

Oral Health for USMLE Step One

Section 3: Congenital, Salivary, Dental and Other Oral Pathology



*Olivia Nuelle, Medical School Class of 2022
University of Massachusetts Medical School
Faculty Adviser: Hugh Silk, MD
E-mail: Howard@12DaysinMarch
www.12DaysinMarch.com*

Oral Health

for USMLE Step One



Pathology of the Oral Cavity

Lesions

Congenital

Salivary Pathology

Dental Pathology

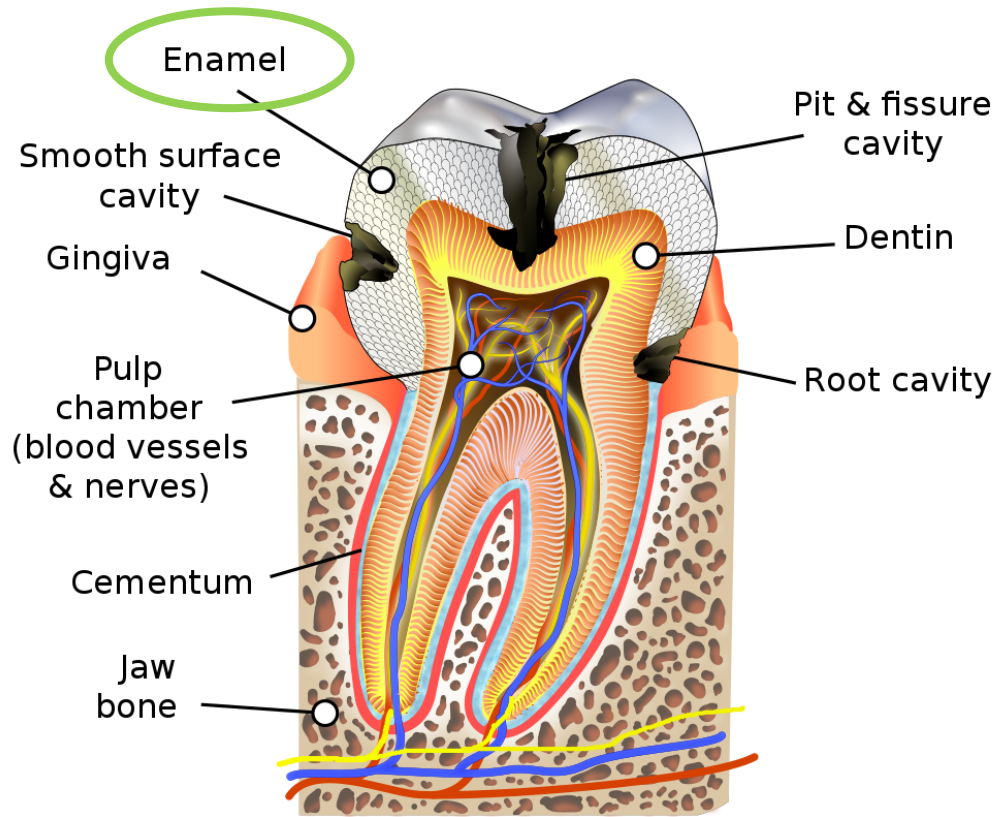
Other

1. Sialadenitis
