A few tips on how to prepare for the Clinical Vignette portion of the NBDE Part I exam:

1. There are **10 Case Scenarios**, and each case has 10 questions covering Anatomy, Microbiology, Biochemistry, Physiology, Pathology, and Dental Anatomy. The **Vignettes are composed of the following components**
   - A paragraph of patient chief complaint and dental history
   - A chart of patient’s medical history and medication usage

   You will have to click on a button to make the patient medical history chart visible. Sometimes the chart contains valuable information that you will need to answer some of the questions, but not all the questions need that information.

2. The questions are clinically oriented rather than straight memorization. The diseases in the case scenarios are **MOSTLY** common ones patients present with on your dental school’s clinic floor. Be careful with cases such as diabetes, asthma, fractures, bone lesions etc... Moreover, a lot of dental management, ethics and dental anatomy questions were blended in.

3. Primary and permanent teeth are not given straight out, rather, they are referred to as tooth #17, or tooth K etc. It might be beneficial to write down a teeth number chart, eruption schedules, along with the occlusion chart during the tutorial period (see back two pages of this Testlet Booklet for examples).

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### CASE SCENARIO 1

**Age**: 35 YRS  
**Sex**: Female  
**Height**: 5’7  
**Weight**: 125 lbs.  
**B/P**: 115/65  
**Chief Complaint**: “I want to get this crown over with. Also, my throat hurts.”  
**Medical History**: Pharyngitis  
**Current Medications**: None  
**Social History**: Housewife  

The patient presents for a crown preparation on #21. She states she has had a sore throat/pharyngitis for about a week.

<table>
<thead>
<tr>
<th>Chief Complaint</th>
<th>Medical History</th>
</tr>
</thead>
<tbody>
<tr>
<td>“I want to get this crown over with. Also, my throat hurts.”</td>
<td>Pharyngitis</td>
</tr>
</tbody>
</table>

1. Oral streptococci strains are predominantly:
   A. Alpha-hemolytic  
   B. Beta-hemolytic  
   C. Gamma-hemolytic  
   D. Non-hemolytic

2. Group A streptococci (GAS), a gram-positive, spherical bacteria, is also known as:
   A. Alpha-hemolytic streptococci  
   B. Group B streptococci  
   C. Streptococcus pneumoniae  
   D. Streptococcus pyogenes

3. ____________, or complete hemolysis, is a total lysis of red blood cells in media.
   A. Alpha-hemolysis  
   B. Beta-hemolysis  
   C. Gamma-hemolysis  
   D. Hemedigestion
4. If the patient’s Group A streptococci (GAS) remains untreated, it can develop into a more serious condition, __________.
   A. Pneumococcal pneumonia
   B. Rheumatic fever
   C. Scarlet fever
   D. Hemorrhagic fever

5. Rheumatic fever results when the immune system attacks M proteins of Group A streptococci; as it attacks M proteins, there can be cross-reactivity, and the cardiac myofiber myosin can also be attacked. Which valve is involved?
   A. Mitral valve
   B. Tricuspid valve
   C. Aortic valve
   D. Pulmonary valve

6. A classic sequelae after Group A strep (GAS) infection is:
   A. Encephalitis
   B. Gastritis
   C. Hepatitis
   D. Glomerulonephritis

7. Radiographs reveal no decay on #20, but a small, circular radiolucency near its apex. This is most likely:
   A. A periapical infection
   B. A granuloma
   C. The mental foramen
   D. A double exposure of the film

8. Which of the following premolars usually has only one pulp horn?
   A. Maxillary first premolar
   B. Maxillary second premolar
   C. Mandibular first premolar
   D. Mandibular second premolar
9. Which of the following premolars can have a Y-shaped occlusal table?
   A. Maxillary first premolar
   B. Maxillary second premolar
   C. Mandibular first premolar
   D. Mandibular second premolar

10. Which of the following premolars is most likely to have three roots?
    A. Maxillary first premolar
    B. Maxillary second premolar
    C. Mandibular first premolar
    D. Mandibular second premolar

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**CASE SCENARIO 2**

<table>
<thead>
<tr>
<th>Age</th>
<th>22 YRS</th>
<th>Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>Male</td>
<td>The patient presents with a weeklong history of throbbing pain in his right maxillary premolars (#4-5). Patient reports no history of injury to the area. No periapical abscesses or carious lesions are seen radiographically.</td>
</tr>
<tr>
<td>Height</td>
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<tr>
<td>Weight</td>
<td>180 lbs.</td>
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</tr>
<tr>
<td>B/P</td>
<td>135/70</td>
<td></td>
</tr>
<tr>
<td>Chief Complaint</td>
<td>“My teeth hurt!”</td>
<td></td>
</tr>
<tr>
<td>Medical History</td>
<td>Seasonal allergies, Penicillin allergy, Left knee replacement two years ago</td>
<td></td>
</tr>
<tr>
<td>Current Medications</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Social History</td>
<td>Professional skateboarder</td>
<td></td>
</tr>
</tbody>
</table>

