Sheet no: 5

Refer to slide no:2

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 **Topics of lecture:**

Teeth charting and examination -

-pulpal tissue examinations

- Periodontal examinations

**-** Special investigation

**Periodontium composed of:**

1- Periodontal ligament 2-Bone

3-Gingiva 4-Cementum

 As a dentists we don't treat teeth,we treat patients!

 Examination of patient starts when the patient enters your clinic!

Examination sets consist of:

- Mirror - Tweezer - Explorer

# The doctor ask us bring new instrument which is the periodontal probe.

**Dental charting**

Let us start with teeth charting and examination, this is the examination and treatment plan sheet(refer to slide#7) , that you will be having during your fourth and fifth year clinics .

 You have already started with the first part of this page and we will be concentrating on the **lower part** of it which is the teeth charting.

**Teeth charting:**

-it is divided into upper, lower, right and left.

-there are abbreviations that help us while writing on it.

 - For example:

 X: for missing TEETH

 DC: for Dental Caries

 RC: for Root Caries

 F: for fracture

 M: for Mobility

 CR: for Crown

 RCT: for Root Canal Treatment

 RR: for Remaining Root

 OH: for overhand restoration

# refer to slide#9

 “F” on the incisal edge🡺 indicates 🡺fracture in this area.

the lateral incisor 🡺deep caries in the labial cervical area

canine🡺 Root Caries on the in the mesial part.

The four🡺 missing.

The five🡺 have crown and mobile.

The six 🡺 overhand restoration and RCT.

The seven🡺 Remaining Root

 **While examination and charting the teeth**:

**1- be systematic;**

START WITH UPPER RIGHT SIDE THEN UPPER LEFT THEN LOWER LEFT THEN LOWER RIGHT.

**2-don't hesitate counting teeth;**

 Sometime you may found extra tooth or hypodontia 🡺 it can be related to other disease.

**3-always remember patients chief complain;**

why the patient come to you 🡺the most imp thing.

**4-always remember to use examination set;**

also use light and air water syringe to detect Caries.

**5-sit in proper position and make your patient in proper position;**

in order to be able to get proper examination

**6-use your fingers for palpation**

**7**-When we examine teeth we don’t look for caries only, so we start with the **number of the teeth**; to know if there’s missing tooth or extra tooth.

 **8-**Then we check the **morphology of the tooth; to** see if there’s fracture, tooth surface loss, or deep caries.

#Examples of **morphological abnormalities**:

-peg shape lateral

-talon cusp

invagination –evagination-

**9-** **Examine the color change** can be subdivided into internal and external

**#** The causes of color change:

-Fluorosis - stains – hypermineralization

 - Genetic disease - bacteria -caries

# refer to slide#14

The upper picture🡺 EX of fluorosis a

 The lower picture🡺 EX of antibiotic [tetracycline].

**10-examine Fracture;** can be in the middle of the tooth or in the incisal area.

-Detection of fracture can be difficult sometimes, so we use instrument that help to detect fracture called **dental slot**.

**11-Examine Tooth loss;** can be due:

–attrition –abrasion -abfraction

**12-Examine Dental caries:**

 # Dental cariescause by:

 - Bacteria especially streptococcus mutes - Defective enamel

-Lack of fluoride -Harmful diet.

#dental caries can be presence in any surface of the tooth

#Try not to use probe to detect caries it will catch; [caries is sticky] use air syringe instead of probe.

# there’s a difference between the refractive index of the normal enamel and caries enamel that will produce change in the color, this change help to detect the caries.

**Occlusal caries**:

\*X-ray does not help to detect an occlusal caries, unless there is huge and deep caries it might appear in x-ray.

\*to differentiate between fissure caries and stain; you should take in consideration:

**1- AGE**

-young patient 🡺most probably it’s caries

-old patient 🡺most probably it’s stain

**2- Oral hygiene**

Bad oral hygiene 🡺 most probably it’s caries-

Good oral hygiene 🡺 most probably it’s stain.

