Periodontal diagnoses (Armitage, 1999)

<table>
<tr><td rowspan="9">Gingival diseases
-Signs/symptoms confined to gingiva
-Plaque may exacerbate/initiate severity of lesion
-Colour: coral pink → red/blue
-Contour: scalloped + knife edge → edematous, bulbous
-Consistency: firm → soft
-Others: BOP, exudate, slight increase in temperature
-May have stable attachment levels on reduced periodontium
-Still reversible
-Precursor to attachment loss</td><td rowspan="4">Dental plaque induced
-Occurs on a tooth with a history of attachment loss +/- bone loss

-Possible contributing local factors: malocclusion, BW violation, root fracture, ortho appliances, cervical resorption</td><td>Gingivitis with plaque only</td><td>-Generalized: >30%
-Localized: ≤ 30%
-Mild: slight change in colour, slight edema, no BOP
-Moderate: obvious erythema and edema, with BOP
-Severe: fiery redness, marked edema, interdental ulceration possible, spontaneous BOP</td></tr>
<tr><td>Gingival disease modified by systemic factors</td><td>-Endocrine changes → more reactive to plaque
-Puberty: sex hormones increases bleeding tendency
-Pregnancy: affects 30~100% of women, with possible pyogenic granuloma. Mostly anterior and interproximal areas involved
-Diabetes: hyperglycemia may alter response to plaque
-Blood dyscrasias (leukemia): enlargement, spontaneous bleeding of gingiva</td></tr>
<tr><td>Gingival disease modified by medications</td><td>-Contraceptives may alter hormone levels and affect response to plaque
-Some medications cause gingival enlargement (phenytoin, cyclosporine, CCBs), and may be influenced by uncontrolled plaque levels
-See 3rd year notes for diagnosis, treatment, and prevention</td></tr>
<tr><td>Gingival disease modified by malnutrition</td><td>-Host defense compromised → altered host defences → accentuated effects of plaque
-Vitamin C deficiency is an example</td></tr>
<tr><td rowspan="5">Non plaque induced</td><td>Bacterial gingival diseases</td><td>-Gonorrhea, syphilis, streptococcal gingivostomatitis
-Could be a direct infection on gingiva, or a gingival presentation of systemic infection</td></tr>
<tr><td>Viral gingival diseases</td><td>-Most commonly herpes simplex virus (type 1>2). Manifests on gums as primary herpetic gingivostomatitis or reactivation due to reduced immune function
-Varicella Zoster virus may cause unilateral painful vesicle formation on the gingiva upon reactivation</td></tr>
<tr><td>Fungal gingival diseases</td><td>-Candidiasis causing white patches on mucosa that can be rubbed off
-Associated with immunocompromised or those on long term broad spec antibiotics</td></tr>
<tr><td>Gingival lesions of genetic origin</td><td>-Most commonly hereditary gingival fibromatosis
-Gingiva enlarge, and may cover the teeth</td></tr>
<tr><td>Gingival manifestations of systemic conditions</td><td>-Mucocutaneous disorders: lichen planus, pemphigoid
-Allergic reactions: restorative materials, toothpastes, gum, foods, etc
-Manifests as desquamation and/or ulceration of the gingiva</td></tr>
<tr><td>Traumatic lesions</td><td>-Toothbrush trauma, iatrogenic trauma (orthodontic appliance), minor burns, fingernail trauma</td></tr>
</table>

<table>
<tr><td rowspan="6">Periodontitis
-Gingivitis
-Periodontal pocketing
-Loss of alveolar bone
-Clinical attachment loss

