

Tooth Mobility

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ABSTRACT

INTRODUCTION:

Mobility is defined as the degree of looseness of the tooth. All teeth have a slight degree of physiologic mobility which varies for different teeth & at different times of the day. It is greatest on arising in the morning & progressively decreases.

Types Of Tooth Mobility:

1. Physiologic tooth mobility
 2. Pathologic tooth mobility
1. **PHYSIOLOGIC TOOTH MOBILITY:** It refers to a moderate force exerted on the crown of tooth surrounded by a healthy & intact periodontium & tooth will show tipping movement until a closer contact has been established between root & marginal bony tissue.
 2. **PATHOLOGIC TOOTH MOBILITY:** Mobility beyond the physiologic range is termed abnormal or pathologic tooth mobility. It is pathologic in that it exceeds the limits of normal mobility values.

CAUSES OF TOOTH MOBILITY:

1. Loss of alveolar bone
2. Trauma from occlusion
3. Periodontal surgery-JCP vol- 44

4. Pathological process of the jaws(Osteomyelitis)
5. Orthodontic causes
6. Pregnancy

1 Loss of alveolar bone: Severity depends upon root morphology size & shape. A tooth with short, tapered roots is more likely to loosen than one with normal or bulbous roots with same amount of bone loss.



2 Trauma from occlusion: It is a common cause of mobility which occurs initially as a result of cortical layer resorption leading to reduced fibre support & widened periodontal space.



3 Orthodontic causes: Orthodontic treatment makes use of weak & strong occlusal forces to move the teeth for a better alignment. Braces exert force on the teeth to help make the teeth more mobile which doesnot stop even after the removal of it. Deep bite,bruxism,edge to edge contacts.

OTHER CAUSES: Pathologic processes of the jaws that destroys the alveolar bone(osteomyelitis). Mobility is also increased during pregnancy.

STAGES OF TOOTH MOBILITY:

1. INITIAL STAGE: Tooth moves within the confines of the periodontal ligament. Force applied is about 100lb & is of the order 0.05-0.10mm

2. **SECONDARY STAGE:** Increased horizontal forces may cause elastic deformation of the alveolar bone. Force applied is 500lbs & crown displacement is 100-200 microns for incisors, 50-90 microns for canines, 8-10 microns for premolars & 40-80 microns for molars.

METHODS OF ASSESSING MOBILITY:

1. **MANUAL METHOD:** Force is applied in the Buccolingual direction.
2. **MECHANICAL METHOD:** Mobilometer, periodontometer measures the reaction of the periodontium to a defined percussion force applied to the tooth via a tapping measurement.

TOOTH MOBILITY INDICES:

Miller's Index 1950

1. Score 0-no detectable mobility
2. Score 1-distinguishable tooth mobility
3. Score 3-movement of more than 1mm in any direction

Glickman's/Carranza Index

1. Grade 0-normal tooth mobility
2. Grade 1-slightly more than normal
3. Grade 2-moderately more than normal
4. Grade 3-severe mobility faciolingually & mesiodistally combined with the vertical displacement

Grace And Smales Index

1. Grade 1-mobility <1mm buccolingually
2. Grade 2-mobility 1-2mm buccolingually
3. Grade 3-mobility >2mm buccolingually and or vertical tooth mobility

TREATMENT:

1. **Occlusal Adjustment-**Known as selective grinding is done to recover the desired occlusion prior to processing. Modification of occlusal surfaces of teeth through grinding. It is done to reduce traumatic forces to teeth that exhibit increasing mobility or fremitus.
2. **Splinting:** It is a procedure by which a tooth resistance to an applied force, is increased by joining it to a neighboring tooth or teeth. Most common indication to splint mobile teeth is to improve patient comfort.

3. **Regenerative Procedures**

BONE GRAFTS: Autografts-bone obtained from same individual

1. Allografts-bone obtained from different individual of the same species
2. Xenografts-bone from different species

NON BONE GRAFT MATERIALS-sclera, cartilage, plaster of paris, ceramics, coral derived materials.

Guided Tissue Regeneration: GTR is a method of prevention of epithelial migration along the cemental wall of the pocket & maintaining space for clot stabilization. For example, Polytetrafluoroethylene (PTFE) membranes are used.

CONCLUSION:

Mobility is a challenging condition & the treatment has to be done to regenerate the periodontium. Therefore we as periodontists should preserve & stabilize the natural teeth.

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