 1. Infection
 2. Obstruction
2. Tumors
 1. Benign
 2. Malignant

1. Erosion
 1. GERD
 2. Bulimia
 3. Bacteria
2. Caries
3. Abscess

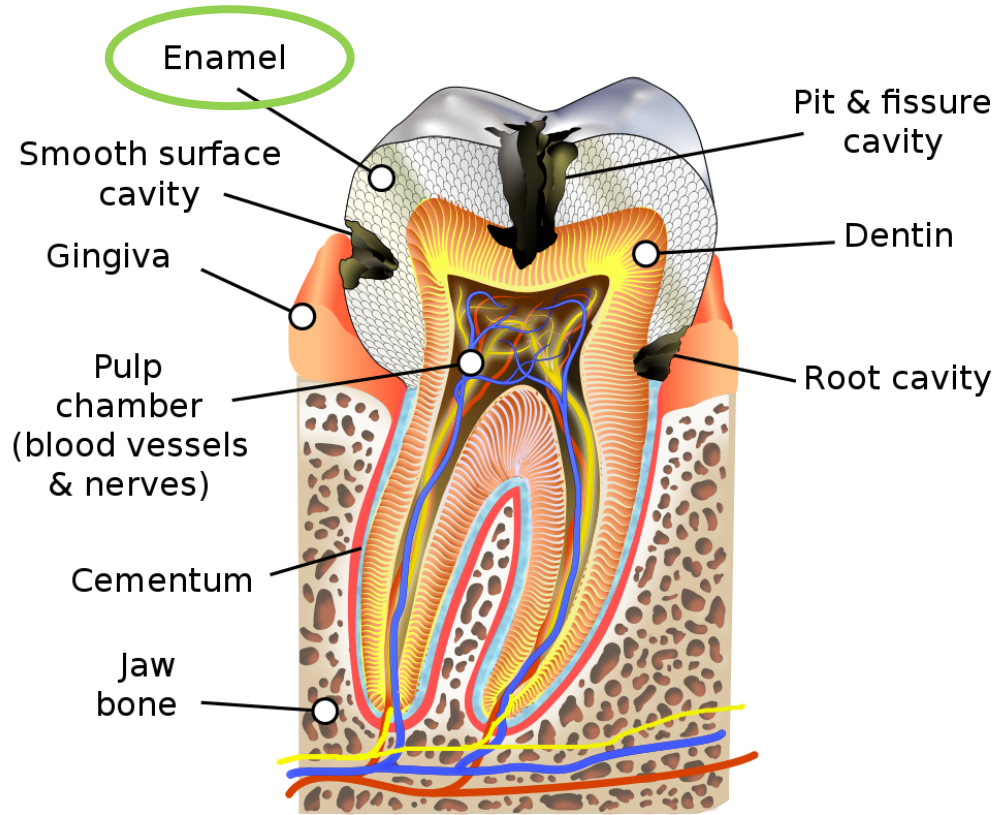
1. TMJ
2. Medications w/ Oral Effects
3. SBE Prophylaxis

Dental Pathology: **Erosions**



Dental Pathology: Erosions

- GERD
- Bulimia
- Bacteria



- Cold and heat sensitivity
- Pain

Dental Pathology: Erosions

Bulimia

- Bottom teeth eroded
- Parotitis
- Russell's sign.



