Study Questions:

Odontogenic cysts:

* **7 developmental cysts**:
  + Dentigerous cyst
  + Eruption cyst
  + Odontogenic keratocyst
  + Lateral periodontal cyst
  + Gingival cyst of the adult
  + Gingival cyst of the newborn
  + Calcifying odontogenic cyst
* **3 inflammatory cysts**:
  + Radicular cyst
  + Paradental/buccal bifurcation cyst
  + Residual cyst
* **Dentigerous cysts:**
  + **Dentigerous cysts** are the most common odontogenic cyst
  + The most common clinical setting of a dentigerous cyst is at any age (**average between 10-30 years of age**), most often at the **unerupted 3rd mandibular molar** (any unerupted tooth)
  + **50% of DC’s have root resorption** of adjacent teeth and **DC’s can cause jaw expansion**.
  + DC’s radiographically present as **unilocular radiolucencies** with **well-defined, sclerotic** borders
  + A dental follicle is a **<5mm radiolucent space**  surrounding an unerupted tooth while a dentigerous cyst is a **>5mm** radiolucent space surrounding an unerupted tooth
  + **Histology** of a DC:
    - **2-4 layers of non-keratinizing stratified squamous cells**
    - No **rete ridges**
    - Mucous cell metaplasia and fibrous CT walls
    - Inflammation (if present) causes hyperplasia of epithelial lining
  + Treatment of a **small DC** involves **enucleation** of the cyst and removal of the tooth while **large DC** requires **marsupialization** to reduce the size of the bone defect.
    - **Rare**  recurrence
* **Eruption cysts**
  + EC’s most commonly appear in children (**<10 year olds**) at the sites of the **first permanent molars or maxillary incisors**
  + Treatment is usually **not necessary** as the EC often ruptures spontaneously
    - Possible treatment includes the **excision of the roof of the cyst** to permit eruption of tooth
* **OKC**
  + The most common clinical setting for an OKC includes:
    - Age: all ages (often between **ages 10-40 years**)
    - Locations: **60-80%** of cases are in the **mandible**, especially the **posterior body** and the **ascending ramus**
  + A **primordial cyst** is an old term for a **well-defined radiolucency unassociated with an unerupted tooth**.
  + **Small** OKC’s are asymptomatic, but **large** OKC’s can **expand bone** and **cause pain**
  + **Nevoid BCC syndrome/Gorlin syndrome** is an autosomal dominantly inherited mutation of chromosome 9 which produces **multiple OKC’s**
  + Radiographically, OKC’s are **well-defined radiolucencies** that can be **unilocular** or **multilocular**
  + **1/3** of OKC’s are associated with **unerupted teeth** and can mimic a dentigerous cyst
  + Histology of an OKC:
    - Lining: **uniform 6-8 cell thick parakeratinized, stratified squamous epithelium**
    - No rete ridges
    - Cystic lumen: may contain a clear liquid or a “**cheesy**” material (**keratin debris**)
    - Wall: **fibrous CT wall**, usually without inflammatory cells
    - Wall can contain **satellite cysts**
  + Treatment of an OKC involves **enucleation and curettage**
    - If there are multiple OKC’s, rule out Gorlin Syndrome
  + The **recurrence rate** of an OKC is high; **30%** of OKC’s recur up to 10 years after the treatment
* **Nevoid BCC Syndrome**:
  + AKA **Gorlin Syndrome**
  + Clinically, NBCCS presents with **basal cell carcinomas** occurring on **non-sun exposed skin**, including the bases of **palmar** and **plantar pits**
  + Diagnosis of NBCCS is usually **at puberty** or at **20-30 years of age**
  + Radiographic findings for NBCCS include:
    - **Multiple OKC’s** in 75% of patients
    - **Skeletal abnormalities** like bifid ribs, kyphoscoliosis, and the calcification of the falx cerebri
  + Treatment:
    - **OKC’s** are **enucleated**, but new lesions will form and infections of OKC’s can lead to jaw deformities
    - **BCC’s** are staged and managed, depending on severity
* **Lateral periodontal cysts**:
  + LPC’s are uncommon **intrabony** developmental cysts that occur along **lateral roots** (often in **interradicular areas**), often in the **mandibular lateral incisor, canine, or premolar** areas
  + **Rare** to find it in patients **<30 years old**
  + LPC’s are located on the lateral root of **vital teeth**
  + Radiographically, LPC’s are **well-defined** and **well-corticated** and are usually **<10mm**
  + The **soft tissue counterpart** of an LPC is a **Gingival Cyst of the Adult**
* **Gingival Cyst of the Adult**
  + The GCoA is a **painless**, dome-like, <0.5cm swelling found on the **facial gingiva/alveolar mucosa** of the mandibular canine and premolar areas
  + GCoA are treated by **excision**; no recurrence
* **Gingival cyst of the Newborn**:
  + GCoN’s are **common** (50% of infants), **small** (1-2mm) **white-yellow papules** found on the **alveolar mucosa** of newborns that spontaneously rupture/involute at around **4 months** of age
  + GCoN’s are more common on the **maxilla**
* **Calcifying odontogenic cyst**:
  + Also called a **Gorlin cyst**
  + COC’s are usually **intraosseous** (while 13-21% are extraosseous) lesions commonly found in the **incisor-canine areas** of both **maxilla and mandible** (in equal frequency)
  + Mean age of **33 years** (range of 10-30 years)
  + COC’s are **equally common** on both maxilla and mandible
  + Radiographically, COC’s are **well-defined, unilocular radiolucencies** that are **2-4mm** in diameter
  + **33% of COC’s** are associated with an unerupted tooth
  + COC’s can cause **root resorption** or **divergence of adjacent roots**
  + Histology of COC’s:
    - The epithelial lining of COC’s have **overlying cells** similar to the **stellate reticulum** and **basal cells** similar to **ameloblasts**
    - COC’s have characteristic “**Ghost cells**”, which are altered epithelial cells with a loss of nuclei that fuse into sheets
  + COC’s look histologically similar to **ameloblastomas**
  + The treatment of COC’s involves **enucleation** and it has a **low recurrence rate**
* **Paradental/Buccal bifurcation cyst**:
  + BBC’s are **inflammatory** cysts at are usually found at the site of an **erupting permanent mandibular 1st molar** in patients between the ages of **5-11 years old**
  + BBC’s can potentially **tip the apices** of the affected tooth **lingually**
  + ***DOES IT EXPAND BONE? PROLIFERATIVE PERIOSTITIS?***
  + Treatment of a BBC includes **enucleation** of the cyst **without extraction** of the affected tooth and **bony defects resolve within 1 year**
* **Carcinomas arising in odontogenic cysts**:
  + Clinically, these carcinomas present in **older patients** (average age of 59 years) with a **male predilection** (2:1)
  + Radiographically, these can mimic any odontogenic cyst, but are most often associated with **residual radicular cysts**
  + Treatment includes **block excision** to **radical resection** and can also utilize radiation therapy and chemotherapy
  + The **5 year survival rate is 50%**