# be careful of occlusal caries sometimes what might look as small occlusal caries, actually it might be very huge.

**Proximal caries:**

**#** detect by X-RAY.[sometimes by air]

#you have to differentiate between caries and cervical burnout

**- Cervical burnout**: more cervically oriented, cover most of the teeth.

**-Caries:** more occlusaly, appeared on enamel and dentine.

**Arrested caries**:

#In the proximal areas; which’s difficult to be clean, arrested caries starts as progression [demineralization >reminerlization].

# Once the tooth extracted and the neighboring tooth has little of caries; this neighboring tooth become accessible for cleaning and arrested caries will form.

**Secondary caries:**

Caries underneath the restoration.

**Pulpal tissue examination**

Present of caries in the enamel🡺 caries move to dentine if there is no prevention 🡺it will reach to the pulp, if there’s no treatment or prevention 🡺it will reach periapical area of the tooth.

**Reversible pulpities :**

-Caused by presence of deep caries [doesn’t reach the pulp].

-Patient feels discomfort especially for sweet and cold water that remains couple of seconds.

-Not spontaneous pain (patient feels pain upon stimulus)

-There’s no periapical lesion

**Symptomatic Irreversible pulpities**:

-Caries reach the pulp and starts to degeneration the pulap tissue –sharp pain especially upon thermal stimulus

 – Lingering pain: remains for 30 second or more.

-the pain is spontaneous and referred :the patient think that the pain move, sometimes he feels it in the lower arch and sometimes feel it in the upper arch or in the head BUT **it doesn’t cross the midline**[if the source of pain from the right side ,it will not move to left side; it remains at same side]

-the pain accentuated by postural changes (patient can’t sleep due to pain)

-difficult to be diagnose (one of the most difficult to be diagnosed because patient cannot determine the offended tooth)

 -pain killer are ineffective.

**Asymptomatic Irreversible pulpities:**

- No clinical sign symptoms

 –normal response

 –mostly caused by fracture and this fracture expose the pulp

-caries reach the pulp 🡺degeneration of the pulpal tissue 🡺pulp necrosis

 – After pulpal necrosis, bacteria reaches the periapical area and cause symptomatic apical periodontitis.

**symptomatic apical periodontitis:**

-Pain upon; percussion, bite, palpation.

- at this stage ;the patient can locate the offended tooth.

- it might be associated with radiographic changes (radiolucent) or does not associated with radiographic changes.

**Asymptomatic apical periodontitis:**

- Find periapical radiolucency by chance

-the patient doesn't feel pain.

**Chronic apical abscess:**

- pus formation and the bacteria trying to find a way out so it will form a sinus

- sinus might be intraoral or extraoral

 **Acute apical abscess:** - Rapid, tenderness, swilling, presence of pus **without discharge**.

The difference between acute and chronic apical abscess: **Acute**  without pus discharge **Chronic** discharge the pus (by forming sinus either intra or extra orally)

**methods of pulp examination:**

**1. Thermal:** either using

-hot: green stick. Or

-cold: ethyl chloride (spray ethyl chloride on cot cotton pellet).

#You apply thermal examination to know if the pain tingling or fade at a time.

#you should examine normal teeth and offended teeth to compare between them.

**2. Electrical Pulp tester**:

 Machine give you reading (to determine whether the teeth vital or not)

**3. Percussion**

 Using the end of the mirror and knock the tooth vertically, to detect the health of periapical area.

**4. Palpation:**

 By using your fingers, to detect the health of periapical area.

**5. Anesthesia:** Rare, but it can use when all teeth are carious and you can't locate which’s the offended teeth, for example you can give infiltration for upper six, if the pain runaway, this can give you a clue that the pain come from U6

**6. Cavity:**

Rare, you drill the tooth without anesthesia to know if the is tooth vital or not.

**7. Sinus tracing:**

In case of sinus, enter the GP inside the sinus then take a radiograph to locate the offended tooth.

\*presence of the sinus on premolar for example does not mean that premolar is the offended tooth ;( bacteria and pus try to find the easiest way to get out and form the sinus).

**Periodontal Examination**

**Periodontal Apparatus consist of:**

-Gingiva -Periodontal Ligament

-Cementum -Alveolar Bone

Healthy Periodontal Tissues appear :pink and firm.

**The main diseases of Periodontal tissue :**

**1. GINGIVITIS**

2. **PERIODONTITIS**

Examination of periodontium is done by using periodontal prop; insert the prop inside gingival sulcus and read the result.