May also include:
-Recession of gingival margin
-Exudate, suppuration
-Furcation involvement
-Tooth migration (diastema formation)
-Tooth mobility</td><td rowspan="2">Chronic periodontitis
-Mostly in adults, but can occur in younger pts
-Subgingival calculus usually seen
-Variable microbial pattern
-Slow to moderate progression, but may have periods of rapid progression</td><td>Generalized
>30%</td><td rowspan="2">-Modifying factors: diabetes, HIV, smoking, stress, overhangs, calculus<table><tr><td></td><td>BOP</td><td>Pockets</td><td>CAL</td><td>Bone loss</td></tr><tr><td>Mild</td><td>Yes</td><td>4mm</td><td>1~2mm</td><td><15% of root, or 2~3mm</td></tr><tr><td>Moderate</td><td>Yes</td><td>5~6mm</td><td>3~4mm</td><td>16~30% of root, or 3~5mm</td></tr><tr><td>Severe</td><td>Yes</td><td>7mm+</td><td>5mm+</td><td>>30% of root, or 5mm+</td></tr></table></td></tr>
<tr><td>Localized
≤ 30%</td></tr>
<tr><td rowspan="2">Aggressive periodontitis
-Rapid attachment loss and bone destruction
-Familial aggregation
-Not associated with the amount of microbes, but has increased proportions of A.a
-May be self arresting</td><td>Localized</td><td>-Circumpubertal onset
-1st molar or incisor presentation with interproximal attachment loss on at least 2 permanent teeth, one of which is a 1st molar, and involving no more than 2 teeth other than 1st molars and incisors</td></tr>
<tr><td>Generalized</td><td>-Usually <30 years, but may be older
-Generalized interproximal attachment loss in at least 3 permanent teeth other than 1st molars or incisors
-Periods of advanced destruction followed by quiescence of variable length</td></tr>
<tr><td colspan="2">Periodontitis as a manifestation of systemic disease</td><td>-Potential confusion with aggressive/chronic perio modified by a systemic condition
-When a systemic condition is the major predisposing factor it is called PAAMOSD
-Examples: leukemia, cyclic neutropenia</td></tr>
<tr><td colspan="2">Periodontitis associated with endodontic lesions</td><td>-Lesion of endodontic origin can affect the periodontium
-Conversely, bacteria in periodontitis can leak into a canal and cause an endodontic lesion
-When perio and endo lesions combine, they are called combined perio-endo lesions
-Naming is not based on initial etiology
-Endo lesion should be treated first</td></tr>
<tr><td rowspan="2">Necrotizing periodontal diseases
(See 3rd year notes)</td><td colspan="2">Necrotizing ulcerative gingivitis</td><td>-Fusiform bacteria, Prevotella intermedia, spirochetes
-3 specific findings: intense pain, interdental gingival necrosis, bleeding (spontaneous)
-May have: malaise, fever, lymphadenopathy, pseudomembrane on gingiva, fetid breath</td></tr>
<tr><td colspan="2">Necrotizing ulcerative periodontitis</td><td>-NUG, but also affecting the PDL and alveolar bone
-Seen in immunocompromised patients</td></tr>
<tr><td rowspan="3">Abscesses of the periodontium</td><td colspan="2">Gingival abscess</td><td>-Localized purulent infection on the marginal gingiva or interdental papilla
-Usually due to a foreign substance forced into the gingiva</td></tr>
<tr><td colspan="2">Periodontal abscess</td><td>-Localized purulent infection in a periodontal pocket, with calculus often present
-May lead to destruction of PDL and alveolar bone</td></tr>
<tr><td colspan="2">Pericoronal abscess</td><td>-Localized purulent infection within the tissue surrounding the crown or a partially erupted tooth</td></tr>
<tr><td rowspan="4">Development or acquired deformities and conditions</td><td colspan="2">Localized tooth related factors that modify or predispose to plaque induced gingival disease/periodontitis</td><td>-Tooth anatomic factors, dental restorations/appliances, root fractures</td></tr>
<tr><td colspan="2">Mucogingival deformities & conditions around teeth or edentulous ridges</td><td>-Recession, lack of KT, decreased vestibular depth, aberrant frenum, gingival excess</td></tr>
<tr><td rowspan="2">Occlusal trauma</td><td>Primary</td><td>-Excessive occlusal forces on a tooth with normal support</td></tr>
<tr><td>Secondary</td><td>-Normal or excessive occlusal forces on a tooth with inadequate support</td></tr>
</table>

