


*Dr. Alessandro Geminiani*

A close-up photograph of a dental procedure. A dental handpiece with a fine, cylindrical bur is being used to treat a cervical lesion on a tooth. The lesion is a V-shaped notch at the neck of the tooth, where the crown meets the root. The surrounding gingiva is pink and appears slightly inflamed. The tooth is white and has a smooth surface. The background is a soft, out-of-focus pink color, likely the patient's skin or the dental chair's upholstery.

# Treatment of Cervical Lesions

A Combined Periodontal-Restorative Team Approach



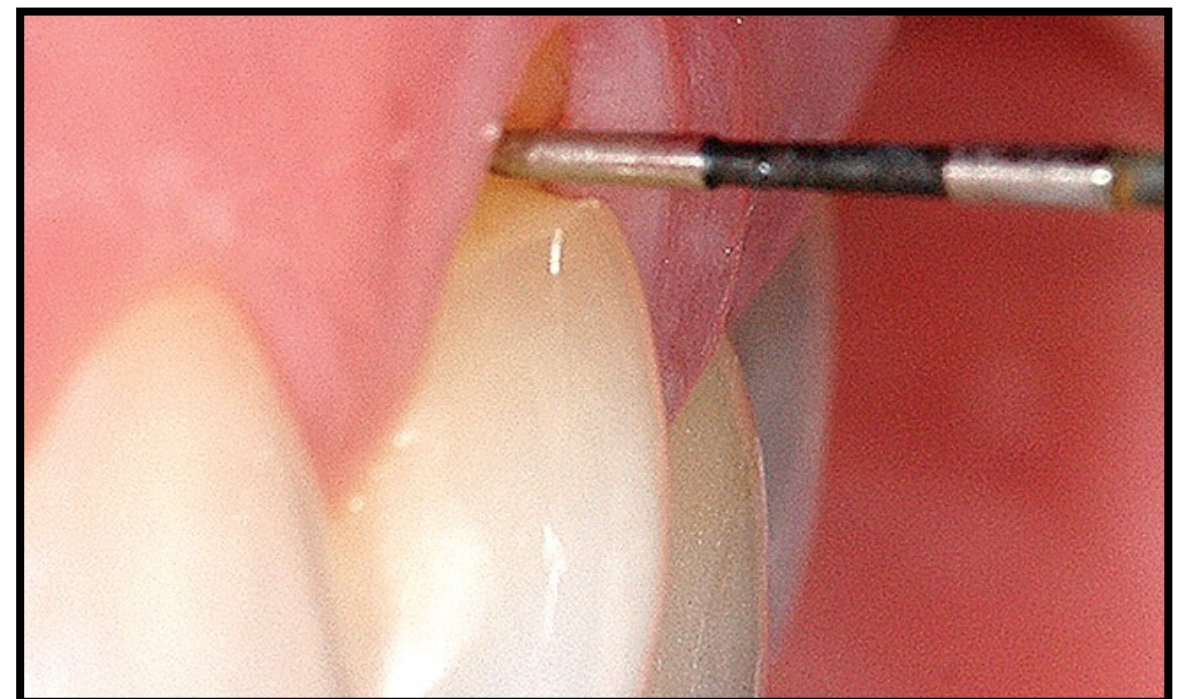
**Components of a beautiful smile:**

- 1) Incisal edge position**
- 2) Tooth length**
- 3) Gingival levels**

# Definition

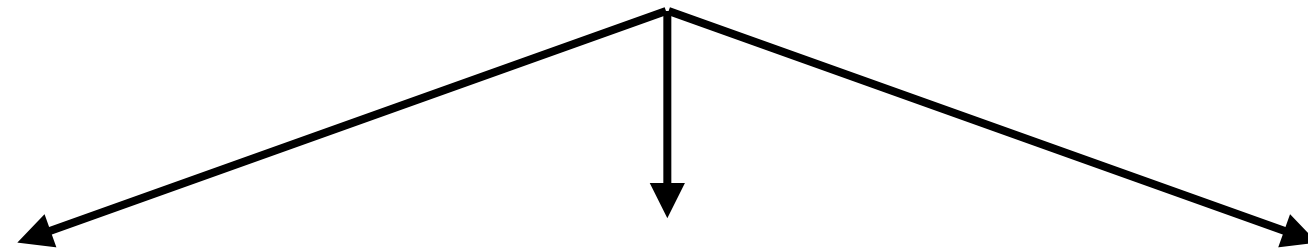
Loss of tooth structure in the cervical area of the tooth.

*Mair, 1992*



# Definition

Loss of tooth structure in the cervical area of the tooth.



**Cariious  
Cervical Lesion**



**Non-Cariious  
Cervical Lesion**



**Restored  
Cervical Lesion**



# Definition

## Carious Cervical Lesion

Main etiological factors:

- 1) Plaque accumulation
- 2) Diet
- 3) Reduced salivary flow



# Definition

## Non-Carious Cervical Lesion

The loss of substance along the gingival margin of the tooth, due to:  
abrasion, erosion, or abfraction.

*Bartlett & Shah, 2006*



# Prevalence

Prevalence of cervical lesion up to 85%  
*Bartlett and Shah, 2006*

Exposure of dentin is less frequent, 2-6%  
*Bartlett et al, 1998*

Almost always on buccal  
*Khan et al, 1998*

More common: premolar and canine  
Least common: incisors

*Borcic et al, 2004*



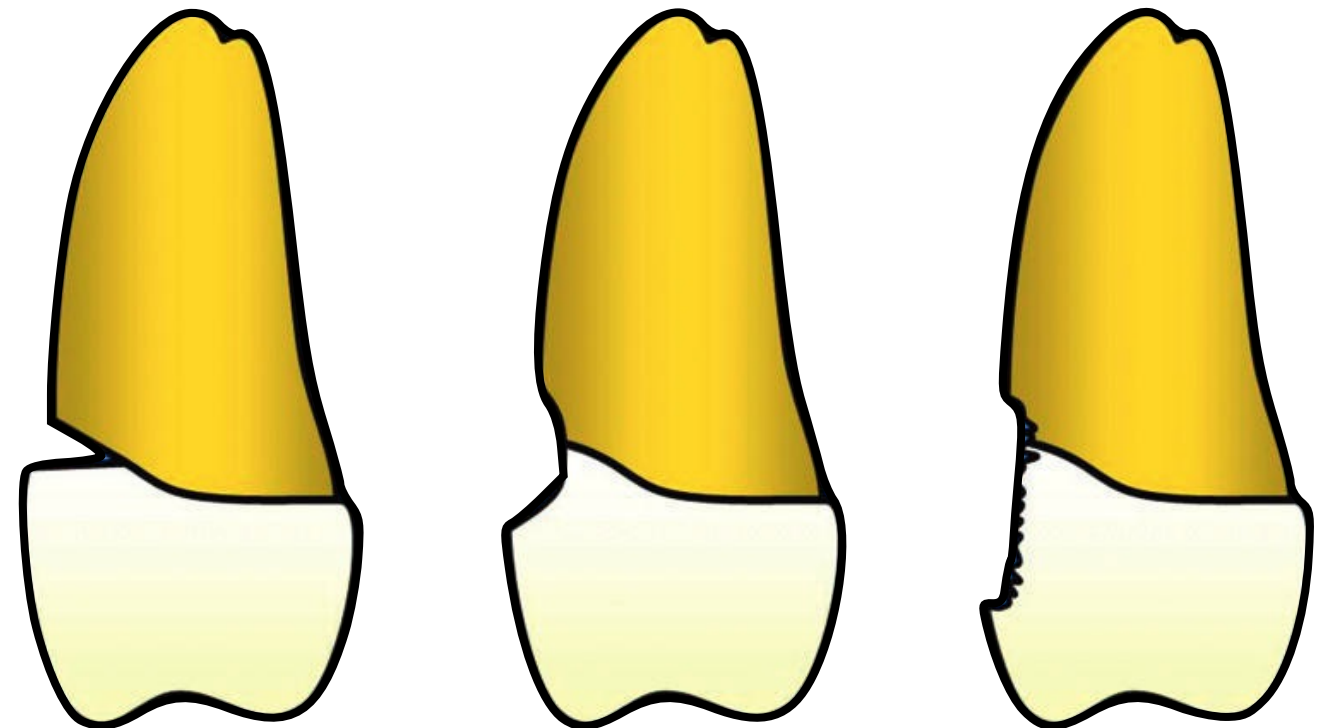
# Etiology

## Non-Carious Cervical Lesion

Possible etiological factors:

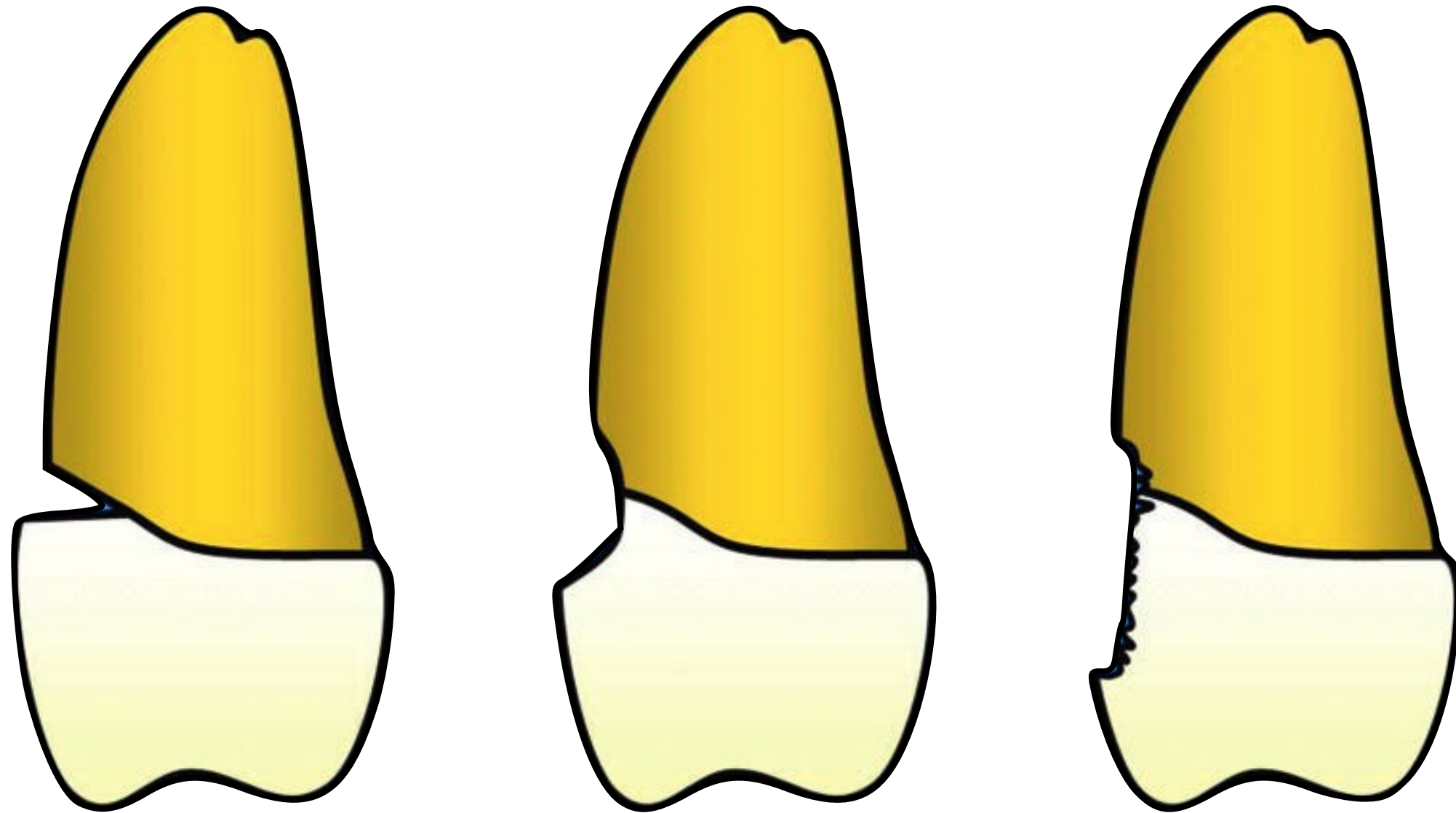
- 1) Mechanical
- 2) Chemical
- 3) Occlusal