 Normal range of gingival sulcus from 0 to 3.

\*\*Next page of examination sheet is about periodontal screening, you should right down the following information :

-Subgingival calculus -bleeding -mobility -plaque control -fraction -gingival resection -overhang restoration -periodontal range

Main cause of periodontal disease is presence of plaque; this plaque will form calculus (due to calcification).

**Calculus are two types**:

**-supragingival calculus**: calculus above gingival margin. Yellowish in color

**-subgingival l calculus**: calculus below gingival margin. Greenish or darkish in color.

**Furcation Invasion:**

**-**you can examine furcation by instrument called naber probe(can help us detect the furcation region and its grade).

**Mobility**:

-can be detected by using the ends of two instruments, then try to move the tooth.

- Mobility has a grade system:

**Grade 1** mobility less than 1mm

**Grade 2** mobility between 1mm and 2mm.

**Grade3** mobility more than 2mm

**Gingival recession**:

 -gingival margin is become away (apical) from normal gingival margin.

- Main cause of gingival recession is periodontitis.

**Signs of periodontal Disease:**

1. Gingival bleeding(occurs spontaneously and it could be the patient’s complain, or bleeding may occurs upon probing))

2. Color change: normal color is pink .the color will change to red due to periodontitis

3. Consistency

 4. Surface texture

5. Contour: enlargement of the gum and change the contour of the gum.

**Clinical Attachment Loss** :

**#** Clinical Attachment Loss can differentiate between gingivitis and periodontitis,

Clinical Attachment Loss: [Pocket depth + Recession]; #

 -it could be Pocket depth only

 -it could be Recession

 -it could be both of them



a 🡺 Clinical Attachment Loss: Pocket depth + Recession

b 🡺 Clinical Attachment Loss: Pocket depth (without recession)

**Plaque Index** (give me a clue about oral hygiene or plaque control of the patient)

 **Score 0** no plaque

**Score 1** thin layer of plaque not visible to the naked eye but collectable with a periodontal probe

**Score 2** moderate accumulation of plaque which is visible to the naked eye

**Score 3** abundance of plaque

**Gingival Index (**give me a clue about severity of inflammation)

**Score 0** no inflammation; no change of colour or texture

**Score 1** mild inflammation; slight change in colour or texture, NO bleeding on probing.

**Score 2** moderate inflammation; glazing, redness, swelling, bleeding on probing

**Score 3** severe inflammation; marked redness, ulceration, tendency to spontaneous bleeding

**Periodontal Screening and Recording Index** (help me to diagnose the patient and chose treatment plane)

**Code 0** the greatest probing depth is less than 3mm NO calculus, NO defective restorative margins and NO bleeding on probing detected

**Code 1** same as code 0 + bleeding on probing **Code 2** same as code 1 + supra- or sub-gingival calculus and/or defective restorative margins present

**Code 3** he greatest probing depth in the sextant is greater than 3 mm but less than 5mm

 the greatest probing depth in the sextant is greater than 5mm  **Code 4**

**Special Investigations**

After examine the patient, you should know if you need:

-bitewing x-ray (mainly for proximal caries)

-periapcal x-ray

-opg (panorama): general information

**Dr. Omar Karadshe**

#The aim of index🡺 communication between dentests

#Dental diseases start with gingivitis🡺 increase of bacteria lead to formation of subgingival calculus🡺 lead to attachment loss(characteristic of periodontitis )

**How the tooth attache to the bone?**

1. Periodontal ligaments (from the bone to the cementum )

2. Gingiva (neck of the root)

3. Junctional epithelium(where you insert the periodontal probe)

#Epithelium is a barrier and way of protection in our body;

 🡺in case of periodontitis (when inflammation progress to the bone, epithelium goes down to protect the bone; therefore tooth will loss attachment (Gingival recession)

 🡺Sometime epithelium goes down but the gingiva stays in its position(thick gingiva) that will form Pocket depth (without recession)

 🡺 Sometime, Gingival recession and Pocket depth occurs together

The Dr showed us a few exercise, unfortunately the Dr did not send them for us.

**GOODLUCK**

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