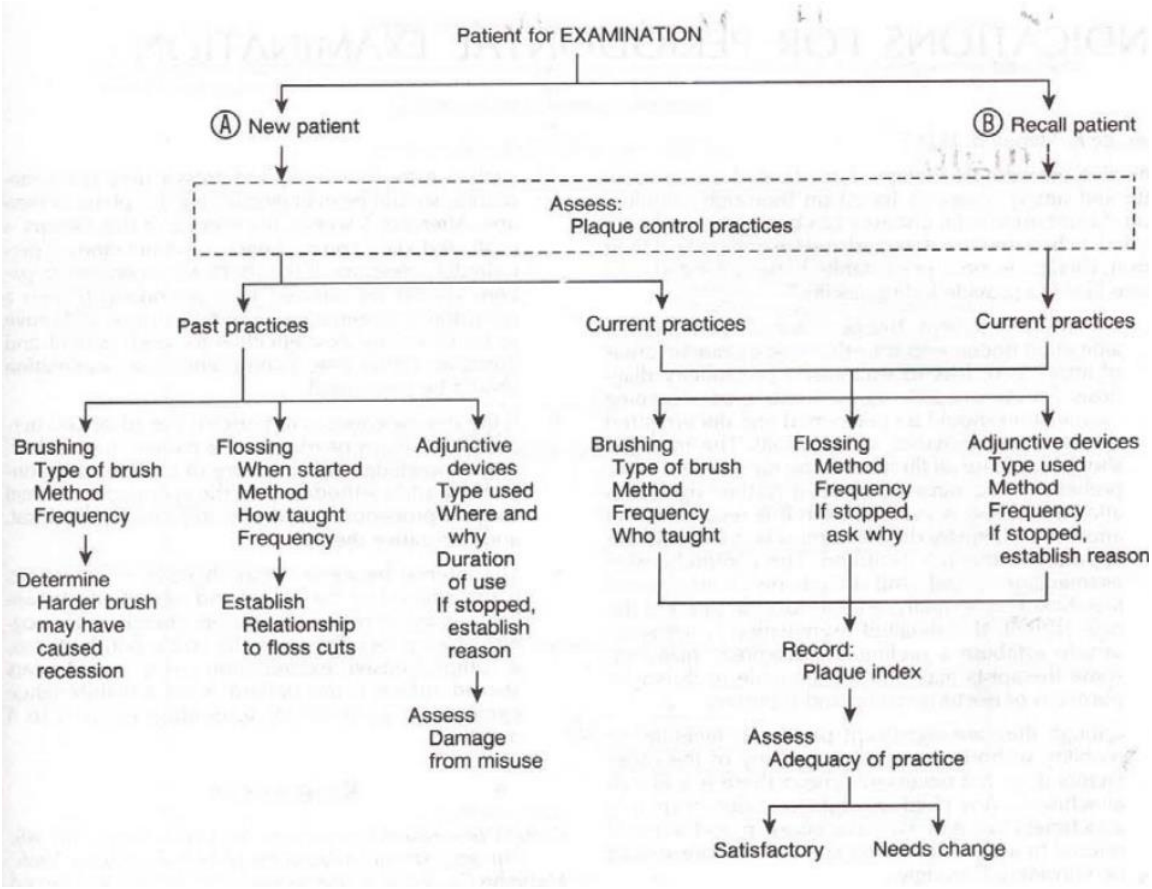
Prognosis and treatment planning

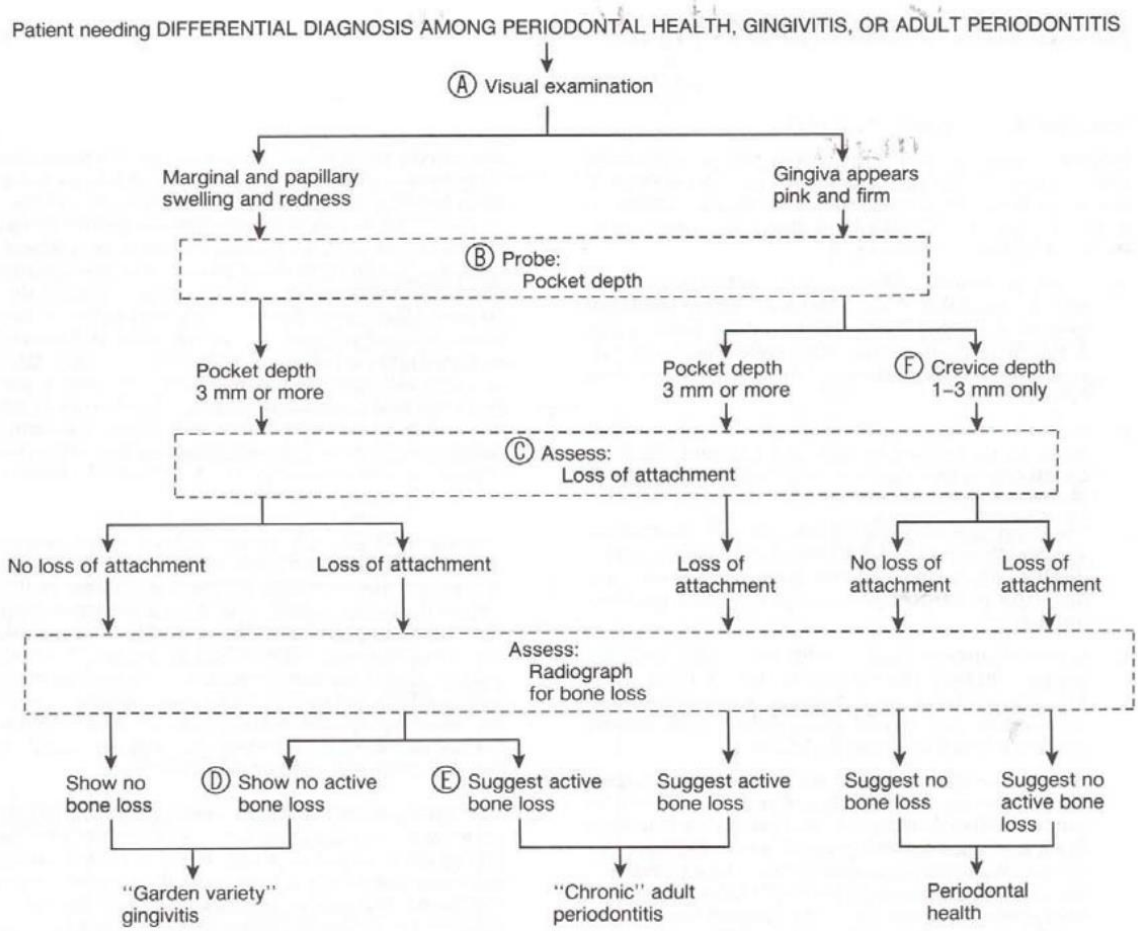
- What do to on a new periodontal exam
  - Overall appraisal of patient
  - Medical History
  - Dental History (Patient's chief complaint and history of current illness)
  - Casts, clinical photos
  - Oral Examination (OH, malodor, oral cavity in general, lymph nodes)
  - Examination of teeth and implants (wear, sensitivity, mobility, occlusion)
  - Examination of the periodontum (plaque, calculus, characteristics of gingiva, probing depths, BOP, KT/AG, recession, suppuration, presence of abscess)
  - Intraoral Radiographic survey
- Objectives for periodontal therapy
  - Healing of the inflammatory condition (resolve inflammation, reduce pockets, no furcations >3mm)
  - Reestablish physiological contours necessary for preservation of periodontal health
  - Restore lost periodontal structures
  - Prevent recurrence of disease
  - Reduce tooth loss
- Periodontal prognosis
  - Prognosis is a prediction of the probable course, duration and outcome of a disease, based on a general knowledge of the pathogenesis of the disease and the presence of risk factors
  - Prognosis MUST be determined after the diagnosis is made and before treatment is planned
  - **Diagnostic prognosis**: general prognosis without treatment
  - **Therapeutic prognosis**: prognosis with treatment
- Prognosis for gingival disease
  - If plaque induced inflammation is the only disease, then prognosis is good
  - All local irritants must be removed, gingival contours must be favourable to good perio, and patient must be compliant
- Prognosis for periodontitis – what to consider
  - General/overall
    - Should treatment be undertaken?
    - Is treatment likely to succeed?
    - When prosthetic replacements are needed, will the remaining teeth be able to support it?
    - Consider medical status, age, rate of disease progression, etiologic factors, patient cooperation, smoking status, economic factors, parafunctional habits, ability of dentist
  - Specific/individual
    - Probing depth, mobility, caries, pulp status, tooth position
    - Crown:root ratio, root form, furcation
    - % bone loss, distribution of bone around root, pattern of bone loss
- Assigning prognosis

