BONES
And Their Radiographic Appearance
Facial bones:

- **Mandible** (one)
- **Maxilla** (two)
- **Zygomatic** (two)
- **Lacrimal** (two)
- **Nasal** (two)
- **Inferior nasal conche** (two)
- **Vomer** (one)

Exercise: On your cranium touch the approximate location of each bone

*Key terms are BOLDED*
Terms that describe bone anatomy

- **Process** – general term for any prominence
- **Fossa** - depression on the surface of the bone
- **Suture** – where two bones join
- **Tuberosity** – bony prominence, usually where muscle attaches, ie maxillary tuberosity
Terms that describe bone anatomy

- **Notch** – indentation on the edge of a bone
- **Ridge** – elongated prominence
- **Foramen** – opening

![Mandibular bone with labeled anatomical features](image)

- Mental foramen
- External oblique ridge
- Mandibular notch
Lateral View ID of Skull

1. Mandible
2. Maxilla
3. Zygomatic arch
4. Condyle
5. External auditory meatus (ear)
6. Temporal bone
Lateral Close-up

1. Condyle
2. Articular eminence
3. Coronoid process
4. Ramus
5. Articular fossa
6. Mandibular notch
7. Coronoid notch
Temporomandibular Joint (TMJ)

- Mandibular condyle articulates with temporal bone in the articular fossa.
- Most anterior border of articular fossa is the articular eminence.
- If someone opens wide and the condyle slides anterior to the eminence, the person has “lockjaw”.

Articular fossa

Articular eminence
Lateral closeup

1. Tooth #11  (Skip 2)
3. Mental foramen
4. Zygomatic process
5. Alveolar bone
6. Alveolar crest of bone
What tooth number is this?
Zygomatic Arch

- Commonly called the cheekbone
- Comprised of three bones, temporal, maxilla, zygomatic
Radiographically, the zygomatic arch appears as a radiopaque horseshoe shaped structure above maxillary molars (but not always seen)
Maxillary Sinus – an opening in the maxillary bone, acts as a filter for inhaled air.
Inverted Y

- Maxillary sinus meets nasal cavity in area of cuspid
- On radiographs, wall of sinus crosses wall of nasal cavity (both are radiopaque because they are compact bone)
- Result is “the inverted Y”

*When you see this landmark- you know the film is a maxillary film*
Floor of maxillary sinus

Zygomatic Arch
Frontal View Identification

1. Frontal bone
2. Orbit
3. Mental protuberance
4. Nasal cavity
Skull Identification

1. Midline suture
2. Nasal spine
3. Nasal septum
4. Infraorbital foramen
5. Lateral fossa
6. Superior nasal concha
Anterior Radiograph

1. Midline suture
2. Noseline (cartilage)
3. Nasal spine (radiopaque prominence)
4. Nasal fossa
5. Nasal septum (elongated, thin radiopacity)
Lateral Fossa – a depression between the maxillary cuspid and incisor

Exercise – feel your lateral fossa with your finger
Nasal septum (divides nasal cavity)

Inferior nasal conche

Nasal spine

Lateral fossa (Radiolucency inside circle)
Lingula – a bony projection that partially covers the mandibular foramen
Lingual foramen
(a foramen nothing asses through)

Genial tubercles
(muscles attach here)

Submandibular fossa
(depression for submandibular Salivary gland)
Coronoid notch
Coronoid process
Mandibular Notch
Condyle
Ramus
External oblique ridge
Internal oblique ridge

External oblique ridge
Mandibular foramen

Mandibular canal

Submandibular fossa
(large radiolucency within the circle)
Internal oblique ridge

Mandibular canal

*Look for these landmarks to identify mandibular films
Submandibular fossa
Nutrient canals – passageways to teeth for vessels (arrows on film) often seen around maxillary premolars

Genial tubercles (Radiopacities)

Lingual foramen (radiolucency)
1. External oblique ridge
2. Internal oblique ridge
Palate

Nasopalatine (incisive) foramen

Median palatine suture

Anterior (greater) palatine foramen

Posterior (lessor) palatine suture
Palatal Radiographs

Nasopalatine (incisive) foramen

Palatal suture
Skull with mandible removed

Maxillary tuberosity
Question 10- What tooth number is this?
Anatomic Landmarks Exercise

What anatomic landmarks do you see in maxillary incisor periapicals?

What do you see with maxillary canine PA’s?

What do you see in maxillary premolar periapicals?

What do you see in mandibular molar periapicals?