*Grippo, 1991*

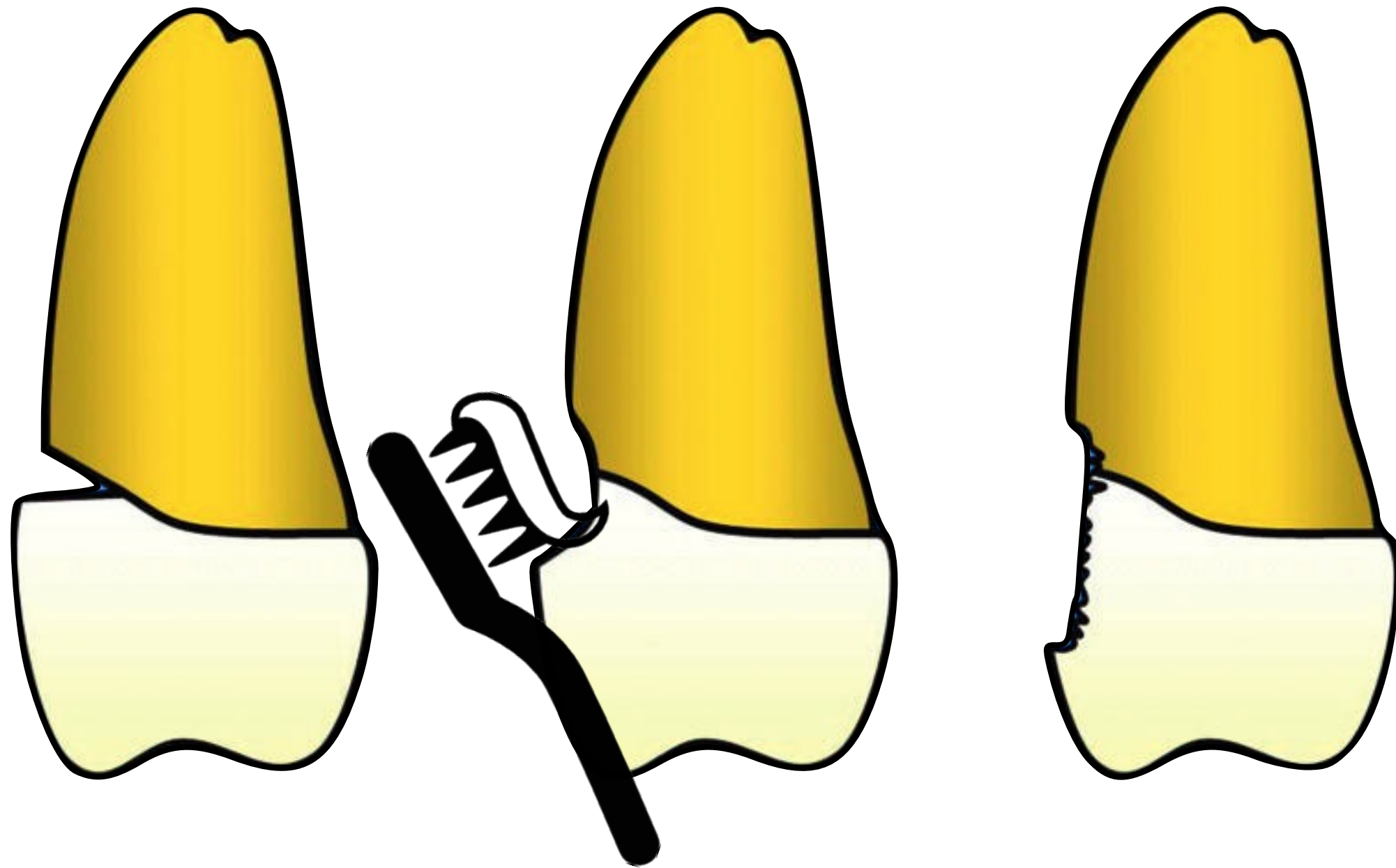




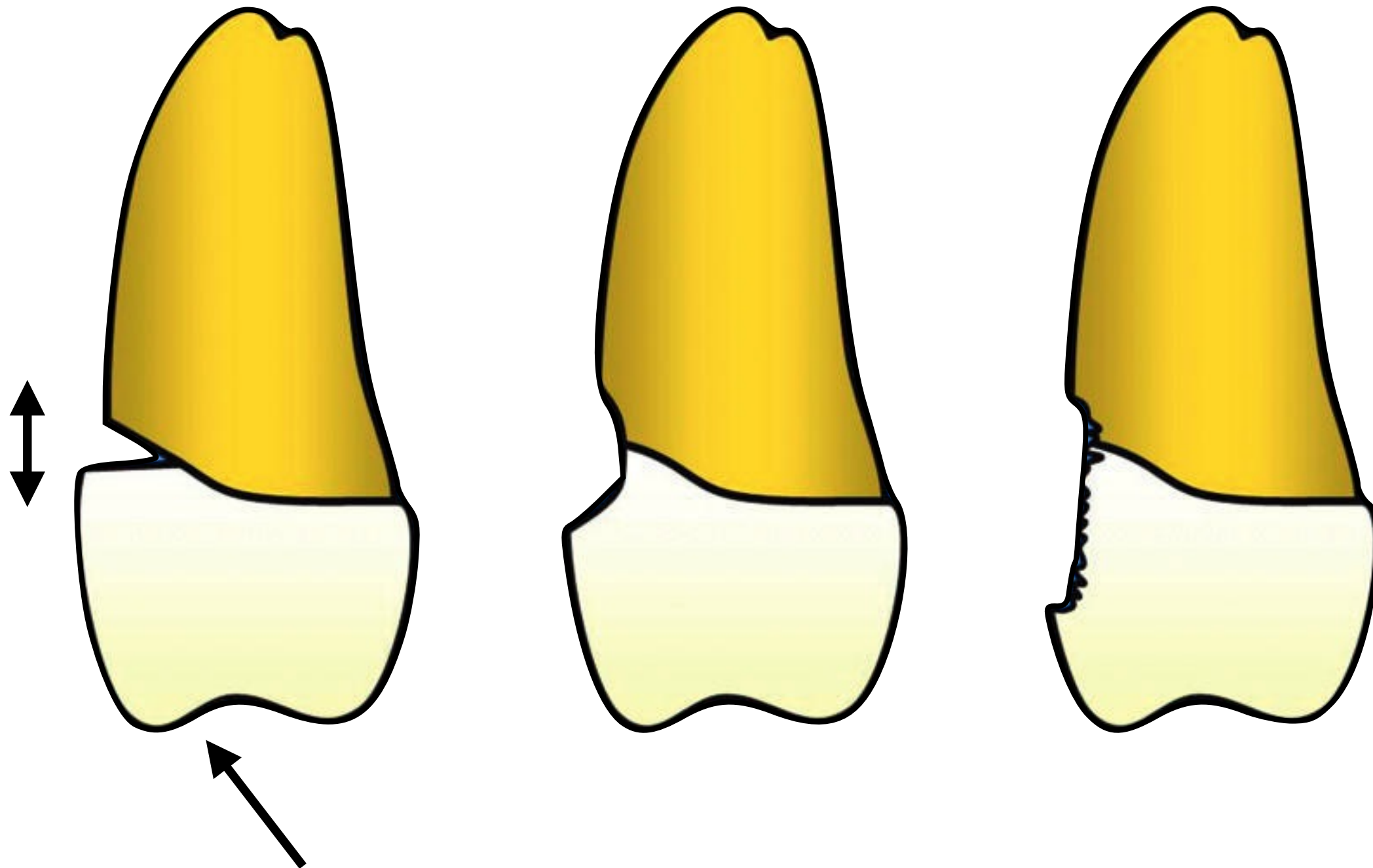
# Etiology



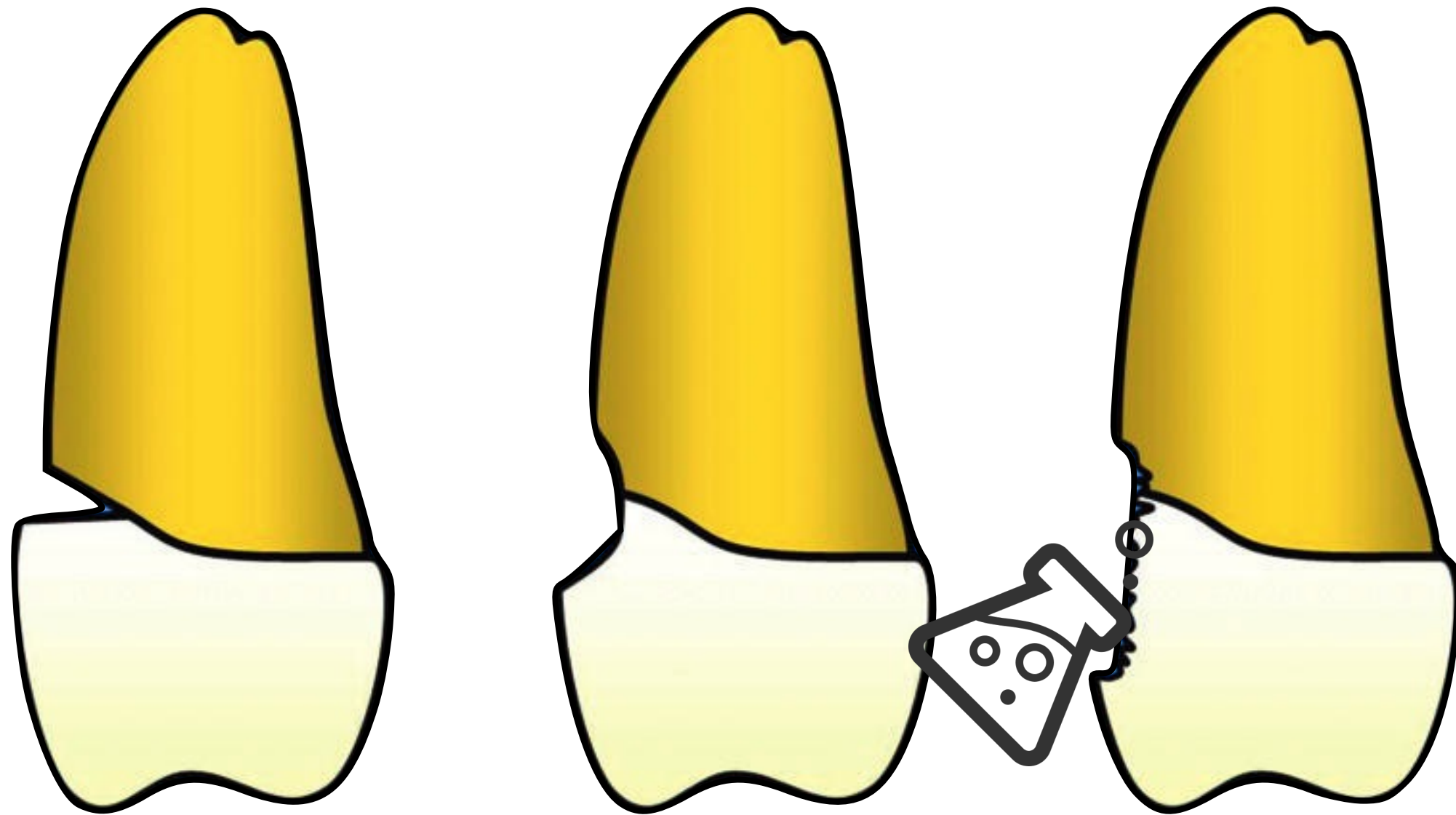
# Etiology



# Etiology



# Etiology



# When to treat?

Indication for treatment:

- 1) Dentinal hypersensitivity
- 2) Esthetic concern
- 3) Plaque accumulation



# Treatment Options

**Restorative Treatment**



**Surgical Treatment**



**Combined Treatment**



# Treatment Options

## Restorative Treatment

### Advantages:

Less time required to complete treatment  
Reduced cost

### Disadvantages:

Failed to restore tooth-gingiva harmony  
Reduced bonding strength



