

Sri Aurobindo College of Dentistry

Indore, Madhya Pradesh

INDIA



Module plan

Topic : **Clinical Diagnosis Of Periodontal Diseases**

Subject: Periodontics

Target Group: Undergraduate Dentistry

Mode: Powerpoint Webinar

Platform: Institutional LMS

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CLINICAL DIAGNOSIS OF PERIODONTAL DISEASES



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What is Diagnosis?



discriminative estimation & logical appraisal of the conditions found during examination, as evidenced by signs & symptoms of health &



Prerequisites for the diagnosis

Firm knowledge of what constitutes periodontal health, such that any deviation from normalcy can be identified.

Knowledge of various diseases & classification systems.

Clinical practice Parameters to identify the presence & severity of disease.

Investigations .

Approach to Diagnosis

Practice Parameters

Problem focused examination



Methodology of clinical examination

Interpretation of clinical signs & symptoms

Assign the diagnostic term

Stages in clinical diagnosis..

History Recording

(Demographic data, C/C, H O P I, D/H, M/H, P/H)



Clinical Examination

(clinical examination of soft & hard tissues, assessment of local risk factors)



Clinical Diagnosis



Investigation



Diagnosis

(Diagnostic casts, photographs)

Case History recording

Demographic data Name, Age, Gender, Occupation, socio-economic status, address.

Chief Complaint

Medical History

Past Dental History

Personal History



**“I already diagnosed myself on the Internet.
I’m only here for a second opinion.”**

Clinical Examination

Extra oral examination

Facial Symetry

TMJ Pain, clicking sounds, jaw movements

Lymph Nodes

Halitosis



TMJ problem Jaw deviation



Space infection

Clinical Examination *Soft tissue Parameters*

Gingiva:

Colour

Contour

Consistency

Shape

Size

Texture

Position

Bleeding on Probing

Pus exudation

Periodontium

Clinical Attachment

Loss

Probing Pocket Depth

Mobility

Furcation

involvement

Pathologic Migration

Tenderness on
percussion.

Mucogingival relations

Width of attached
gingiva (Tension test)

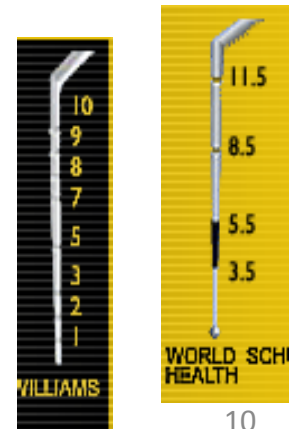
Recession

Type of frenal
attachment (Tension
test)

Vestibular depth



Instruments - Mouth mirror, Calibrated probe.



Clinical Examination *Hard tissue Parameters*

Deposits

Plaque

Calculus

Stains

Tooth related factors

Wasting diseases (abrasion, erosion, attrition, facets)

Occlusal discrepancies (plunger cusps, premature contacts)

teeth malalignment

Proximal contacts

Food impaction/lodgement

Restorative factors

Faulty restorations

Condition of restorations



DIAGNOSIS

- Basic classification of periodontal diseases and conditions

Periodontal health, gingival diseases and conditions:

Periodontal health

intact periodontium

reduced periodontium*

Gingivitis: dental biofilm-induced

intact periodontium

reduced periodontium*

Gingival diseases and conditions: non-dental biofilm-induced

Periodontitis

Necrotising periodontal diseases

Periodontitis**

Periodontitis as a manifestation of systemic disease

Other conditions affecting the periodontium

Systemic diseases or conditions affecting the periodontal supporting tissues

Periodontal abscesses and endodontic-periodontal lesions

Mucogingival deformities and conditions

Traumatic occlusal forces

Tooth and prosthesis related factors

*Reduced periodontium due to causes other than periodontitis, eg, crown lengthening surgery. **All patients with evidence of historical or current periodontitis should be staged/graded at initial consultation

