

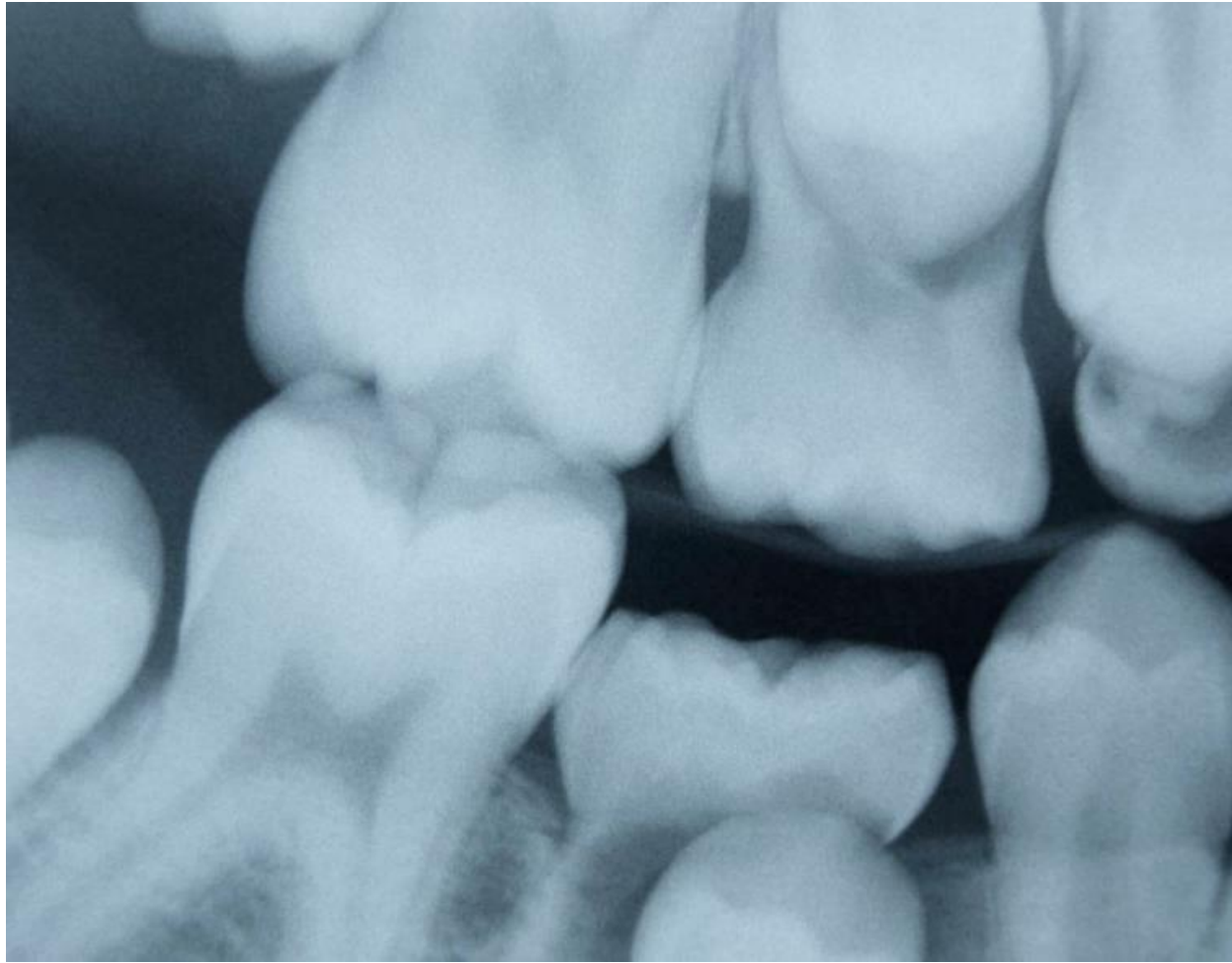


# BELL RINGER



- What is the hardest substance in the body?
- Can health history be determined from your teeth?





