Examination of teeth and gingiva

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SUBJECTIVE HISTORY

Chief complaint

- In patient's own words
  - "My tooth hurts when I chew hard foods"
  - "I can't drink cold drink"
  - "I have bad breath"

PAIN HISTORY

SUBJECTIVE HISTORY

Pain History

- Location
- Intensity
- Duration
- Stimulus
- Relief
- Spontaneous

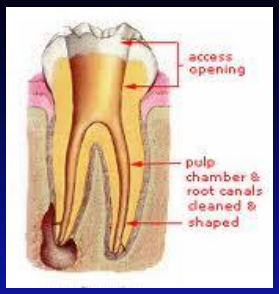
PULPAL PAIN

Very poorly localized

- Intermittent
- Throbbing
- Intensified by heat, cold and sometimes chewing
- May be relieved by cold
- Usually severe

PULPAL PAIN

PERIRADICULAR PAIN



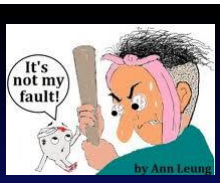
- May be well localized
- Deep pain
- Intensified by chewing
- Moderate to severe in intensity

PERIODONTAL PAIN

- May be well localized
- Intensified by chewing
- Moderate to severe in intensity

PERIRADICULAR /PERIODONTAL PAIN

SUBJECTIVE HISTORY



- Gives rise to tentative diagnosis
- Determines emergency treatment
- Confirmed by examination and special tests

OBJECTIVE TESTING

- Visual Examination
- Radiographs
- Percussion
- Palpation
- Mobility
- Thermal tests

OBJECTIVE TESTING

- Electric Pulp Test
- Periodontal probing
- Selective anesthesia
- Test cavity
- Transillumination
- Occlusion

VISUAL EXAMINATION

- Extra-oral examination
  - Facial asymmetry
  - Swelling
  - Extra oral sinus tract
  - TMJ

EXTRA-ORAL SWELLING

VISUAL EXAMINATION

Extra oral sinus tracts associated with necrotic teeth

VISUAL EXAMINATION

Intra-oral examination

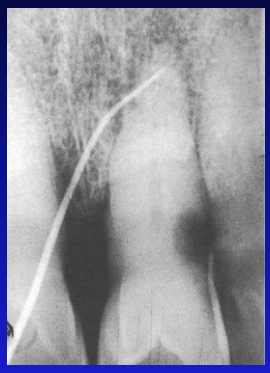
- Soft tissue lesions
  - Swelling
  - Redness
  - Sinus tract

ACUTE APICAL ABSCESS

Acute apical abscess

Incision and drainage

VISUAL EXAMINATION



A sinus tract should be traced with a gutta-percha cone

VISUAL EXAMINATION

Hard tissues

- Caries
- Large or defective restorations
- Discolored/chipped teeth

CARIES

DISCOLORATION

DISCOLORATION AND OCCLUSION

RADIOGRAPHS

- Always take your own pre-operative radiograph
- Never make a diagnosis based on radiographic evidence alone

RADIOGRAPHS

- Consider taking a bitewing film of posterior teeth
- Note characteristic appearance of fractured root

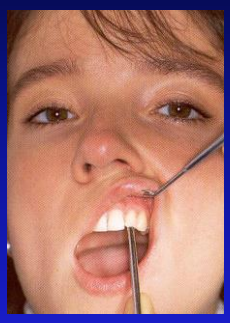
RADIOGRAPHS

Characteristic J-shaped or halo lesion associated with fractured root

PERCUSSION TEST

- A very significant test
- Always compare suspect tooth with adjacent and contralateral teeth
- Tenderness indicates inflammation in the PDL
- Cause of inflammation may be pulpal or periodontal

