, was all severe then

All declined periodontal treatment

Classic article

Classic study

All the re-evaluation = increased pocket depths in all cases and attachment loss. All showed radiographic bone loss

Initial deeper pockets, mobility, and molar teeth risk factors for tooth loss.

Conclusion: Whether there was pain or discomfort, the disease progressed

What can we expect from treatment patients

22 years of follow up is great

Phase II is surgery then periodontal maintenance after active treatment is finished

22 years later - divided into three groups (in orange on next slide)
- 83% of patients lose less than 3 teeth after 22 years = well maintained
- Still small group that kept losing teeth even with good maintenance.

Study from long time ago but still using terms “extreme downhill group” or “downhill group” = ***need to remember those terms

Patient education first
Plaque control
Oral hygiene instruction
Removal of supragingival and subgingival calculus
Recontouring defective restorations
Crowns cannot be made in one appointment = definitive phase treatment plan
Caries lesion management
Chemo if indicated
Initial therapy evaluation
We use a few codes for periodontal treatments
No true difference between the codes = doesn’t reflect what she is teaching now
Only one code for scaling and root planing = but not the same meaning
Scaling = removing of sub or supra gingival stains, calculus, and plaque
Root planing = more definitive procedures. Removing diseased cementum and dentin.
Expect reattachment on previously diseased root surfaces.
The terms mean different things

In healthy tissue = root shouldn’t be exposed. Covered by gingiva
Once exposed, mouth full of bacteria, brushing or not. Exposed surfaces have lots of bacterial products that degenerate the cementum or dentin. Interferes with re-attachment or new attachment
Diseased root surface removal of degenerated tissues is root planning

Instrumentation (gracy or universal) = designed to adapt well to mesial or distal.
With our instruments, can reach up to 6 mm on distal and 6.21 on mesial. Not good for direct buccal or lingual side.
Assessment length is 5-6 mm.
- if 9-10 mm pocket, cannot reach to the pocket base.
Even if reach 5-6 mm, doesn’t mean removing all the calculus.

Curette efficiency - how deep pocket depths you can remove and make crystal clear root surfaces
4 mm is the most efficient depth
Multi rooted teeth are extremely difficult because of the instrumentation size bigger than entrance.

100 different types of curettes out there
Treatment plan for this patient:
Before presenting to Dr. Oh means the patient has 9 hours with the dental student
Appointment 3 = decided to do scaling and root planing
Dr. Oh doesn't take extra oral pictures very much.

Question Dr. Oh had for the student = which tooth do you want to do scaling and root planing?
Can't make a treatment plan without doing the previous steps

Make a diagnosis based on the radiograph.

Diagnosis is the name of a disease:
- Partially edentulous
- Fracture
- Dental caries

No mandibular posterior teeth
7, 9, 10 has severe dental caries.
Patient lost mandibular posterior teeth a long time ago so maxillary posterior are extruded a lot - not ideal occlusal plane

Periodontal charting:
- CAL
- "human scanner" and calculate periodontal diagnosis

Generalized severe periodontitis.
Assign prognosis
7, 9, 10 not restorable. Remove all decay means no tooth above the gum #8 might be able to be kept. But what is the purpose of that. So remove it, too

Need to deliver some type of denture
- Do you think you can make a denture without removing the mandibular incisors? No - severe bone loss.
- Can initially assign questionable prognosis for mandibular incisors. But definitive treatment doesn’t give any reason to keep mandibular incisors

Maxillary posterior teeth and make mandibular denture to fit with them? - probably not. Denture will give function

Might have more caries after scaling and root planing, but initial treatment made up to what is on the slide. Make decision up to which teeth to scale and root plan

Check with finances of the patient = resin based is cheaper and can add teeth more easily. Dr. Oh doesn’t like these much but have to listen to the patient

Don’t say "scale and root plane them all and then we will see” = try to think and make a decision as much as possible

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The single-stage treatment sequence

- Preventive phase I therapy in one long appointment or two appointments on consecutive days while the patient is receiving an aggressive prescribed regimen of antimicrobial agents.
- Both the one appointment and shape appointment treatment strategies work well.
- However, shape therapy permits the advantage of evaluating the reinforcing oral hygiene care.