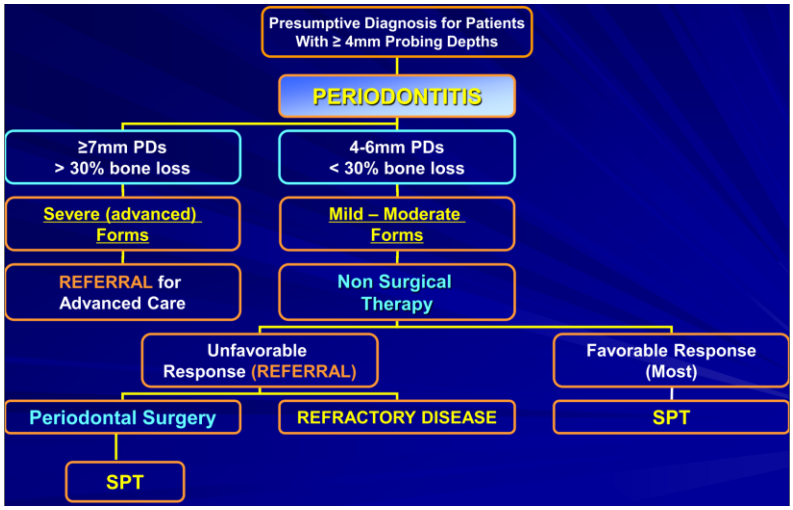
Good	Fair	Poor	Hopeless
-One or more of: 1) Adequate bone support 2) Adequate control of etiologic factors	-One or more of: 1) Attachment loss to the point where tooth does not have a good prognosis 2) Class I furcation, but allows good maintenance and patient is compliant 3) Some tooth mobility 4) Adequate maintenance possible 5) Acceptable patient compliance	-One or more of: 1) Moderate~severe attachment loss 2) Class I/II furcation, not easily accessible for maintenance 3) Class III furcation 4) Mobility class II or more 5) Poor root form 6) Significant root proximity 7) Difficult to maintain areas 8) Doubtful compliance	-One or more of: 1) Advanced bone loss, inadequate to maintain tooth health, comfort, and function 2) Not maintainable 3) Extraction recommended

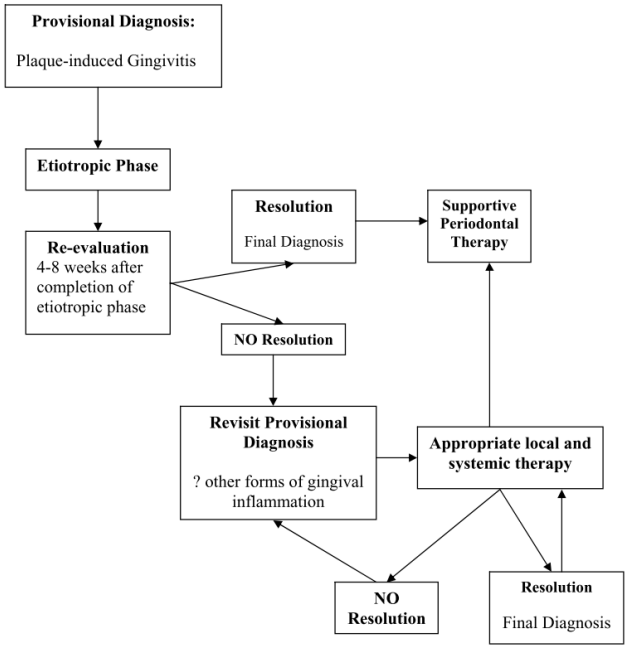
- Factors to consider for extraction of teeth
    - Removal, retention or temporary retention of a tooth is part of the overall plan of improving health of the mouth
    - Extract if:
        - Excessive mobility makes function be painful
        - Risk for acute abscess formation
        - No use for the tooth in the overall tx plan
    - Can a tooth be retained temporarily? Yes, if:
        - For maintenance of posterior stops
        - Anterior esthetic zone
        - Extraction can be done at time of initial therapy (to reduce number of appointments)
        - Possible need for interdisciplinary consultation
- Periodontal treatment plan steps