1. What is the most likely cause of this patient’s dental pain?
   A. One or both of the teeth is like cracked
   B. The patient likely has a sinus infection
   C. There is likely an infection in the pulp of one or both of the teeth
   D. The patient likely has gingivitis
2. Would you prescribe antibiotics to treat this patient?
   A. Yes, the patient has an endodontic lesion, which is not yet visualized radiographically.
   B. Yes, the patient has a cracked tooth which could soon lead to an endodontic infection.
   C. No, the patient has a sinus infection. Most sinus infections are viral in origin. A decongestant is recommended.
   D. No, the patient has gingivitis, which should not be managed with oral antibiotics.

3. Which branch of the trigeminal nerve innervates both of the maxillary premolars and conducts pain sensation from them?
   A. Posterior superior alveolar nerve
   B. Anterior superior alveolar nerve
   C. Middle superior alveolar nerve
   D. Inferior alveolar nerve

4. Because of his knee replacement within the last six months, you may consider premedicating this patient before dental treatment. What is the drug of choice for premedication in a patient who is allergic to penicillin?
   A. Clindamycin 600 mg, 60 minutes before appointment
   B. Metronidazole 500 mg, 60 minutes before appointment
   C. Amoxicillin 2 g, 60 minutes before appointment
   D. Augmentin 500 mg, 60 minutes before appointment

5. The patient was accidentally prescribed penicillin by someone who didn’t read his chart very carefully. All of the following are symptoms of an anaphylactic reaction EXCEPT one. Which one is the EXCEPTION?
   A. Respiratory distress
   B. Hypertension
   C. Edema
   D. Rash
   E. Hypotension

6. The patient is quickly given epinephrine to treat his anaphylactic reaction. Epinephrine (adrenalin) has all of the following effects on the body EXCEPT one. Which one is the EXCEPTION?
   A. Constricts blood vessels in the skin and mucous membranes
   B. Dilates the bronchioles in the lungs
   C. Dilates blood vessels in skeletal muscle and relaxes bronchiolar smooth muscle
   D. Increases the rate, force, and amplitude of the heartbeat
   E. Increases the heart rate and force of contraction of the heart
7. Antibiotic prophylaxis can be recommended for those with prosthetic joints, like your patient, or those with heart conditions, which may predispose them to infective endocarditis. Which pathogen is most often associated with infective endocarditis?
   A. Group A streptococci
   B. Alpha-hemolytic streptococci
   C. Beta-hemolytic streptococci
   D. Gamma-hemolytic streptococci

8. If a root canal were needed on tooth #4, what is the most likely configuration of the canals?
   A. One canal, in one root
   B. Two canals, one in the mesial root, one in the distal root
   C. Two canals, in one root
   D. Two canals, one in the buccal root, one in the palatal root

9. There is a pronounced developmental groove on the mesial crown (and root) of which premolar?
   A. Maxillary first premolar
   B. Maxillary second premolar
   C. Mandibular first premolar
   D. Mandibular second premolar

10. From the occlusal view, the maxillary first premolar can be distinguished from the second premolar via which of the following traits? Select all that apply.
    A. Crown very symmetrical
    B. Longer central groove
    C. Mesial surface concave or flat
    D. Mesial surface convex
    E. Mesial marginal ridge groove
1. The causative agent of syphilis is _______.
   A. Leptospira interrogans  
   B. Treponema pallidum  
   C. Mycobacterium tuberculosis  
   D. Borrelia recurrentis  
   E. Porphyromonas gingivalis

2. The stereotypical lesion associated with syphilis is _______.
   A. Striae of Wickham  
   B. Chancre  
   C. Papilloma  
   D. Scrofula

3. Depending on her stage of pregnancy, if her syphilis remains untreated, what dental effects may be seen in her unborn child’s posterior teeth?
   A. Dens in dente  
   B. Congenitally missing first molars  
   C. Amelogenesis imperfecta  
   D. Mulberry molars

### CASE SCENARIO 3

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<th>Age</th>
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<tr>
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<td>Height</td>
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<tr>
<td>Weight</td>
<td>155 lbs.</td>
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<tr>
<td>B/P</td>
<td>130/60</td>
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<tr>
<td>Chief Complaint</td>
<td>“I don't like my smile.”</td>
</tr>
<tr>
<td>Medical History</td>
<td>History of syphilis, Currently pregnant</td>
</tr>
<tr>
<td>Current Medications</td>
<td>None</td>
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<tr>
<td>Social History</td>
<td>Waitress</td>
</tr>
</tbody>
</table>

The patient presents for a 6-month recall appointment. She has overall good oral hygiene but is missing several teeth.
4. Depending on her stage of pregnancy, if her syphilis remains untreated, what dental effects may be seen in her unborn child’s anterior teeth?

