American Academy of Periodontics (AAP) 2018 Classification Made Easier

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DENT ECHO
January 20, 2022

PERIO CALIBRATION OBJECTIVES

Review	**The Three Steps to Staging and Grading a patient.**
Discuss	**Briefly discuss the new terminology of the 2018 AAP Classification.**
Apply	**The concepts and criteria for Staging and Grading to clinical cases.**

Periodontal Classification Relevance to Practice

- Provides a personalized approach to patient care that is essential for effective periodontal case management.
- It guides the clinician with managing their patient's case and the risk for future disease progression.
- Includes that the oral-systemic link
- Helps clinicians develop a well-rounded treatment strategy based on a patient's specific needs.

Brief review on the primary differences between the 1999 and the 2018 classifications of periodontitis

1999 Classification System

Subdivided periodontitis into two subgroups:

- **Chronic Peridontitis**
- **Aggressive**

The new classification regrouped the two under a single term *"periodontitis."*.

The1999 classification used descriptors of slight, moderate, and severe.

The diagnosis could be divided into several severity levels for different parts of the mouth.

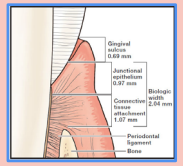
Changes of the 2018 AAP

The new 2018 classification supports a multidimensional view of periodontitis, incorporating:

- **Staging**
- **Grading**

The 2018 classification has only one Stage and one Grade that can be assigned to a patient, it cannot be subdivided into two different severity levels or Grades.

Changes to the New Terminology



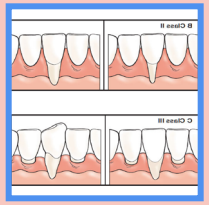
BIOLOGIC WIDTH → **SUPRACRESTAL TISSUE ATTACHMENT (SCTA)**

CHRONIC PERIODONTITIS

AGGRESSIVE PERIODONTITIS

→ **Periodontitis**

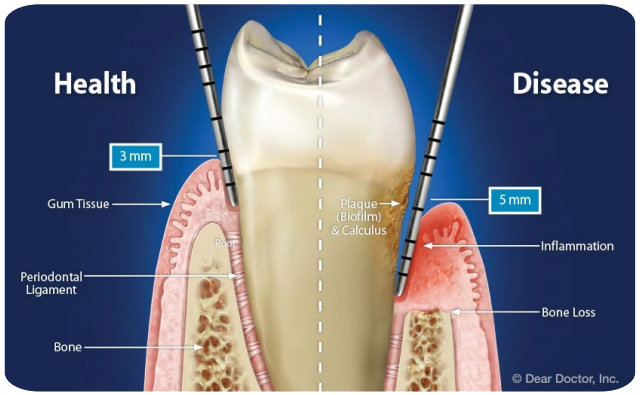
MOLAR/INCISIVE PATTERN (MIP)
(NEW EXTENT, DISTRIBUTION, DESCRIPTOR FOR AGGRESSIVE PERIODONTITIS)



MILLER CLASSIFICATION → **CAIRO CLASSIFICATION (RT1, RT2, & RT3)**

Definition of a Patient as a Periodontitis Case

- **A patient is a periodontitis case when:**
  - ***Interdental*** **"clinical attachment loss" (CAL, aka LOA) is detectible at two or more nonadjacent teeth, OR**
  - ***Facial*** **or** ***lingual*** **has clinical attachment loss (CAL) of** ***3mm*** **or** ***more*** **with pocketing** ***greater than 3mm*** **is detectible at two or more teeth**



Key Points to Remember

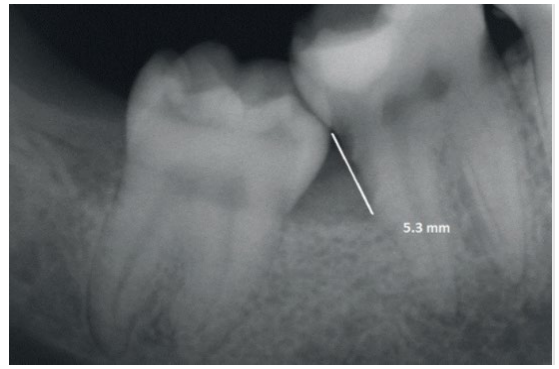
The observed Clinical Attachment Loss (CAL/LOA) cannot be attributed to non-periodontal causes such as:

- **Gingival recession of traumatic origin**
- **Dental caries extending to or apical to the CEJ**
- **Presence of CAL on distal of 2nd molars due to *malposition/extraction* of 3rd molars**
- **Endo lesion draining through marginal gingiva**
- **The occurrence of a vertical root fracture**

Tonettiet al. J Periodontol2018, 89, S159-S172

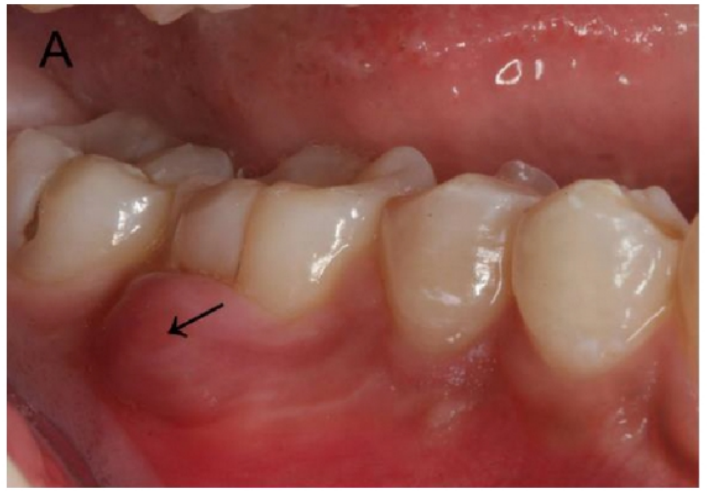
Gingival recession of traumatic origin

Presence of CAL on distal of 2nd molars due to *malposition/extraction* of 3rd molars

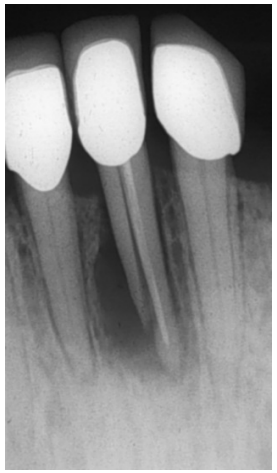


Dental caries extending to or apical to the CEJ

Endo lesion draining through marginal gingiva



The occurrence of a vertical root fracture



Questions

Three Categories of Periodontal Health

Three Categories of Periodontal Health		
Periodontal health on an intact periodontium	**Periodontal health on a reduced periodontium in a non-periodontitis patient**	**Periodontal health on a reduced periodontium in a past periodontitis patient.**

Periodontal Health on an Intact Periodontium

Gingival Health

They would be treated with a D1110

Periodontal health on a reduced periodontium in a non-periodontitis patient

No bleeding on probing or < 10%
No interproximal bone-loss
Always use radiographs to confirm

https://www.slideshare.net/BabuMitzvah/aap-2017-classification-of-periodontal-disease-part-1

Healthy but reduced periodontium in a *past-periodontitis patient*

- **A successfully treated stable periodontitis patient.**
  - **Probe depths less than 3 mm**
  - **Control of all local and systemic factors**
  - **Complete resolution or minimal signs of inflammation < 10%**
- **NOTE: A periodontitis patient requires lifelong supportive care to prevent recurrence of disease. They remain a D4910 periodontal maintenance patient for life—even following successful non-surgical periodontal therapy.**

Case Study 1

- 40-year-old male patient
- Medical history: Seasonal allergies, takes Zyrtec prn
- Social Habits: None reported
- Dental History: New patient

- During the assessment of the patient, you note clinical signs of periodontal **health** and **no bleeding on probing** on a **stable periodontium** with a **preexisting** loss of connective tissue and alveolar bone. The patient reports a **past-histor**y of **NSPT**.
- How will you classify this patient using the **2018 AAP classification** and **what treatment plan/code** would you **recommend**?