# SUMMARY

- History
- Body Identification
- Bite Mark Analysis
- Personal Injury
- Dental Malpractice  
History



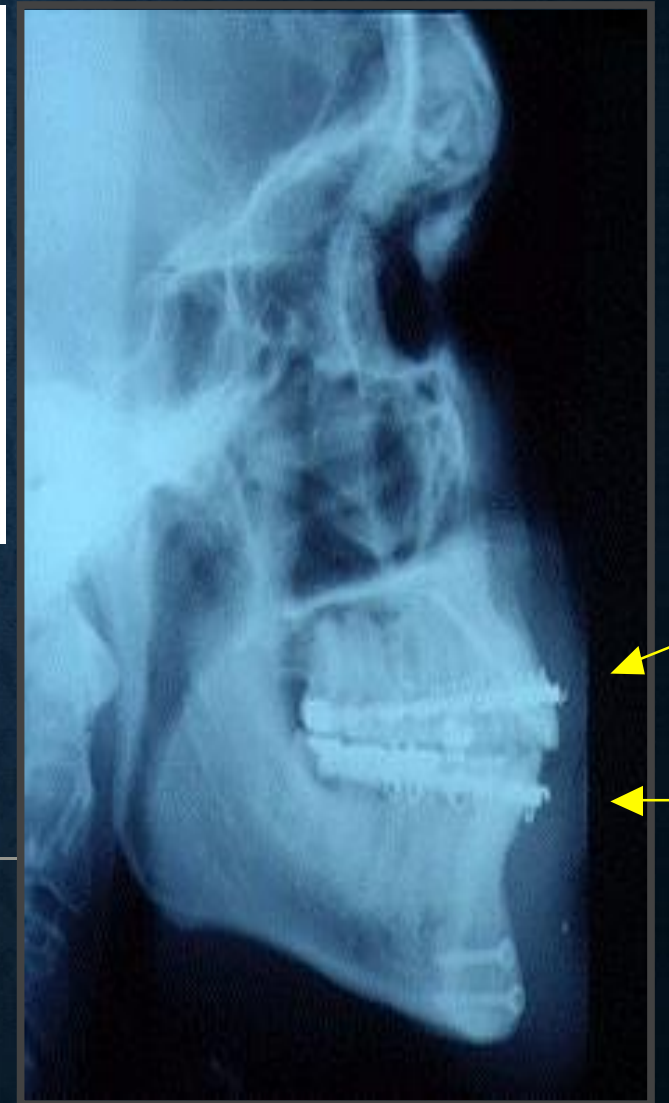
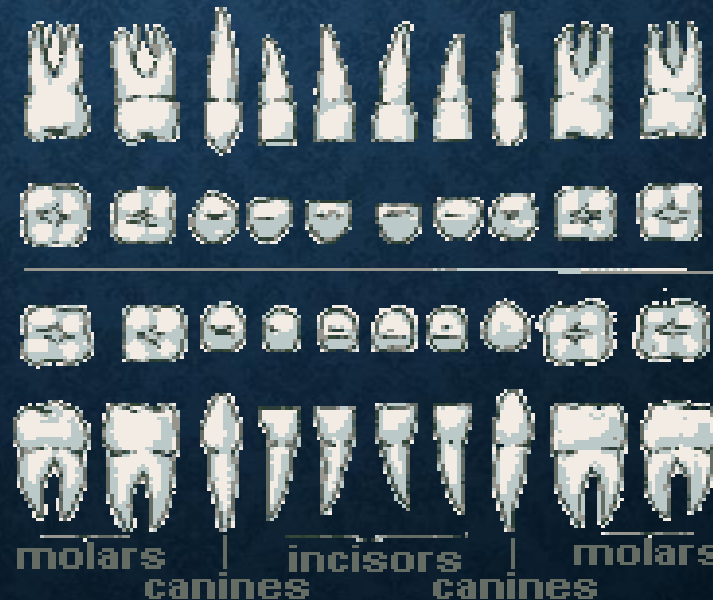
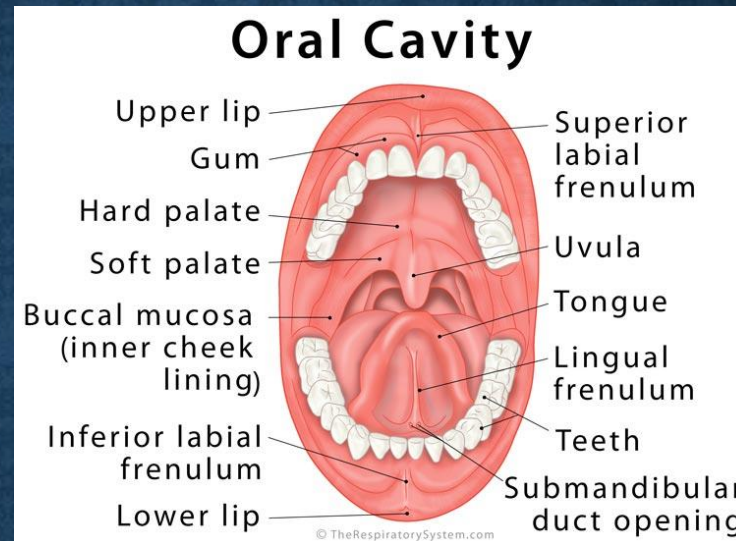
# **BODY IDENTIFICATION AND BITE MARK ANALYSIS**