   A. Hutchinson’s incisors
   B. Turner’s tooth
   C. Dentinogenesis imperfecta
   D. Peg laterals

5. What is the drug of choice to treat syphilis?

   A. An antibiotic, penicillin G
   B. An antiviral, acyclovir
   C. An antifungal, fluconazole
   D. An antimicrobial, chlorhexidine gluconate

6. Hutchinson's triad is a complex of three commonly-seen symptoms in newborns who inherit syphilis from their mothers. The triad consists of Hutchinson's incisors/mulberry molars, interstitial keratitis of the cornea, and ________.

   A. Second cranial nerve blindness
   B. Seventh cranial nerve ageusia
   C. First cranial nerve anosmia
   D. Eighth cranial nerve deafness

7. Which coenzyme, also important for preventing fetal neural tube deficiencies in pregnancy, is required for the synthesis of pyrimidines?

   A. Thiamine (Vitamin B1)
   B. Riboflavin (Vitamin B2)
   C. Pyridoxine (Vitamin B6)
   D. Folic acid (Vitamin B9)

8. The muscles of facial expression arise from which pharyngeal arch?

   A. First pharyngeal arch
   B. Second pharyngeal arch
   C. Fourth pharyngeal arch
   D. Sixth pharyngeal arch

9. All of the following derive from the first pharyngeal arch EXCEPT one. Which one is the EXCEPTION?

   A. Muscles of mastication
   B. Mylohyoid
   C. Buccinator
   D. Anterior belly of digastric
   E. Tensor tympani
10. Upon examination of the patient's mouth, you realize she is missing several teeth. What are the most common congenitally missing premolars?

A. Maxillary first  
B. Maxillary second  
C. Mandibular first  
D. Mandibular second

CASE SCENARIO 4

<table>
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<th>Age</th>
<th>45 YRS</th>
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<tbody>
<tr>
<td>Sex</td>
<td>Female</td>
<td>Patient presents to your office with cosmetic concerns about her appearance. As she states, her gums are red and puffy. During her oral exam, you note that the crowns of all of her third molars (#1, #16, #17, and #32) have gray-green tetracycline staining.</td>
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<tr>
<td>Weight</td>
<td>145 lbs.</td>
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</tr>
<tr>
<td>B/P</td>
<td>140/65</td>
<td></td>
</tr>
<tr>
<td>Chief Complaint</td>
<td>“My gums are puffy. I can’t get this gray-green staining out of my back teeth no matter how hard I brush.”</td>
<td></td>
</tr>
<tr>
<td>Medical History</td>
<td>Epileptic, and currently being treated for malaria</td>
<td></td>
</tr>
<tr>
<td>Current Medications</td>
<td>Phenytoin</td>
<td></td>
</tr>
<tr>
<td>Social History</td>
<td>Travel agent, recent trip to Africa</td>
<td></td>
</tr>
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</table>

1. Certain medications, like the anticonvulsant phenytoin, are known for this particular and important dental side effect.

A. Severe xerostomia  
B. Salivary overproduction  
C. Extreme gingival sensitivity  
D. Drug-induced gingival hyperplasia

2. Endogenous staining is an intrinsic staining of the teeth that happens during tooth development. Exogenous staining is staining that is acquired from an external source after tooth eruption.

A. Both statements are true  
B. Both statements are false  
C. The first statement is true, the second is false  
D. The first statement is false, the second is true
3. Tetracycline antibiotics work by which of the following mechanisms?
   A. Prevents the reduction of dihydrofolate
   B. Inhibits DNA gyrase and topoisomerase
   C. Inhibits protein synthesis by binding to 30S subunits
   D. Inhibits peptidoglycan synthesis
   E. Inhibits protein synthesis by binding to 50S subunits

4. As the crowns of #1, #16, #17, and #32 are stained, you know that this patient must have consumed tetracycline at approximately age ________, when the crowns of those teeth were calcifying.
   A. 4 months - 5 years
   B. 2 years - 7 years
   C. 7 years - 16 years
   D. 16 - 25 years

5. The pulps of the mandibular teeth are innervated by the ________ branch of the trigeminal nerve.
   A. Posterior superior alveolar
   B. Middle superior alveolar
   C. Anterior superior alveolar
   D. Inferior alveolar