a. Gingivitis

b. Periodontitis

c. Healthy but reduced periodontium- non-periodontitis patient

d. Health on a reduced periodontium-past periodontitis patient

d. Health on a reduced periodontium-past periodontitis patient

D4910 – periodontal maintenance

Case Study 2

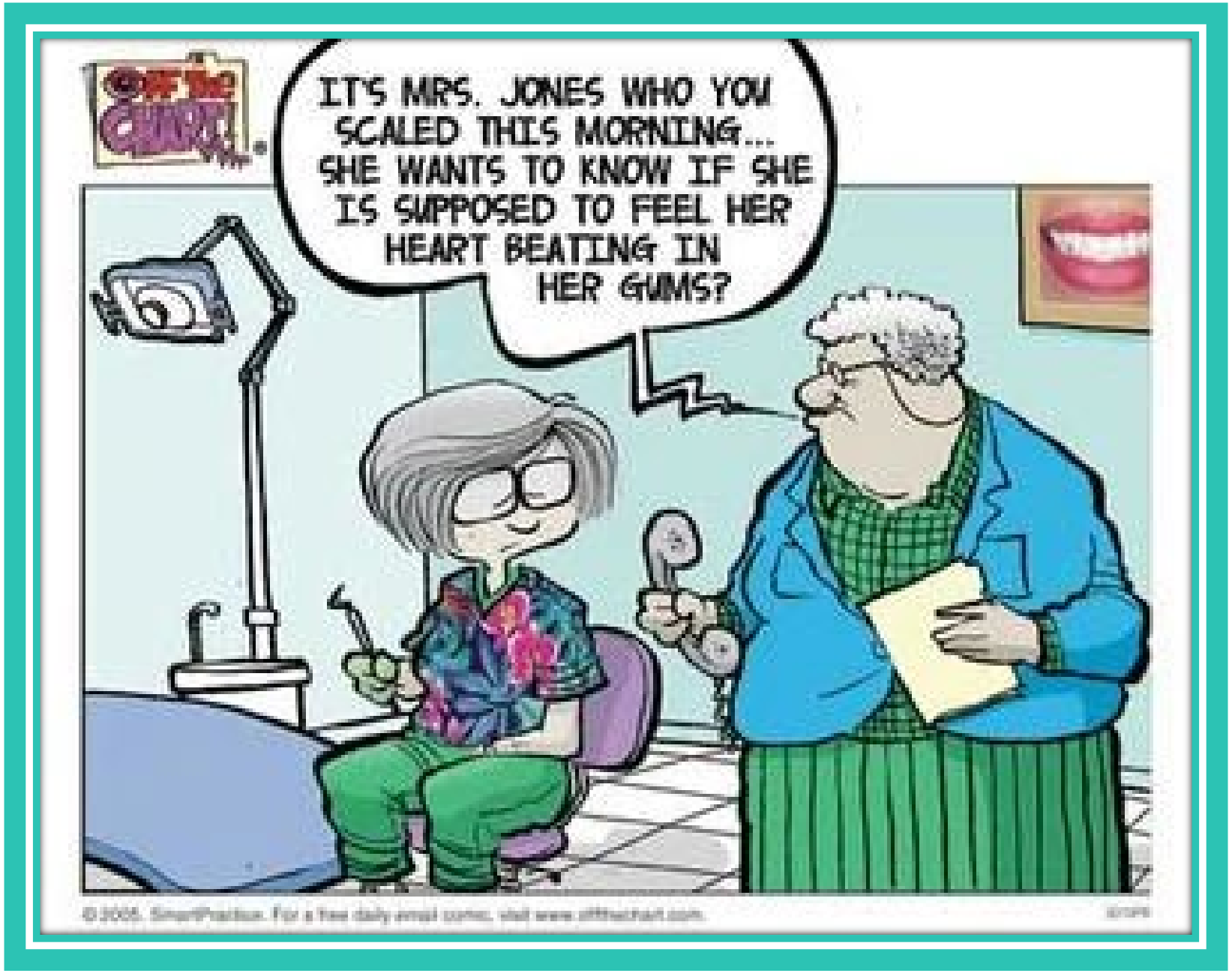
- 54-year-old male
- Medical History:
  - Patient reports no systemic issues or risk factors
- Dental history:
  - No history of NSPT
  - Bleeding on probing < 10 %
  - Patient is compliant with 6-month recare dental visits,
  - OHI: Patient loves his teeth to be clean, so he uses a hard toothbrush.
- Social Habits
  - Occasional alcohol.

- How will you classify this patient and **what treatment plan/code** would you **recommend**?

a. Healthy but reduced periodontium- non -periodontitis patient
b. Health on a reduced periodontium-past periodontitis patient
c. Gingivitis
d. Periodontitis

a. Healthy but reduced periodontium- non-periodontitis patient

- D1110 - Prophylaxis


IT'S MRS. JONES WHO YOU SCALED THIS MORNING... SHE WANTS TO KNOW IF SHE IS SUPPOSED TO FEEL HER HEART BEATING IN HER GUMS?

Three Steps to Staging and Grading a Patient

Step 1: Initial Case Overview to Assess Disease

Screen:

- Full mouth probing depths
- Full mouth radiographs
- Missing teeth

Mild to moderate periodontitis will typically be either Stage I or Stage II

Severe to very severe periodontitis will typically be either Stage III or Stage IV

Step 2: Establish Stage

For mild to moderate periodontitis (typically Stage I or Stage II):

- Confirm clinical attachment loss (CAL)
- Rule out non-periodontitis causes of CAL (e.g., cervical restorations or caries, root fractures, CAL due to traumatic causes)
- Determine maximum CAL or radiographic bone loss (RBL)
- Confirm RBL patterns

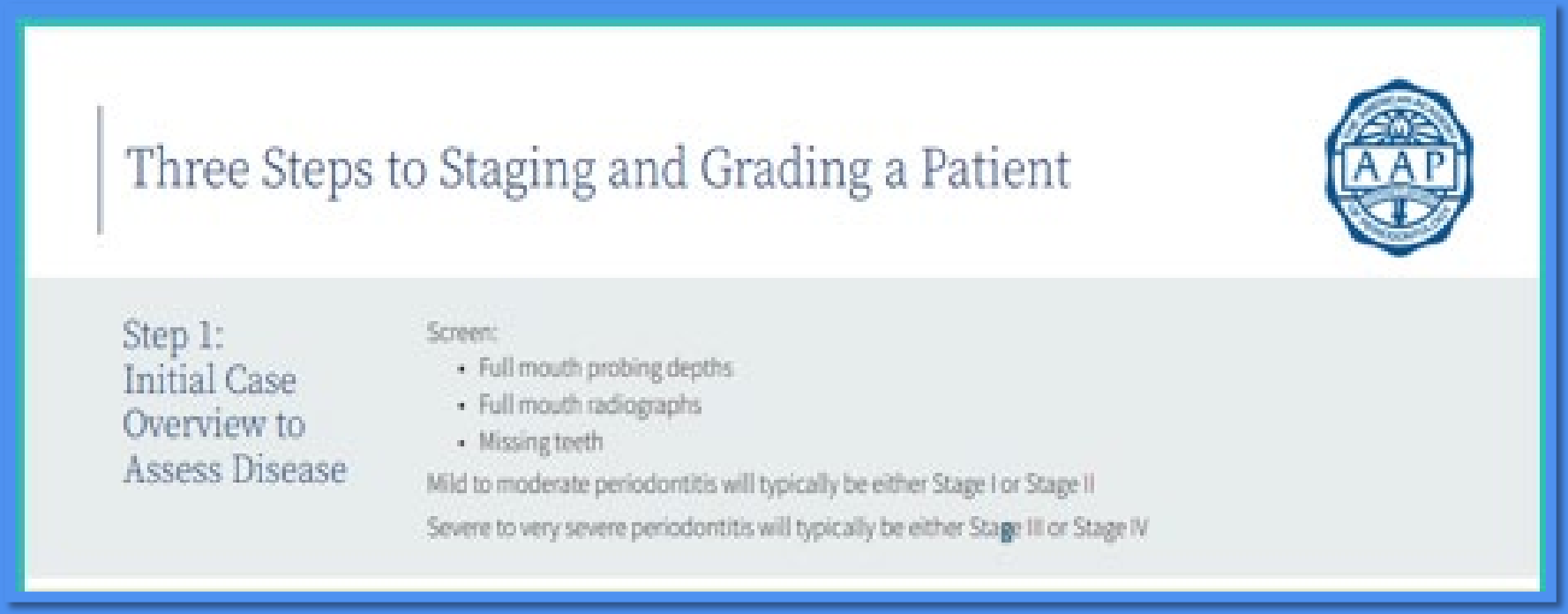
For moderate to severe periodontitis (typically Stage III or Stage IV):

- Determine maximum CAL or RBL
- Confirm RBL patterns
- Assess tooth loss due to periodontitis
- Evaluate case complexity factors (e.g., severe CAL frequency, surgical challenges)

Step 3: Establish Grade

- Calculate RBL (% of root length x 100) divided by age
- Assess risk factors (e.g., smoking, diabetes)
- Measure response to scaling and root planing and plaque control
- Assess expected rate of bone loss
- Conduct detailed risk assessment
- Account for medical and systemic inflammatory considerations

Stage descriptions drawn from Tonetti, Greenwell, Kornman. *J Periodontol* 2018;89 (Suppl 1): S159-S172.



