PROSTHODONTICS LECTURE

DIAGNOSIS

TOPIC OUTLINE

A. Diagnosis
- a. Dental And Medical Histories
- b. Extraoral And Intraoral Examination
- c. Radiographic Survey
- d. Pulp Testing
- e. Exploration Of All Associated Teeth And Other Teeth With Questionable Restoration Of Carious Lesion
- f. Articulated Diagnostic Cast

A DIAGNOSIS

- **Diagnosis** - process used to identify an existing abnormal condition, to investigate the abnormality, and to determine its cause.

Additional Information
- *Diagnosis is important because if you happen to misdiagnose, all your treatment plans will also be incorrect.*
- *Diagnosis is the identification, investigation, and determination of the cause of a disease.*

SIX DIAGNOSTIC TOOLS
- **Dental and medical histories**
- **Extraoral and intraoral examination**
- **Radiographic survey**
- **Pulp testing**
- **Exploration of all associated teeth and other teeth with questionable restoration of carious lesion**
- **Articulated diagnostic cast**

A1 MEDICAL & DENTAL HISTORIES

MEDICAL HISTORY
Pertinent medical history should be elicited using some known questions.
- **Care of a particular physician**
  - *Answered no: patient has not seen a medical doctor recently or even in the past.*
- **Drugs that are being administered.**
  - *Patients sometimes get confused with their conditions but the medicines prescribed by their doctor will give you an idea of their disease.*
- **Date and relevant findings of last physical exam.**
  - *When did you see a medical doctor and what were the findings of the examination?*
  - *Accuracy of the results are only good for 3 weeks. Beyond that, patients will be asked for another examination especially when they need surgical interventions (40 yrs & above).*
- **Serious illnesses**, past or present, should be noted.
- **Allergic manifestations either to drugs or foods** must be taken into consideration.
  - *Ask what they are allergic to before prescribing drugs.*
  - *Patients are asked to limit the amount of eating when the restoration is freshly cemented (soft diet).*

Additional Information
- *Even though it has hardened already, it takes 24 hours for cement to completely set.*
- *Patients are advised to not bite or chew in that area and only eat soft food.*
- *Patients are also discouraged from drinking tea, soda, and coffee to avoid discoloration.*

DENTAL HISTORY
- **Information about periodontal diseases, malocclusion or other facial or dental deformities in the family, dental experiences, recent therapy**.
  - *Success of the restoration is dependent on the health of the periodontium. Unhealthy periodontium and malocclusion (edge-to-edge & cross bite) are contraindicated for fixed restoration*
  - *Need to know their dental experiences so that negative experiences will not be repeated.*
  - *Recent therapies: jacket crown, FPD, pasta, RCT, etc.*
- **Causes for loss of teeth and complications** after extraction or other dental measures should be learned.
- **Patient's attitude** toward and understanding of good oral hygiene.
  - *There will be problems if the patient is not willing to cooperate with the restoration you are recommending.*

  - *Harder to adjust with RPD (2 months) than FPD (a week).*
- **Charting of the patient's dentition.**
  - *A way to identify the patient and useful in forensic tracing (along with radiograph and study cast) so it must be on point.*

A2 EXTRAORAL EXAMINATION

- Reveals the **facial profile** and **any asymmetry and deviations** from normal opening and closing of the mandible
  - *Class I - normal.*
  - *Class II - upper jaw is more forward.*
  - *Class III - lower jaw is more forward.*
  - *TMJD - failure to open and close the mandible.*
- **Skin of the face and neck** should be observed for possible variation in color, texture, pigmentation, eruptions or lesions that would suggest local or systemic diseases.
- **Neck should be palpated** for the presence of lymphadenopathy or glandular enlargement
  - *Refer to specialists if there are signs of tumors/enlargement.*
- Palpation of the **TMJ** and **muscles of mastication**.
  - *Condyle should not shift/click when you close and open the mouth.*

A3 INTRAORAL EXAMINATION

- Search for pathological conditions of lips, buccal mucosa, gingiva, tongue, palate, floor of the mouth, and pharynx.

EXAMINATION OF LIPS

- Should be examined for **early malignant neoplastic disease** or **precancerous lesions**.
  - *Prescribe medicine and if the lesion did not subside and instead grew bigger, the patient is suspect for neoplastic lesion.*
- Lesions present for two weeks or more should be **considered neoplastic** until proven otherwise.
- **Biopsy** may be indicated.

EXAMINATION OF THE BUCCAL MUCOSA

- **Prevailing site for chronic irritation** such as leukoplakia and lichen planus.
  - *White lesions caused by bacteria.*
  - *Buccal mucosa pushes food back to the teeth and accumulates bacteria.*
- Malignant changes oftentimes occur under these conditions.
- Must be **periodically inspected**.