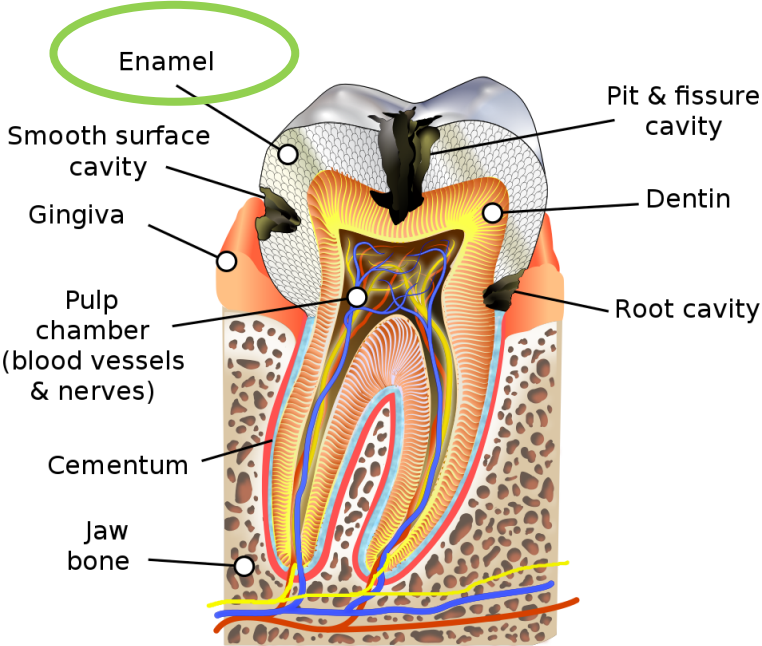
Dental Pathology: Erosions → Caries

Bacteria

- Eat sugar → bacteria metabolize → acid



Dental Pathology: Caries

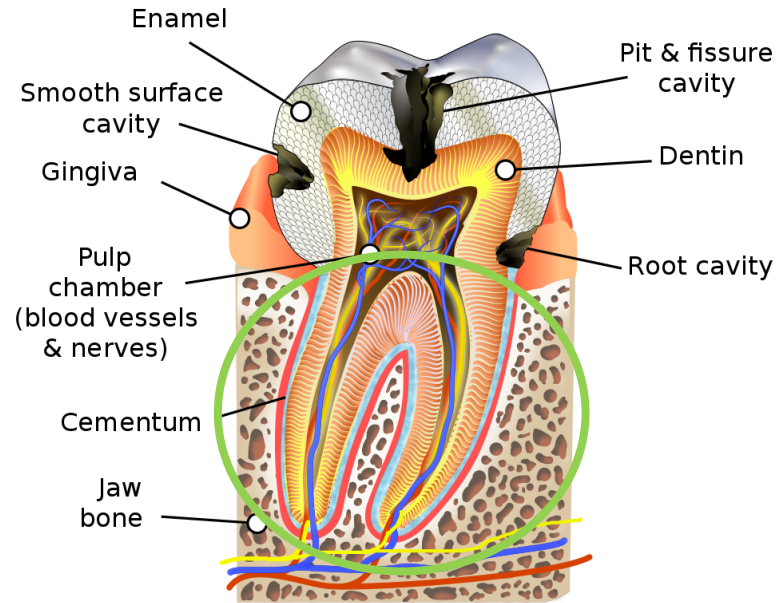


Caries

- *S. mutans*



Dental Pathology: Abscess



Abscess

- Purulent infection
- Pulp is infected
- Potential for **spread**



Oral Health

for USMLE Step One

Pathology of the
Oral Cavity

Lesions

Congenital

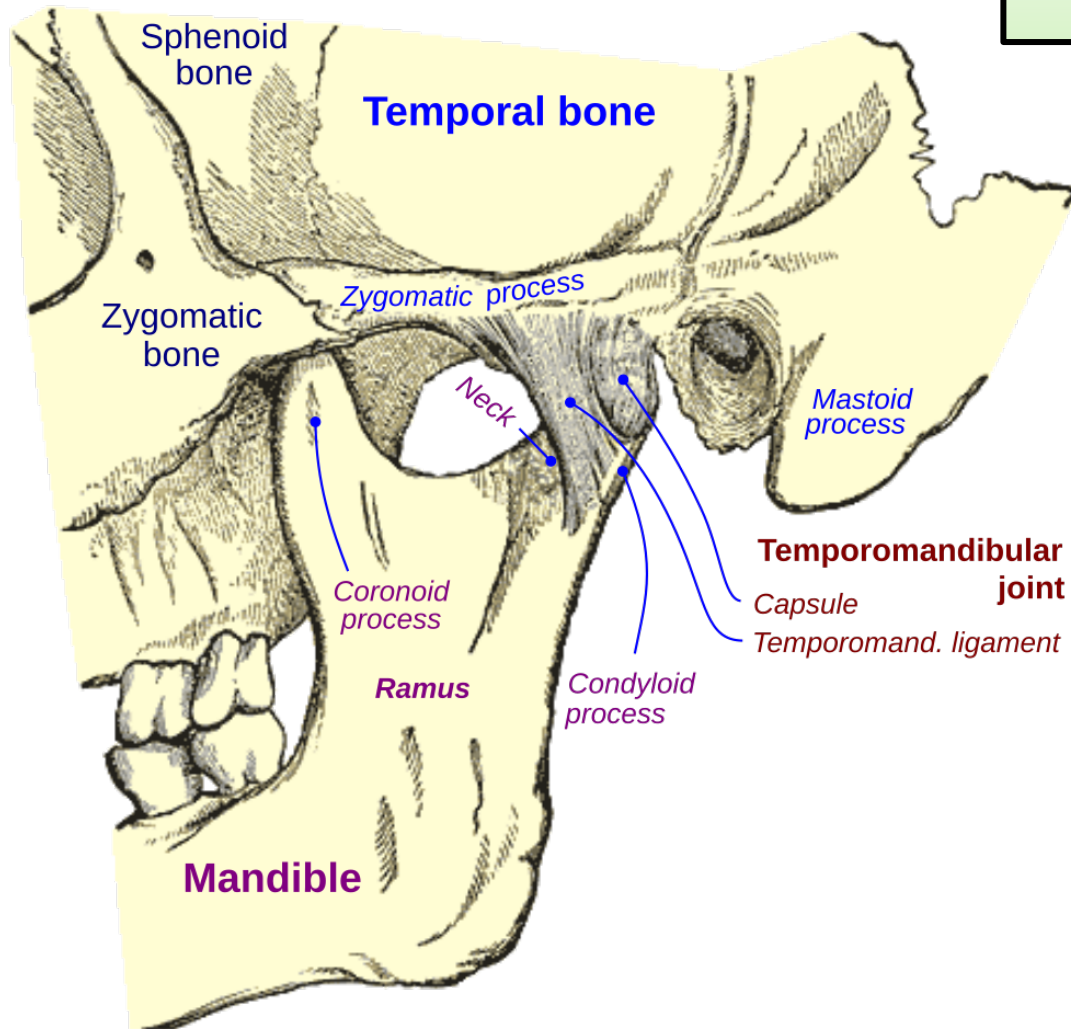
Salivary
Pathology

Dental
Pathology

Other

1. TMJ
2. Medications w/ Oral Effects
3. SBE Prophylaxis

Oral Pathology: TMJ (temporomandibular joint syndrome)



TMJ

- Pain
- Stiffness
- Clicking

Etiologies

- Malalignment
- Trauma
- Bruxism

Oral Manifestations of Medications

Manifestations

- **Tooth discoloration**
- **Gingival hyperplasia**

Oral Manifestations of Medications

Manifestations

- **Tooth discoloration**
 - **Demeclocycline (Rx: SIADH)**
 - **Tetracyclines (MOA: binds 30S subunit; prevents t-RNA binding)**