- Roman Emperor Claudius – wife wanted decapitated head of mistress
- Paul Revere- dentures of soldiers
- King William- bite in wax



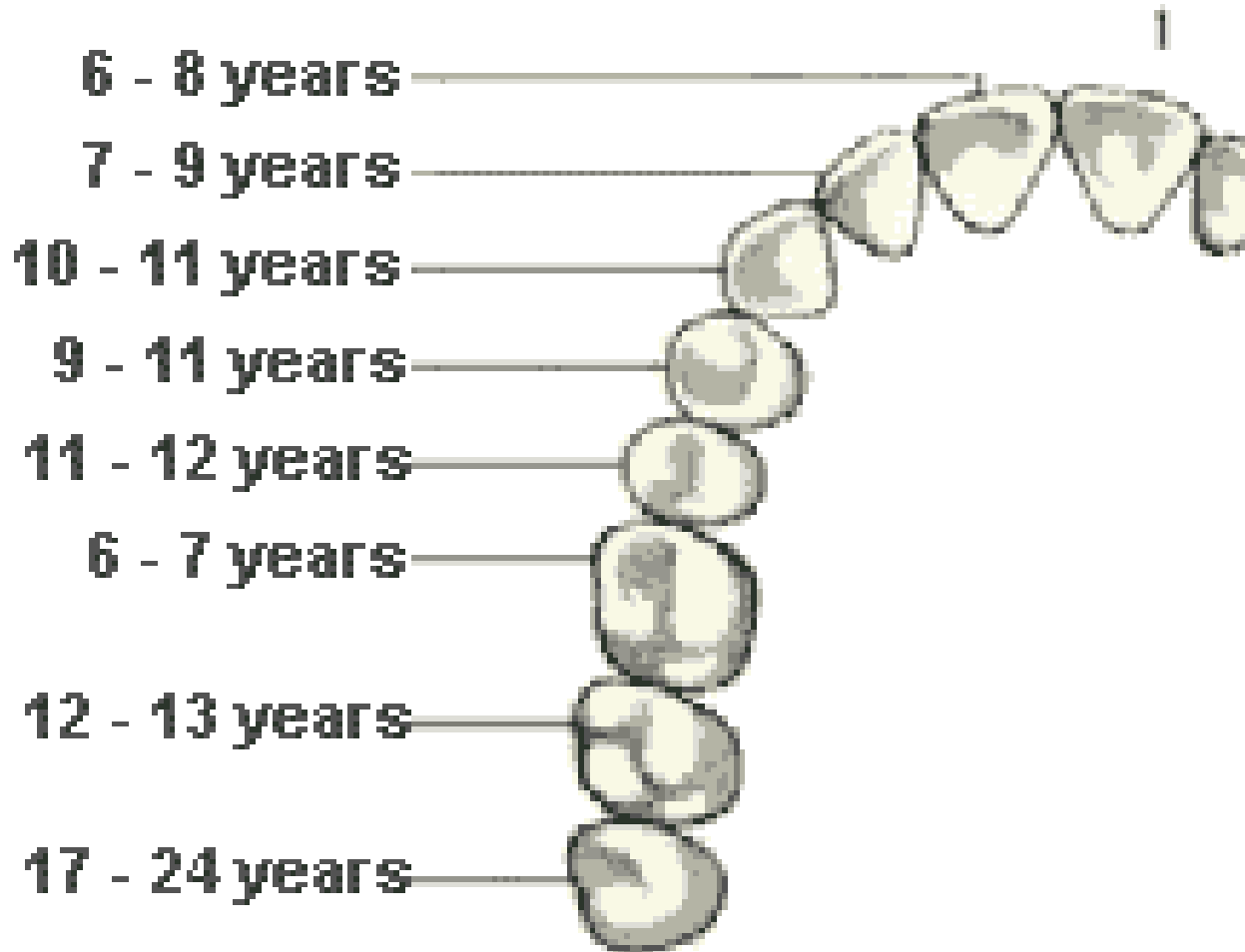