Step 1 Initial Case Overview to Assess Disease

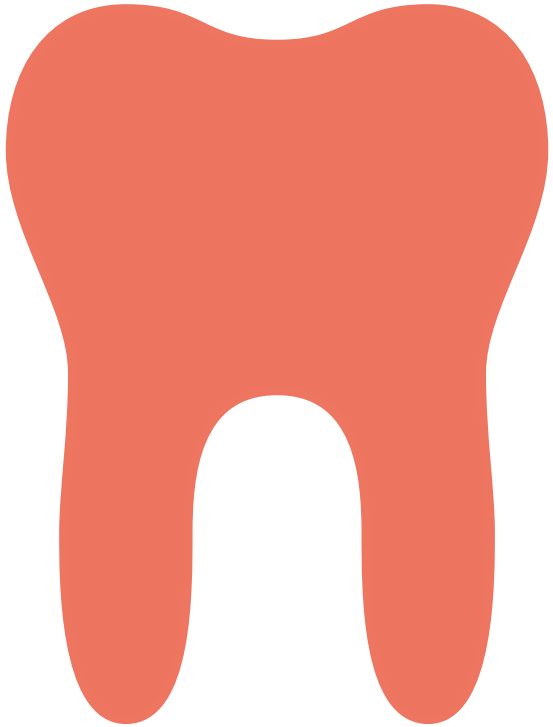
- **The medical history and patient assessments are important steps in identifying clues when finding a Stage and Grade for our patients. It is like doing a little detective work that will guide you with determining the Stage and Grade.**

PERIODONTITIS: STAGING

Staging intends to classify the severity and extent of a patient's disease based on the measurable amount of destroyed and/or damaged tissue as a result of periodontitis and to assess the specific factors that may attribute to the complexity of long-term case management.

Initial stage should be determined using clinical attachment loss (CAL). If CAL is not available, radiographic bone loss (RBL) should be used. Tooth loss due to periodontitis may modify stage definition. One or more complexity factors may shift the stage to a higher level. See **perio.org/2017wwdc** for additional information.

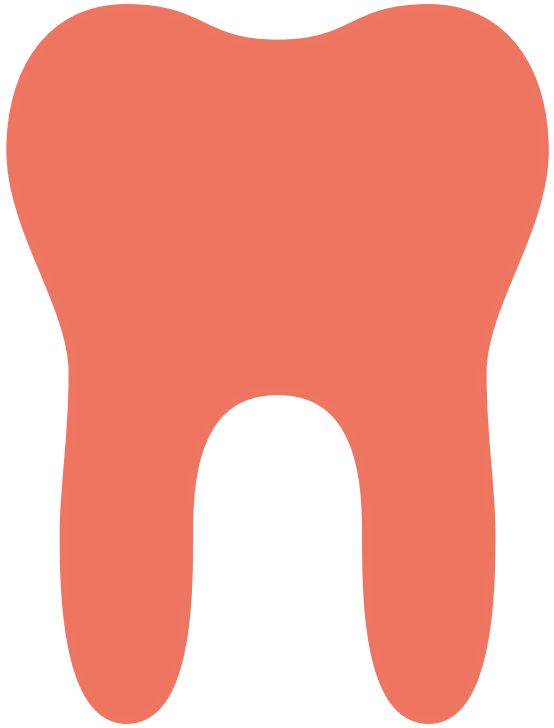
	Periodontitis	Stage I	Stage II	Stage III	Stage IV
Severity	**Interdental CAL** *(at site of greatest loss)*	1 – 2 mm	3 – 4 mm	≥5 mm	≥5 mm
	RBL	Coronal third (<15%)	Coronal third (15% - 33%)	Extending to middle third of root and beyond	Extending to middle third of root and beyond
	Tooth loss *(due to periodontitis)*	No tooth loss		≤4 teeth	≥5 teeth
Complexity	**Local**	• Max. probing depth ≤4 mm • Mostly horizontal bone loss	• Max. probing depth ≤5 mm • Mostly horizontal bone loss	In addition to Stage II complexity: • Probing depths ≥6 mm • Vertical bone loss ≥3 mm • Furcation involvement Class II or III • Moderate ridge defects	In addition to Stage III complexity: • Need for complex rehabilitation due to: – Masticatory dysfunction – Secondary occlusal trauma (tooth mobility degree ≥2) – Severe ridge defects – Bite collapse, drifting, flaring – < 20 remaining teeth (10 opposing pairs)
Extent and distribution	**Add to stage as descriptor**	For each stage, describe extent as: • Localized (<30% of teeth involved); • Generalized; or • Molar/incisor pattern			



Staging

Staging relies on the standard dimension of the severity and extent of periodontitis but adds the complexity of managing the individual patient. Staging is based on measurable amounts of:

- Destroyed and/or damaged tissue because of periodontitis
- Assessing specific factors that may attribute to the complexity of long-term case management.



Staging-Step 2

Staging has four categories that are determined by several variables and range from the least severe Stage I to most severe Stage IV.

The criteria used to determine a Stage are:

- Severity
- Complexity
- Extent and distribution

Determining Severity

a) Clinical attachment loss (CAL)

b) Radiographic bone loss (RBL)

c) Tooth loss, due to periodontitis

Remember:

- There will only be one stage and one grade per patient…..
- Identify the site of “greatest loss” (aka, worst site)

Clinical Attachment Loss (CAL)

CAL, aka, Loss of attachment (LOA)

Periodontitis	Stage I	Stage II	Stage III	Stage IV
Interdental CAL *(at site of greatest loss)*	1 – 2 mm	3 – 4 mm	≥5 mm	≥5 mm

CAL = Probe depth + recession, e.g., if the probe reading interproximally is 3 mm

and there is + 1 mm of recession

that would give us 4mm of CAL.

If CAL is not available, probe depths and radiographic bone loss (RBL) should be used

Facial

Maxillary

Lingual

Lingual

Mandible

Facial

Chart | In Progress | Tx History | Tx Plans | Forms | Attachments/Consents | Perio

																MG Inv
																Furcation
																Calc
																Attach
																Rec
	4 3 4	4 3 4	3 2 3	3 2 3	3 2 3	3 2 3	3 2 2	2 2 3	3 2 3	3 2 4	3 2 3	3 2 3	3 2 4	4 3 4		PD
	B	B											B	B		Bleed
																Plaque
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
																Plaque
	B	B	B										B B	B		Bleed
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																Calc
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																Mobil

																Mobil
																Furcation
																Calc
						3	3	4								Attach
						1	1	2								Rec
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	B	B B											B B	B		Bleed
																Plaque
32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	
																Plaque
	B	B														Bleed
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							2	1								Rec
							4	3								Attach
																Calc
																Furcation
																MG Inv

Localized

Stage II

3 – 4 mm

Coronal third
(15% - 33%)

- Max. probing depth ≤5 mm
- Mostly horizontal bone loss

Note

If no CAL noted, then use probe depths and use radiographs to confirm

Remember to identify the site of

greatest loss

(aka, worst site)

How to measure radiographic bone loss (RBL)

Step one:	Step two:	Step three:
• Measure from the CEJ 2 mm apical, this will give you the Supracrestal Tissue attachment (SCTA) (aka Biological width).	• Measure the root length from the bottom of the SCTA • Once you get the root length, divide the root in thirds– it will give you the coronal third, middle third, and apical third	• To find the upper third (15% - "Stage I) • Take the coronal 1/3 and divided by two, this is where the upper 15% comes from - Stage I

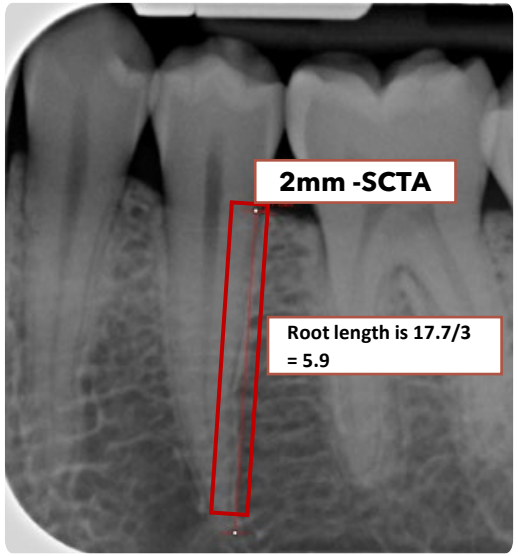
Step one:

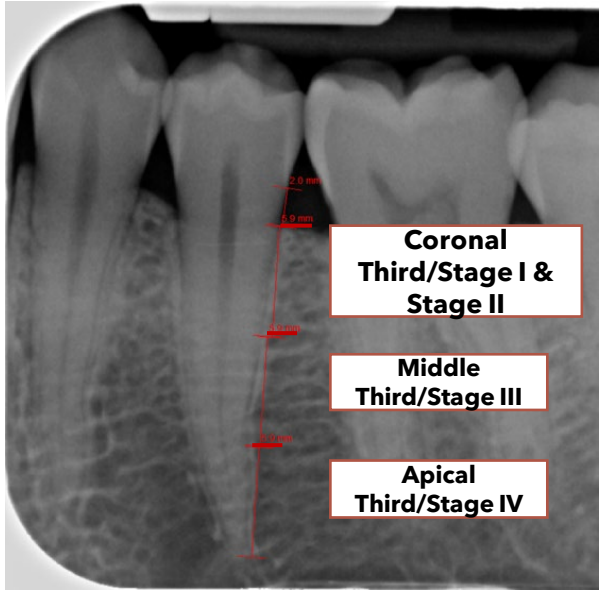
- Measure from the CEJ 2 mm apical, this will give you the Supracrestal Tissue attachment (SCTA) (aka Biological width). From the base of the SCTA, measure the entire root.

