

CE Course Handout

Forensic Dentistry - The Role of the Dental Hygienist

Friday, June 10, 2016
10:00 a.m.-1:00 p.m.

**American Dental Hygiene Association
93rd Annual Session**

**Forensic Dentistry
Role of the Dental Hygienist**

**Dr. Edward E. Herschaft
June 10, 2016**

NOTES

Presentation – Part I

Purpose and Objectives for this Course

- Define forensic dentistry (odontology).
- Relate the general functions of the forensic odontologist.
- Appreciate the importance of becoming involved in organized forensic dentistry and know the organizations which are currently available for membership by dental hygienists.
- Build a foundational knowledge of the legal and humanitarian requirements for positive identification of decedents in criminal and civil cases.
- Know the advantages and disadvantages of the non-scientific methods and biometric methods of postmortem identification.
- Describe the artifactual changes that are associated with teeth that have been subjected to extreme temperatures associated with burning or cremation.
- Appreciate the importance of comparing adjunctive antemortem and postmortem information obtained from dental and non-dental craniofacial hard and soft tissues when attempting to affect identification.
- Describe the procedures and instrumentation used in the collection of postmortem dental data.
- Describe the methods employed to develop a presumptive identification for an unidentified decedent.
- Describe the techniques employed to retrieve dental evidence from cremains.
- Understand the various tooth numbering systems and methods for entering dental notation and dental nomenclature into a dental record.
- Critically evaluate relevant forensic dental scientific texts and literature related to the practice of forensic odontology.
- Define the terms mass disaster, multiple fatality incident (MFI), disaster victim identification (DVI).
- Know the roles and responsibilities of the various national and international agencies and support teams that may be mobilized in the event of a natural or man-made mass disaster.

- Build a foundational knowledge of the organization and planning required for disaster site management at international, national, state, and local levels.
- Describe the functions of the dental mortuary operations station of the DMORT model of a DVI morgue operation.
- Understand the procedures and protocols required to compare antemortem and postmortem dental records in a DVI forensic setting using portable equipment and computer-assisted dental identification software.
- Describe suspicious physical, emotional, and other patterns observed in the abused child, intimate partner, elder, disabled or pregnant individual.
- Build a foundational knowledge of the historical and epidemiological information associated with the various forms of human abuse and neglect.
- Describe the role of the forensic odontologist in the recognition, documentation and reporting of physical and neglective abuse.
- Build a foundational knowledge of the procedures and protocols required in the process of reporting abuse.
- Define Munchausen syndrome by proxy.
- Recognize the signs and symptoms related to a caregiver's potentially abusive personality.
- Understand the role of the various federal and state, local, and support agencies that can intervene in matters of human abuse and neglect.
- Recognize the signs and symptoms associated with the dental manifestations of human abuse and neglect.
- Differentiate between the signs and symptoms of abuse and other medical, dental and emotional problems that may mimic these findings.
- Critically evaluate relevant forensic, dental, medical, and public health scientific literature concerning human abuse and intimate partner violence issues based on an understanding of evidence-based concepts.

Forensic Dentistry (Forensic Odontology) - Definition

The area of dentistry concerned with the correct management, examination, evaluation, and presentation of dental evidence in criminal or civil legal proceedings in the interest of justice. The forensic dentist must be knowledgeable in both *dentistry* and the *law*. (*...as must the dental hygienist interested in this aspect of the profession!*)

The Forensic Dentist (Forensic Odontologist) - Functions

- Human Identification:
 - Individual - -

 - Multiple Fatality Incident (MFI) situations - -

 - Aging of Individuals by Teeth and Bones - -

 - *Bite Mark Analysis* - -

- Human Abuse Recognition:
 - Child Abuse - -

 - Intimate Partner Violence (IPV) - -

 - Elder Abuse - -

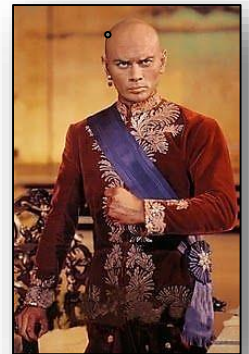
 - Abuse of the Disabled - -

- Expert Dental Testimony:
 - Civil Cases - -

 - Criminal Cases - -

| Coroner | Medical Examiner |
|--------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Elected | Usually appointed |
| MD/DO – <i>not required</i> | MD/DO: |
| Often has law enforcement background | <ul style="list-style-type: none"> - Pathology Residency - Forensic Pathology Fellowship |