# Treatment Options





# Treatment Options



# Treatment Options



# Treatment Options

## Surgical Treatment

### Advantages:

Restore the tooth natural proportion  
Increase of keratinized tissue

### Disadvantages:

Based on predictability of root coverage  
Increased cost & morbidity



# Treatment Options



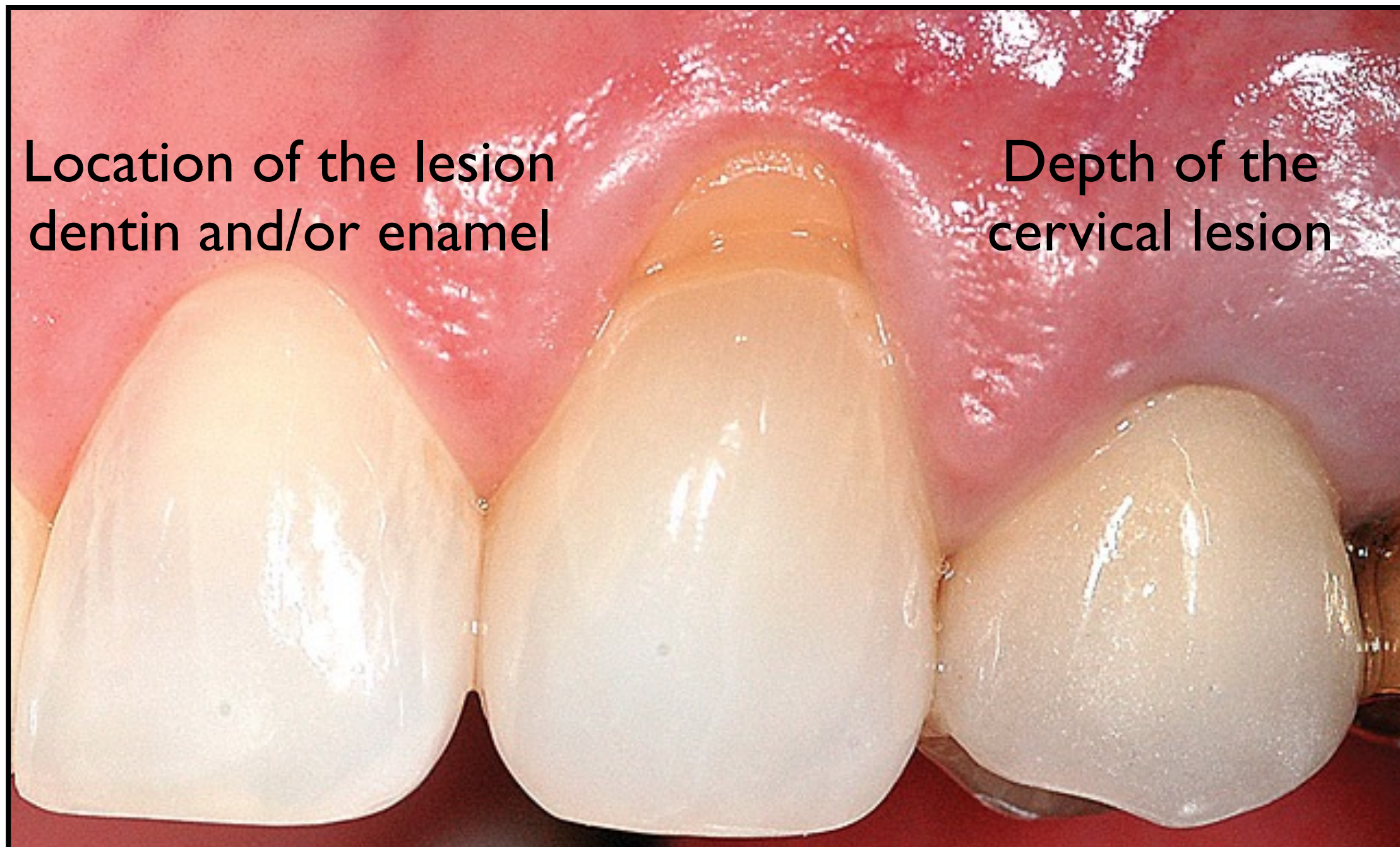
# Treatment Options



# Which Option?

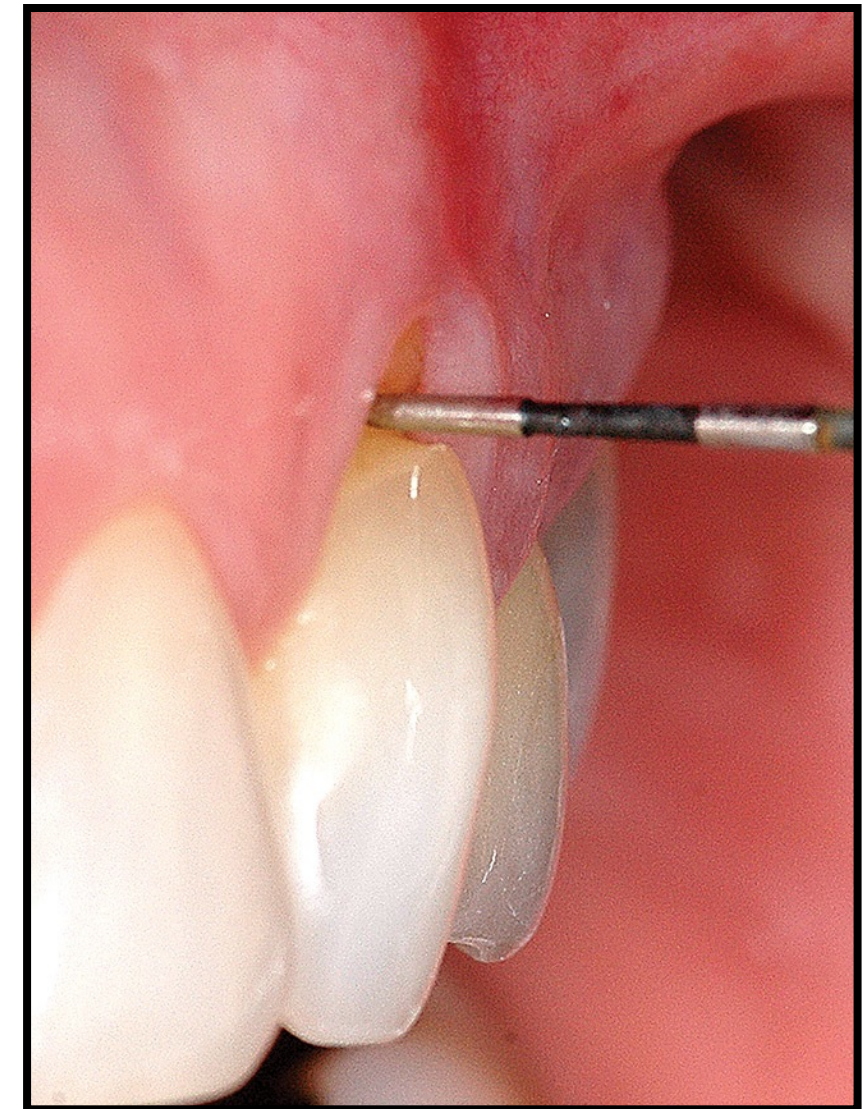


# Which Option?



# Which Option?

<b>CLASSIFICATION</b>	<b>DEPTH</b>	<b>ENAMEL INVOLVEMENT</b>
<b>Class I</b>	<0.5mm	no
<b>Class II</b>	0.5 to 2mm	no
<b>Class III</b>	0.5 to 2mm	yes
<b>Class IV</b>	>2mm	yes