6. Teeth #8 and #9 are innervated by the anterior superior alveolar nerve, a branch of which division of cranial nerve V?
   A. V1
   B. V2
   C. V3
   D. V4

7. Radiographs of the patient's molars reveal extended crowns, where the body and tooth of the pulp chamber is enlarged vertically, and shortened roots. This condition is known as ____________.
   A. Cherubism
   B. Taurodontism
   C. Enamel hyperplasia
   D. Concresence
8. What nerve innervates the mandibular buccal gingiva posterior to the mental foramen?
   A. Incisive nerve
   B. Inferior alveolar nerve
   C. Buccal nerve
   D. Posterior superior alveolar nerve

9. Of the four species of malaria this patient may have, which is the most serious (potentially life-threatening)?
   A. Plasmodium vivax
   B. Plasmodium ovale
   C. Plasmodium malariae
   D. Plasmodium falciparum

10. Malaria is prevented by all of the following EXCEPT one. Which one is the EXCEPTION?
    A. Chloroquine
    B. Doxycycline
    C. Mefloquine
    D. Primaquine
    E. Azithromycin
CASE SCENARIO 5

<table>
<thead>
<tr>
<th>Age</th>
<th>62 YRS</th>
<th>Scenario</th>
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</thead>
<tbody>
<tr>
<td>Sex</td>
<td>Male</td>
<td>Patient reports gums around tooth #2 hurt. Patient has a history of chronic periodontitis. Intraoral examination and testing reveals #2 is cracked.</td>
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<tr>
<td>Height</td>
<td>6’1</td>
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<tr>
<td>Weight</td>
<td>200 lbs.</td>
<td></td>
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<tr>
<td>B/P</td>
<td>150/80</td>
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<tr>
<td>Chief Complaint</td>
<td>“My teeth feel loose and my upper molar hurts.”</td>
<td></td>
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<tr>
<td>Medical History</td>
<td>Hypertension Type 1 Diabetes</td>
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<tr>
<td>Current Medications</td>
<td>None</td>
<td></td>
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<tr>
<td>Social History</td>
<td>Banker</td>
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</table>

1. Insulin is a _______.
   A. Peptide hormone
   B. Steroid hormone
   C. Vasoactive intestinal peptide
   D. Steroid antagonist

2. Which of the following cells of the pancreas are responsible for the production of insulin?
   A. Alpha
   B. Beta
   C. Delta
   D. Gamma

3. The insulin-regulated glucose transporter found primarily in adipose and striated muscle tissues is:
   A. GLUT1
   B. GLUT2
   C. GLUT3
   D. GLUT4
4. Which of the following immunoglobulins is found in the highest concentration in serum samples in adult periodontitis patients with inflamed gingiva?
   A. IgA
   B. IgD
   C. IgE
   D. IgG
   E. IgM

5. Collagen fibers are an important part of maintaining the periodontium; as you know, six groups of fiber bundles found in the lamina propria come together to form the gingival ligament. Which fiber group bears the brunt of vertical masticatory stresses and transforms them into tension on the alveolar bone?
   A. Transseptal group
   B. Oblique group
   C. Apical group
   D. Alveolar crest group
   E. Horizontal group

6. Which of the following types of nerve fibers are responsible for transmitting the sharp pain felt in the patient’s cracked #2?
   A. A β fibers
   B. A δ fibers
   C. γ fibers
   D. D fibers

7. What is the most frequently appearing form of the maxillary second molar, as viewed from the occlusal aspect?
   A. Round
   B. Square
   C. Rhomboidal
   D. Trapezoidal
   E. Heart-shaped

8. All permanent maxillary molars have an oblique ridge. The ridge extends between which two cusps?
   A. Mesiolingual and distofacial
   B. Mesiolingual and distolingual
   C. Mesiofacial and distolugal
   D. Mesiofacial and distofacial
9. What trait most easily distinguishes a permanent first molar from a permanent second molar?
   A. The first molar exhibits much less root flare
   B. The first molar has a small/absent distolingual cusp
   C. The first molar exhibits a Cusp of Carabelli on the mesiolingual cusp
   D. The second molar has a significantly larger distolingual cusp

10. This patient’s blood pressure means he is classified as having what stage of hypertension?
   A. Normal
   B. High normal or prehypertension
   C. Stage 1 hypertension
   D. Stage 2 hypertension

**CASE SCENARIO 6**

<table>
<thead>
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<th>Age</th>
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<td>Female</td>
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<td>Height</td>
<td>5'2</td>
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<tr>
<td>Weight</td>
<td>120 lbs.</td>
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<tr>
<td>B/P</td>
<td>110/55</td>
</tr>
<tr>
<td>Chief Complaint</td>
<td>“I have these weird little spots in my mouth. The big cavity on the bottom of my mouth hurts and my gums are swelling around it.”</td>
</tr>
<tr>
<td>Medical History</td>
<td>Born outside the U.S., no history of childhood vaccinations</td>
</tr>
<tr>
<td>Current Medications</td>
<td>None</td>
</tr>
<tr>
<td>Social History</td>
<td>Teacher</td>
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Scenario:
Patient has a fever, cold, and conjunctivitis of three days’ duration. Clustered white lesions are seen on the buccal mucosa opposite the first and second mandibular molars. Patient is beginning to get a maculopapular rash. Intraoral exam also reveals abscessed #30 draining into the soft tissue.

