

Introduction for oral surgery

Oral and maxilla-facial surgery; is one of the dental specialties dealing with management of diseases, injuries and defect of human jaws and associated structures, oral surgery forms the connecting link between medical and dental specialties.

Extraction; the process of pulling out or removing.

Exodontia; tooth extraction.

Exodontia procedure depend on make an in-corporation between the principle of surgery with the principles learned from physics and mechanics and applied these knowledge correctly in removal tooth or root from it alveolar process without any trauma to the adjacent structures & Without untoward sequels.

Ideal tooth extraction; is the painless removal of the whole tooth or tooth root with minimal trauma to the investing tissues, so that the wound heals properly and no post operative prosthetic problem is created.

Controlled force ; is that force which is adequate to act on the root surfaces to expand the alveolus without its significant fracture or fracture of the tooth , and no undue injury is inflicted to the adjacent teeth or supporting structures.

The practical surgery need;

- a. Diagnostic ability, technical skill, judgment and compassion.
- b. Patient assessment; symptoms, objective findings, assessment and plan.

Diagnostic ability

- 1- it is found upon knowledge of natural history diseases.
- 2- It depends upon confidence and trust between patient and his doctor.
- 3- It should take the varying emotions of the patient in consideration.
- 4- It is proportional to the ability of the doctor to listen to the patient.

Symptoms; subjective problem that a patient describes e.g pain,parasthesia.

Signs; means (objective) an abnormal presentation detectable by clinician, e.g.swelling,ulcer.

Listen	look	learn
1. Always introduce yourself.		2. Explain plan.
3. Question.		4. Interrupt patients.

Indication of extraction;

1. Periodontal disease (in grade II and III mobility cases).
2. Severe non- restorable carious lesion.
3. Pulp pathology (in case of pulpal necrosis and irreversible pulpitis).

4. Cracked / broken tooth especially in the meiso-distal direction or at the cervical line.
5. Teeth in the line of jaw fracture.
6. Impacted or ectopically present teeth.
7. Supernummary teeth.
8. Teeth removed due to orthodontic reasons (for space gaining).
10. Malposed or malpositioned teeth.
11. Teeth removed due to prosthetic considerations.
12. Teeth in the direct field for radiotherapy to the jaw(may be removed prophylactically).
13. Over-retained deciduous teeth.
14. Teeth involved in the foci of infection.
15. Teeth removed due to esthetic reasons (especially in severely tipped canines).

Contraindications of extraction

1-Relative; mean extreme care must be taken before any extraction.

2. Absolute; extractions should never be done to avoid any risk to the patient.

Relative –local;

1. Localized periapical pathology.
2. Presence of oral infection like Vincent's Angina, herpetic gingivo stomatitis.
3. Acute pericoronitis.
4. Malignant disease.
5. Extraction of teeth in previously irradiated jaw which may lead to osteoradio-necrosis.

Relative-systemic;

1. Un controlled diabetes mellitus; more prone to infection and delayed wound healing.
2. Cardiac disease like hypertension, congestive heart failure, myocardial infarction and coronary artery diseases.
3. Blood Dyscrasias; anemia, hemophilia and etc. Prone to excessive bleeding.
4. Medically compromised patients; patients with debilitating diseases (as in T.B.) and poor medical history.
5. Addison's disease and patient on long term steroid therapy; hypo-adrenal crisis may occur in these patient due to increase stress to prevent this 100 mg of hydrocortisone, prescribed prior to procedure.
6. Fever of unexplained origin; one of causes may be sub acute bacterial endocarditis and extraction cause bacteremia → → bacterial endocarditis.
7. Nephritis; chronically infected teeth extraction often provokes an acute nephritis.
8. Pregnancy; Extraction avoided in 1st and 3rd trimester, → → →
(care for drugs & radiography).
9. During menstruation cycle. Bleeding and may mentally, nervously patient.
10. Psychosis; proper precautions and the interaction of patient's drugs.

Absolute- local

Teeth involved in arteriole-venous malformations(ex;Haemangioma). Extraction may lead to death.

Absolute-systemic;

1-Leukemia. 2- Renal failure. 3- Cirrhosis of liver. 4- Cardiac failure.

