Lesson Plan

Lesson Title: Basic Anatomy in Forensic Dentistry
Applied to Police Investigation

Course: Instructor Development School

Duration: 50 Minutes
Prepared By: Officer Jennie Alessi

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Approved By:

Method of Presentation: Lecture

Instructor: Jennie Alessi

Instructions Objectives:
At the conclusion of this lecture, using only this material each student will be able orally or in writing:

1. List 2 of the 3 cases in which a body could be identified using dental apparatus including teeth and why it is primary to DNA identification
2. List What year forensic dentistry was speculated to be used and by who
3. List a form of dental records used in postmortem identification
4. Describe the difference between ante mortem and postmortem
5. List the number of teeth in an average adult
6. List the 2 dental arches
7. List 2 examples of human-made anomalies in the oral cavity
Trainee References:

Handouts
Instructor will provide hands on examination of some of the training aids, to be passed around to the students and returned to the instructor

Instructor References:


Online materials from:
Walking the Dead
BOLD Forensic Laboratories
Forensic Dentistry Online
Dental Morphology Online
Post Mortem Forms Online

Video: “The Whole Nine Yards” (optional)

Training Aids Required:

Chalkboard
Handouts
Business/Contact Cards
VCR/Television – optional
Human teeth
Dental typodont
Dental models/casts
Radiograph-Panorex
Anatomical Learning Skull
BASIC ANATOMY IN FORENSIC DENTISTRY

APPLIED TO POLICE INVESTIGATION

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LESSON PROCEDURES

1. Introduction:
   A. Open with skit of video “The Whole Nine Yards”
      1. Write “Forensic Dentistry” on chalkboard
   B. Introduce myself
      1. Gowanda Police Dept
         a. SRO
         b. SART Representative
         c. Forensic Dental Team Member
         d. Certified Panorex Radiology
   2. Explain there are no “stupid” questions

MATERIALS & AIDS

TV/VCR-Video
Chalkboard/chalk
Professional cards
Refer to Cross Case
Handout Objectives,
Dental Chart,
Postmortem report
Summary Report

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II. Presentation:

A. Cases in which the Method of Forensic Dentistry could be used to I.D a body or human remains:

1. Fire-Enamel vs bone  
   Refer to video

2. Drowning  
   Pass teeth around

3. Mutilation
   a. Suicide  
   Refer to Experience
   b. Decomposition

4. Mass Destruction  
   Example 9/11

5. Share stories of Mutilated body of young woman in Australia I.D. by one tooth
   Grandmother murdered and decomposed body I.D. by dentures.

B. Explain why it is used primary to DNA Identification:

1. DNA-average cost $2500  
   Objective #1

2. DNA -Much more timely

3. Similar margin of error

C. History of Forensic Dentistry  
   Objective #2

1. Paul Revere-Constructed a silver dental bridge-1775
   for General Joseph Warren-killed in the battle of Bunker Hill

   a. Silver Bridge is a form of a dental record  Objective #3
LEsson PROCEDURES

2. Postmortem I.D. by Paul Revere (1st forensic dentist) in a mass grave
   a. Define Post mortem-(After death) Objective #4
   b. Define Ante mortem- (Before death)

D. Forms of Dental Records used in Forensic Dentistry

1. Radiographs
   a. Panorex
   b. Periapical/bitewing
2. Dental Chart
3. Models or cast of teeth from impressions
4. Prosthetics
   a. Crown-stationary 1 unit
   b. Bridge-stationary >1 unit
   c. Partial-removable
5. Teeth
   a. Explain different stages of development
   b. Explain no two anatomies are alike
   c. Explain some habits that affect anatomy
      1. Ice chewing
      2. Tobacco chewing
      3. Tooth grinding
      4. Anorexia

E. Basic Dental Anatomy:
1. Two dental arches
   a. Maxillary
   b. Mandibular-(Use “knock block off”)

MATERIALS & AIDS

Show X-rays
Refer to chart
Show impression
Stone casts
Show typodont
Show crown
Show bridge
Show partial
Show teeth

Objective #6
Write on chalkboard
Show Skull
<table>
<thead>
<tr>
<th>LESSON PROCEDURES</th>
<th>MATERIALS &amp; AIDS</th>
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</thead>
</table>
| 1. How Do We Answer Questions?  
  2. Number 6 Item 2  
  B Child 20 | Objectives #5 |
| 3. Explain that there are 10 roots within each tooth by two groups:  
  a. Root(s) of tooth  
  b. Root tips of tooth  
  c. Root Canal or Native Americans | Show with hands |
| 4. Explain 5 parts of each tooth  
  a. Crown or its bristle  
  b. Enamel  
  c. Dentin  
  d. Gingiva  
  e. Mucosa | Unspecified |
| 5. Explain 5 purposes of each tooth  
  a. Mastication  
  b. Digestion  
  c. Occlusion  
  d. Speech  
  e. Protection | Unspecified |
| 6. Scene of the Human Molar (Function and Changes in the Oral Cavity) | Objective #7 |
| 1. Fillings  
  2. Porcelain (crowns, bridges, partials)  
  a. Metal foil (alloy)  
  b. Porcelain (metal foil and 350 degrees F)  
  c. Bonding (porcelain and 1500 degrees F) | Show X-ray |
| 3. Malignant Tumors  
  4. Rest Crown  
  5. Chip or Lost Tooth  
  6. Laser (cutting, welding, cutting) | Show X-ray |

Objectives:  
1. Identify the functions of teeth.  
2. Discuss the importance of dental hygiene.  
3. Explain the process of tooth decay.  
4. Describe the composition of tooth enamel.  
5. Identify the different parts of a tooth.  
6. Understand the role of the gums in oral health.  
7. Demonstrate the anatomy of a tooth.  
8. Discuss the materials used in dental restorations.  
9. Understand the potential causes of dental disease.  
10. Explain the role of the dentist in the treatment of dental problems.
LESSON PROCEDURES

7. Staining-Habits, antibiotics
8. Tooth wear

III. Summary:

A. Discuss the 3 cases in which a body or unknown human remains could be identified

B. Discuss the history of Paul Revere and 1775

C. Discuss the Silver Bridge used as a dental record

D. Discuss Antemortem and Post mortem

E. Discuss number of teeth especially adult

F. Discuss 2 Dental Arches

G. Discuss 2 human made changes (anomalies) in the oral cavity

D. Thank-you for your attention and support

MATERIALS & AIDS

Give a ways (toothbrushes) optional

Fill out Objectives together-write answers on chalkboard