Gingival diseases

GINGIVITIS

- Method of Examination

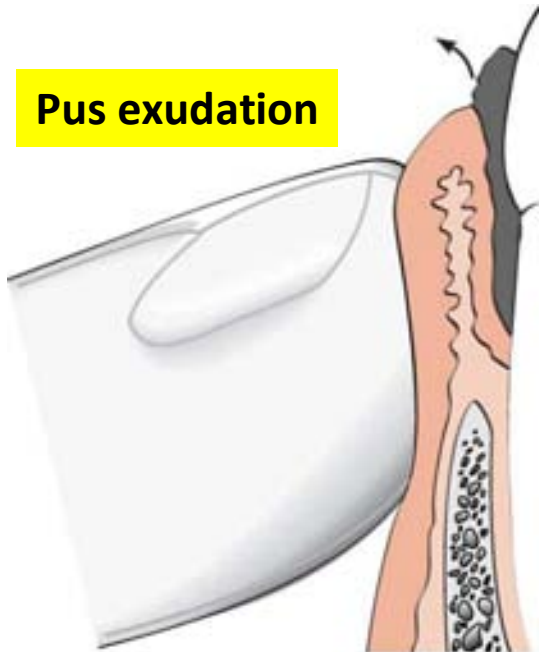
Colour, Contour, Shape,
Size, Texture checked by
Visual examination

Position Checked by
probing.

Consistency



Pus exudation



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Bleeding on Probing



**Periodontal Health and Gingivitis:
Consensus Report**
Chapple, Mealey, et al. 2018
Active link to consensus report

**Gingival Diseases: Case Definitions and
Diagnostic Considerations**
Trombelli, Tatakis, et al. 2018
Active link to case definitions

PERIODONTAL HEALTH, GINGIVAL DISEASES/CONDITIONS

1. Periodontal health and gingival health

Lang & Bartold 2018 [link](#)

- a. Clinical gingival health on an intact periodontium
- b. Clinical gingival health on a reduced periodontium
 - i. Stable periodontitis patient
 - ii. Non-periodontitis patient

2. Gingivitis – dental biofilm-induced

Murakami et al. 2018 [link](#)

- a. Associated with dental biofilm alone
- b. Mediated by systemic or local risk factors
- c. Drug-influenced gingival enlargement

3. Gingival diseases – non-dental biofilm induced

Holmstrup et al. 2018 [link](#)

- a. Genetic/developmental disorders
- b. Specific infections
- c. Inflammatory and immune conditions
- d. Reactive processes
- e. Neoplasms
- f. Endocrine, nutritional & metabolic diseases
- g. Traumatic lesions
- h. Gingival pigmentation

Gingivitis - Dental Biofilm-induced

- A. Associated with bacterial dental Biofilm only.
- B. Potential modifying factors of plaque-induced gingivitis
 - 1. Systemic conditions
 - a) Sex steroid hormones
 - i) Puberty
 - ii) Menstrual Cycle
 - iii) Pregnancy
 - iv) Oral contraceptives
 - b) Hyperglycemia
 - c) Leukemia
 - d) Smoking
 - e) Malnutrition
 - 2. Oral factors enhancing Plaque accumulation
 - a) Prominent subgingival restorative margins
 - b) Hyposalivation
- C. Drug-influenced gingival enlargements.

Gingival diseases Non Dental Biofilm induced

1. Genetic/Developmental disorders.

1.1 Hereditary Gingival fibromatosis

2. Specific Infections.

2.1 Bacterial origin

Necrotizing Periodontal diseases

Neisseria gonorrhoea (gonorrhoea)

Treponema pallidum (siphilis)

Mycobacterium tuberculosis (tuberculosis)

Streptococcal gingivitis (starins of streptococcus)

2.2 Viral origin

Hand-foot-and Mouth disease(coxsackie virus)

Herpes Simplex(primary/recurrent)

Varicella Zoster virus(chicken pox or shingles affecting 5th nerve)

Molluscum contagiosum virus

Human papilloma virus(sq cell papilloma, condyloma acuminatum, verucca vulgaris, & focal epithelial hyperplasia)

2.3 Fungal

Candidosis

Other Mycosis (eg. Histoplasmosis, aspergillosis)

3. Inflammatory & Immune conditions & lesions

3.1 Hypersensitivity reactions

Contact allergy

Plasma cell gingivitis

Erythema multiforme

3.2 Autoimmune diseases of skin & mucous membranes

Pemphigus vulgaris

Pemphigoid

Lichen planus

Lupus erythematosus

3.3 Granulomatous inflammatory conditions (orofacial granulomatosis)

disease

Sarcoidosis

4. Reactive processes

4.1 Epulides

Fibrous epulis

Calcifying fibroblastic granuloma

Pyogenic granuloma

PGCG (or central)