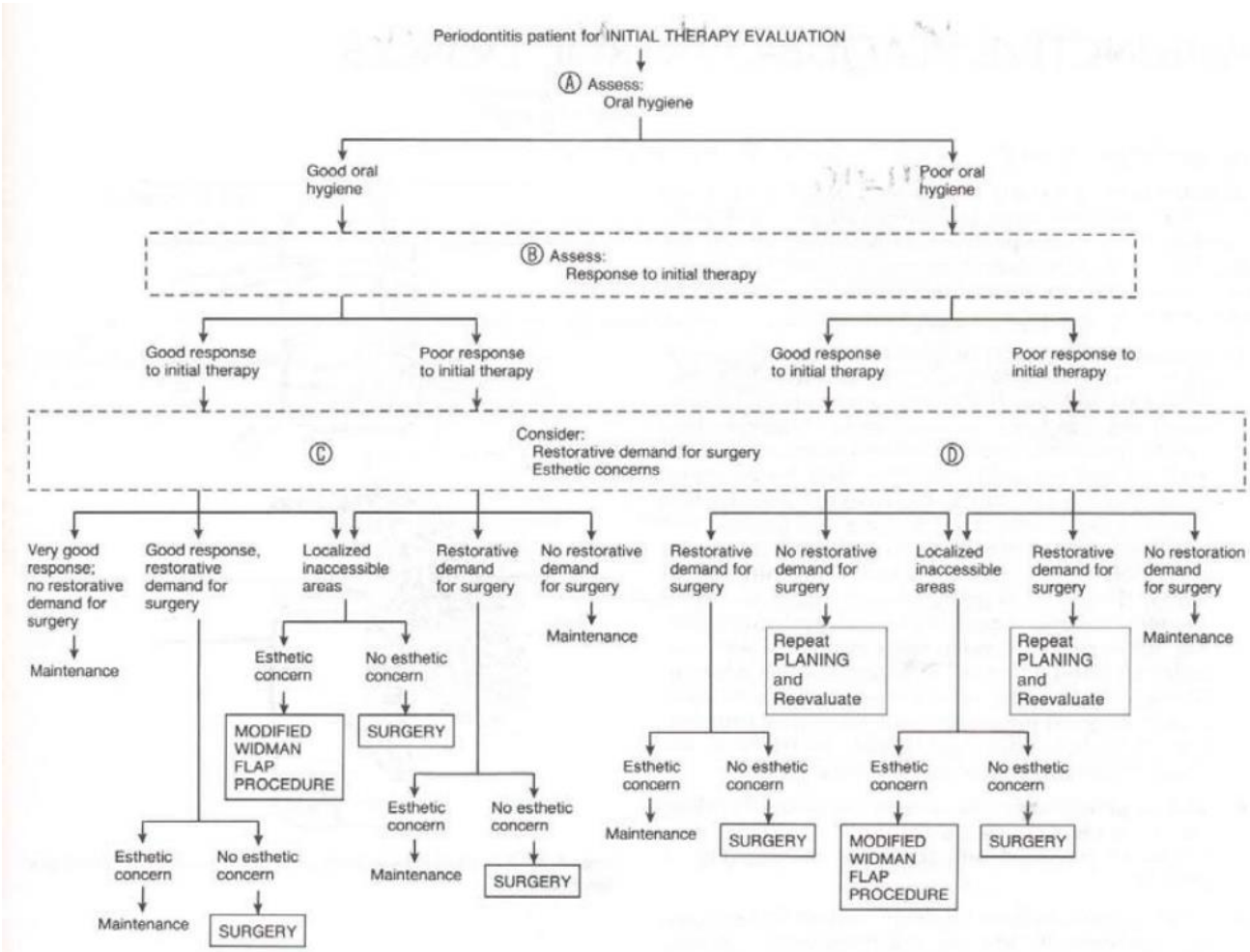
Phase I (etiotrophic, non surgical)	**1. Emergency treatment** -Oral lesions/conditions -Dental infections -Temporomandibular joint disorder **2. Modification of patient habits** -Oral hygiene instructions -Smoking cessation -Diet modification (patients with high caries risk) **3. Antimicrobial therapy (if needed, local or systemic)** **4. Extractions of hopeless teeth** **5. Scaling + root planing under LA** **6. Correction of restorative and prosthetic irritational factors** **7. Occlusal adjustment** **8. Provisional splinting** **9. Re-evaluation in 4~8 weeks** -Re-chart pocket depths, BOP, recessions, plaque, calculus, caries -Assesses tissue response to the initial scaling and root planing -Assess patient's oral hygiene and motivation -At this appointment, decide if patient should move on to phase II or phase III
Phase II (surgical/restorative)	**1. Periodontal surgery** -Open flap debridement -Osseous resective surgery including crown lengthening -Guided tissue regeneration -Soft tissue grafting **2. Implant surgery** **3. Endodontic surgery** **4. Final restorations** **5. Fixed/removable prosthodontics** **6. Implant supported protheses**
Phase III (maintenance)	**1. Periodic recall visits** -Assess oral hygiene (assess effectiveness and reinforce) -Assess periodontal status (PD, BOP, rec, furcation, etc) -Assess TMD, occlusion, mobility **2. Supportive periodontal therapy**