PERCUSSION TEST



Vertical percussion

Horizontal percussion

PERCUSSION TEST

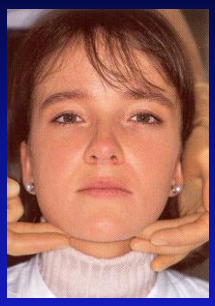
Tooth Slooth

Used to assess cracked teeth and incomplete cuspal fractures

PALPATION TEST

- Extraoral
  - To detect swollen or tender lymph nodes
- Intraoral
  - May detect early periapical tenderness
  - Identifies soft tissue swelling
  - Must compare with other areas

PALPATION



MOBILITY

- Reflects the extent of inflammation in the PDL
- Compare with adjacent and contralateral teeth
- There are many causes of mobility besides pulpal inflammation extending into the PDL

THERMAL TESTS

- Cold always used
- Heat rarely used
- Compare reaction with adjacent and contralateral teeth
- Refractory period of at least 10 minutes before pulp can be retested accurately

THERMAL TESTS

THERMAL TESTS

Ice stick

CO2 Snow

THERMAL TESTS

- Isolate area with cotton rolls
- Dry teeth to be tested
- Ask patient to:
  - “Raise hand on feeling cold”
  - “Lower hand when cold feeling goes away”
- Record:
  - + or – sensitivity to cold
  - Time until cold sensitivity was felt
  - Time that cold sensitivity lingered

THERMAL TESTS

Classic Responses to Thermal (cold) Testing:

- **Normal Pulp:** Moderate transient pain
- **Reversible Pulpitis:** Sharp pain; subsides quickly
- **Irreversible pulpitis:** Pain lingers
- **Necrosis:** No response

(Note false positive and false negative responses common)

ELECTRIC PULP TEST

- A direct test of nerve elements of pulpal tissue
- Vitality versus non-vitality only – not whether vital pulp is normal or inflamed
- In multi-rooted teeth, where one canal is vital – tooth usually tests vital
- False positives and false negatives may occur

ELECTRIC PULP TEST

False positive reading:

- Electrode contact with metal restoration or gingiva
- Patient anxiety
- Liquefaction necrosis
- Failure to isolate and dry teeth prior to testing

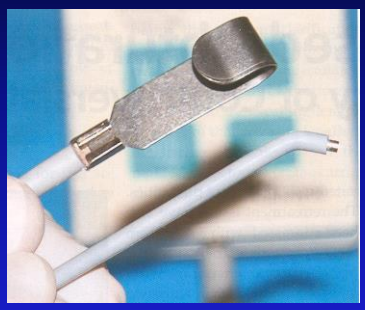
ELECTRIC PULP TEST

ELECTRIC PULP TEST

False negative reading:

- Patient is heavily premedicated
- Inadequate contact between electrode and enamel
- Recently traumatized tooth
- Recently erupted tooth with open apex
- Partial necrosis

ELECTRIC PULP TESTING

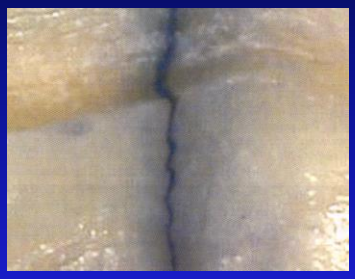


PERIODONTAL EXAMINATION

- Periodontal probing pocket depths must be measured and recorded
- A significant pocket, in the absence of periodontal disease may indicate root fracture
- Poor periodontal prognosis may be a contraindication to root canal therapy

PERIODONTAL EXAMINATION

PERIODONTAL EXAMINATION



An isolated deep pocket may indicate a root fracture

SELECTIVE ANESTHESIA

- May help to identify the possible source of pain
- An IDN block can localize pain to one arch
- Ability to anesthetize a single tooth has been questioned

TEST CAVITY

- Initiation of cavity preparation without anesthesia
- Test of last resort

TRANSILLUMINATION

- Helps to identify vertical crown fracture
- Produces light and dark shadows at fracture site