5. Neoplasms

5.1 premalignant

Leukoplakia

Erythroplakia

5.2 Malignant

Sq cell carcinoma

Leukemia

Lymphoma

6. Endocrine, nutritional, metabolic diseases

6.1 Vitamin deficiencies Scurvy

7. Traumatic lesions

7.1 Physical/ mechanical insults

Frictional Keratosis,

Tooth brushing induced gingival ulceration

Factitious injury (self harm)

7.2 chemical(toxic) insults

Etching, CHX, Acetyl salicylic acid, Cocaine, H₂O₂, Dentifrice detergents, paraformaldehyde or CaOH.

7.3 Thermal insults

Burns of Mucosa.

8. Gingival pigmentation

Gingival pigmentation/melanoplakia
melanosis

Drug- induce pigmentation(antimalarials; minocycline)
Amalgam tattoo

Gingivitis differentiation

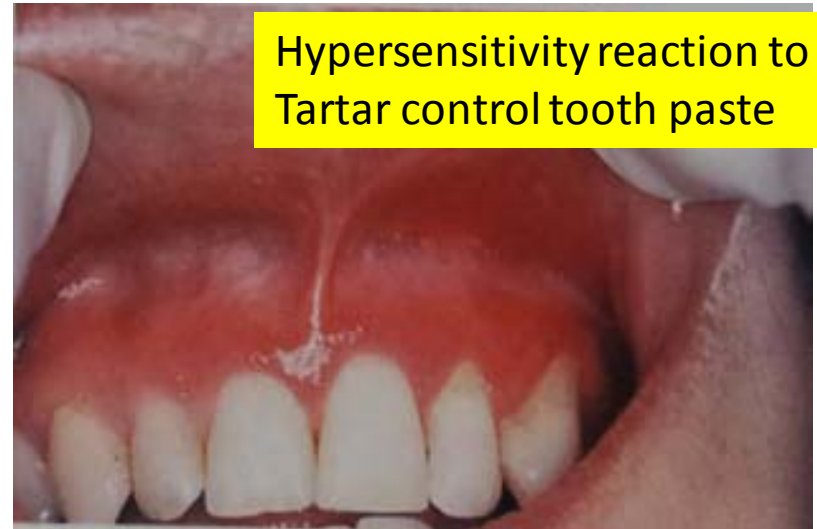
Plaque induced gingivitis

plaque induced gingivitis



Non Plaque-induced gingivitis

Hypersensitivity reaction to
Tartar control tooth paste



Irregular gingival erosions
Pemphigus vulgaris



Plaque-induced

Pubertal gingivitis, 19 yr old girl



**Severe pregnancy gingivitis,
pregnancy tumor with 34,35**



Non Plaque-induced

**Localized atrophic & erosive gingival
Lesions in erosive lichen planus**



**Generalized atrophic gingivitis:
benign mucous membrane pemphigoid**

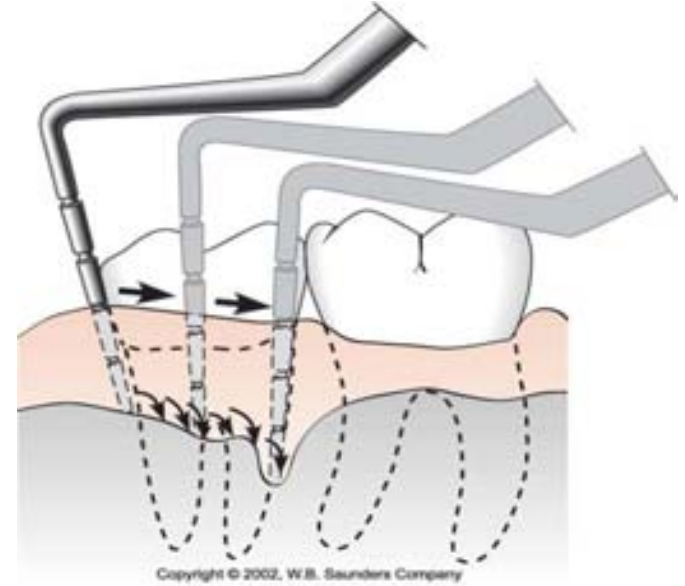


Periodontal diseases

- METHOD OF EXAMINATION

Probing Pocket Depth- Walking method

Clinical Attachment Loss
Probing Pocket Depth
Furcation involvement
Mobility
Pathologic Migration