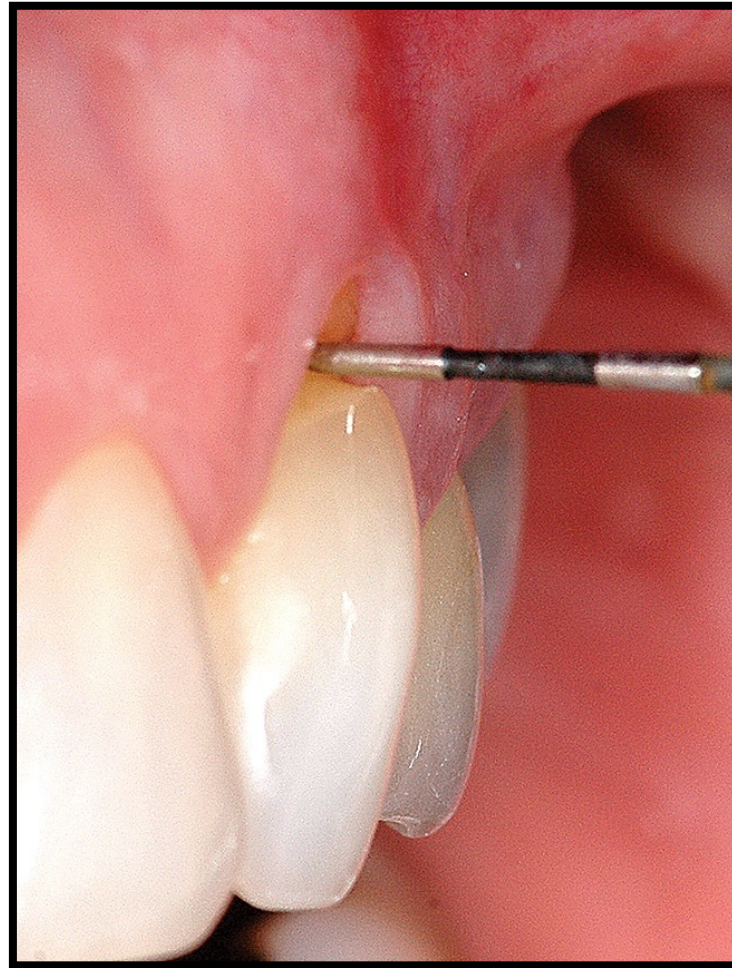




# Which Option?



**Class I**



**Class II**

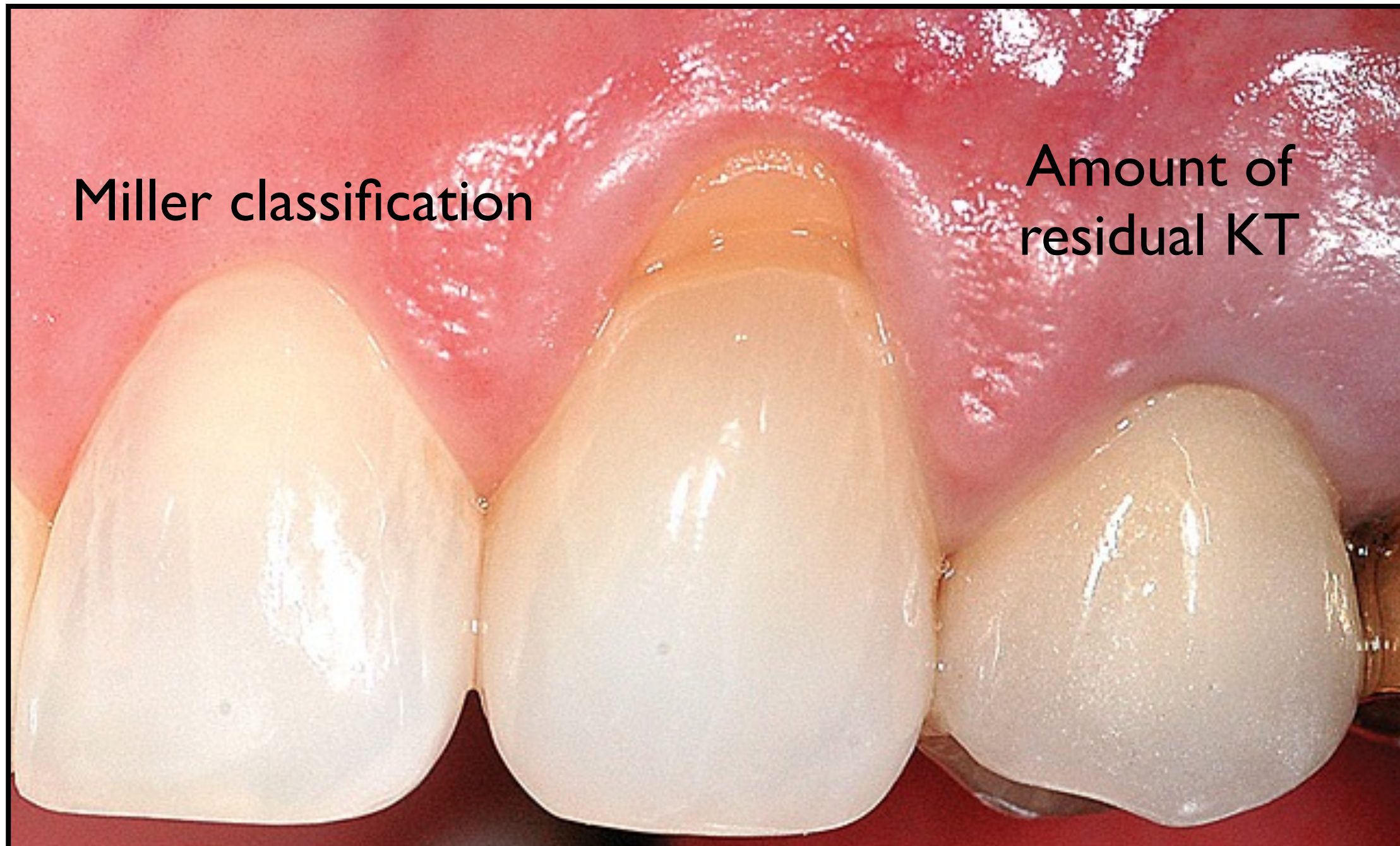


**Class III**



**Class IV**

# Which Option?



# Which Option?



No residual KT

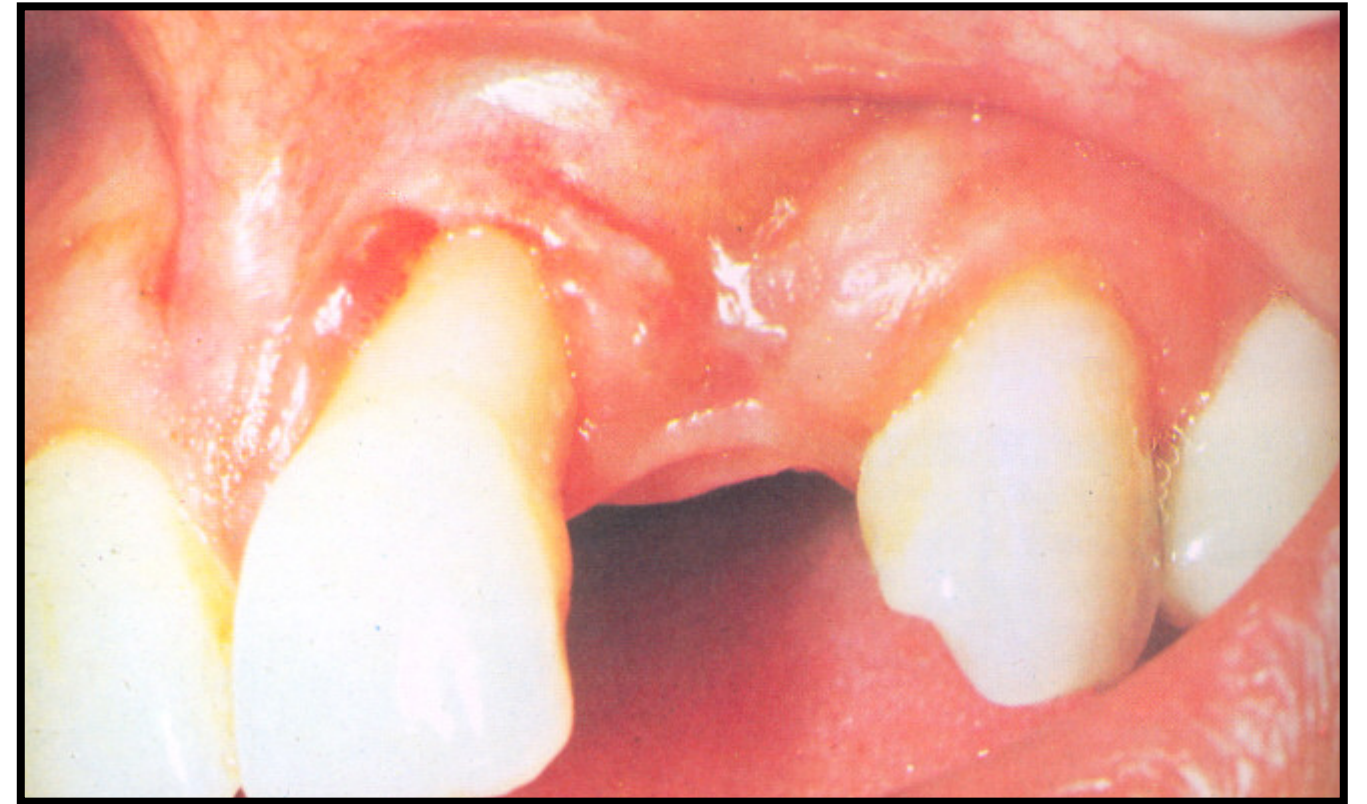


Adequate KT

# Which Option?



**Predictable**



**Unpredictable**

# Which Option?

	<b>GRAFT ONLY</b>	<b>GRAFT &amp; RESTORE</b>	<b>RESTORE ONLY</b>
<b>Gingival Dimension</b>	Inadequate gingival dimensions	Inadequate gingival dimensions	Adequate gingival dimensions
<b>Depth of recession</b>	Significant root exposure	Significant root exposure	Minimal root exposure
<b>Classification of recession</b>	Class I or II	Class II, III or IV	Class I, III or IV
<b>Location of lesion</b>	Minimal to no enamel defect	Significant enamel defect	Mainly enamel defect