SCTA 2 mm below the CEJ

Step two:

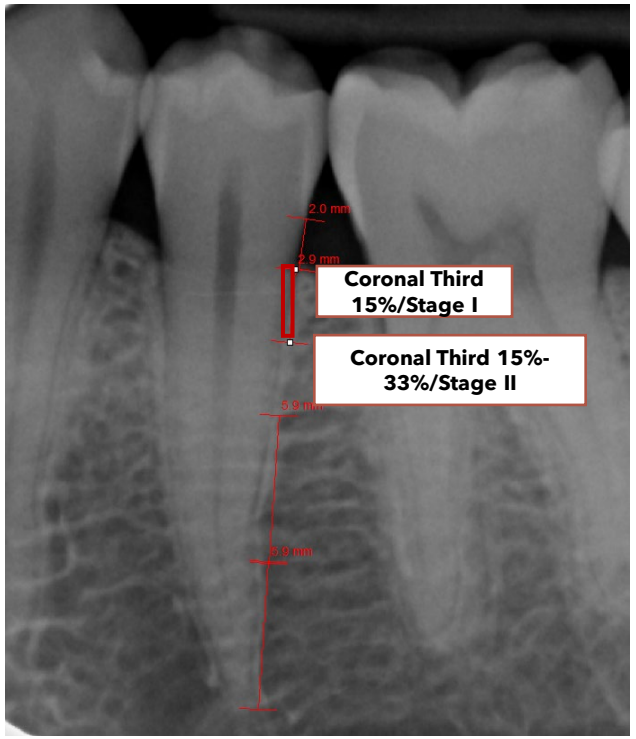
- Measure the root length from the bottom of the SCTA
- Once you get the root length, divide the root in thirds- it will give you the coronal third, middle third, and apical third

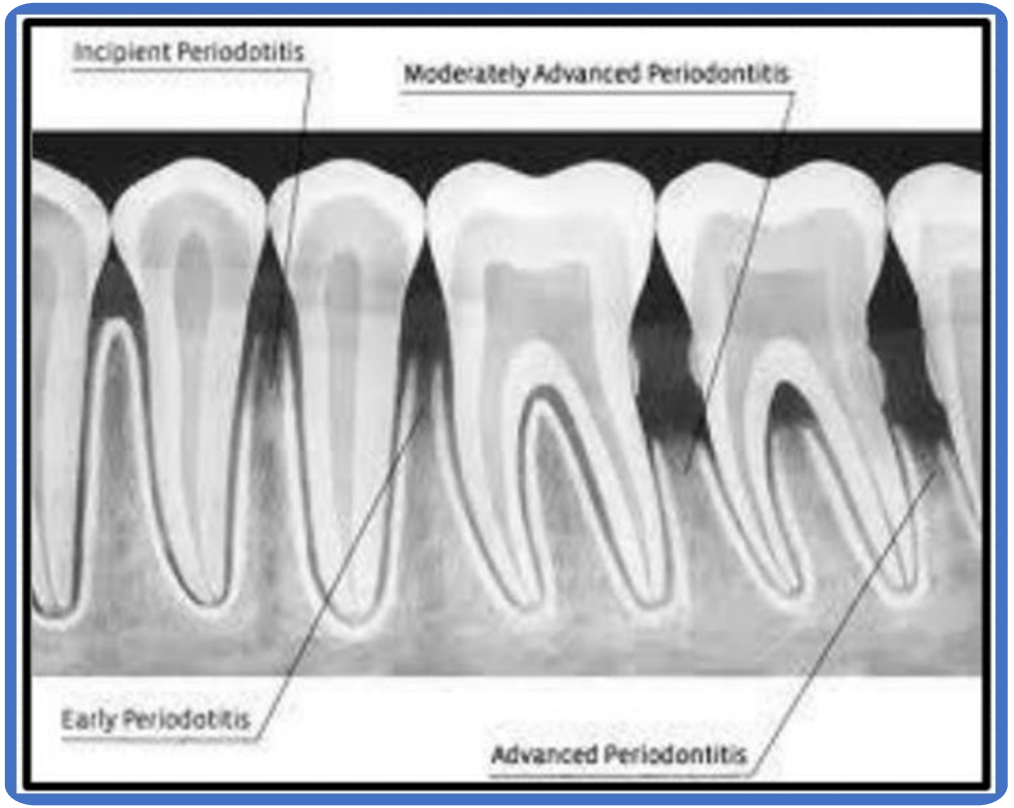




Step three:

- To find the upper 15% - Stage I
- Take the coronal 1/3 and divided by two, this is where the upper 15% comes from (aka Stage I)





Changes in Crestal Lamina Dura

- Evidence of disease:
  - The **crestal lamina dura** is indistinct, irregular, radiolucent, and fuzzy

Facial

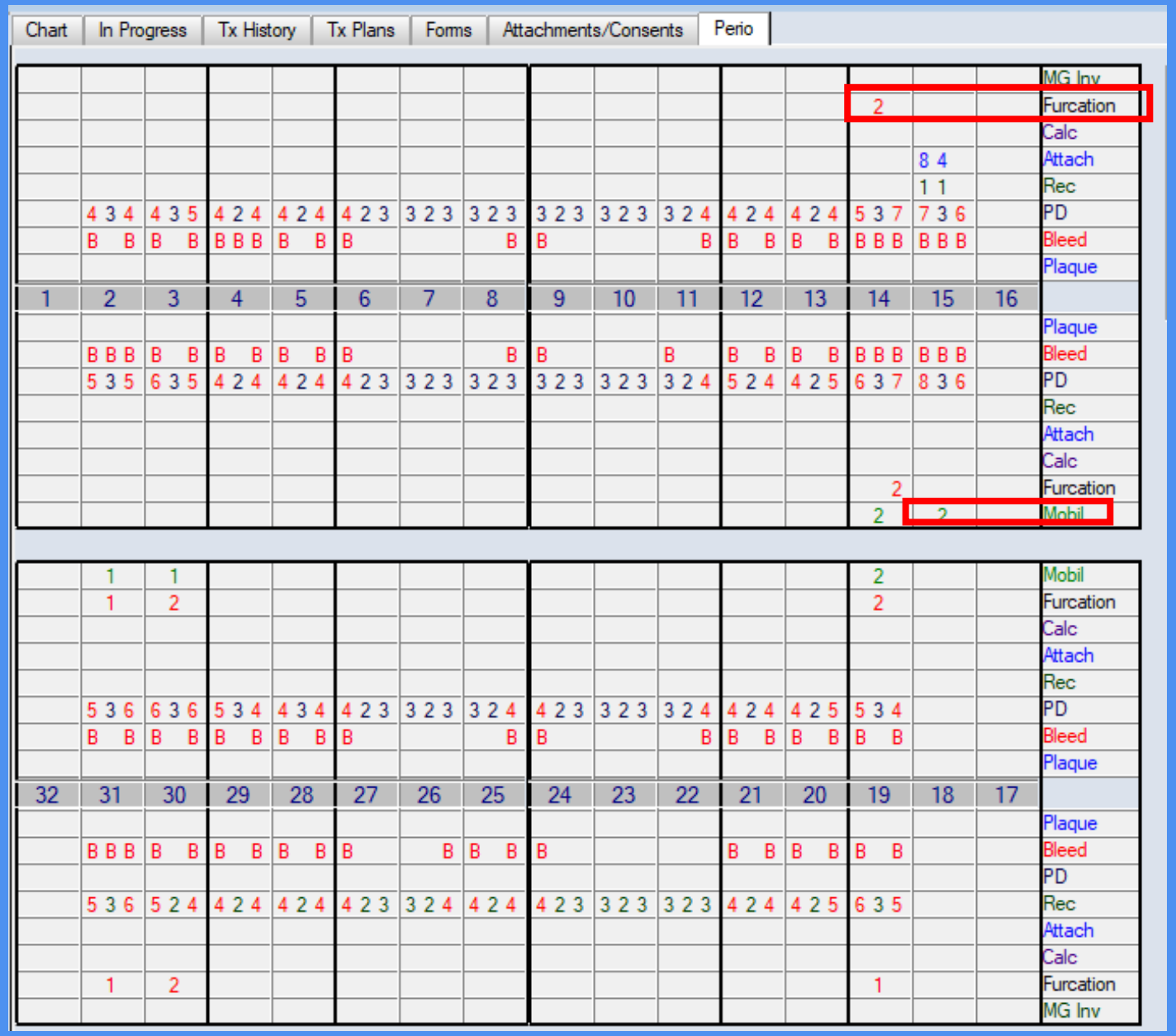
Maxillary

Lingual

Lingual

Mandible

Facial



Furcations and mobility can be identified on the perio chart and radiographs.