Instrumentation for implants
- Special instrumentation
  1. Plastic instruments/titanium coated
  2. Specially designed gold-plated curettes
  3. The rubber cup with flour or pumice, tin (iodo), or special implant polishing paste.
- Acidic fluoride prophylactic agents are avoided.
- Nonabrasive prophylaxis pastes are used.

Need to know which instruments can be used around implants and implant retained restorations

Made of titanium - not using stainless steel instruments. What is normally in our clinic cassettes.
- Need to get plastic and titanium instruments

Not metal stainless probes used around implants
Plastic curette = Dr. Oh says is too bulky and thick so she doesn’t use it
Titanium one is the bottom one.
Plastic and titanium instruments for implants***
Not metal stainless probes used around implants

Plastic curette = Dr. Oh says is too bulky and thick so she doesn't use it

Titanium one is the bottom one.

Plastic and titanium instruments for implants***
All procedures will cause discomfort. Tell patient they might feel sensitivity and can take over the counter ibuprofen or tylenol and should be better within a week.

Post operative information is really important - regardless of getting complication or not. Good to give warning.
Systemic conditions will affect some healing capacity = ex. DM (most famous one compromising gingivitis.)

Systemic conditions don't affect as much as local factors (most importantly plaque/bacteria)

Healing delayed by excessive tissue manipulation, trauma to tissue (left foreign body), impaired blood supply (not expected to cut blood vessel while scaling and root planing, but sometimes happens in surgery. Necrosis and won't heal at all after long time the body finds a way to get blood there)

How to improve healing: debride well and remove plaque and local contributing factors well

Increases adaptation to the site

Three things to improve initially

Exam 2 Page 12
Basic wound healing is the same for all periodontal therapy

Three kinds of healing from periodontal therapy: on the slide
- Every periodontist's dream is third bullet

Measurement probing depth in healthy tooth = 1 mm
Epithelium is able to reach up to 9 mm down to junctional epithelium.
Long junctional epithelium = re attachment, no regeneration
Epithelium attaches on clean, smooth, hard surface

Want to make new attachment of connective tissue = difficult to do
Example: endograft = chemical help
Or guided tissue regeneration.

The dream
Total of all new tissue: cementum, PDL, bone, and gingiva

Don’t memorize or know periodontal regeneration at this point
Involves epithelium attachments and connective tissue reattachment, too
Warn the patient, especially in anterior teeth that the teeth might look like the teeth are getting longer.

**Results after scaling and root planing**

- 80% reduction in bleeding on probing
- Mean probing depth reductions of 2 to 3 mm
- The percentage of periodontal pockets of 4 mm or greater depth was reduced more than 50% and up to 80%.
- 1 to 2 mm of recession is often apparent as the result of tissue shrinkage.

Don't rely on patient comfort as much as measure of success - might not have had any discomfort and then after you scale and root plane they have sensitivity.

Want tissue to tighten, reduction in mobility expected.

Clearly - if see resolution of clinical signs of inflammation, reduction of periodontal pockets = successful.

Gain of clinical attachment is different = might want then for maintaining clinical attachment.

Occlusal stability = could reduce mobility so now see occlusal stability.

Absolutely must see detectable plaque score lower* the more important one**

- Without improved oral hygiene, level of bacteria will be rebound to base line!!! Why periodontal therapy or any instrumentation is NOT A ONE TIME EVENT. Need to do again and again.
- If had it three years ago, great, but not caring anything. Need to re-evaluate on regular basis. And performed on regular basis.
- Not one deep cleaning and done.

Plaque happens from bacteria. Plaque level bounces back up depending on patient oral hygiene and diet and habits then you have to determine how often you need to see the patient.

We should be able to now make a diagnosis, determine prognosis, and make periodontal treatment plan up to phase 1 plan.