

## 牙髓病學 Endodontics

# ENDODONTICS and PERIODONTICS INTERRELATIONSHIP

By

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## 學習目標

All students must be familiar with the development of endodontic theory and practice and an evidence-based approach that permits an intelligent evaluation of current and future technologies and materials.

## 參考資料

- Principle of Endodontics Pathway of the pulp

## Summary

- Rationale of Endodontics  
Anatomy and Embryology of the Pulp  
Pretreatment and Rubber Dam
- Diseases of the Pulp
- Endodontic diagnosis and emergency management  
Endodontic Radiography
- Endodontic Instruments and materials
- The Art and Science of Cleaning and Shaping
- The device and application of the Ni-Ti instrument in the endodontic treatment
- The Art and Science of Obturation—
  - Vertical Compaction of Warm GP Technique
  - Lateral Compaction Technique

## Summary

- Surgical Endodontics
- Apexogenesis and Apexification
- Endodontic Traumatology
- Diagnosis and Management of Combined Perio-endo Problem  
Treatment planning /Endodontic Mishap /retreatment
- Apex Locator  
Tooth Bleaching
- Laser endodontics  
digital radiography / CT in Endodontic treatment
- 醫療環境與心理層面  
Treatment planning /Endodontic Mishap /retreatment

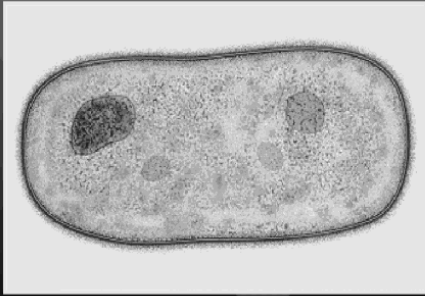
## *Perio-Endo Interrelationship* *-2ND "C"-*

- Communicated pathways
- Common pathology
- Confused etiology
- Complicated diagnosis
- Careful classification
- Confined treatment sequence

## *Common Pathology*

- Microbiologic-fuso, pre, por, camp
- Immunologic-neutro, lym, plasm
- Pathological-bact. VS host

Porphyromonas gingivalis, A Common Pathogen in both Periodontal and Pulpal Infections



Porphyromonas gingivalis (representative magnification x 60,000)

ALIT

*Perio-Endo Interrelationship*  
*-3RD "C"-*

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*Confused Etiology*

- Pulpal
- Periodontal
- Iatrogenic
- Idiopathic

*Confused Etiology*

- Toxic products of a necrotic pulp cause
  - loss of periodontal attachment
  - loss of interradicular septum
  - perforated radicular bone

*Confused Etiology*

- Severe periodontal disease cause
  - atrophic changes in the pulp
  - hypersensitivity
  - 1/3 with inflamed pulpal disease
  - 1/10 with pulp necrosis

*Perio-Endo Interrelationship*  
*-4TH "C"-*

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Differential Diagnosis  
Between Pulpal and Periodontal Disease

Clinical

	Pulpal	Periodontal
Cause	Pulp infection	Periodontal infection
Vitality	Nonvital	Vital
Restorative	Deep or extensive	Not related
Inflammation	Acute	Chronic
Root surface	Smooth	Rough
Pockets	Single, narrow	Multiple, wide coronally
pH value	Often acid	Usually alkaline
Trauma	Primary or secondary	Contributing factor
Microbial	Few	Complex

Differential Diagnosis  
Between Pulpal and Periodontal Disease

Radiographic

	Pulpal	Periodontal
Pattern	Localized	Generalized
Bone loss	Wider apically	Wider coronally
Periapical	Radiolucent	Not often related
Vertical bone loss	No	Yes

Differential Diagnosis  
Between Pulpal and Periodontal Disease

Histopathology

	Pulpal	Periodontal
Junctional epithelium	No apical migration	Apical migration
Granulation tissues	Apical (minimal )	Coronal (larger)
Gingival	Normal	Some recession

Complicated Diagnosis

- **Vitality: hyperactive or degenerative**
- **Clinical S & S: pain &/or abscess**
- **X-ray radiolucency**
- **Probing: probe depth & calculus**

Complicated Diagnosis

- Clinical signs and symptoms
  - **Abscess**
    - caries/restoration
    - sinus tract
  - **Pain**
    - with heat: pulp necrosis
    - with cold: pulpitis or hyperemia

Complicated Diagnosis

- Clinical signs and symptoms
  - **Periodontal abscess**
    - **marginal / diffused**
      - dull-even pain, fullness “high”
  - **Pupal abscess**
    - radicular
    - rapid onset
    - acute pain, severe discomfort

### Complicated Diagnosis

Clinical signs and symptoms

	<u>Pulpal</u>	<u>Periodontal</u>
Pain localization	<i>Difficult</i>	Easy
Abscess drainage	<i>Gingiva or mucosa</i>	pocket

### Complicated Diagnosis

X-ray taken with GP in sinus tract

	<u>Pulpal</u>	<u>Periodontal</u>
radiolucency	<i>apical</i>	cor./mid.
resorption	+	-

### Complicated Diagnosis

Probing-search motion & light force

	<u>Pulpal</u>	<u>Periodontal</u>
pocket occurrence	<i>sudden</i>	existing
pocket topography	<i>long narrow</i>	wide
root roughness	-	+ (calculus)

### *Perio-Endo Interrelationship* *-5TH "C"-*

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### Careful Classification *by Origin*

- Pulpal periodontal
- Periodontal pulpal
- True combined
- Endo failure, perforation
- Resorption, fracture

### Careful Classification *by Origin*

- Primary Pulpal Lesion
- Primary Pulpal/Secondary Periodontal Lesion
- Primary Periodontal Lesion
- Primary Periodontal/Secondary Pulpal Lesion
- Combined Pulpal/Periodontal Lesion
- Concomitant Pulpal-Periodontal Lesion