WHAT IS THE RADIOGRAPHIC BONE LOSS FOR (A) AND THEN B?

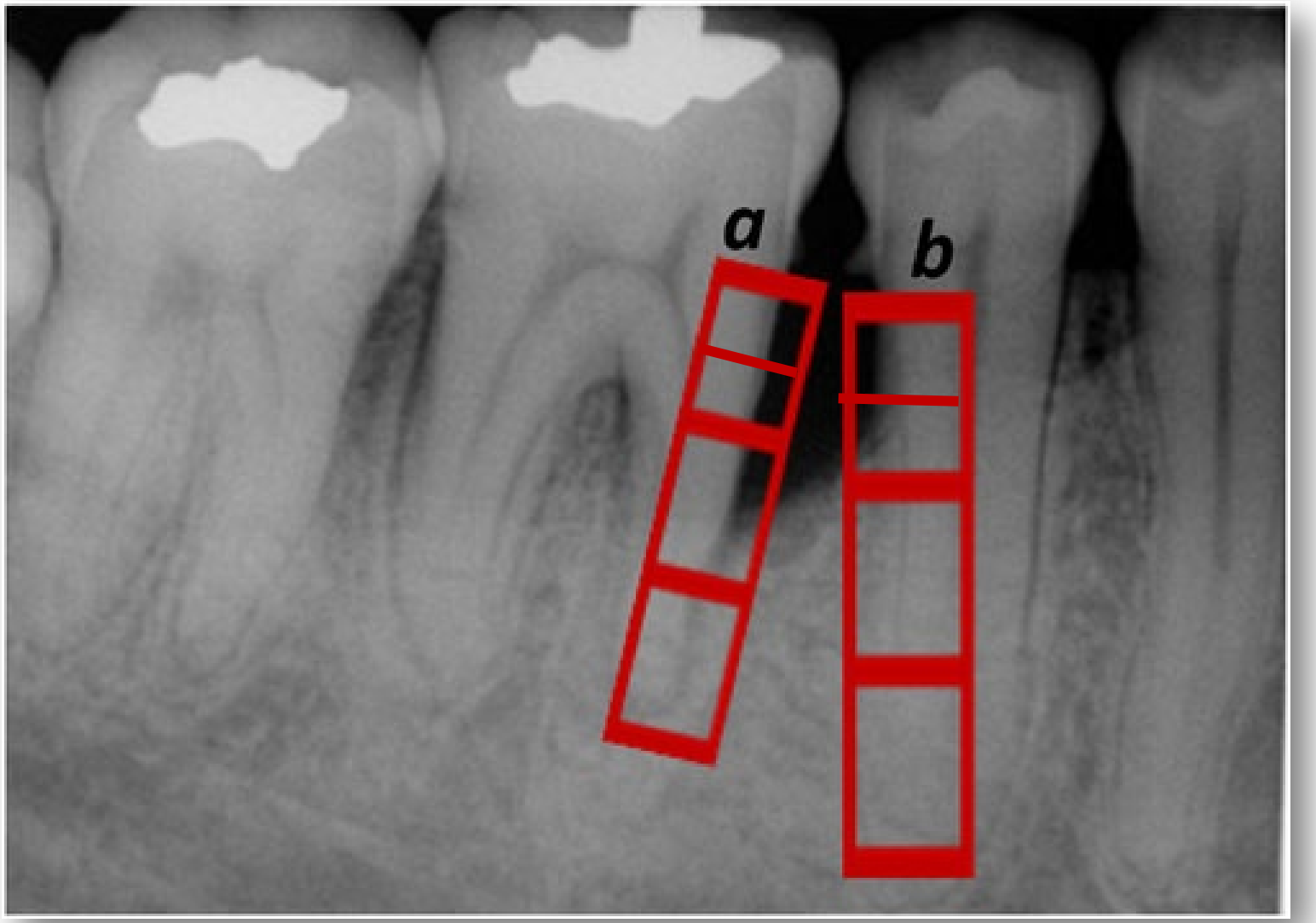
A. Health
B. <15% (Upper coronal third/Stage I)
C. 15%-33% (Coronal third/Stage II)
D. Middle third/Stage III
E. Apical third/Stage IV

(A) . is:

D. Middle third/Stage III

(B). is:

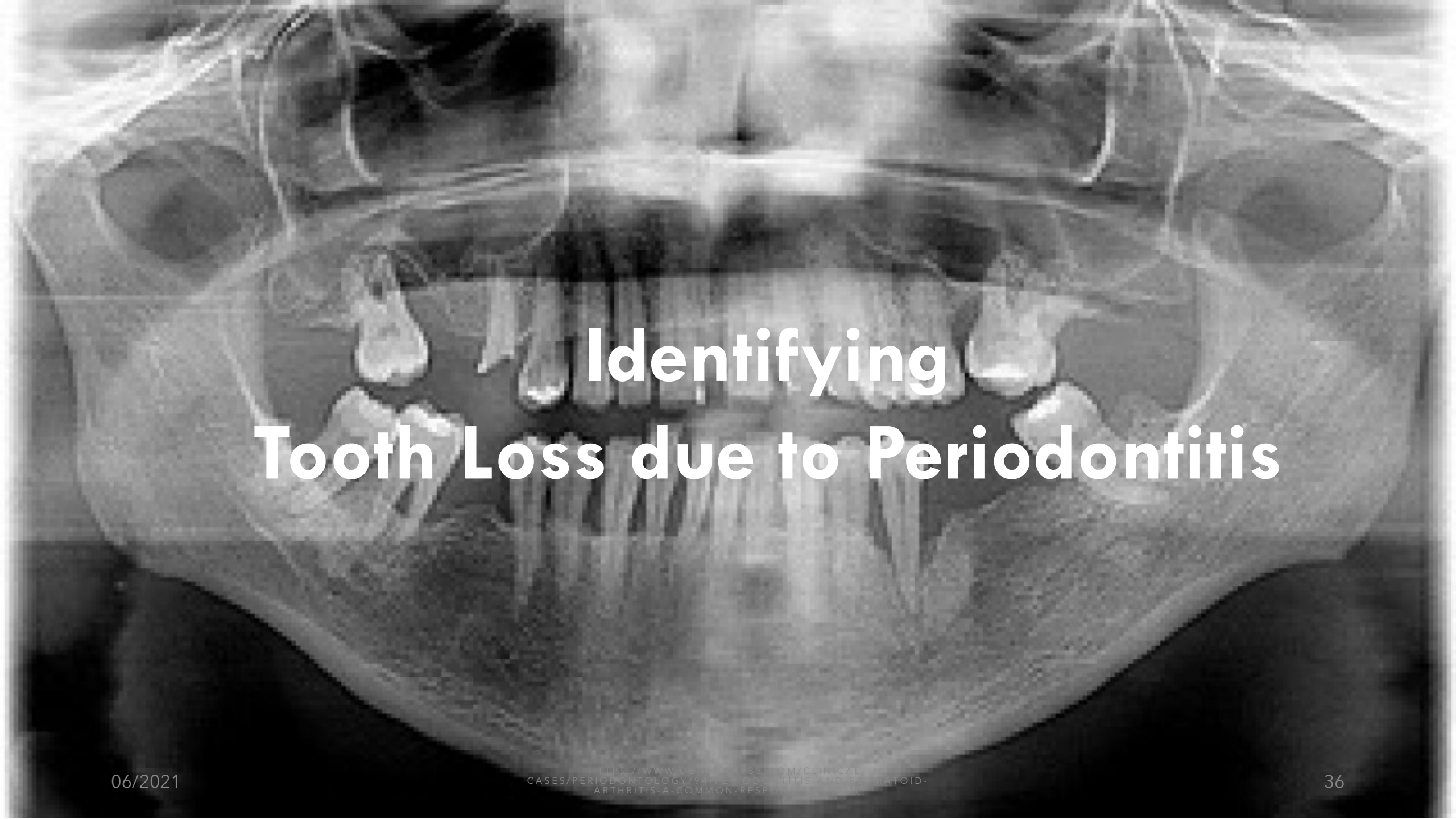
C. 15%-33% (Coronal third/Stage II)



WHAT IS THE RADIOGRAPHIC BONE LOSS FOR ?