1. The clustered, white lesions described here are also known as _________.
   A. Forchheimer’s sign
   B. Aphthous ulcers
   C. Koplik spots
   D. Oral hairy leukoplakia
2. Based on her signs and symptoms, the patient currently has:

A. Measles
B. Candidiasis infection
C. Mumps
D. Rubella
E. Infectious mononucleosis

3. Can the measles vaccine be given to pregnant patients? Why or why not?

A. Yes, but only in the first 12 weeks of pregnancy
B. No, because the vaccine contains a live virus
C. Yes, because the virus does not cross the placenta
D. No, because the vaccine is not approved in the United States

4. Mumps are transmitted via:

A. Contaminated needle stick
B. Mosquito bite
C. Fecal-oral transmission
D. Inhalation of aerosolized droplets

5. Rubella belongs to what virus family?

A. Paramyxovirus
B. Flavivirus
C. Picornavirus
D. Rotavirus
E. Togavirus

6. You notice significant wear on the patient’s mandibular teeth that appears to be caused by the opposing teeth. Wear produced by interactions between the teeth is known as:

A. Supraeruption
B. Attrition
C. Erosion
D. Abfraction
7. Which permanent tooth in the mouth only occludes with one other tooth?
   A. Mandibular canine  
   B. Maxillary first premolar 
   C. Mandibular central incisor 
   D. Maxillary lateral incisor

8. What is the most common distribution of roots for #30?
   A. Two roots: one palatal, one buccal
   B. Three roots: one mesiobuccal, one distobuccal, one palatal
   C. Two roots: one mesial, one distal
   D. Three roots: one mesiobuccal, one mesiolingual, one distal

9. If tooth #30 abscess is not addressed, what is a possible life-threatening consequence?
   A. Chronic periodontitis
   B. Ludwig’s angina 
   C. Necrosis of the pulp
   D. Trismus
   E. Pericoronitis

10. If the patient elects to extract #30, what is a possible consequence to #3?
    A. Attrition
    B. Supraeruption 
    C. Ankylosis
    D. Distal drift
    E. Abfraction
CASE SCENARIO 7

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<th>Age</th>
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<td>Sex</td>
<td>Male</td>
<td>Patient presents for an emergency appointment. He was in an auto accident this morning, and afterward, his chin deviates to the right when he opens widely.</td>
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<td>Height</td>
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<td>Weight</td>
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<td>B/P</td>
<td>130/68</td>
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<tr>
<td>Chief Complaint</td>
<td>“My jaw points to the right when I open. It really hurts.”</td>
<td></td>
</tr>
<tr>
<td>Medical History</td>
<td>Recently in an auto accident</td>
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<tr>
<td>Current Medications</td>
<td>None</td>
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<tr>
<td>Social History</td>
<td>Taxi Driver</td>
<td></td>
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1. The temporomandibular joint (TMJ) is the only joint in the body which both rotates and translates. The temporomandibular joint is classified as a ginglymoarthrodial joint.
   A. Both statements are true
   B. Both statements are false
   C. The first statement is true, the second is false
   D. The first statement is false, the second is true

2. If the patient’s chin deviates to the right when he opens, his mandible is most likely fractured where?
   A. Right condylar neck
   B. Genial tubercle
   C. Left condylar neck
   D. Articular disc

3. The articular disc of the temporomandibular joint consists of:
   A. Hyaline cartilage
   B. Loose fibrous connective tissue
   C. Dense fibrous connective tissue
   D. Elastic cartilage
4. Which of the following muscles originates from the lower border and medial surface of the zygomatic arch?
   A. Masseter  
   B. Lateral pterygoid  
   C. Medial Pterygoid  
   D. Temporalis  
   E. Buccinator

5. Which of the following represents the strongest muscle of mastication?
   A. Lateral pterygoid  
   B. Medial pterygoid  
   C. Masseter  
   D. Temporalis

6. Which of the following muscle of mastication: movement of the mandible is incorrect?
   A. Temporalis: protrusion  
   B. Temporalis: retraction  
   C. Medial pterygoid: lateral movement  
   D. Temporalis: elevation  
   E. Medial and lateral pterygoid: protrusion