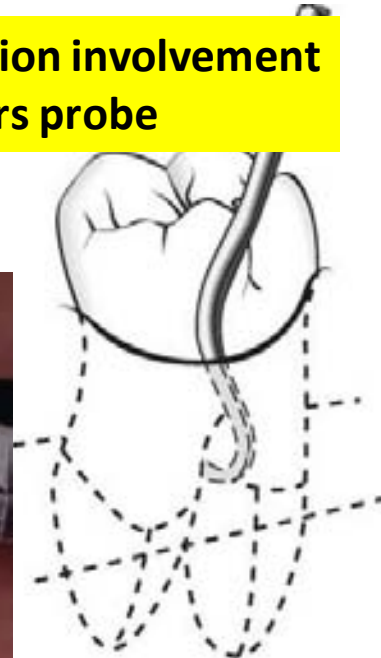


Pathologic Migration

Furcation involvement -Nabers probe



Mobility



Periodontitis Consensus Report
Papapanou, Sanz et al. 2018
[Active link to consensus report](#)

Staging and Grading of Periodontitis:
Framework and Proposal of a New
Classification and Case Definition
Tonetti, Greenwell, Kornman 2018
[Active link to case definitions](#)

FORMS OF PERIODONTITIS

1. Necrotizing Periodontal Diseases

Herrera et al. 2018 [link](#)

- a. Necrotizing Gingivitis
- b. Necrotizing Periodontitis
- c. Necrotizing Stomatitis

2. Periodontitis as Manifestation of Systemic Diseases

Jepsen, Caton et al. 2018 Consensus Rept [link](#)

Albandar et al. 2018 [link](#)

Classification of these conditions should be based on the primary systemic disease according to the International Statistical Classification of Diseases and Related Health Problems (ICD) codes

3. Periodontitis

Fine et al. 2018 [link](#)

Needleman et al. 2018 [link](#)

Billings et al. 2018 [link](#)

- a. **Stages:** Based on Severity¹ and Complexity of Management²
 - Stage I: Initial Periodontitis
 - Stage II: Moderate Periodontitis
 - Stage III: Severe Periodontitis with potential for additional tooth loss
 - Stage IV: Severe Periodontitis with potential for loss of the dentition
- b. Extent and distribution³: localized; generalized; molar-incisor distribution
- c. **Grades:** Evidence or risk of rapid progression⁴, anticipated treatment response⁵
 - i. Grade A: Slow rate of progression
 - ii. Grade B: Moderate rate of progression
 - iii. Grade C: Rapid rate of progression

Necrotizing Periodontal diseases



NP in smoker

NP in HIV patient



Periodontitis

It is a Microbially associated, host mediated inflammation causing periodontal destruction.



Staging and grading of periodontitis

Staging of periodontitis

	Stage I (early/mild)	Stage II (moderate)	Stage III (severe)	Stage IV (very severe)
Interproximal bone loss*	<15% or <2 mm**	Coronal third of root	Mid third of root	Apical third of root
Extent	Describe as: Localised (up to 30% of teeth), Generalised (more than 30% of teeth) Molar/incisor pattern			

Grading of periodontitis

	Grade A (slow)	Grade B (moderate)	Grade C (rapid)
% bone loss / age	<0.5	0.5–1.0	>1.0

*Maximum bone loss in percentage of root length. **Measurement in mm from CEJ if only bitewing radiograph available (bone loss) or no radiographs clinically justified (CAL).

Notes:
If a patient has interproximal attachment loss but BPE codes of only 0, 1 & 2, (for example, a previously treated, stable periodontitis patient), and radiographs are not available/justifiable, staging & grading should be performed on the basis of measuring attachment loss in mm from the CEJ and estimation of concomitant bone loss.
If a patient is known to have lost teeth due to bone loss likely to have been within the apical third of the root, stage IV may be assigned

Basic Periodontal Examination (BSP)

Scoring codes

0	No Pockets > 3.5mm, no calculus/overhangs, no bleeding after probing (black band completely visible)
1	No Pockets > 3.5mm, no calculus/overhangs, but bleeding after probing (black band completely visible)
2	No Pockets > 3.5mm, but supra or subgingival calculus/overhangs, but bleeding after probing (black band completely visible)
3	Probing depth 3.5 – 5.5 mm (black band partially visible, indicating pocket of 4-5 mm)
4	Probing depth > 5.5 mm (black band entirely within the pocket, indicating pocket of 6mm or more)
*	Furcation involvement

Code 1-3 Indicated for initial periodontal Therapy SRP.