# Which Option?

<b>CLASSIFICATION</b>	<b>MILLER CLASS I or II</b>	<b>MILLER CLASS III or IV</b>
<b>Class I</b>	Root coverage	Root coverage Possibly restore CEJ
<b>Class II</b>	Bevel enamel, contour root Root coverage	Contour root, root coverage procedure Possibly restore CEJ
<b>Class III</b>	Restore CEJ, contour root Root coverage to CRM	Contour root, root coverage procedure Restore tooth to new FGM
<b>Class IV</b>	Restore deep portion lesion, restore CEJ Root coverage to CRM	Restore CEJ 3mm apical to papilla Root coverage to CRM

*CEJ-Cemento Enamel Junction CRM-Cemento Restorative Margin FGM-Free Gingival Margin*

# Which Option?



# Which Option?

## CLASSIFICATION

## MILLER CLASS I or II

## MILLER CLASS III or IV

### Class I

Root coverage

Root coverage  
Possibly restore CEJ

### Class II

Bevel enamel, contour root  
Root coverage

Contour root, root coverage procedure  
Possibly restore CEJ

### Class III

Restore CEJ, contour root  
Root coverage to CRM

Contour root, root coverage procedure  
Restore tooth to new FGM

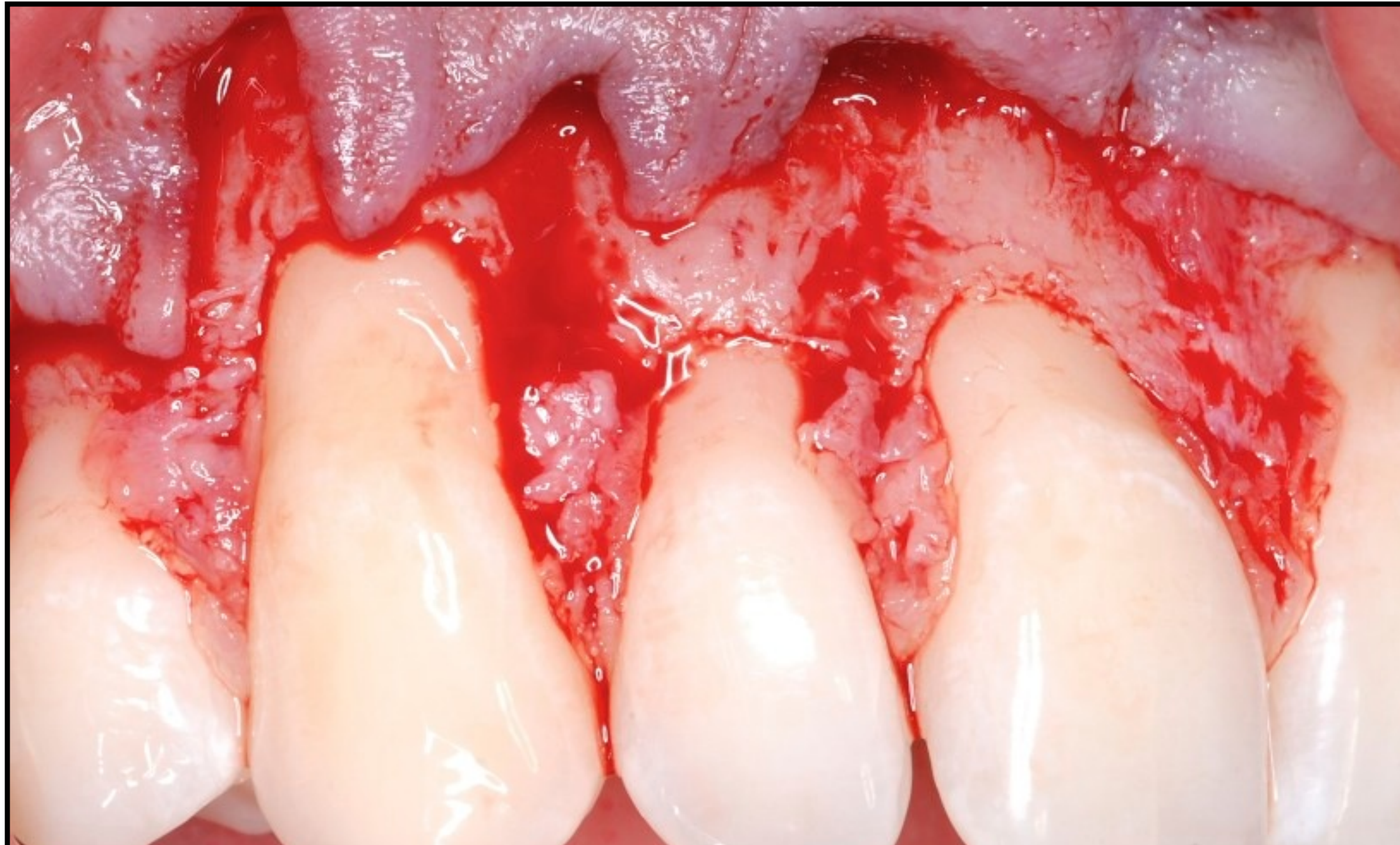
### Class IV

Restore deep portion lesion, restore CEJ  
Root coverage to CRM

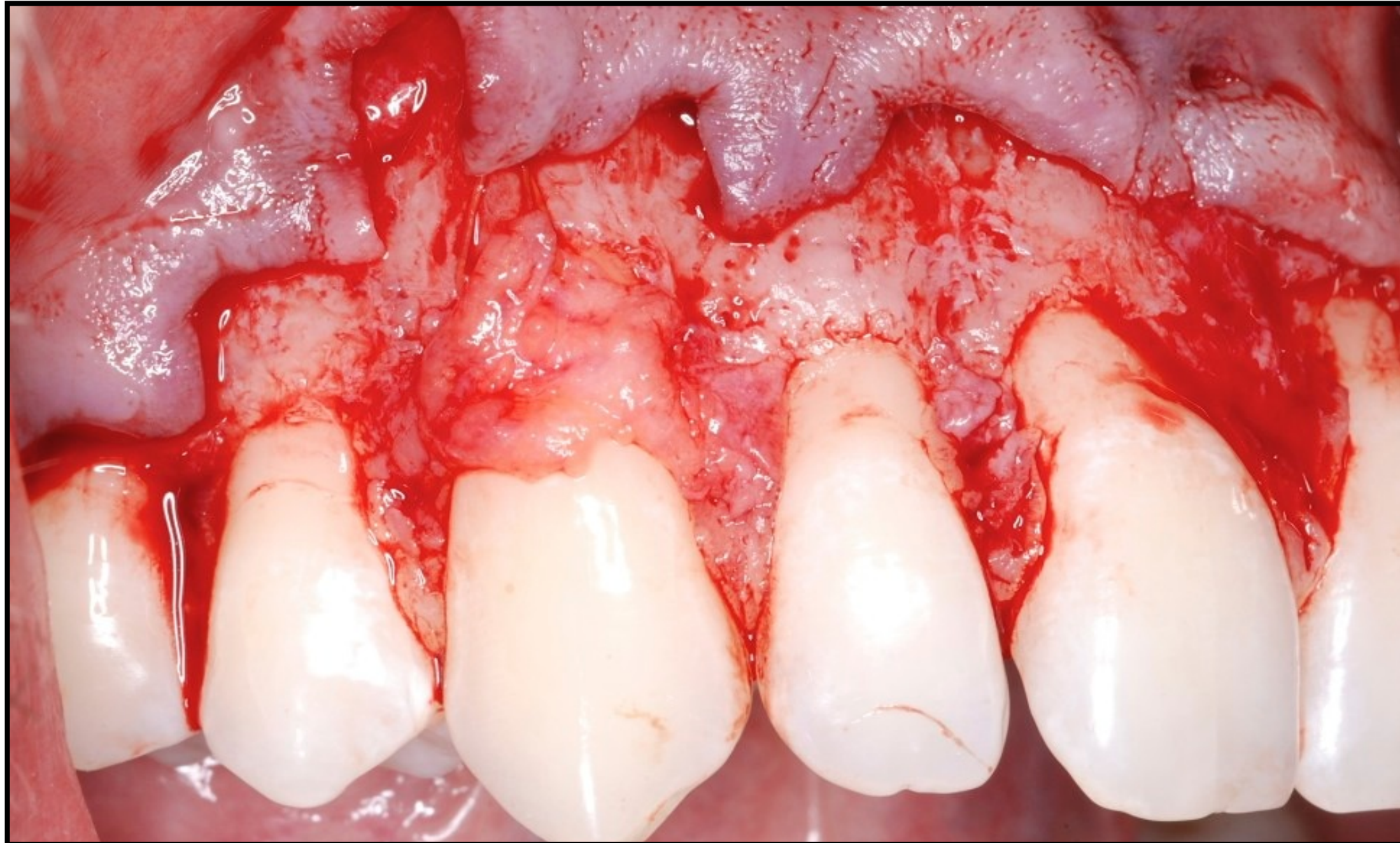
Restore CEJ 3mm apical to papilla  
Root coverage to CRM