Oral Manifestations of Medications

Manifestations

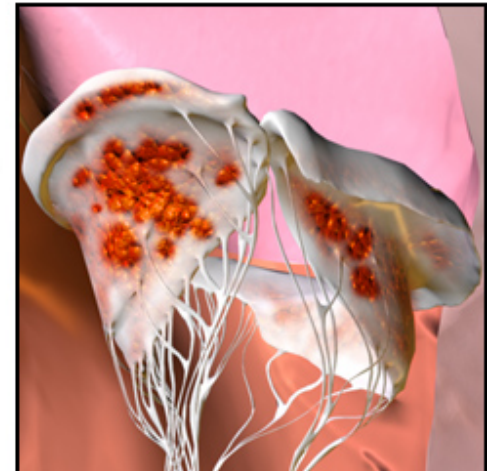
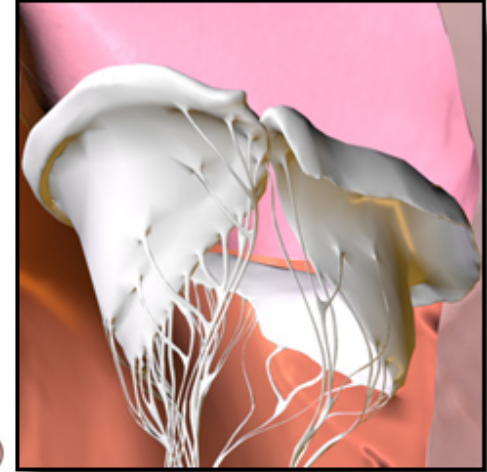
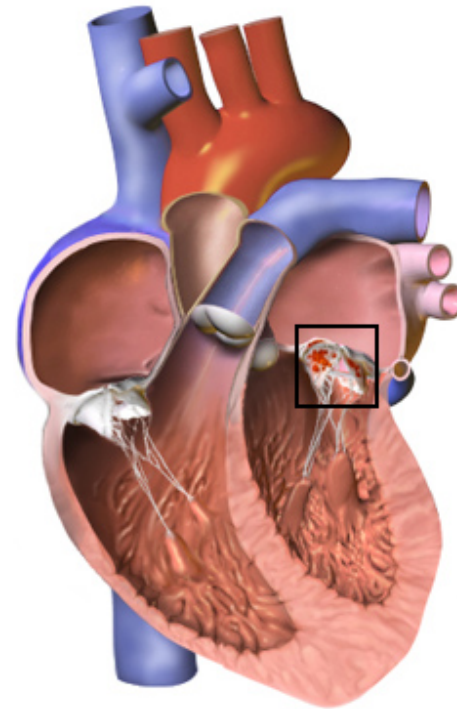
- **Gingival Hyperplasia**
 - **Phenytoin**
 - **Nifedipine**
 - **Cyclosporin**

Gum overgrowth



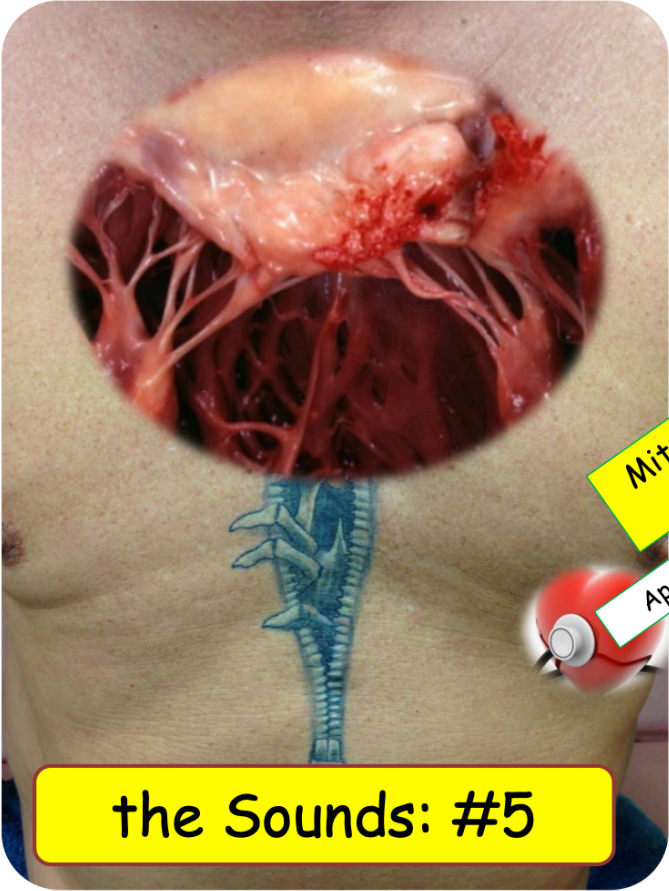
Oral Pathology: **Subacute Endocarditis Prophylaxis**

- **High Risk Patients**
 - Prior valve surgery
 - Prior endocarditis
 - Rheumatic valve disease
- **Amoxicillin (activity against viridans strep)**
- **Prophylaxis: any procedures that perforate the oral mucosa**