Case history of patient

The art of taking accurate history from the patient is probably, the most important single step in the diagnosis of a medical condition.

This is divided into the following section;

Biographic Date, Personal history (P.H); patient name, age, sex, profession, marital status, address, telephone number and date.

Name; it is important to know the patient by name for the patient's communication and ease care of the patient.

Age; certain diseases are particular to that particular age.

Some diseases present at/since birth; facial hemi-hypertrophy, macrognathia, cleft palate , double lip, cleft (lip, palate ,tongue), fibromatopsis gingivae, Fordyce's granules, median rhomboid glossitis, developmental lingual salivary gland depression,teratoma,erthroblastosis fetalis, hemophilia, tetralogy of fallot, bronchitis.

Some diseases frequently seen in children and young adults; focal epithelial hyperplasia, benign migratory glossitis, papillon-lefvre syndrome, juvenile periodontitis,osteoid osteoma of the jaw, torus palatinus, Kaposi's sarcoma, Ewing's sarcoma , osteosarcoma of the jaw, Burkitt's lymphoma, Hodgkin's lymphoma, benign centoblastoma, basal cell carcinoma, squamous cell carcinoma, scarlet fever, diphtheria, rickets , sickle cell anemia, infectious cell anemia, infectious mononucleosis, pemphigus,noma,primary aphthous stomatitis, recurrent aphthous stomatitis, dental caries, pulp polyp, dentigerous cyst (2nd decade), juvenile diabetes, eruption cyst, nursing bottle caries, Rheumatoid heart diseases .

Some diseases frequently seen in adults and older patients; attrition, abrasion, gingival recession, periodontitis, acute necrotizing ulcerative gingivitis , root resorption, lichen planus, leukoplakia, erythroplakia,Sjogren's syndrome(over 40 years),acinic cell carcinoma. necrotising Sialometaplasia, ameloblastoma(30-50 years), trigeminal neuralgia,fibroma, herpes zoster,osteomalacia,, torus mandibularis , fibrosarcoma of jaw bone, diabetes , peptic ulcer.

Sex; certain diseases effecting sexual organs will be particular to the sex concerned.

Some diseases more common in females;iron deficiency anemia,caries,Diseases of thyroid,pleomorphic adenoma, Sjorgen's syndrome, myasthenia gravis, torus palatines, juvenile periodontitis,Cicatrical pemphigoid,recurrent aphthous stomatitis , malignant melanoma.

Some diseases more common in males; attrition ,caries in deciduous teeth, carcinoma in situ , carcinoma of the buccalmucosa,leukoplakia,basal cell carcinoma,hodgkin´s disease,ameloblastic fibro odontoma,basel cell adenoma, pernicious anemia,

Address; it is helpful to communicate with the patient. Few diseases are distributed to particular areas.

Occupation; it helps in diagnosing certain diseases related to the occupation. for example; varicose vein in bus conductors and traffic police due to long time standing. Attrition of teeth in cobblers and tailors, erosion is seen in people working in chemical industries.

Chief Complaint C.C.; every patient should be asked to state his or her chief complaint, this should be recording according **to the patient own words**. Should not translated into technical language unless reported in that style by the patient. Ask the patient what seem to be the main trouble usually the patient complaint is severe toothache with prevent him from **eating etc.,**

The questions about chief complaints help in seeing

- 1- The severity of the condition.
- 2- The need for emergency measure.
- 3- The diagnosis of the condition.

History of Present Illness (H.P.I.) the patient should be asked to describe the history of present complain or illness particularly it´s first appearance, any changes since first occurrence. Patient may or may not volunteer a detail history of the problem for which they are taking treatment for and additional information usually needs to be elicited by the examiner. The patient's response to these questions constitutes the history of present illness.

Example one pain; Description of pain should include it onset, intensity, duration, location and radiation and the factors that worsen (aggravate) or relieve the pain. In addition associated with chief complaint;

1. It´s characteristics either sharp, dull, throbbing or burning.
2. Severity either mild moderate or severe and if the patient took any analgesics to relieve pain.
3. Date of onset; either at night during eating, on biting or drinking hot or cold things .this is of great importance to reach the correct diagnosis.
4. Does the pain is continuous or intermittent.
5. If it is increasing or decreasing in severity.
6. Area to which pain is radiates.
- 7 .any other symptoms like discharge, bed test, bad odor, etc.