A. Health
B. <15% (Upper coronal third/Stage I)
C. 15%-33% (Coronal third/Stage II)
D. Middle third/Stage III
E. Apical third/Stage IV

B. <15% (Upper coronal third/Stage I)



Identifying Tooth Loss due to Periodontitis

Tooth Loss

- **Determine how many teeth have been lost due to perio ONLY**
- **Cannot be missing due to caries, ortho extractions, or anything of this nature**

Periodontitis	Stage I	Stage II	Stage III	Stage IV
Tooth Loss (due to Perio)	No tooth loss		≤ 4 teeth	➢ 5 teeth ➢ Less than 20 remaining teeth

- **For Staging purposes tooth loss includes teeth already lost to periodontitis and those determined to be hopeless that must be extracted due to periodontitis.**

Determining Complexity:

a) Probe depth (PD)

b) Type of bone loss, horizontal vs. vertical

c) Furcation status

d) Tooth mobility

e) Masticatory dysfunction

f) Bite collapse

g) Ridge defect

Forbes, K., RDH, BS (2020).

Complexities Clues – that help with identifying Stage III/IV

Look for any

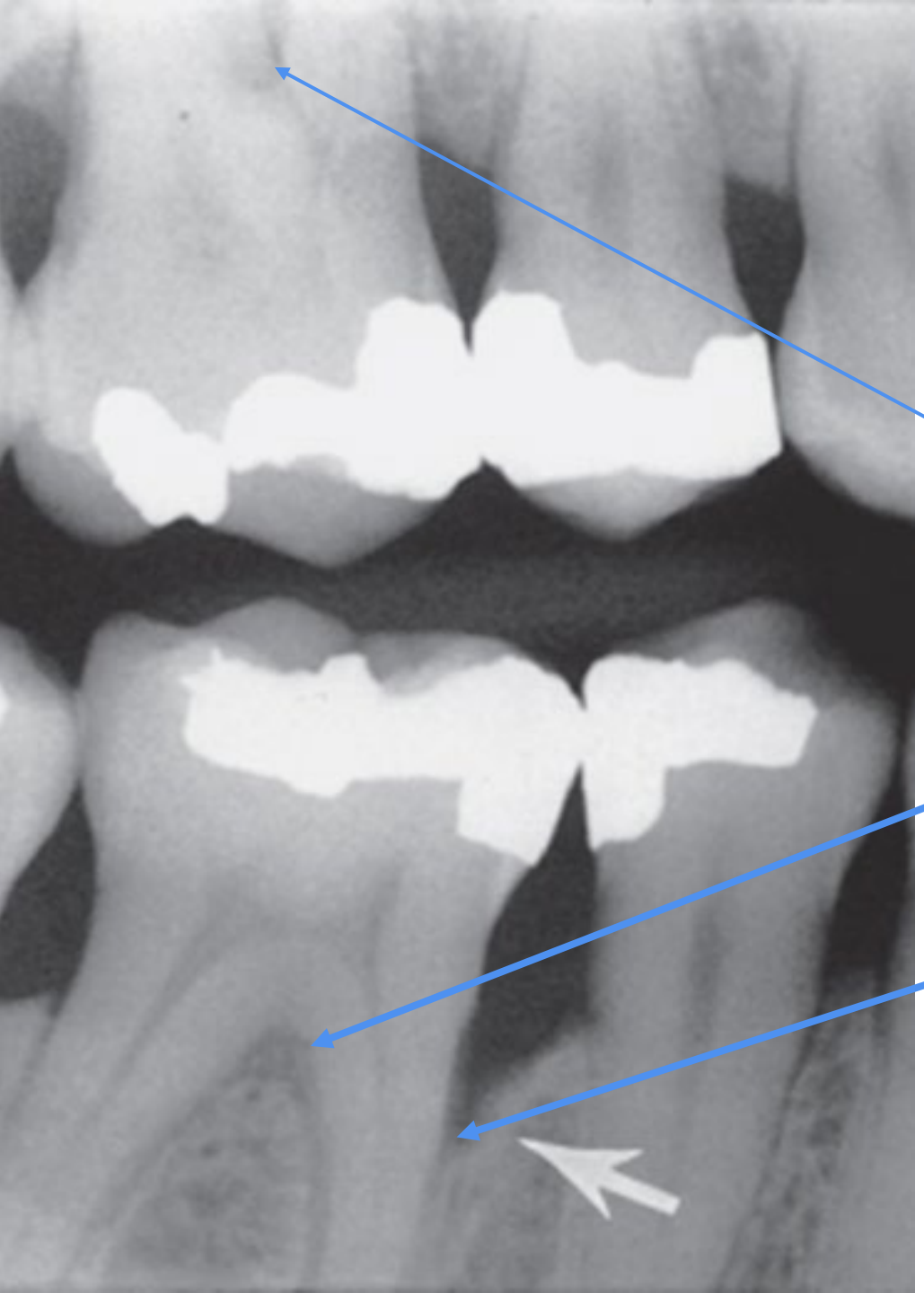
- Vertical bone loss > 3mm
  - Automatic Stage III
- Furcation Involvement of a CLASS II or III
  - Automatic Stage III

Missing teeth loss due to periodontitis

- ≤4 or less = Stage III
- ≥5 or more = Stage IV
- < 20 teeth remaining
  - Automatic Stage IV

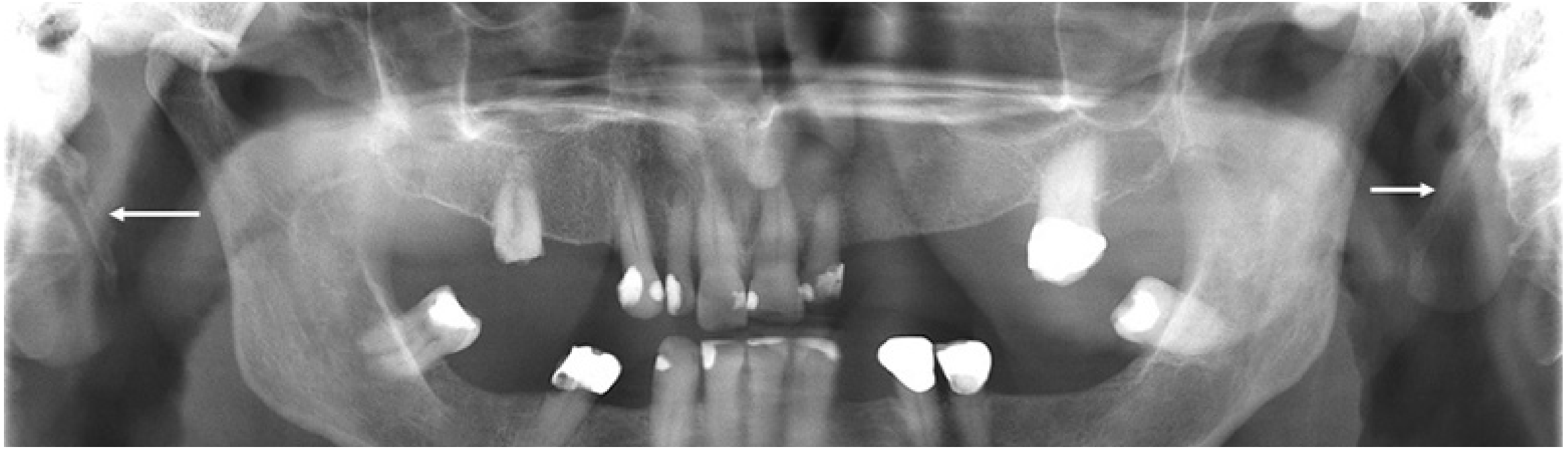
Tooth mobility= ≥ 2 degrees

- Automatic Stage IV



Identifying Furcations and Vertical Defects

- Early furcation involvement shown in the mandibular second molar may appear as a small radiolucent black area or as a slight thickening of the periodontal ligament space.
- Vertical bone loss ≥ 3 mm



- **An example of a patient with Stage IV:**
  - **Bite collapse**
  - **Drifting or flaring teeth**
  - **< 20 remaining teeth (10 opposing pairs)**

Determining the Extent

Forbes, K., RDH, BS (2020).