EXAMINATION OF GINGIVA

- Often considered the **mirror of systemic disease** such as anemia, leukemia, polycythemia, and Addison's disease which exhibit oral manifestation.
  - *Gingivitis is caused by poor oral hygiene and calcular deposits.*
  - *Inflammation may be caused by side effects of drugs or systemic diseases.*

EXAMINATION OF THE TONGUE

- Lesions of the tongue are **traumatic in origin**.
- Most commonly observed lesions are carcinoma, tuberculosis, syphilis, pernicious anemia, herpes, and glossitis.
  - *Virus still runs in the blood even after physical manifestations are healed.*

EXAMINATION OF THE PALATE

- Exhibit **various pathologic lesions** which include herpes, necrotic ulcerative gingivitis (NUG), and hyperkeratosis.
- Systematic lesions of tuberculosis or syphilis are seen in a few cases.

EXAMINATION OF THE FLOOR OF THE MOUTH

- Lesions usually present are **cystic**.
- An early differential diagnosis to rule out malignant neoplastic disease is very important.
  - *Needed because lesions in the floor of the mouth appear similar to each other.*
  - *Differentiate them to come up with appropriate treatment.*

EXAMINATION OF THE OROPHARYNX

- **Site for both local and systemic disease**.
- Lesions in this area that show **poor or non healing tendencies** should be referred for medical appraisal.
  - *Refer to a specialist if you see anything wrong with the throat area. Do not experiment on the patient.*
- **Malignant neoplastic disease** in this area must be found and treated soon after its inception if it is to be cured.

EXAMINATION OF MAXILLOMANDIBULAR RELATIONSHIP

- **Centric closure must be observed**, any premature contacts causing mandibular shift (TMJ) may be detected.

  - ***Centric closure*** - *most posterior relation assumed by the mandible to the maxilla when it closes.*
  - *Posterior teeth contact upper teeth first.*
- Tooth contacts in **eccentric movements** of the mandible should also be noted.
  - *Not normal: jaw pushed forward or moved sideways.*

TESTS FOR TMJ DISORDER

- *Put the pinky finger on the sides of the ear.*
- *Ask the patient to fully open their mouth. Look at the incisal edge of the upper and lower central incisor then measure it.*
- *If a patient is unable to open their mouth as much as 50 mm (average), they have a TMJ problem.*
- *Ask the patient to move their lower jaw sideways. Distance between the upper and lower midline should be 12 mm.*

A4 DIAGNOSTIC EXAMS

RADIOGRAPHIC SURVEY

- Includes **14 periapical films**, **right and left bite-wing films**, **cephalometric**, **panoramic**, or **TMJ radiographs**.
  - *The entire upper and lower dentition can be captured using 14 periapical films; Required for FPD.*
  - *Bitewing film is bigger than periapical; it is positioned occlusally.*
  - *Cephalometric includes the skull; usually for small children to take note of their growth.*
  - *Panoramic is the standard film used in the clinic.*
  - *SOP for new patients: study casts and panoramic radiographs*
  - *The film shows soft tissues (black) and hard tissues (white).*
- Disclose the presence of following to provide information of bone density.
  - osseous disease, location and approximate depth of the carious lesion, width and lateral position of the pulp, crown-root ratio
  - root sizes and form, width of the periodontal membranes, quality of restorations, presence of root fragments or foreign bodies
  - character of bone in areas of added stress, surface character of alveolar ridge in edentulous areas

PULP TESTING

- **Test vitality of the pulp in the remaining teeth** by the use of pulp testers but in doubtful situations, the application of heat and cold is useful.
  - *Determine whether a tooth is vital or non-vital especially for those to be used in abutment purposes.*
  - *Vital teeth can support restorations better while non-vital abutments are already brittle or fractured.*
  - *When you cut a vital tooth, enamel dentin is exposed to extrinsic factors and becomes very sensitive. Hence, some dentists render the tooth to undergo RCT first to minimize pain.*

Additional Information

- *If you do not completely cover the tooth with the restoration, saliva will get inside → cement will melt and cause dislodgement, leading to caries formation.*
- *The finish line is there to support the jacket crown. If it's not smooth, the borders will not lay flat and there will be gaps where saliva can penetrate.*
- *Required width of a shoulder finish line: 0.8, 0.9, or 1.0 mm*

DIRECT EXPLORATION

- **Mechanical removal of all restorations and caries**, inspection of the remaining dentin and any instances of pulpal exposure must be made.
- If the condition of the abutment teeth necessitates full coverage restoration, a **fixed prosthesis should be considered**.
  - *Big restorations are prone to fracture. If patient keeps coming back to have it refilled, recommend a jacket crown to protect the tooth.*
- However, tooth reduction depth should be kept to a minimum and the prosthesis should be considered temporary, to be remade when the pulp size permits.

What do you do if patient complains of pain but cannot determine where it is emanating from?

- *Look at the teeth and percuss on the cuspal area using the end of the mouth mirror.*
- *Take a radiograph.*

- *If the radiograph is inconclusive, do a direct exploration and remove all the restoration.*

DIAGNOSTIC CAST

- **Reproduction of the patient's maxillary and mandibular arches**.
  - *Must be mounted to the correct occlusion based on what you are seeing on the patient's mouth.*
  - *Can use an intraoral camera for scanning; no need for impression taking.*
- **Source of information** in reaching the diagnosis.
- Cast must **accurately copy all teeth** and the **surrounding soft tissue** that are important to the fabrication of the prosthesis.

PROSTHO TREATMENT PLAN FOR PATIENTS

1. *Implants*
2. *Fixed*
3. *Removable*