OBJECT LOCALIZATION

INTRODUCTION:

- It is used for the localization of foreign object or an impacted tooth within the jaw.
- Dental radiograph – 2d image
- IOPA - orientation either superoinferior or anteroposterior direction
- Occlusal radiograph - Buccolingual direction , anteroposterior direction
- Necessary for 3d imaging

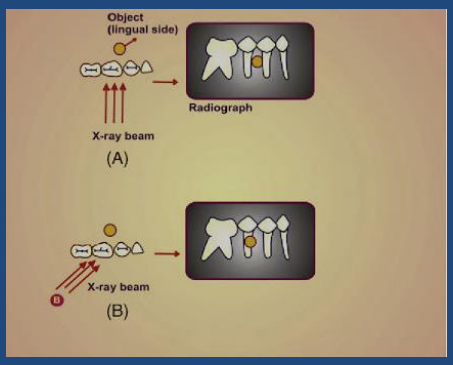
INDICATIONS:

1. Foreign objects
2. Salivary gland stones
3. Impacted teeth
4. Root piece
5. Filling material
6. Broken needle

CLARK's RULE:

(tube shift cone technique, SLOB technique)

- Based on principle of parallax – When an object is viewed from two different positions, the object appears to move in different directions.



- Two radiographs are taken
- First – taken with the usual horizontal angulation (reference radiograph)
- Second – slight change in the horizontal angulation.

In the second radiograph:

- If the object in question appears to move towards the side the tube is shifted - on the lingual side.
- If the object in question moves in the direction opposite to the tube - on the buccal side.

SLOB – same lingual, opposite buccal

RADIOPAQUE WIRES TECHNIQUE:

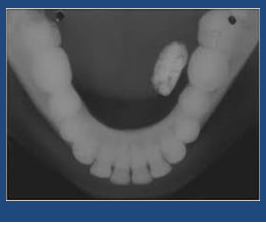
- In case of edentulous region
- Radiopaque wires of different shape are placed in a sheet of wax that is moulded over the edentulous area as denture base.
- SLOB technique

BUCCAL OBJECT RULE:

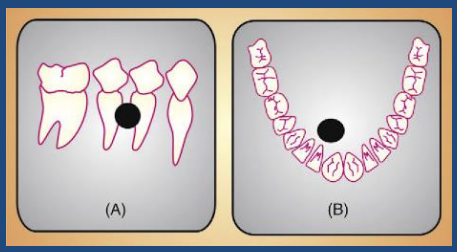
- Richard 1952
- Same as Clark rule

RIGHT ANGLE TECHNIQUE/MILLER'S RIGHT ANGLE TECHNIQUE

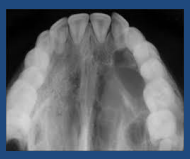
- This technique employs two projections of the same object taken at right angle to each other
- One standard IOPA and one occlusal radiograph
- IOPA – inferior/superior and anterior/posterior direction
- Occlusal radiograph – bucco/lingual and anterior/posterior position



- Object in question is located in relation with an anatomical landmark which is used as the reference object in both the radiographs.
- Now both the radiographs are interpreted simultaneously to localize its three-dimensional position.



- More useful in the mandibular region since cross-sectional view is possible
- Maxilla – superimposition (anterior part of the skull, maxillary and nasal bone)



STEREOSCOPY:

- Requires exposure of two films
- Double amount of radiation dose to the patient

- Between exposure, film is changed
- Film is shifted from right eye to left eye
- After processing, films are viewed with the help of a stereoscope
- Uses mirrors or prism to co-ordinate the accommodation and convergence of the viewer eyes which fuses the two images conveniently to reach at conclusion

INDICATIONS:

1. Evaluating the bony pockets in patient with periodontal disease
2. Morphology of TMJ
3. Root configuration of teeth requiring RCT
4. Assessment of bone shape – dental implant placement
5. Relationship of mandibular canal to the roots of unerupted mandibular molar teeth