Code 4, * Indicated for advanced periodontal Therapy.

When to record the BPE?

All the new patients should have the BPE recorded

For patients with code 0, 1 or 2, the BPE should be recorded at least annually.

For patients with BPE codes of 3 or 4, more detailed periodontal charting is required:

- **Code 3:** record full probing depths (6 sites per tooth) in the sextant(s) where the code 3 was recorded, in addition to recording the BPE in those sextants with scores scores 0, 1 or 2.
- **Code 4:** if there is a code 4 in any sextant, then record full probing depths (6 sites per tooth) throughout the entire dentition.

Other conditions affecting periodontium

Periodontal Manifestations of Systemic Diseases and Developmental and Acquired Conditions: Consensus Report
Jepsen, Caton et al. 2018
Active link to consensus report

PERIODONTAL MANIFESTATIONS OF SYSTEMIC DISEASES AND DEVELOPMENTAL AND ACQUIRED CONDITIONS

1. Systemic diseases or conditions affecting the periodontal supporting tissues

Albandar et al. 2018 [link](#)

2. Other Periodontal Conditions

Papapanou, Sanz et al. 2018 [link](#)

Herrera et al. 2018 [link](#)

- a. Periodontal Abscesses
- b. Endodontic-Periodontal Lesions

3. Mucogingival deformities and conditions around teeth

Cortellini & Bissada 2018 [link](#)

- a. Gingival phenotype
- b. Gingival/soft tissue recession
- c. Lack of gingiva
- d. Decreased vestibular depth
- e. Aberrant frenum/muscle position
- f. Gingival excess
- g. Abnormal color
- h. Condition of the exposed root surface

4. Traumatic occlusal forces

Fan & Caton 2018 [link](#)

- a. Primary occlusal trauma
- b. Secondary occlusal trauma
- c. Orthodontic forces

5. Prostheses and tooth-related factors that modify or predispose to plaque-induced gingival diseases/periodontitis

Ercoli & Caton 2018 [link](#)

- a. Localized tooth-related factors
- b. Localized dental prostheses-related factors

Gingivitis & Periodontitis in systemically compromised patients

Palque induced
Gingivitis or
periodontitis

Onset of
DM / HIV
or others
systemic
conditions

Diagnosis:
Gingivitis /
Periodontitis
modified by a
systemic
condition

Pts diagnosed
with
hematological /
genetic
disorders

Periodontal
destruction with
little or no
evidence of
plaque/calculus

Diagnosis:
Periodontitis
as a
manifestation
of systemic
disease

Pts diagnosed
with neoplastic
or other
diseases

Lesion arising
from deeper pdl
tissues,
independent of
plaque/calculus

Diagnosis:
Periodontal
manifestation
of systemic
disease

Periodontitis as manifestation of systemic diseases

A. Systemic diseases that influence Periodontal inflammation.

a) Genetic disorders.

i) Immunologic disorders

Downs Syndrome
LAD syndrome
P L syndrome
Haim-Munk syndrome
C H Syndrome
Congenital neutropenia.
Primary immunodeficiency disease
Hyper IgE syndrome
A gammaglobulinemia
Hyper IgG syndrome
Severe combined immuno deficiency syndrome
Cohen SYndrome

ii) Diseasea affecting Gingiva & CT

Epidermolysis Bullosa
Kindler syndrome
Plasminogen deficiency
Ehlers Danlos Syndrome
Angioedema
SLE

iii) Metabolic & Endocrine disorders

Glycogen Stoarage disease
disease
Hypophospatasia
Hypophosphatamic Rickets
Hajau- Cheney Syndrome
DM
Obesity

b) Acquired Immuno-deficiency disorders.

Acquired Neutropenia

HIV

B. Systemic diseases that influence pathogenesis of periodontal diseases.

1. Emotional Stress & Depression (weak asson)
2. Hypertension (weak asson)

Periodontal manifestation of systemic diseases

Diseases that result in pdl tissue loss independent of periodontitis. They generally arise from deeper part of pdl tissues.