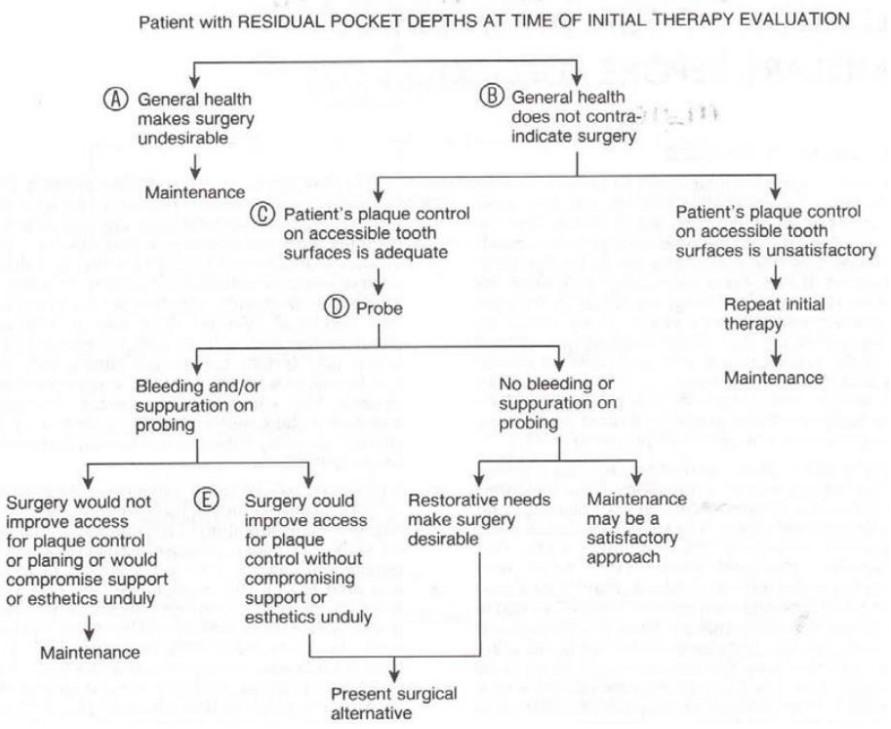

Patient for EXAMINATION
A New patient
B Recall patient
Assess:
Plaque control practices
Past practices
Current practices
Current practices
Brushing
Type of brush
Method
Frequency
Flossing
When started
Method
How taught
Frequency
Adjunctive devices
Type used
Where and why
Duration of use
If stopped, establish reason
Brushing
Type of brush
Method
Frequency
Who taught
Flossing
Method
Frequency
If stopped, ask why
Adjunctive devices
Type used
Method
Frequency
If stopped, establish reason
Determine
Harder brush may have caused recession
Establish
Relationship to floss cuts
Assess
Damage from misuse
Record:
Plaque index
Assess
Adequacy of practice
Satisfactory
Needs change