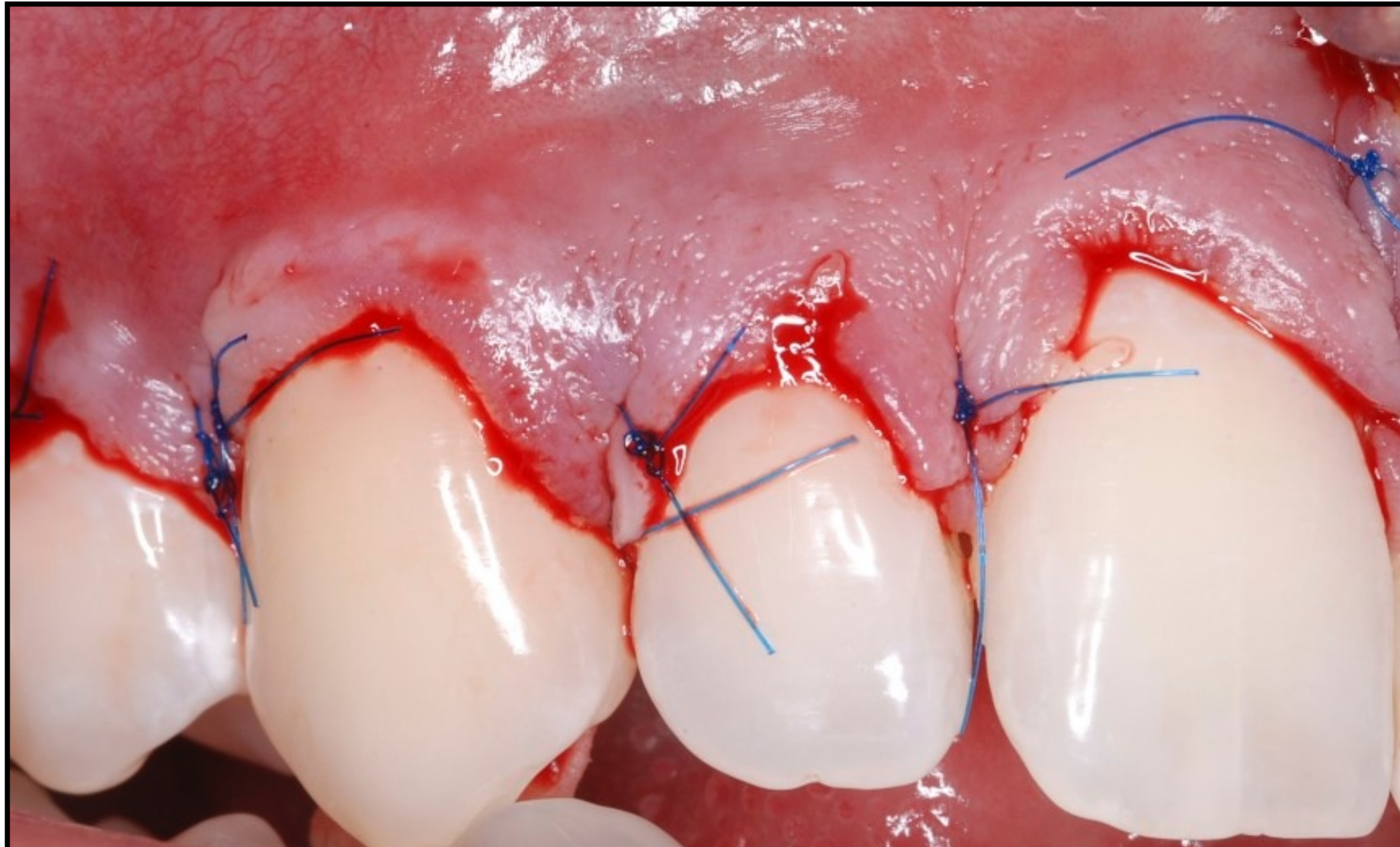
# Which Option?



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# Which Option?



# Which Option?





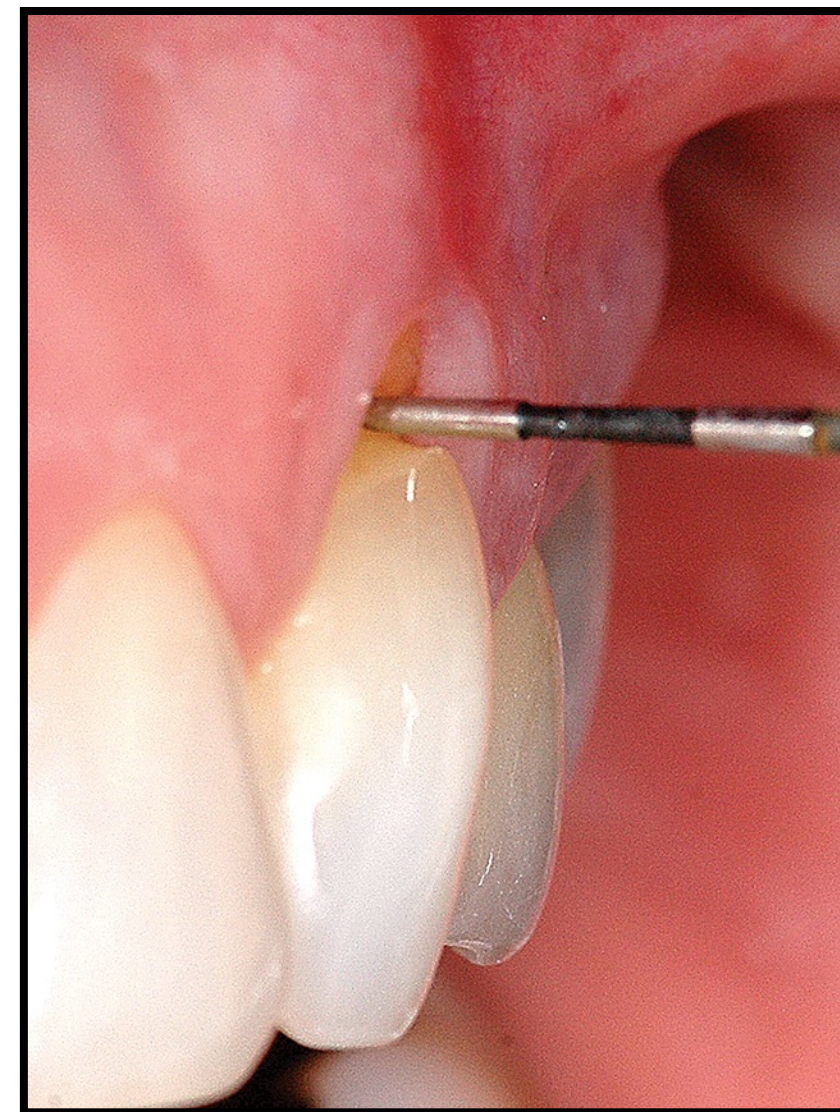
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# Which Option?



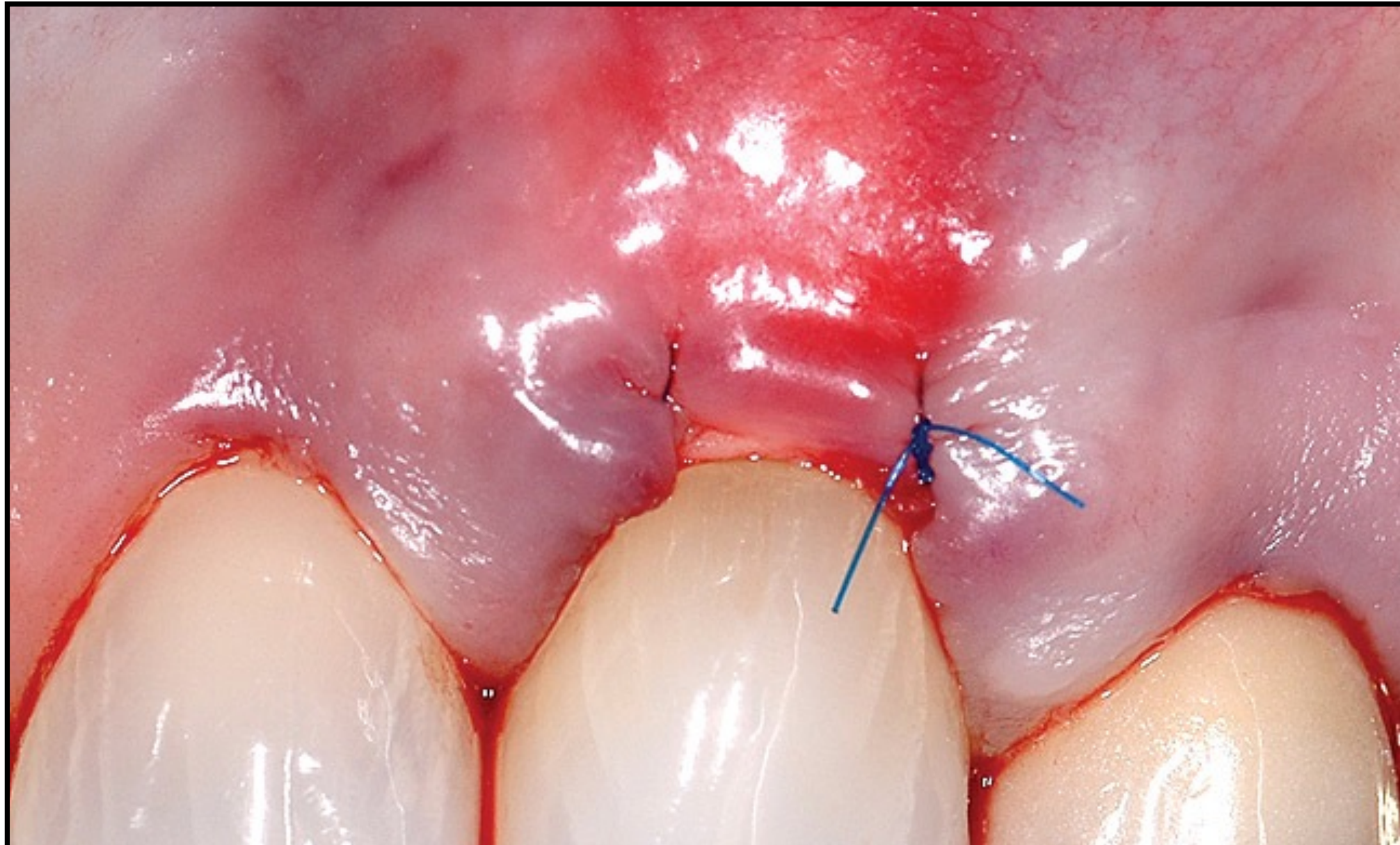
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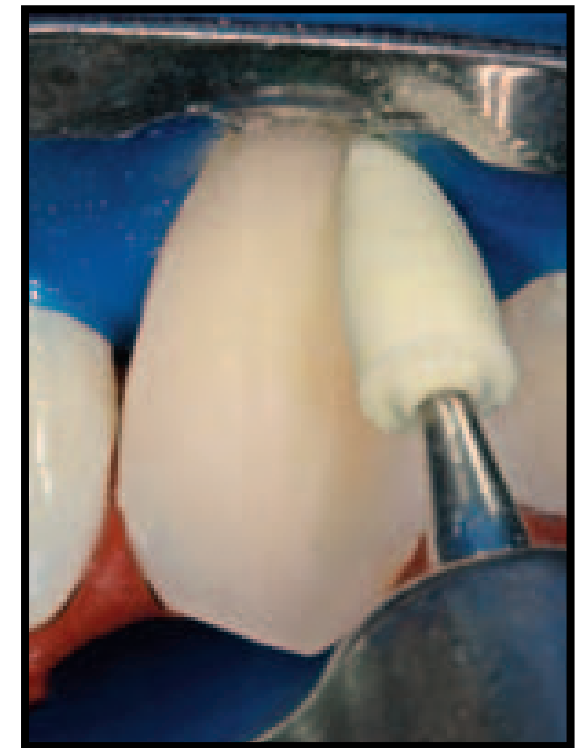
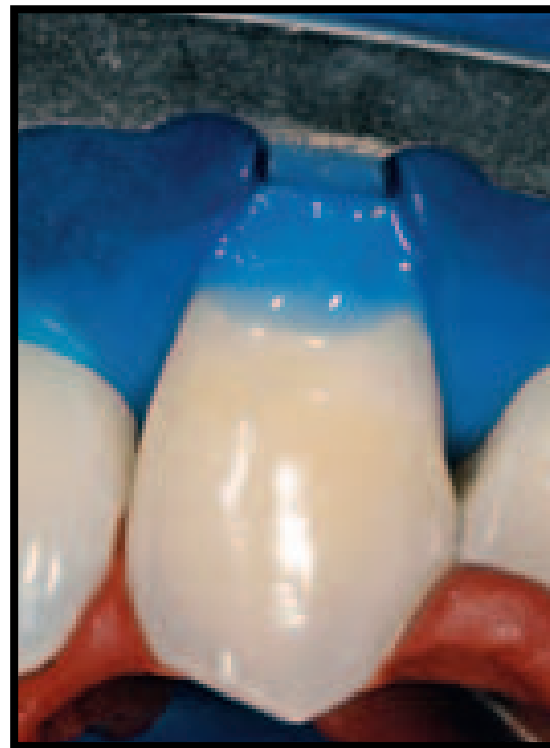
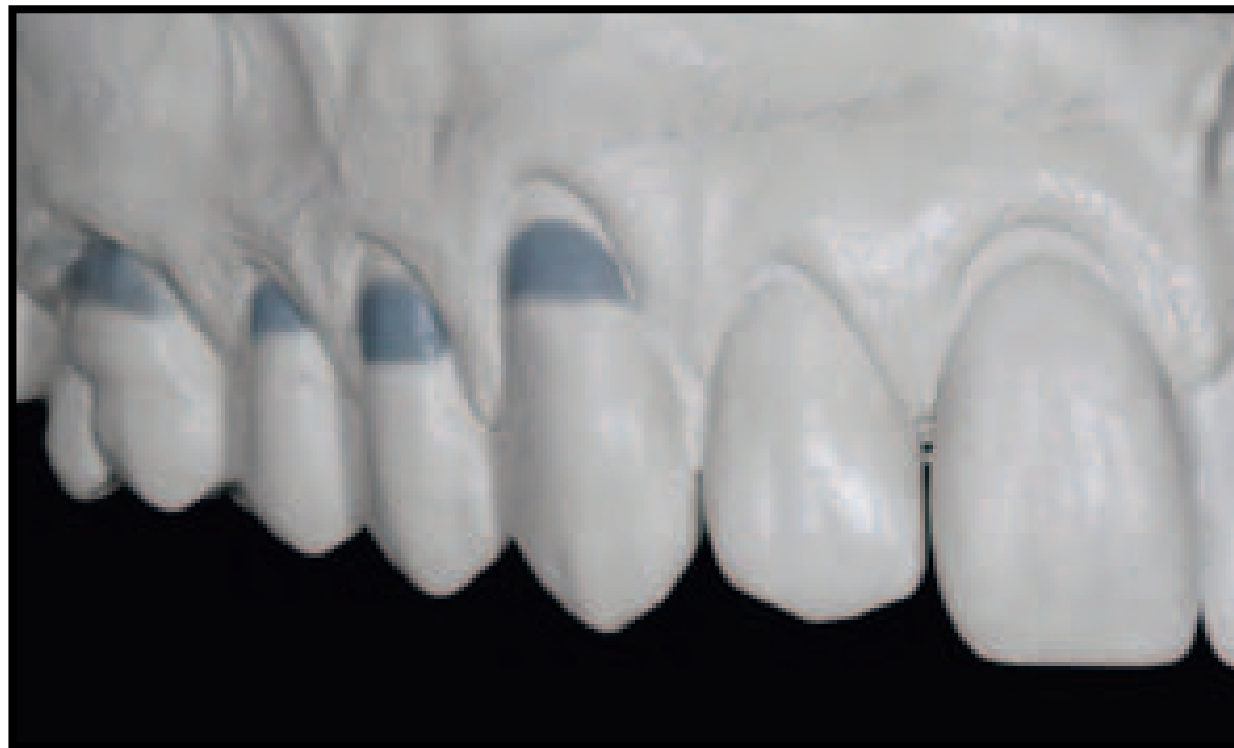
Contour root, root coverage procedure  
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# Which Option?



