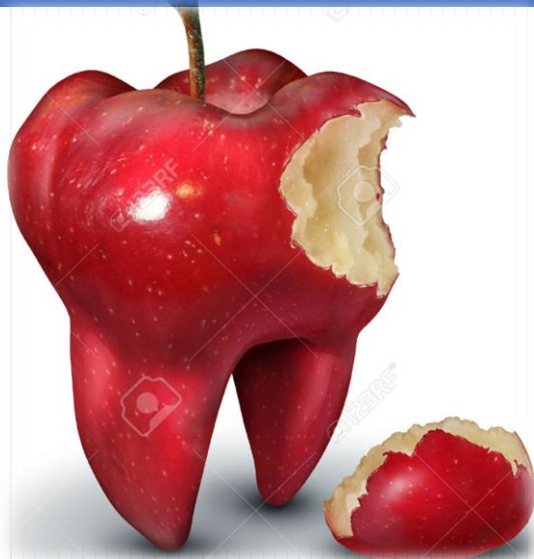




دانشگاه علوم پزشکی
و خدمات بهداشتی درمانی
بوشهر

IN THE NAME OF GOD

DENTAL CARIES LESION ACTIVITY ASSESSMENT



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❑ **Two discrete surface features:**

- **Activity (reflect by surface texture)**
- **Surface integrity(cavity)**

**LESION
ACTIVITY
ASSESSMENT**

❑ **Lesion categories(Nyvad):**

- **Active non cavitated**
- **Active cavitated**
- **Inactive non cavitated**
- **Inactive cavitated**
- **Filling**
- **Filling with active caries**
- **Filling with inactive caries**

Lesion activity assessment

- ❑ **Active non cavitated enamel caries:**
 - whitish/yellowish opaque surface
 - loss of luster
 - chalky or neon white
 - probe:feel rough

Lesion activity assessment

- ❑ **Inactive non cavitated:**
 - shiny
 - probe:feel smooth
 - color:white-brown-black (color not reliable)

- ❑ **Active cavitated lesion:**soft or leathery

- ❑ **InActive cavitated lesion:**shiny and hard



(a, b) Typical active non-cavitated lesion on smooth surface and occlusal surface, respectively. (c, d) Typical inactive non-cavitated lesion on smooth surface and occlusal surface, respectively. (e, f) Active and inactive cavitated lesions, respectively.

Two reason for chalky opacity of active lesion

- Increase in internal porosity
- Surface erosion

Active lesion(opaque) ➡ inactive(opaque scar)



Active and inactive smooth-surface caries lesions presenting microfractures in the surface.

Lesion activity assessment

- Teeth should be clean and dry(during dx)
- Probe as tactile tool(not roughly)
- Lesion is active only when:
 - ✓ mostly dull & rough
 - ✓ examiner conclude the progression
- **Risk of cavity:**
 - ✓ Active non cavitated ➤ inactive non cavitated ➤ sound surface
 - ✓ Activity assessment have prognostic value&guide tx

Root surface caries



- (a) Active root-surface caries lesion in upper canine presenting a Soft-ened surface.
- (b) Same lesion after 1 year of non-operative caries control by improved toothbrushing with fluoride toothpaste. The lesion has turned into an inactive stage, as evidenced by the hard and shiny surface. Note also inactivelesion in the gingival part of the enamel

Lesion activity assessment

Root caries

- ❑ Active lesion:-soft or leathery
 - at plaque retentive sites
- ❑ Inactive lesion:-hard & shiny
 - distance from gingival margine

LESION ACTIVITY ASSESSMENT

□ Root caries categories:

- Inactive lesion without surface destruction
- Inactive lesion with cavity
- Active lesion without surface destruction
- Active lesion with cavitation but not to exceed 1 mm in depth
- Active lesion with cavitation exceed 1 mm in depth without pulp involvement
- Lesion penetrat pulp
- Filling
- Filling with active(secondary) lesion
- Filling with inactive(secondary) lesion

Recurrent(secondary) caries:

- At margine of restoration
- Result of un successful plaque control
- Often:gingival margine of class two & five restoration
- Rarely on class one restoration

Visual-tactile caries examination:

- Upper R. molar → upper L. → lower L. → lower R.
- Good lighting & clean, dry teeth
- No standard drying time
- Mirror & sharp probe
- Be careful: remove plaque **concurrent** with examination (because sticky adhering plaque covering opaque enamel is indicative of activity)
- Tip of probe at angle of 20-40 degree across the surface
- Gentle probing: no disruption of surface integrity
- Takes 5-10 min

Visual-tactile caries examination:



**Lower canine and incisor (a) before and (b) after plaque removal.
Note the presence of typical active non-cavitated lesions after
plaque has been removed with the side of a probe.**



**Examination of non-cavitated caries lesion
using the tip of a sharp probe that is moved gently across
the surface of the lesion at an angle of 20–40 degrees
to assess lesion texture**



Forceful poking with the probe perpendicular to the lesion should be avoided in order not to cause irreversible damage to the surface of the lesion



Benefits & limitations of visual-tactile caries Dx:

- **Best choice**
- **Predictive value**
- **Quick**
- **Easy**
- **Safe**
- **Detect non cavitated lesions**

Does probing of suspected carious lesions spread infective plaque to other teeth in the same mouth?

- Not confirmed by longitudinal studies
- Incompatible with ecologic concept of caries
- ❖ Caries predilection sites:
 - ✓ sites that are stagnation area for dental plaque
 - ✓ sites vary with age

Active-non cavitated recurrent lesion: non operative procedure



Inactive-non cavitated recurrent lesion: no treatment



Active-cavitated recurrent lesion: repair /replace



Why minor defects or stain **should not** lead to replace filling?

Because root caries does not develop as a result of microleakage along tooth-rest interface.

**Ditching/minor defects(overhang)/
dark shadow of amalgam/composite staining
distinguish from caries**

**Ditching:
NO Treatment**



**Ditching/minor defects(overhang)/
dark shadow of amalgam/composite staining
distinguish from caries**

**Buccal amalgam with
overhang and inactive
recurrent caries**



**Ditching/minor defects(overhang)/
dark shadow of amalgam/composite staining
distinguish from caries**

Erosion



**Ditching/minor defects(overhang)/
dark shadow of amalgam/composite staining
distinguish from caries**

**composite staining:
No treatment**



**THE END!
THANK FOR YOUR
ATTENTION...**