

# Basics of X- ray Technology, Techniques of projections

## Intra Oral Radiographs

### Periapical

Roots of teeth. Must include root apex and 2mm or more of the bone under it. Good for Periapical treatment planning, RCT, apex location, Seeing Impaction, Periapical Inflammatory Process, Tumors, Cysts etc.

- Bisecting Angle Technique

Edge of the film placed at the level of the incisal or occlusal surface, X-Ray beam directed 90 degrees to plane which bisects the angle between the long axis of the tooth and the film.

- Paralleling Technique

Film placed parallel to long axis of tooth. X-Ray Beam directed at 90 degrees to film.

### Bitewing

Shows contact points between adjacent teeth, peridental analysis, caries analysis, height of alveolar bone. Beam directed 90 degrees to buccal surface of teeth.

### Occlusal X-Ray

Cross sectional view of Jaw and Teeth. Film placed horizontally in mouth. Beam directed 70 degrees to film. Maybe useful in looking for calcified structures in floor of mouth, eg. Salivary Gland Stones.

## Extra-Oral Radiographs

### Panoramic

Single image of upper and lower Jaw and surrounding tissue. Routine pre/post surgical evaluation, fractures of mand, max, impacted teeth etc.

### Cephalometric Radiographs

#### Standard Occito-Mental X-Ray, Waters View

Good for Orbits, Max Sinus and Facial Skeleton. Good for seeing Diseases to do with Max Sinus and Facial Fractures. View: Pt with chin on film, beam directed 90 degree to film 2cm above occiput.

#### PA Projection

Good for Skull Bones (Frontal and Jaw Bones). Good for Frontal Sinus and Facial Fractures. View: Pt with head and nose on film, beam directed 90 degree to film.

#### Caldwell View

Same as PA just with patient lying down with face flat on film.

#### Reverse Townes View

Good for Condyles and TMJ. Good for Condyle fractures and TMJ disorders etc. View: Pt with head and nose on film, beam directed so central beam passes at 25 degree angle upwards in condylar region.

#### PA of Jaws Clemecic View

Good for Post. Mand., Mand Cysts, Maxfac Defects. View: Pt with head and nose on film, beam directed 90 degree to film 7cm above occiput.

#### Lateral Skull Projection

Good for ortho analysis and orthognatic surgeon analysis and good to see skull dev from side and lat. proj. of facial skeleton. View: Pt with ear on film, beam directed 90 degree to film passing through malar bone.

### **Submentovortex Projection**

Good for seeing Base of Skull, Facial Skeleton from below, Sphenoid Sinus and Zygomatic Arch Fractures. Pt with head on film neck fully extended, beam directed at 90 degree to film so beam passes through chin and between angles of mandible.