Extent and Distribution

Localized	• Less than 30% of dentition is involved
Generalized	• More than 30% of dentition is involved
Molar/Incisor Pattern (MIP)	• Replaces the "Aggressive Periodontitis" from the 1999 classification

Forbes, K., RDH, BS (2020).

Time To Practice Staging

Case A

Identify the Stage with the information provided?

- CAL 3 - 4 mm
- RBL% 25%
- Tooth Loss – no tooth loss
- Probe depths < 5 mm
- Mostly horizontal bone loss

a. Stage I

b. Stage II

c. Stage III

d. Stage IV

Stage II
3 – 4 mm
Coronal third (15% - 33%)
No tooth loss
• Max. probing depth ≤5 mm • Mostly horizontal bone loss

Case B

Identify the Stage with the information provided?

- CAL ≥ 5mm
- RBL% >66 %
- Tooth loss due to periodontitis ≥ 5 teeth
- Probe depths ≥ 6 mm
- Class II/III furcations
- Secondary occlusal trauma (class II mobility on #24 & #25)
- Bite collapse, tooth drifting and/or flaring

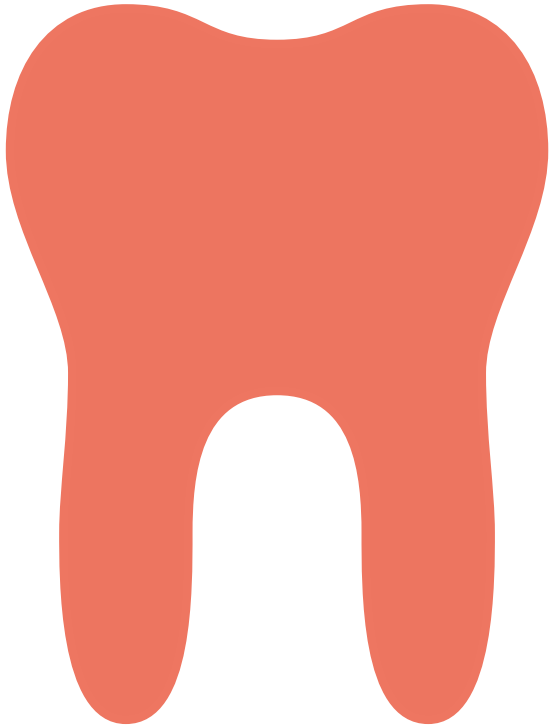
a. Stage I

b. Stage II

c. Stage III

d. Stage IV

Stage III	Stage IV
≥5 mm	≥5 mm
Extending to middle third of root and beyond	Extending to middle third of root and beyond
≤4 teeth	≥5 teeth
In addition to Stage II complexity: • Probing depths ≥6 mm • Vertical bone loss ≥3 mm • Furcation involvement Class II or III • Moderate ridge defects	In addition to Stage III complexity: • Need for complex rehabilitation due to: – Masticatory dysfunction – Secondary occlusal trauma (tooth mobility degree ≥2) – Severe ridge defects – Bite collapse, drifting, flaring – < 20 remaining teeth (10 opposing pairs)



Grading

Grading aims to indicate the rate of periodontitis progression, responsiveness to standard therapy, and potential impact on systemic health.

PERIODONTITIS: GRADING

Grading aims to indicate the rate of periodontitis progression, responsiveness to standard therapy, and potential impact on systemic health.

Clinicians should initially assume grade B disease and seek specific evidence to shift to grade A or C.
See **perio.org/2017wwdc** for additional information.

	Progression		Grade A: Slow rate	Grade B: Moderate rate	Grade C: Rapid rate
Primary criteria *Whenever available, direct evidence should be used.*	Direct evidence of progression	Radiographic bone loss or CAL	No loss over 5 years	<2 mm over 5 years	≥2 mm over 5 years
	Indirect evidence of progression	% bone loss / age	<0.25	0.25 to 1.0	>1.0
		Case phenotype	Heavy biofilm deposits with low levels of destruction	Destruction commensurate with biofilm deposits	Destruction exceeds expectations given biofilm deposits; specific clinical patterns suggestive of periods of rapid progression and/or early onset disease
Grade modifiers	Risk factors	Smoking	Non-smoker	<10 cigarettes/day	≥10 cigarettes/day
		Diabetes	Normoglycemic/no diagnosis of diabetes	HbA1c <7.0% in patients with diabetes	HbA1c ≥7.0% in patients with diabetes

Clinicians should initially assume a grade B disease and seek specific evidence to shift to grade A or C.

Grading

The Grade of a patient's periodontitis is based on the availability of direct or indirect evidence of disease progression, and grade modifiers.

Direct and Indirect Evidence of Progression

- **Direct evidence uses longitudinal observations (radiographs)**

Progression		Grade A: Slow rate	Grade B: Moderate rate	Grade C: Rapid rate
Direct evidence of progression	Radiographic bone loss or CAL	No loss over 5 years	<2 mm over 5 years	≥2 mm over 5 years
Indirect evidence of progression	% bone loss / age	<0.25	0.25 to 1.0	>1.0

- **Indirect evidence is based on the assessment of bone loss at the worst affected tooth in the dentition as a function of age - (RBL%/AGE)**

Example of Indirect Evidence

RBL(15%)/AGE (62) = What would the patient rate of progression be?

24.1

Progression		Grade A: Slow rate	Grade B: Moderate rate	Grade C: Rapid rate
Direct evidence of progression	Radiographic bone loss or CAL	No loss over 5 years	<2 mm over 5 years	≥2 mm over 5 years
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Grade Modifiers

DONTITIS: GRADING

ms to indicate the ra e of periodontitis progression, responsiveness to standard therapy, and potential impact on systemic health.

s should initially assume grade B disease and seek specific evidence to shift to grade A or C.

erio.org/2017wwdc for additional information.

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		Case phenotype	Heavy biofilm deposits with low levels of destruction	Destruction commensurate with biofilm deposits	Destruction exceeds expectations given biofilm deposits; specific clinical patterns suggestive of periods of rapid progression and/or early onset disease
Grade modifiers	Risk factors	Smoking	Non-smoker	<10 cigarettes/day	≥10 cigarettes/day
		Diabetes	Normoglycemic/no diagnosis of diabetes	HbA1c <7.0% in patients with diabetes	HbA1c ≥7.0% in patients with diabetes

https://aap.onlinelibrary.wiley.com/doi/full/10.1002/JPER.18-0006

Recap of Determining a Grade

Always start with the default Grade of B

If Direct evidence of progression is not available then use Indirect evidence of progression, i.e., RBL%/AGE

Response to previous therapy (Plaque control/NSPT (aka SCRP) OR amount of destruction commensurate with biofilm deposits

Medical history/systemic conditions

Risk factors, i.e., habits, heredity, periodontal pathogens, OHI, and social atmosphere.

Time To Practice Grading

06/2021

Case A
Identify the Grade with the information provided?

Formula %/AGE
15/30 = ?

Age: 30 y/o female

RBL - 15%

No Risk Factors

Forbes, K., RDH, BS (2020).

Formula RBL %/AGE
15/30 =?

.50

Grade B: Moderate rate
<2 mm over 5 years
0.25 to 1.0
Destruction commensurate with biofilm deposits

Answer

Case A - cont.

- **Age: 30 y/o female**
- **RBL -15% 15/30 = 0.50 Grade B - Moderate rate**
- **Risk Factors – Diabetic with HbA1c of 7.2%**

Progression		Grade A: Slow rate	Grade B: Moderate rate	Grade C: Rapid rate
Direct evidence of progression	Radiographic bone loss or CAL	No loss over 5 years	<2 mm over 5 years	≥2 mm over 5 years
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Forbes, K., RDH, BS (2020).

Case B

Formula %/AGE

Age: 65 y/o female

RBL -15%

No Risk Factors

Formula %/AGE
15/65 = ?

.23

Grade A: Slow
< 0.25 Heavy Biofilm w/low levels of destruction

Answer

Case B – cont.

- **Age: 65 y/o female**
- **RBL -15% 15/67 = 0.23 Grade A - slow rate of progression**
- **Risk Factors …Smokes 9 cigarettes a day**

Progression		Grade A: Slow rate	Grade B: Moderate rate	Grade C: Rapid rate
Direct evidence of progression	Radiographic bone loss or CAL	No loss over 5 years	<2 mm over 5 years	≥2 mm over 5 years
Indirect evidence of progression	% bone loss / age	<0.25	0.25 to 1.0	>1.0
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Forbes, K., RDH, BS (2020).