7. The anterior boundary of the mandibular fossa of the temporal bone is formed by the:
   A. Articular eminence  
   B. Styloid process  
   C. Mastoid process  
   D. Petrotympanic fissure  
   E. External acoustic meatus

8. All of the following elevate the mandible during jaw closing EXCEPT one. Which one is the EXCEPTION?
   A. Medial pterygoid  
   B. Buccinator  
   C. Masseter  
   D. Anterior temporalis
9. This patient's jaw deviates when he opens, indicating his mandible is fractured. If his tongue also deviated, this would indicate that which cranial nerve was damaged?
   A. Trigeminal (CN V)
   B. Facial (CN VII)
   C. Hypoglossal (CN XII)
   D. Glossopharyngeal (CN IX)
   E. Accessory (CN XI)

10. The anterior belly of the digastric muscle arises from the _____ pharyngeal arch. The posterior belly of the digastric muscle arises from the _____ pharyngeal arch.
   A. 1st pharyngeal arch, 1st pharyngeal arch
   B. 1st pharyngeal arch, 2nd pharyngeal arch
   C. 2nd pharyngeal arch, 3rd pharyngeal arch
   D. 2nd pharyngeal arch, 2nd pharyngeal arch
   E. 3rd pharyngeal arch, 4th pharyngeal arch

CASE SCENARIO 8

<table>
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<th>9 YRS</th>
<th>Scenario</th>
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<tbody>
<tr>
<td>Sex</td>
<td>Male</td>
<td>Patient presents for an emergency appointment with his mother. Patient presents with his right central incisor in his hand, intact but out of the alveolar socket.</td>
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<td>Height</td>
<td>4’7</td>
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<td>Weight</td>
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<td>B/P</td>
<td>110/60</td>
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<tr>
<td>Chief Complaint</td>
<td>“My tooth got knocked out during my soccer game.”</td>
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<tr>
<td>Medical History</td>
<td>Attention Deficit Disorder</td>
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<tr>
<td>Current Medications</td>
<td>Ritalin (methylphenidate)</td>
<td></td>
</tr>
<tr>
<td>Social History</td>
<td>Soccer player</td>
<td></td>
</tr>
</tbody>
</table>

1. The dislodgement of the entire tooth from the alveolar socket is known as:
   A. Avulsions
   B. Luxation
   C. Subluxation
   D. Concussion
   E. Supraeruption
2. Given the patient's age and the information you were given, which tooth was knocked out?
   A. #10
   B. #8
   C. #E
   D. #9
   E. #F

3. If a tooth is avulsed, it is best to store it in the vestibule (saliva), a commercially-available balanced salt solution, or milk. Water will damage the periodontal ligament cells, causing them to lyse.
   A. Both statements are true
   B. Both statements are false
   C. The first statement is true, the second is false
   D. The first statement is false, the second is true

4. Radiographs of the site reveal a small radiopaque mass between the roots of the two central incisors. This mass is most likely what?
   A. Mesiodens
   B. Dens in dente
   C. Ameloblastoma
   D. Incisive foramen

5. Since early childhood, the patient has been a thumb sucker. Which of the following dental conditions can occur as the result of thumb sucking after age 3?
   A. Lingually tipped mandibular molars
   B. Premature tooth eruption
   C. Increased incidence of supernumeraries
   D. Anterior open bite

6. The patient states that during his soccer games, he drinks several sugary sports drinks to stay hydrated. You encourage him to switch to water, because you know that these sugars feed __________, the primary organism that causes dental caries.
   A. Lactobacillus acidophilus
   B. Streptococcus mutans
   C. Porphyromonas gingivalis
   D. Treponema denticola
7. Had both of his central incisors been knocked out, the location of the cingulum on this tooth may have help you to distinguish one from another. What is the location of the cingulum on the tooth that was knocked out?
   A. The cingulum is centered
   B. The cingulum is distal to the center
   C. The cingulum is mesial to the center
   D. This tooth does not have a cingulum

8. The permanent maxillary central incisor arises from how many lobes?
   A. One
   B. Two
   C. Three
   D. Four
   E. Five

9. The permanent maxillary first molar, with its Cusp of Carabelli, arises from how many lobes?
   A. One
   B. Two
   C. Three
   D. Four
   E. Five

10. While this patient's medication may help him focus in the classroom, common dental side effects of Ritalin (methylphenidate) and other stimulant medications to be mindful of include:
    A. Increased heart rate
    B. Xerostomia and bruxism
    C. Gingival hyperplasia
    D. Hypodontia
### CASE SCENARIO 9

<table>
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<tr>
<th>Age</th>
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**Chief Complaint**

“When is the tooth fairy going to visit me?”