Patient needing DIFFERENTIAL DIAGNOSIS AMONG PERIODONTAL HEALTH, GINGIVITIS, OR ADULT PERIODONTITIS
A Visual examination
Marginal and papillary swelling and redness
Gingiva appears pink and firm
B Probe:
Pocket depth
Pocket depth 3 mm or more
Pocket depth 3 mm or more
F Crevice depth 1–3 mm only
C Assess:
Loss of attachment
No loss of attachment
Loss of attachment
Loss of attachment
No loss of attachment
Loss of attachment
Assess:
Radiograph for bone loss
Show no bone loss
D Show no active bone loss
E Suggest active bone loss
Suggest active bone loss
Suggest no bone loss
Suggest no active bone loss
"Garden variety" gingivitis
"Chronic" adult periodontitis
Periodontal health


Presumptive Diagnosis for Patients With ≥ 4mm Probing Depths
PERIODONTITIS
≥7mm PDs > 30% bone loss
4-6mm PDs < 30% bone loss
Severe (advanced) Forms
Mild – Moderate Forms
REFERRAL for Advanced Care
Non Surgical Therapy
Unfavorable Response (REFERRAL)
Favorable Response (Most)
Periodontal Surgery
REFRACTORY DISEASE
SPT
SPT


Provisional Diagnosis:
Plaque-induced Gingivitis
Etiotropic Phase
Re-evaluation
4-8 weeks after completion of etiotropic phase
Resolution
Final Diagnosis
Supportive Periodontal Therapy
NO Resolution
Revisit Provisional Diagnosis
? other forms of gingival inflammation
Appropriate local and systemic therapy
NO Resolution
Resolution
Final Diagnosis


Periodontitis patient for INITIAL THERAPY EVALUATION
Ⓐ Assess: Oral hygiene
Good oral hygiene
Poor oral hygiene
Ⓑ Assess: Response to initial therapy
Good response to initial therapy
Poor response to initial therapy
Good response to initial therapy
Poor response to initial therapy
Ⓒ
Consider: Restorative demand for surgery Esthetic concerns
Ⓓ
Very good response; no restorative demand for surgery
Maintenance
Good response, restorative demand for surgery
Esthetic concern
Maintenance
No esthetic concern
SURGERY
Localized inaccessible areas
Esthetic concern
MODIFIED WIDMAN FLAP PROCEDURE
No esthetic concern
SURGERY
Restorative demand for surgery
Esthetic concern
Maintenance
No esthetic concern
SURGERY
No restorative demand for surgery
Maintenance
Restorative demand for surgery
Esthetic concern
Maintenance
No restorative demand for surgery
Repeat PLANING and Reevaluate
Esthetic concern
No esthetic concern
SURGERY
Localized inaccessible areas
Esthetic concern
MODIFIED WIDMAN FLAP PROCEDURE
No esthetic concern
SURGERY
Restorative demand for surgery
Repeat PLANING and Reevaluate
No restoration demand for surgery
Maintenance


Patient with RESIDUAL POCKET DEPTHS AT TIME OF INITIAL THERAPY EVALUATION
Ⓐ General health makes surgery undesirable
Maintenance
Ⓑ General health does not contra-indicate surgery
Ⓒ Patient's plaque control on accessible tooth surfaces is adequate
Patient's plaque control on accessible tooth surfaces is unsatisfactory
Repeat initial therapy
Maintenance
Ⓓ Probe
Bleeding and/or suppuration on probing
No bleeding or suppuration on probing
Surgery would not improve access for plaque control or planing or would compromise support or esthetics unduly
Maintenance
Ⓔ
Surgery could improve access for plaque control without compromising support or esthetics unduly
Restorative needs make surgery desirable
Maintenance may be a satisfactory approach
Present surgical alternative