Writing the Periodontal Summary Statement

Examples of writing the Periodontal Summary Statement:

Extent	Stage	Grade	Name of Disease
Localized	Stage I	Grade A	Periodontitis
Localized	Stage III	Grade C	Periodontitis
Generalized	Stage II	Grade B	Periodontitis
Generalized	Stage IV	Grade C	Periodontitis
Molar/incisor pattern Localized/generalized	Stage III	Grade C	Periodontitis

Summary

The new 2018 AAP classification system allows clinicians an improved way to categorize patients' oral health based on clinical and radiographic findings.

With the oral-systemic link as a part of the 2018 AAP system, it will help patients become more involved in knowing the state of their oral health and the link to systemic diseases.

Talking to patients about their classification using a Stage and a Grade may lead to better treatment acceptance and understanding.

The new classification is complex and will take time to fully incorporate into patient care globally.

Insurance companies will soon adopt the new classification system.

Summary – cont.

Remember :

The First Step is to use your clinical assessments and medical history, they will provide you clues in determining your Stage and Grade.

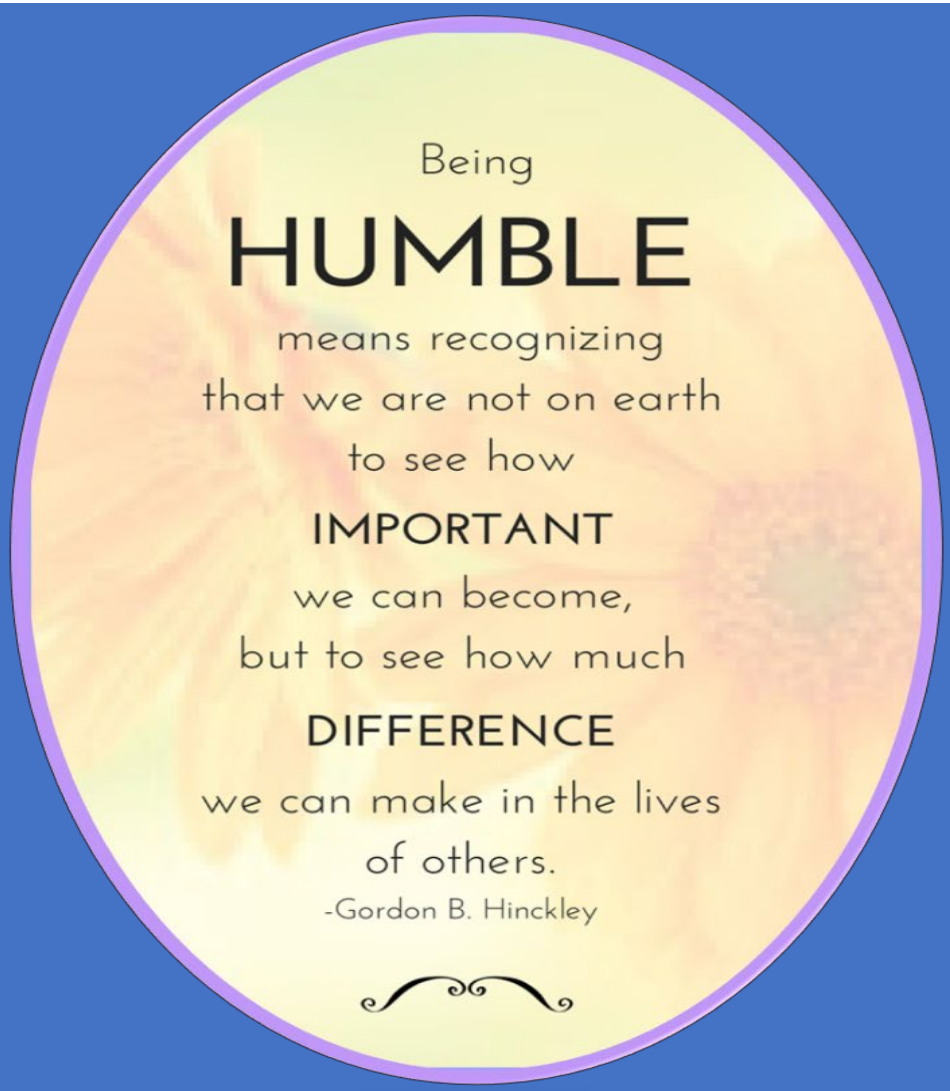
Only one Stage and one Grade.

Always assume Grade B and seek specific evidence to shift to Grade A or C.

It is a great system, the more you use it the easier it becomes.

Breathe and have fun classifying your patients because you are awesome Clinicians!!

Thank you!!


Being
HUMBLE
means recognizing
that we are not on earth
to see how
IMPORTANT
we can become,
but to see how much
DIFFERENCE
we can make in the lives
of others.
-Gordon B. Hinckley

Questions

References

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9) Retrieved from:

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2018 AAP FORMS

Three Steps to Staging and Grading a Patient

Step 1: Initial Case Overview to Assess Disease

Screen:

- Full mouth probing depths
- Full mouth radiographs
- Missing teeth

Mild to moderate periodontitis will typically be either Stage I or Stage II

Severe to very severe periodontitis will typically be either Stage III or Stage IV

Step 2: Establish Stage

For mild to moderate periodontitis (typically Stage I or Stage II):

- Confirm clinical attachment loss (CAL)
- Rule out non-periodontitis causes of CAL (e.g., cervical restorations or caries, root fractures, CAL due to traumatic causes)
- Determine maximum CAL or radiographic bone loss (RBL)
- Confirm RBL patterns

For moderate to severe periodontitis (typically Stage III or Stage IV):

- Determine maximum CAL or RBL
- Confirm RBL patterns
- Assess tooth loss due to periodontitis
- Evaluate case complexity factors (e.g., severe CAL frequency, surgical challenges)

Step 3: Establish Grade

- Calculate RBL (% of root length x 100) divided by age
- Assess risk factors (e.g., smoking, diabetes)
- Measure response to scaling and root planing and plaque control
- Assess expected rate of bone loss
- Conduct detailed risk assessment
- Account for medical and systemic inflammatory considerations

Stage descriptions drawn from Tonetti, Greenwell, Kornman. *J Periodontol* 2018;89 (Suppl 1): S159-S172.

Tables from Tonetti, Greenwell, Kornman. J Periodontol 2018;89 (Suppl 1): S159-S172

PERIODONTITIS: STAGING

Staging intends to classify the severity and extent of a patient's disease based on the measurable amount of destroyed and/or damaged tissue as a result of periodontitis and to assess the specific factors that may attribute to the complexity of long-term case management.

Initial stage should be determined using clinical attachment loss (CAL). If CAL is not available, radiographic bone loss (RBL) should be used. Tooth loss due to periodontitis may modify stage definition. One or more complexity factors may shift the stage to a higher level. See **perio.org/2017wwdc** for additional information.

	Periodontitis	Stage I	Stage II	Stage III	Stage IV
Severity	**Interdental CAL** *(at site of greatest loss)*	1 – 2 mm	3 – 4 mm	≥5 mm	≥5 mm
	RBL	Coronal third (<15%)	Coronal third (15% - 33%)	Extending to middle third of root and beyond	Extending to middle third of root and beyond
	Tooth loss *(due to periodontitis)*	No tooth loss		≤4 teeth	≥5 teeth
Complexity	**Local**	• Max. probing depth ≤4 mm • Mostly horizontal bone loss	• Max. probing depth ≤5 mm • Mostly horizontal bone loss	In addition to Stage II complexity: • Probing depths ≥6 mm • Vertical bone loss ≥3 mm • Furcation involvement Class II or III • Moderate ridge defects	In addition to Stage III complexity: • Need for complex rehabilitation due to: – Masticatory dysfunction – Secondary occlusal trauma (tooth mobility degree ≥2) – Severe ridge defects – Bite collapse, drifting, flaring – < 20 remaining teeth (10 opposing pairs)
Extent and distribution	**Add to stage as descriptor**	For each stage, describe extent as: • Localized (<30% of teeth involved); • Generalized; or • Molar/incisor pattern			

Tables from Tonetti, Greenwell, Kornman. J Periodontol 2018;89 (Suppl 1): S159-S172

PERIODONTITIS: GRADING

Grading aims to indicate the rate of periodontitis progression, responsiveness to standard therapy, and potential impact on systemic health.

Clinicians should initially assume grade B disease and seek specific evidence to shift to grade A or C.
See **perio.org/2017wwdc** for additional information.

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