| Manner of Death | Mode (Cause) of Death |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Natural | <i>How</i> the individual died - - for example: |
| Accidental | Blunt force trauma <ul style="list-style-type: none"> - Asphyxiation (Drowning) - Poison (Cyanide) - Drug overdose - Gunshot trauma - Myocardial infarction - Cancer <div style="border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block; margin-top: 10px;"> - <i>Etc., etc., etc...</i> </div> |
| Homicide | |
| Suicide | |
| Undetermined | - ???????? |



Status of Human Remains

- **Recently deceased:**

- **Partially decomposed:**

- **Mutilated:**

- **Burned:**

- **Decomposed:**

- **Skeletonized:**

Presentation – Parts II and III

Individual Dental Identification Methodology

- Most common method of identification for decomposed, burned, skeletonized, and fragmented remains.
- Usually the fastest method to identify fragmented remains of mass disaster (MFI) victims.
- Comparative dental identification
- Postmortem dental profiling

- *Why is Dental Identification so Effective?*

- *What are the challenges in making an ID through dental evidence?*

- *How is it done?*

Disaster Mortuary Identification Teams (DMORT)

- **Goals of the morgue operation:**
 - **Identification of the remains - -**
 - **Injury documentation - -**
 - **Recovery of evidence - -**
 - **Cause (mode) and Manner of death determination - -**
 - **Evaluation of operator in vehicular accidents (e.g.: blood alcohol level, toxicology, medical conditions) - -**
 - **Disposition of remains - -**

Disaster Victim Identification (DVI) - Definition

Refers to the component of fatality management of a mass fatality incident (MFI) that involves the *scientific identification* of human remains.

- ***What are the challenges in making an ID through dental evidence in an MFI situation?***

- **Other Types and Conditions that Mimic Abuse:**

- **Munchausen by Proxy - -**

- **Abuse “Foolers” - -**

- **Gua sha (China):**

- **Cạo Gió (Vietnam):**

- **Cupping:**

- **Bullous Impetigo:**

- **Mongolian spot (Dermal melanocytosis):**

- **Support Organizations:**

- **P.A.N.D.A (*Prevent Abuse and Neglect through Dental Awareness*) - -**

Presentation – Part VI

Human Abuse

- Intimate Partner Violence (IPV) - Definition

The deliberate attempt by a partner in an intimate relationship to control or intimidate the other partner. The couple may be married, unmarried, same sex, and/or heterosexual. Includes:

- Verbal abuse - -

 - Financial abuse - -

 - Stalking or control - -

 - Physical abuse - -

 - Sexual abuse - -
- Sexual Violence (SV):
- Sexual activity where consent is not obtained or freely given.
 - Person responsible for the violence is typically male and known to the victim (e.g.: friend, coworker, neighbor, or family member.)
 - **RADAR:**
 - **R:** routinely screen ALL female patients (w/o partner present):
 - **A:** sk direct questions:
 - **D:** document findings:
 - **A:** assess patient safety:
 - **R:** review options and referrals:

- **National Domestic Violence hotline - - (800) 799-7233.**

- **Elder Abuse/Abuse of the Disabled:**
 - **Similar in all regards to child abuse except that they deal with:**
 - **Geriatric victims**
 - **Individuals physically and/or mentally impaired or disabled**
 - **These populations often:**
 - **Require special care**
 - **Are institutionalized**

- **Elder Abuse - Definition**

Any abuse and neglect of individuals ≥ 60 y/o by a caregiver or another person in a relationship involving an expectation of trust. Includes:

- **Physical Abuse:**

- **Sexual Abuse:**

- **Psychological Abuse:**

- **Active Neglect:**

- **Material/Financial Abuse:**

- **Passive Abuse (Abandonment):**

- **Human Abuse – Reporting:**

- ***Childhelp USA*®**
800-4-A-CHILD (800-422-4453)

- **National Sexual Assault Hotline, from RAINN.org**
800.656.HOPE (4673)

- **National Domestic Violence Hotline**
(800) 799-7233

- ***Why the Dental Team?***

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