A. Neoplastoic Lesions

B. Others.

Granulomatosis with Polyangitis

Langerhans cell Histiocytosis

Giant Cell Granuloma

Hyperparathyroidism

Systemic Sclerosis(Scleroderma)

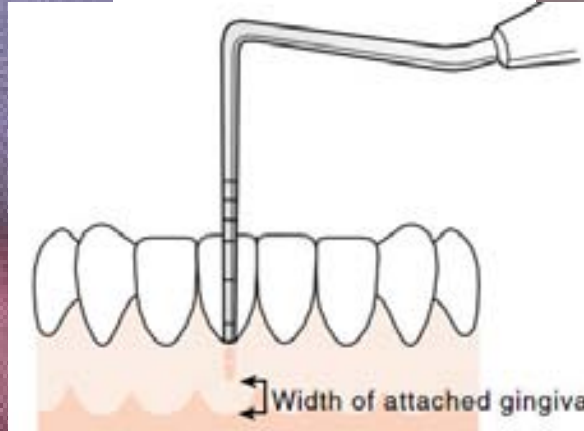
Vanishing Bone Disease.

Other Periodontal conditions- Periodontal abscess, endodontic-Periodontic lesions.



Mucogingival deformities & conditions around teeth

High Frenal Attachment



Shallow Vestibule



Generalized recession



Generalized erosion & abrasion



Traumatic occlusal forces

Primary Occlusal Trauma



Secondary Occlusal Trauma



Proposed clinical indicators:

Fremitus.

Progressive Mobility.

Occlusal discrepancies.

Wear facets.

Tooth migration.

Fractured tooth.

Thermal sensitivity.

Discomfort/pain on chewing.

Widened PDL space.

Root resorption.

Cemental Tear.

Prosthesis & tooth related factors that modify or predispose to plaque induced gingival diseases/ Periodontitis

Subgingival margins

Occlusal High points

Overcontours

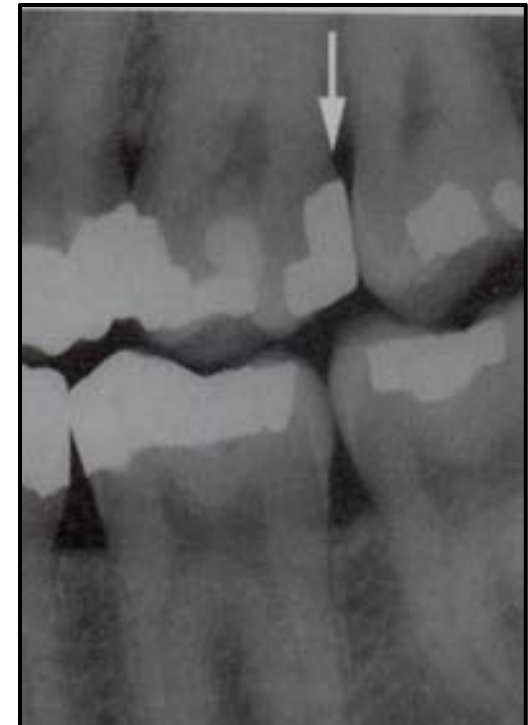
Rough surfaces

Fractured margins

Overhangs



Subgingival crown margins



Overhanging resoration

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6. **I Rotstein et al. Diagnosis, prognosis & decision making in the treatment of periodontol-endodontic lesions. Periodontology 2000, Vol 34, 2004, 165-203.**
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- 11. FJ Hughes et al, Clinical Problem solving in Periodontology & Implantology, Vol 1.**
- 12. I Rotstein, JH Simon. The endo- perio lesion: a critical appraisal of the disease condition: Endodontic Topica 2006, 13, 34-56.**
- 13. T. Dietrich et al, Periodontal Diagnosis in the context of 2017 classification system of periodontal diseases and conditions - implementation in clinical practice, British Dental journal, Vol 226(1); Jan 2019.**
- 14. Internet sources.**

A white rectangular card is tilted slightly to the right. The words "THANK YOU!" are written on the card in a black, cursive, handwritten font. The card is surrounded by a bouquet of flowers, including several pink daisies with yellow centers and some purple flowers. The background is a plain, light color.

THANK YOU!