**Pre-extraction (operative) evaluation:**

 P.O.E is valuable and necessary for successful extraction practice. Hurry and inadequate P.O.E of the case may lead to many embarrassing intra-operative problems for the operator, in addition to the postoperative problems to the patient, **P.O.E include:**

**1- Clinical preoperative evaluation.**

**2- Radiological evaluation**

**1-Clinical P.O.E also includes:**

a) General evaluation.

b) Local evaluation.

**A-General evaluation includes:**

* General impression of the patient.
* History of general diseases, Nervousness, and orientation
* General oral hygiene.
* Gingival inflammation, calculus, neglected mouth.

**B-Local factors evaluation Includes:**

* Clinical examination of the accused tooth.
* Adjoining structures.
* Access to the tooth. This includes the mouth opening, location of the tooth (e.g., buccally malposed, in standing) may present difficulty in positioning the dental forceps for extraction, so you may remove such a tooth surgically.
* Tooth mobility: The mobility of the tooth to be extracted should be assessed preoperatively, greater than normal mobility is frequently seen with severe periodontal disease, but sometimes it maybe because of the underlying pathology like neoplasm
* Condition of the tooth: - e.g.

a) Carious destruction.

b) The presence of large restoration.

c) Presence or absence of the adjoining teeth.

d) Vitality of the tooth.

e) State of the supporting tissue.

f) Shape, position, long axis, and size of the crown.

g) Attrition

 Good P.O.E results from correction of data collected from history, clinical examination, radiographs, and laboratory aids in addition to that P.O.E need good knowledge and experience in the basic sciences e.g., anatomy, physiology, pathology.

**In general, P.O.E may help you in:**

a) Determine the method of extraction and type of anaesthesia.

b) Reduce the time spend for extraction.

c) Reduce the intra and post-operative crisis and complications.

**2- Radiological evaluation:**

 Preoperative clinical assessment maybe supplemented sometimes by preoperative radiographs, and the positive indications for preoperative radiograph are:

1) History of difficult or unsuccessful extraction.

2) Crown with extensive caries, large restorations, and non-vital tooth when diagnosis is not certain, and tooth is malposed.

3) A tooth which is abnormally resistant to forceps extraction.

4) If after clinical examination you decide to remove the tooth surgically.

5) Any tooth which is in close relation to important or vital structures like neurovascular canal, maxillary sinus, mental nerve, nasal cavity.

6) Attrition teeth in elderly patient (maybe associated with hypercementosis).

7) If a tooth is partially erupted or completely unerupted or retained root.

8) Any tooth which has been subjected to trauma, fracture of the root and/or alveolar bone may be present.

9) An isolated maxillary molar especially if it is unopposed and over erupted. The bony support of such a tooth is often weakened by the presence of maxillary sinus and this may predispose to certain condition called oro-antral communication or fracture of the maxillary tuberosity.

10) Whenever, underlying bony pathology is suspected e.g., cystic lesion, tumor.

11) Any systemic condition which may predispose to dental or alveolar abnormality like:

**a)** Osteitis deformans (Paget's disease), in which the roots are hypercementosis and ankylosed leading to difficult extraction, infection of the socket.

**b)** Cleido-cranial dysostosis, for pseudo-anodontia (multiple impactions, hooked roots occur, supernumerary teeth).

**c)** Patient who have received therapeutic irradiation to the jaw which may have to predispose to osteoradionecrosis.

**d)** Osteopetrosis (marble bone disease), which cause extraction difficult and predispose to chronic osteomyelitis.

* **A good radiograph and careful interpretation may give or aid the operator to many factors that may cause difficult extraction, e.g.:**

1- Abnormal number and shape of roots.

2- An unfavorable root pattern.

3- Caries extending to the root mass.

4- Fracture or resorption of the root.

5- Hypercementosis of roots.

6- Ankylosis (there is no space in periodontal ligament), and sclerosis of the bone.

7- Gemination (the development of two teeth from one bud).

8- Impaction.

9- Bony sclerosis and pathological lesions.

 **Also, careful interpretation of the radiograph may also reveal or show the possibility of the following complications:**

* Involvement of, and damage to inferior dental nerve and mental nerve e.g., on extraction of impacted lower third molar
* The creation of oro-antral fistula or oro-nasal communication.
* The retention of intra-bony pathology e.g., cyst.
* The displacement of root or tooth into maxillary sinus.
* Fracture of maxillary tuberosity.