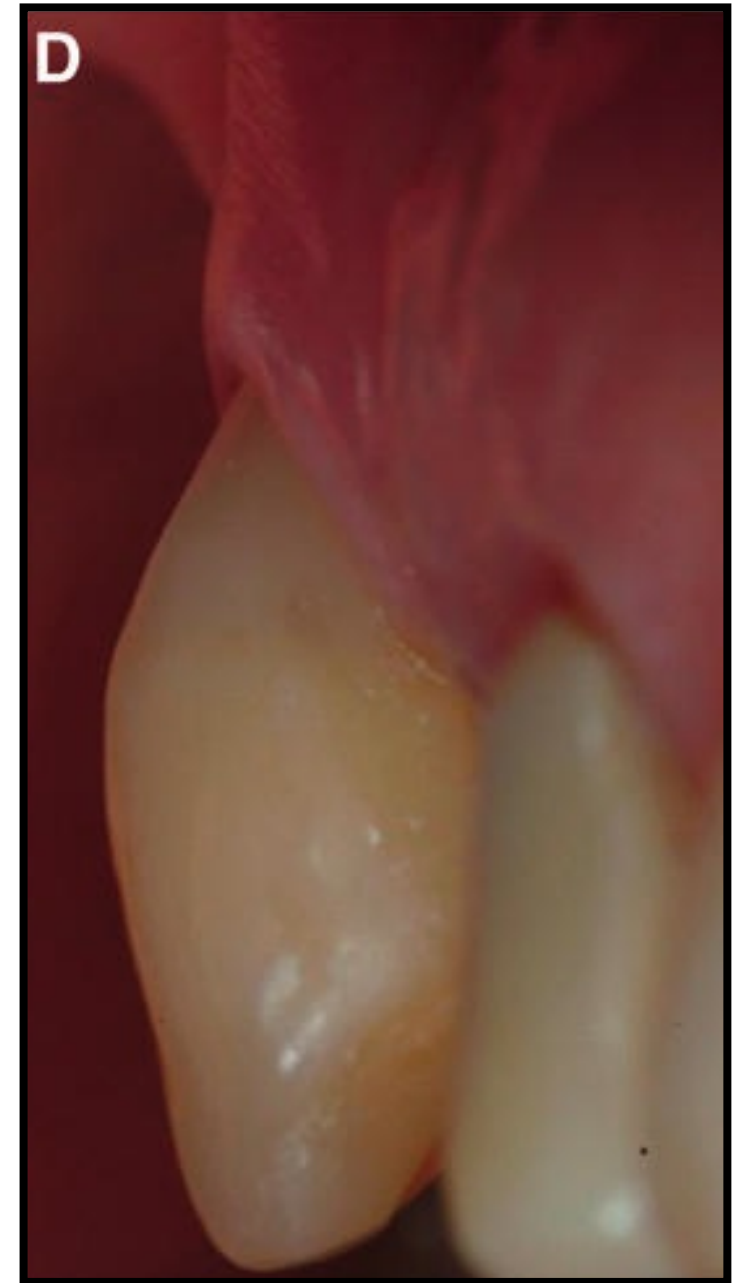
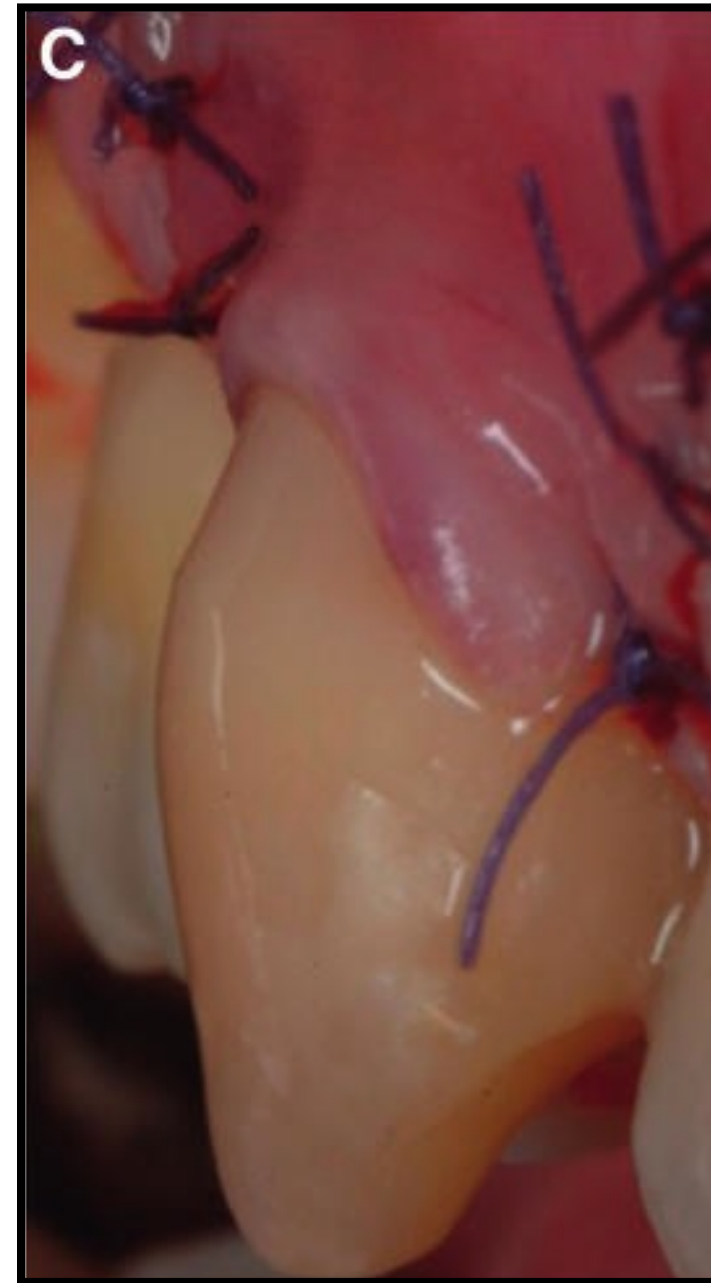
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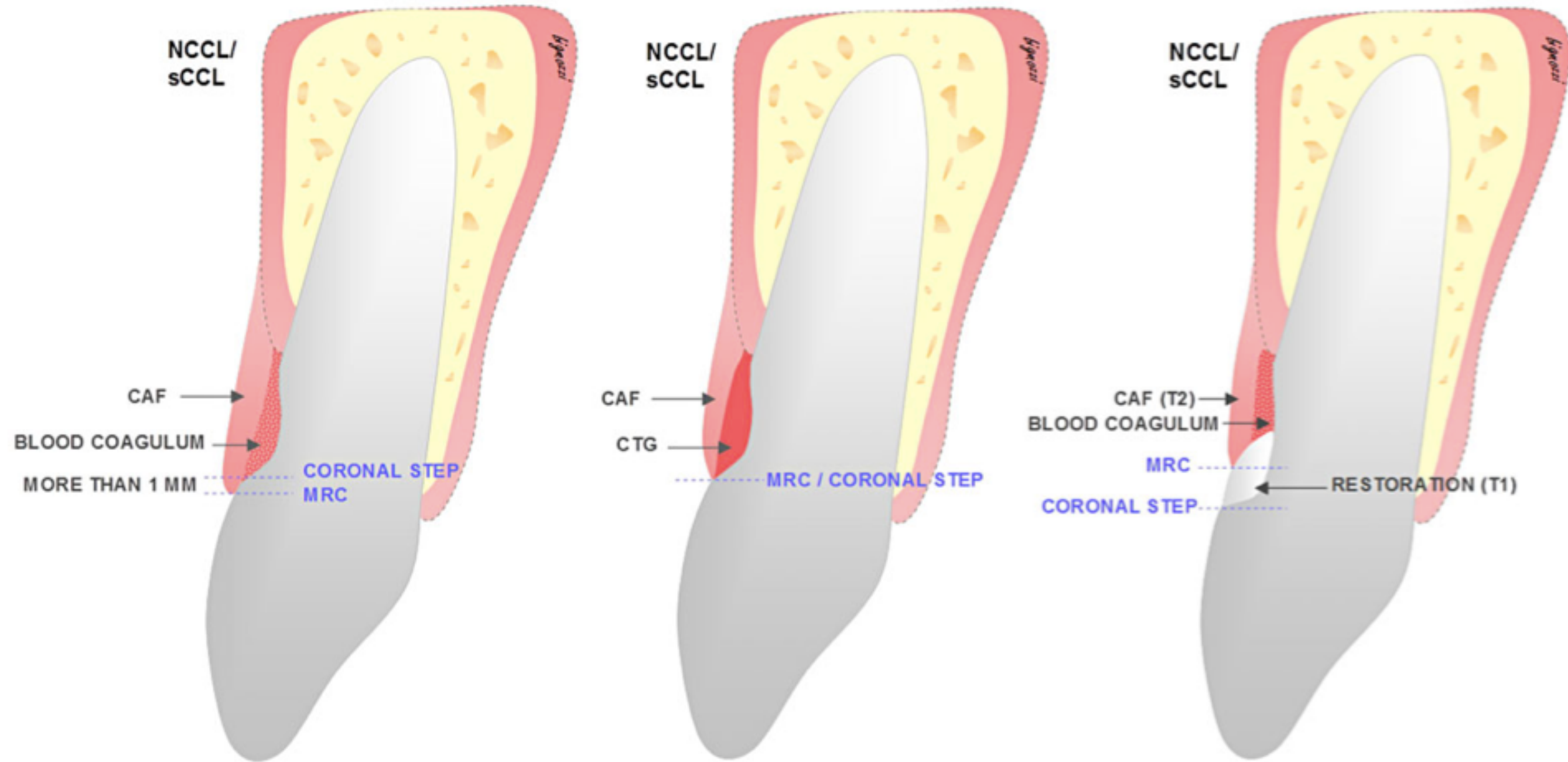