Oral Pathology: Subacute Endocarditis Prophylaxis

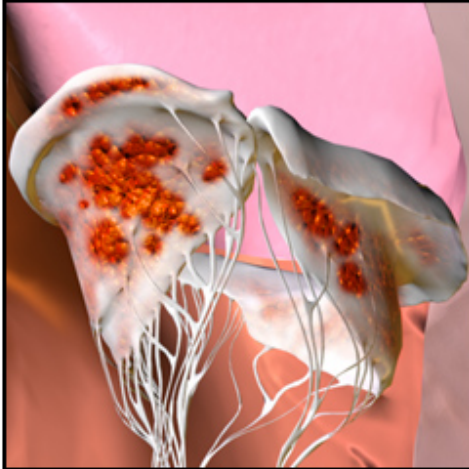
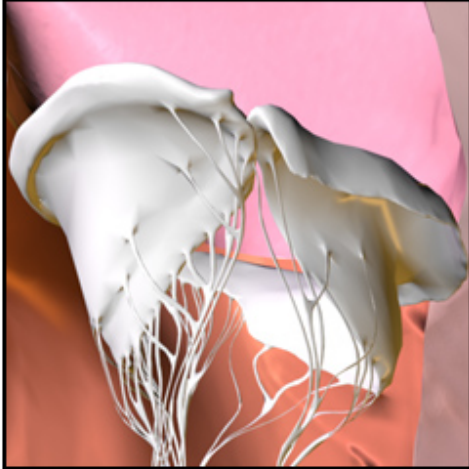
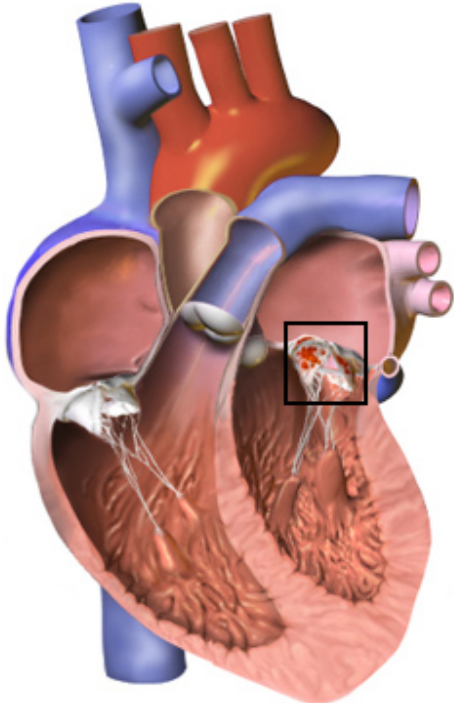
Cardiology



Mitral Regurgitation: Part II
(Endocarditis)

Apex → Axilla

Howard J. Sachs, MD
www.12DaysinMarch.com
E-mail: Howard@12daysinmarch.com



Oral Health

for USMLE Step One



Pathology of the Oral Cavity

Lesions

1. Viral
2. Bacterial
3. Fungal
4. Nutritional Deficiency
5. Autoimmune
6. Medication Induced
7. Precancerous
8. Malignant Neoplasms

Congenital

1. Cleft Lip
2. Cleft Palate
3. Osteogenesis Imperfecta
4. Congenital Syphilis

Salivary Pathology

1. Sialadenitis
 - a. Infection
 - b. Obstruction
2. Tumors
 - a. Benign
 - b. Malignant

Dental Pathology

1. Erosion
 - a. GERD
 - b. Bulimia
 - c. Bacteria
2. Caries
3. Abscess

Other

1. TMJ
2. Medications w/ Oral Effects
3. SBE Prophylaxis

Q1. A 53-year-old woman presents with history of a painless lump in the region of the right parotid that has been there for at least a year. Recently, however, it seems larger. She has gained 5 pounds during this time. Physical exam reveals a firm mass and no lymphadenopathy in her neck. What is the most likely diagnosis?