TRANSILLUMINATION

A crack will block and reflect the light when transilluminated

OCCLUSION

- Hyperocclusion – a possible cause of percussion sensitivity

ANALYSIS

- Analyze the data gathered via:
  - History
  - Examination
  - Special tests
- Arrive at a **clinical** (not histologic) diagnosis:
  - Pulpal diagnosis
  - Periapical diagnosis

POSSIBLE PULPAL DIAGNOSES

- Normal
- Reversible pulpitis
- Irreversible pulpitis: symptomatic or asymptomatic
- Necrosis
- Previous endodontic treatment

NORMAL PULP

- Symptoms — None
- Radiograph — No periapical change
- Pulp tests — Responds normally
- Periapical tests — Not tender to percussion or palpation

REVERSIBLE PULPITIS

- Symptoms — May have thermal sensitivity
- Radiograph — No periapical change
- Pulp tests — Responds – sensitivity not lingering
- Periapical tests — Not tender to percussion or palpation

IRREVERSIBLE PULPITIS

- Symptoms — May have spontaneous pain
- Radiograph — No periapical change
- Pulp Tests — Pain that lingers
- Periapical tests — Generally not tender to percussion or palpation

NECROTIC PULP

- Symptoms — No thermal sensitivity
- Radiograph — Dependent on periapical status
- Pulp tests — No response
- Periapical tests — Dependent on periapical status

POSSIBLE PERIAPICAL DIAGNOSES

- Normal
- Symptomatic apical periodontitis
- asymptomatic apical periodontitis
- Acute apical abscess
- Chronic apical abscess
- Condensing osteitis

NORMAL PERIAPEX

• Symptoms	None
• Radiograph	No periapical change
• Pulp tests	Responds normally
• Periapical tests	Not tender to percussion or palpation

ASYMPTOMATIC APICAL PERIODONTITIS

- Radiograph ± Periapical radiolucency
- Periapical tests Not tender to percussion or palpation

SYMPTOMATIC APICAL PERIODONTITIS

- Symptoms Pain on pressure
- Radiograph ± Periapical radiolucency
- Periapical tests Tender to percussion and/or palpation

ACUTE APICAL ABSCESS

- Symptoms — Swelling and severe pain
- Radiograph — +/- periapical radiolucency
- Pulp tests — No response
- Periapical tests — Tender to percussion and palpation

CHRONIC APICAL ABSCESS

- Symptoms — Draining sinus – usually no pain
- Radiograph — Periapical radiolucency
- Pulp tests — No response
- Periapical tests — Not tender to percussion or palpation

CONDENSING OSTEITIS

- Symptoms — Variable
- Radiograph — Increased bone density
- Periapical tests — +/- tenderness to percussion and palpation

EXAMINATION OF THE PERIODONTIUM

- Specific periodontal findings to be recorded:
  - Overall health condition of gingiva
  - Signs and location of inflammation
  - Location and amount of plaque and calculus
  - Areas of unattached gingiva
  - Areas of periodontal pockets measuring greater than 3 mm
  - Presence of furcation involvement
  - Dental mobility scale

DENTAL MOBILITY SCALE

Dental Mobility Scale	
0:	Normal
1:	Slight mobility
2:	Moderate mobility
3:	Extreme mobility

DESCRIPTION OF PROBING SCORES

Description of Probing Scores	
0:	The colored area of the probe remains completely visible in the deepest sulcus in the sextant; no calculus or defective margins are detected.
1:	The colored area of the probe remains completely visible in the deepest probing in the sextant; no calculus or defective margins are detected; bleeding occurs after gentle probing.
2:	The colored area of the probe remains completely visible in the deepest probing in the sextant; supragingival or subgingival calculus and defective margins are detected.
3:	The colored area of the probe remains partly visible in the deepest probing depth in the sextant.
4:	The colored area of the probe completely disappears, indicating probing depth of more than 5.5 mm.

SO!!!!!! -→ TREATMENT PLAN

- Collect data → Diagnosis → Treatment.
- Be Organized!!!!