# Which Option?





# Which Option?



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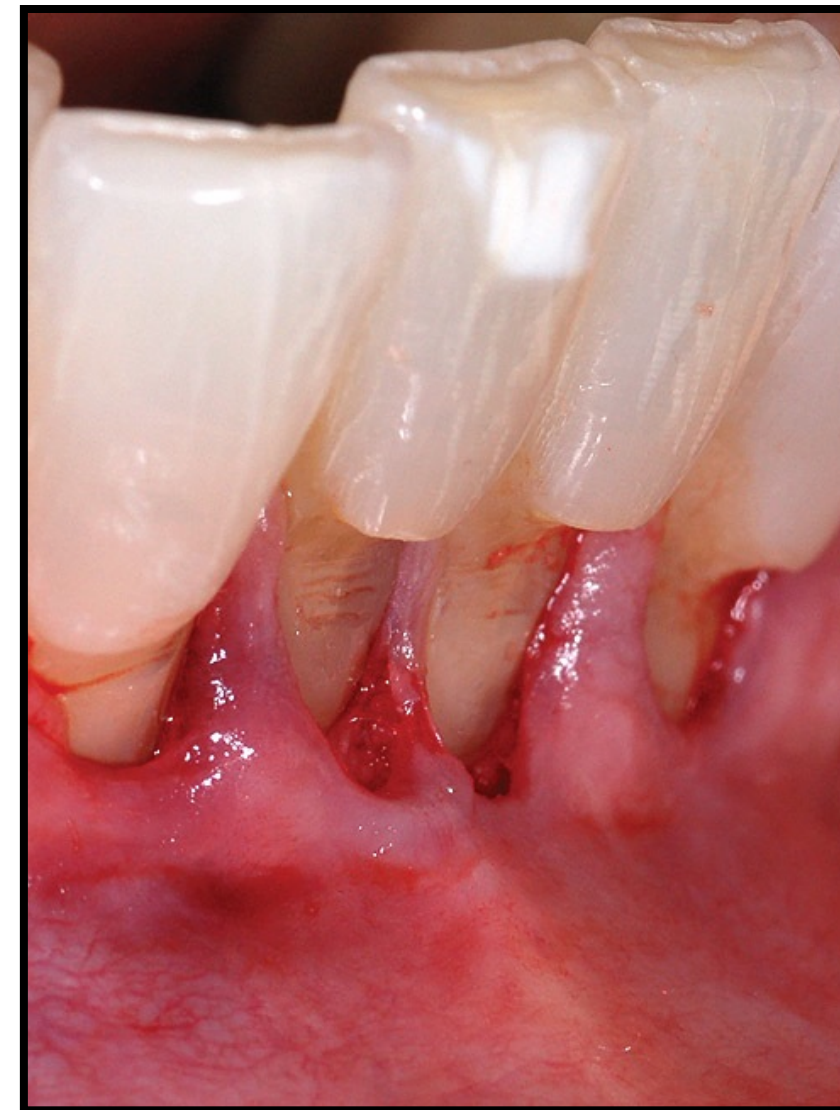
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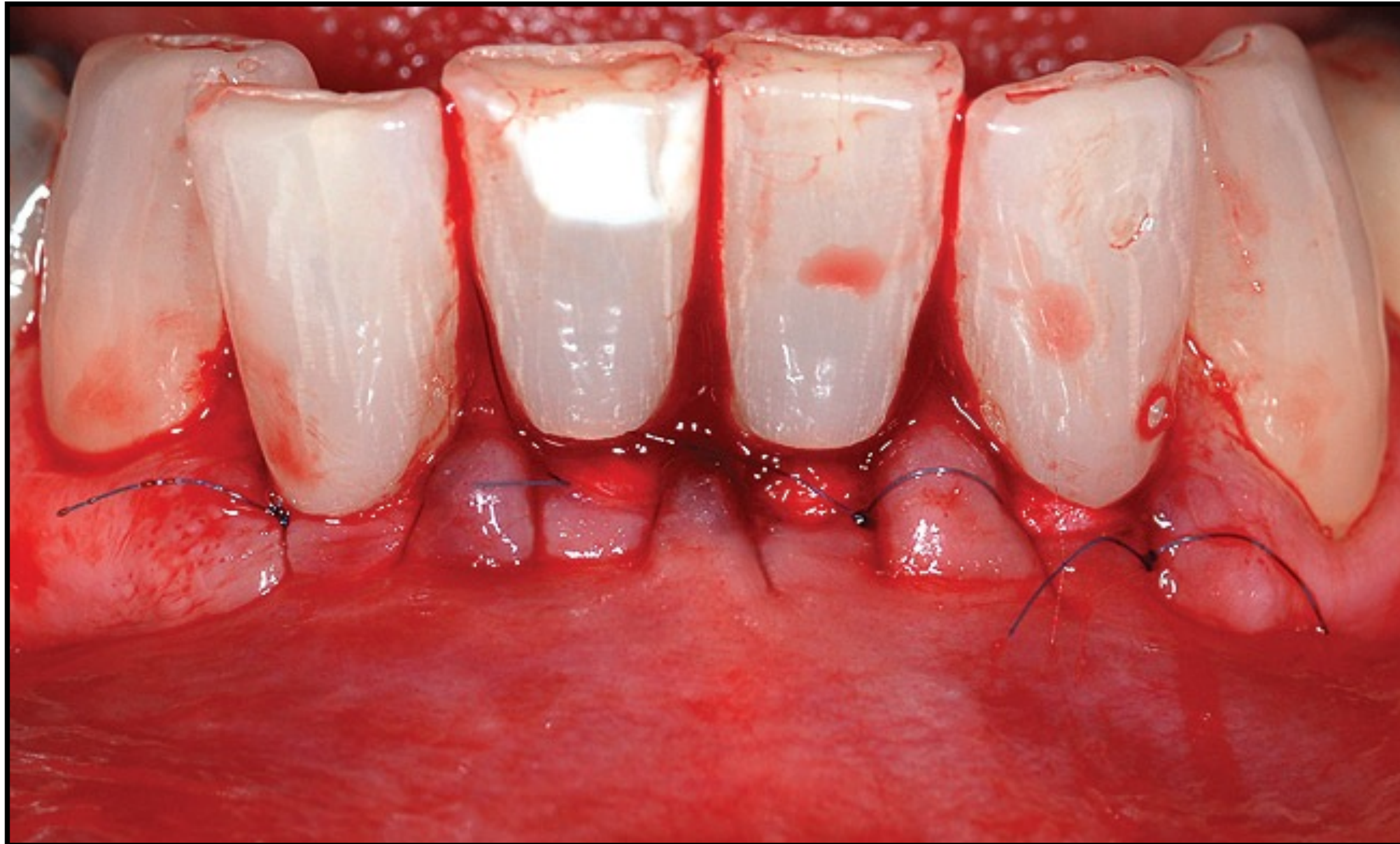
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# Which Option?



# Which Option?



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# Which Option?



# Which Option?





# Conclusions

1. NCCLs is a multifactorial disease, all risk factors should be addressed and corrected to assure long-term success.
2. Very frequently NCCLs requires a combined periodontal-restorative treatment.
3. Check the occlusion and adjust any occlusal interference.  
Consider an occlusal guard.
4. Maintenance therapy and proper oral home care are important for the prevention of NCCLs recurrence.



Thank You!