**Medical History**
- History of asthma
- Previous tuberculosis

**Current Medications**
- Use of rescue inhaler as needed

**Social History**
- Preschooler

---

1. While completing your examination of the patient’s mouth, he begins to have an asthma attack. Which of the following immunoglobulins is most associated with the patient’s respiratory distress in this situation?
   - A. IgA
   - B. IgD
   - C. IgE
   - D. IgG
   - E. IgM

2. Chronic asthma and contact dermatitis are examples of what type of hypersensitivity reaction?
   - A. Type I hypersensitivity
   - B. Type II hypersensitivity
   - C. Type III hypersensitivity
   - D. Type IV hypersensitivity

3. In the primary dentition, primate space refers to the space between:
   - A. The maxillary lateral incisor and the maxillary canine
   - B. The maxillary first molar and the maxillary second molar
   - C. The mandibular canine and the mandibular first molar
   - D. The mandibular lateral incisor and mandibular canine
   - E. The mandibular first molar and mandibular second molar

---

The patient presents to your office with his mother for a routine 6 month recare visit. His mother is wondering when they should expect his permanent teeth to start coming in.
4. How many primary teeth should this patient have?
   A. 20
   B. 14
   C. 18
   D. 12

5. This child is just shy of mixed dentition, at which point you’ll need to pay attention to both the Universal (American) permanent and pediatric tooth numbering systems. The following tooth numbers are all used to indicate maxillary molars in the dentitions.
   A. #2, #17, #A
   B. #19, #J, #B
   C. #3, #B, #14
   D. #I, #30, #D

6. A negative tuberculin test is indicative of what?
   A. No tuberculosis
   B. Active tuberculosis
   C. Chronic tuberculosis
   D. Hypersensitivity to tuberculoproteins

7. Development of a Ghon focus in the lungs in a patient who hasn’t previously had a Ghon focus is indicative of:
   A. Primary tuberculosis
   B. Secondary tuberculosis
   C. Tertiary tuberculosis
   D. Coccidiomycosis

8. Pneumoconioses are environmental diseases caused by prolonged inhalation of inorganic dust particles. Which of the following is the most common and serious pneumoconiosis, associated with increased susceptibility to tuberculosis?
   A. Anthracosis
   B. Coal workers’ pneumoconiosis
   C. Silicosis
   D. Asbestosis
   E. Berylliosis
9. The primary molars (teeth A, B, I, J, L, K, S, and T) are eventually replaced by the permanent premolars. #I and #J are replaced by which premolars?
   A. #4 and #5
   B. #12 and #13
   C. #20 and #21
   D. #28 and #29

10. At the cervix of the primary molar, the enamel rods slope occlusally. At the cervix of the permanent molar, the enamel rods slope cervically.
   A. Both statements are true
   B. Both statements are false
   C. The first statement is true, the second is false
   D. The first statement is false, the second is true

CASE SCENARIO 10

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<td>The patient presents to your office for an extraction of #31. Patient has a history of IV drug use, and is HIV and Hepatitis C positive.</td>
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<td>Chief Complaint</td>
<td>“I need my tooth extracted!”</td>
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<tr>
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<td>Human Immunodeficiency Virus (HIV) positive, Hepatitis C (HCV) positive</td>
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<tr>
<td>Current Medications</td>
<td>Multiple antiretroviral medications (HAART therapy)</td>
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<td>Social History</td>
<td>Construction worker</td>
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</tr>
</tbody>
</table>

1. Human immunodeficiency virus (HIV) infects which of the following immune cell types?
   A. Suppressor T cells
   B. Helper T cells
   C. Cytotoxic T cells
   D. Natural Killer (NK) cells
2. What is one of the earliest symptoms of an HIV infection?
   A. Kaposi sarcoma
   B. Oral hairy leukoplakia
   C. Pneumocystis carinii pneumonia
   D. Mononucleosis-like symptoms

3. After the extraction, in order to maintain the height of the bone level, you socket graft the site. Which of the following graft materials has the best chance of success?
   A. Autograft
   B. Allograft
   C. Alloplast
   D. Xenograft

4. This patient has both Human Immunodeficiency Virus (HIV) and Hepatitis C (HCV). Which of the following has the greatest occupational risk for a health care worker, such as a dentist?
   A. Human Immunodeficiency Virus (HIV)
   B. Hepatitis C Virus (HCV)
   C. Hepatitis B Virus (HBV)
   D. Pneumococcal pneumonia
   E. Human Papillomavirus (HPV)

5. Hepatitis C is transmitted via:
   A. Contaminated needle stick
   B. Mosquito bite
   C. Fecal-oral transmission
   D. Inhalation of aerosolized droplets