- A) Bacterial parotitis
- B) Chronic unilateral mumps
- C) Mucoepidermoid Carcinoma
- D) Pleomorphic Adenoma
- E) Salivary stone

Q1. A 53-year-old woman presents with history of a **painless** lump in the region of the **right parotid** that has been there for at least a year. Recently, however, it seems larger. She has gained 5 pounds during this time. Physical exam reveals a **firm mass** and **no lymphadenopathy** in her neck. What is the most likely diagnosis?

- A) Bacterial parotitis
- B) Chronic unilateral mumps
- C) Mucoepidermoid Carcinoma
- D) Pleomorphic Adenoma**
- E) Salivary stone

Q1. A 53-year-old woman presents with history of a **painless** lump in the region of the **right parotid** that has been there for at least a year. Recently, however, it seems larger. She has gained 5 pounds during this time. Physical exam reveals a **firm mass** and **no lymphadenopathy** in her neck. What is the most likely diagnosis?

- A) Bacterial parotitis: acute, painful with constitutional symptoms
- B) Chronic unilateral mumps
- C) Mucoepidermoid Carcinoma: painful malignancy (with nodes)
- E) Salivary stone: subacute-acute, painful especially with meals

Q2. A mother presents to her family doctor to discuss the appearance of her adopted child's teeth. She admits to not taking her son to the dentist regularly and he eats a lot of sugar. He also is deaf and has vision issues. She asks if something can be done for his teeth. What is the most likely diagnosis?

- A) Dental caries
- B) Congenital syphilis
- C) In utero doxycycline exposure
- D) Trauma
- E) Genetic tooth deformity



Q2. A mother presents to her family doctor to discuss the **appearance** of her adopted child's teeth. She admits to not taking her son to the dentist regularly and he eats a lot of sugar. He also is **deaf** and has **vision** issues. She asks if something can be done for his teeth. What is the most likely diagnosis?

- A) Dental caries
- B) Congenital syphilis**
- C) In utero doxycycline exposure
- D) Trauma
- E) Genetic tooth deformity



Q2. A mother presents to her family doctor to discuss the **appearance** of her adopted child's teeth. She admits to not taking her son to the dentist regularly and he eats a lot of sugar. He also is **deaf** and has **vision** issues. She asks if something can be done for his teeth. What is the most likely diagnosis?

A) Dental caries

B) Congenital syphilis

C) In utero doxycycline exposure

D) Trauma

E) Genetic tooth deformity



Mulberry Molars

Q2. A mother presents to her family doctor to discuss the **appearance** of her adopted child's teeth. She admits to not taking her son to the dentist regularly and he eats a lot of sugar. He also is **deaf** and has **vision** issues. She asks if something can be done for his teeth. What is the most likely diagnosis?

A) Dental caries: secondary to the acidic environment created by bacteria feasting on sugar.

C) In utero doxycycline exposure → Tooth discoloration

D) Trauma

E) Genetic tooth deformity: Dentinogenesis imperfecta

Oral Health

for USMLE Step One

Pathology of the Oral Cavity

Lesions

1. Viral
2. Bacterial
3. Fungal
4. Vitamin Deficiency
5. Autoimmune
6. Medication
Induced
7. Precancerous
8. Malignant
Neoplasms

Congenital

1. Cleft Lip
2. Cleft Palate
3. Osteogenesis
Imperfecta
4. Congenital
Syphilis

Salivary Pathology

1. Sialadenitis
 1. Infection
 2. Obstruction
2. Tumors
 1. Benign
 2. Malignant

Dental Pathology

1. Erosion
 1. GERD
 2. Bulimia
 3. Bacteria
2. Caries

Other

1. TMJ
2. Medications w/
Oral Effects
3. SBE
Prophylaxis

Olivia Nuelle, Medical School Class of 2022
University of Massachusetts Medical School
Faculty Adviser: Hugh Silk, MD
E-mail: Howard@12DaysinMarch
www.12DaysinMarch.com