Example two swelling; If the complaint was swelling we ask about it duration, it is getting larger or smaller or fluctuated in size. If it painful or not, if associated with parasthesia or numbness any possible cause of the swelling i.e.; trauma, injuries or systemic illness known to patient. Hypersensitivity, etc...

Past Dental History (P.D.H);we ask the patient about previous visits to the dentist, especially the last visit and concentrate on complications like fainting ,bleeding, difficult extraction ,fracture during extraction etc...**Past dental history** is particular pertinent in the education of the dental patient.

Significant items that should record are;

- a- the frequency of past treatment, previous restorative, periodontal ,endodontic, or oral surgical treatment.
- b- Reasons for loss of teeth towards complication of dental treatment.
- c- Attitude towards previous dental treatment.
- d- Experience with orthodontic appliance and dental prosthesis.
- e- Fluoride history including supplement and the use of well fluoridated water.
- f- Radiation or other treatment for facial or oral lesion.

Past Medical History (P.M.H); any history of systemic disease should be noted, most dental practioners find health history questionnaires to be an efficient means of collecting the medical history.

The questionnaires should include;

- a) Systemic disease like heart problem ,cardiovascular disease, liver disease, diabetes ,neurological disease, renal disease ,etc..
- b) Past hospitalization, operation, traumatic injuries and serious illness.
- c) Medications currently or recently in use and allergies ((partially drug allergies).
- D) Description of health related habits like smoking, alcohol drinking, etc..
- E) Date and result of last medical checkup or physician visit.

Taking medical history is important because some systemic diseases can be relevant to dentistry and so the dental treatment should be modified for the patient's safety.

A patient may have or had as a child or as an adult and is organized into following subdivisions;

Serious or significant illness

Patient is or was routinely medicated, heart, liver, kidney or lung diseases, allergic reactions, infectious disease. Immunological disorder or steroid therapy, diabetes or hormonal problem, radiation or cancer chemotherapy or immunosuppression, psychiatric treatment, history or spontaneous bleeding associated with extract period, therapeutic radiation to head and neck, seizures disorders, heart murmurs, rheumatic fever or congenital heart diseased, neuropathy associated with a regional oral surgery.

Hospitalization; a record of hospital admission, complements the information collected on serious illness and may reveal significant events not previously reported.

Blood transfusion it is important in evaluating medical strains and to prevent transmissible infectious disease.

Allergic; history of allergies and reactions such as urticaria, hay fever, asthma, untoward reactions to medication, food and diagnostic procedures.

Medications ; a medication history is essential for identifying drug induced diseases and avoiding untoward drug administration, when selecting local anesthetic or other medications indicated in dental treatment.

Pregnancy; a negative urine or serum pregnancy test is required in suspected cases before administration of drug, it helps us to prescribe a medication or procedure involving exposure to **ionizing radiation & drug** with known or unknown teratogenic potential.

Social History (S.H.) occupational & personal; ask the patient if he or she is married or not. Habits, (which causes oral mucosal and periodontal changes- diet –vegetarian) like smoking, drinking, addiction etc. menstrual history and number of pregnancies, miscarriages , whether deliveries are normal or not , the work place or travel it provides important background information to a patients problem as well as suggests possible etiologic related to the social activities .

Family History (F.H.); ask about the medial history of near relatives of the patient i.e. parents, brothers, sisters, children. In certain conditions like hemophilia and congenital anomalies such as cleft lip or palate etc. Such diseases may run in families. Certain diseases commonly effect more than **1** member of family such as migraine, some neurological and mental disorder, certain allergic disorder and cardiovascular diseases. Inherited anatomic anomalies such as congenitally missing lateral incisors , amelogenesis imperfect, can also be diagnosed by family history recording.

Clinical examination; it includes

a- Extra Oral Examination (**E.O.E**).

b-Intra Oral Examination (**I.O.E**).

a- **E.O.E;** main part is performed by the dentist eye, the following information should be collected;

1- Symmetry of the face. **2-** General look of the face.