6. This patient has both Human Immunodeficiency Virus (HIV) and Hepatitis C (HCV). HIV is a __________, while Hepatitis C is a __________.
   A. Retrovirus, Picornavirus
   B. Deltavirus, Togavirus
   C. Retrovirus, Flavivirus
   D. Picornavirus, Deltavirus
   E. Togavirus, Flavivirus
7. Development of which hepatitis depends on the patient’s previous infection with Hepatitis B?
   A. Hepatitis A
   B. Hepatitis C
   C. Hepatitis D
   D. Hepatitis E

8. Which of the following forms of hepatitis are NOT associated with cirrhosis or hepatocellular carcinoma? Select all that apply.
   A. Hepatitis A
   B. Hepatitis B
   C. Hepatitis C
   D. Hepatitis D

9. Which of the following traits distinguish a permanent mandibular first molar from a permanent second molar? Select all that apply.
   A. One buccal groove
   B. Three buccal cusps: mesiobuccal, distobuccal, and distal
   C. Longer trunk
   D. Widely spread roots
   E. Shorter trunk
   F. Straighter roots

10. What are the correct number of lobes: cusps for the permanent mandibular first molar, and the permanent mandibular second molar, respectively?
    A. 4 lobes: 4 cusps, 4 lobes: 4 cusps
    B. 4 lobes: 5 cusps, 5 lobes: 4 cusps
    C. 5 lobes: 5 cusps, 4 lobes: 4 cusps
    D. 5 lobes: 5 cusps, 4 lobes: 5 cusps
    E. 4 lobes: 4 cusps, 5 lobes: 5 cusps
## ANSWER KEYS

### ANSWER KEY—CASES 1—5

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### ANSWER KEY—CASES 6—10

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Universal Tooth Numbering System

### Permanent Teeth

<table>
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<table>
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### Primary Teeth

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<tr>
<td>T S R Q P</td>
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### Permanent Tooth Development

#### Upper Teeth
- Central incisor: Erupt at 7-8 yrs.
- Lateral incisor: Erupt at 8-9 yrs.
- Canine (cuspид): Erupt at 11-12 yrs.
- First premolar (first bicuspid): Erupt at 10-11 yrs.
- Second premolar (second bicuspid): Erupt at 10-12 yrs.
- First molar: Erupt at 6-7 yrs.
- Second molar: Erupt at 12-13 yrs.
- Third molar (wisdom tooth): Erupt at 17-21 yrs.

#### Lower Teeth
- Third molar (wisdom tooth): Erupt at 17-21 yrs.
- Second molar: Erupt at 11-13 yrs.
- First molar: Erupt at 6-7 yrs.
- Second premolar (second bicuspid): Erupt at 11-12 yrs.
- First premolar (first bicuspid): Erupt at 10-12 yrs.
- Canine (cuspид): Erupt at 9-10 yrs.
- Lateral incisor: Erupt at 7-8 yrs.
- Central incisor: Erupt at 6-7 yrs.

### Primary Tooth Development

#### Upper Teeth
- Central incisor: Erupt at 8-12 mos.
- Lateral incisor: Erupt at 9-13 mos.
- Canine (cuspид): Erupt at 16-22 mos.
- First molar: Erupt at 13-19 mos.
- Second molar: Erupt at 25-33 mos.

#### Lower Teeth
- Second molar: Erupt at 23-31 mos.
- First molar: Erupt at 14-18 mos.
- Canine (cuspид): Erupt at 17-23 mos.
- Lateral incisor: Erupt at 10-16 mos.
- Central incisor: Erupt at 6-10 mos.
<table>
<thead>
<tr>
<th>Buccal</th>
<th>Mesial marginal ridge</th>
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Occlusion chart

![Occlusion chart diagram]
Notice

Medicine is an ever-changing science. As new research and clinical experience broaden our knowledge, changes in treatment and drug therapy are required. The authors and the publisher of this work have checked with sources believed to be reliable in their efforts to provide information that is complete and generally in accord with the standards accepted at the time of publication. However, in view of the possibility of human error or changes in medical sciences, neither the authors nor the publisher nor any other party who has been involved in the preparation or publication of this work warrants that the information contained herein is in every respect accurate or complete, and they disclaim all responsibility for any errors or omissions or for the results obtained from use of the information contained in this work. Readers are encouraged to confirm the information contained herein with other sources. For example and in particular, readers are advised to check the product information sheet included in the package of each drug they plan to administer to be certain that the information contained in this work is accurate and that changes have not been made in the recommended dose or in the contraindications for administration. This recommendation is of particular importance in connection with new or infrequently used drugs.

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