3- Presence of any swelling. **4-** Colour of the sclera.

5- Any extra oral sinus and discharge.

6- The mouth opening and the access to the site of operation.

7-Examination of the lymph nodes especially the submandibular lymph nodes to

look for any lymphadnopathy. **Lymph nodes;** lymph nodes are aggregation of lymphatic tissues present all over the body which helps in drainage. The lymph nodes that are examined are the cervical group of lymph nodes includes;

submandibular ,submental ,jugulodigastric, preauricular,

postauricular,supraclavicular.

Types of lymph node inflammation.

1. Non significant where only one lymph node is involved ,it is non tender and discrete .
2. Significant where more than **one cm** size increases is present and lymph node is tender and fixed.

Palpating lymph node and probable associated conditions;

- A. Tender mobile, enlarged –acute infection.
- B. Non-tender mobile, enlarged –chronic infection
- C. Matted, non tender –tuberculosis .(group of nodes connected and move as unit)
- D. fixed, enlarged –squamous cell carcinoma.
- E. rubbery, enlarged –lymphomas.

8-Examination of the T.M.J. to see if there is any clicking or crepitating.
for temporomandibular joint abnormalities we need to observe for deviation of mandible during opening and closing as well as during vertical and lateral movements. Tenderness on palpation and presence of any clicking popping sound.

(Use of stethoscope)

b- I.O.E; includes the examination of the whole oral cavity by the use of fingers and the **examination set** (dental mirror, dental probe, dental twizzers).

This examination include;

- 1-oral hygiene of the patients (poor, moderate, good).
- 2- Condition of the mucous membrane.
- 3- Condition of the gum (normal, inflamed, fibrotic, etc.)
- 4- The carious, present, missing, dental caries, restored, and retained teeth.-
- 5- Discolored teeth, , Occlusion, any other abnormalities., -
- 6-the periodontal state of the present teeth (calculus, staining, mobility –grade I, grade II, grade III,, gingival inflammation).

Careful examination of the offending tooth (the tooth to be treated)by using probe to see if there is any tenderness to percussion ,pulp involvement or any kind of restoration if it is inclined malposed mobile or not etc..

Investigations; sometimes we need to do some investigations include radiographs (extra oral or intra oral) pulp testing measures, laboratory investigations measurement of blood pressure etc.

Provisional diagnosis; it is the art of using scientific knowledge to identify oral disease, process and to distinguish one disease from the other.

Differential diagnosis; it is the process of identifying condition by differentiating it from all pathological process that produce similar lesion.

Treatment plan; this includes the method that will be used to remove the tooth either forceps extraction or surgical removal and the number of the teeth that will be extracted.

The examination of oral structures

- 1. Lips ;** note the colour of the lip, texture and any surface abnormalities , angular or vertical fissures ,lip pits ,cold sores ,ulcers ,scabs ,nodules ,sclerotic plaque and scars.
- 2- Labial mucosa;** orifice of minor salivary glands and granules.
- 3- Buccal mucosa ;** note any change in pigmentation and movability of mucosa, pronounced linea alba, leukoedema , intra oral swelling , ulcers , nodules, scars, other red and white patches and Fordyce's granules.
- 4- Maxillary and mandibular mucobuccal fold;** observe color , texture , any swelling , fistula, palpate for swelling and tenderness over the roots of teeth and tenderness of buccinators insertion.
- 5-Palate (hard and soft);** inspect for discoloration, swellings ,fistula, papillary hyperplasia ,tori ,ulcers ,hyperkeratinisation, asymmetry of structure ,function and orifice of minor salivary glands.
- 6- Floor of the mouth;** observe for the opening of Wharton's duct and other abnormalities.
- 7- Tongue;** dorsum of the tongue should be observed for any swelling, ulcer, and variations in colour, size and texture.
- 8- Oropharynx;** observe for the tonsils and pharynx and note for colour, size and surface abnormalities.
- 9-Gingiva ;** observe for the colour ,contour ,consistency ,shape ,size ,surface texture, position ,bleeding on probing and exudation on pressure.
- 10 -Saliva;** check for the quantity and quality of saliva.

WITH MY BEST WISHS