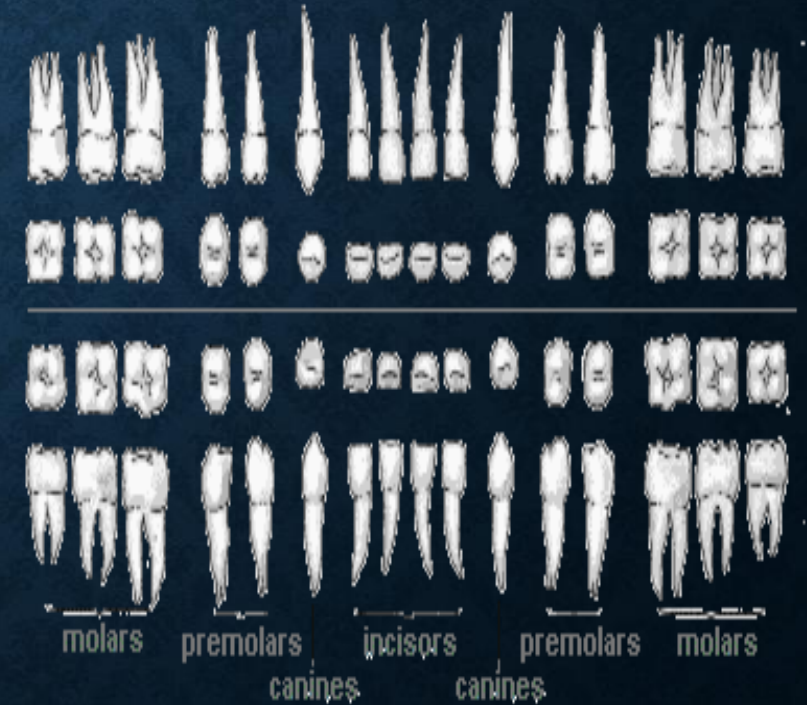
# ANATOMY OF ORAL CAVITY

- Maxilla- upper jaw
- Mandible- lower jaw
- Primary Dentition
  - Baby teeth or milk teeth
  - 20 teeth



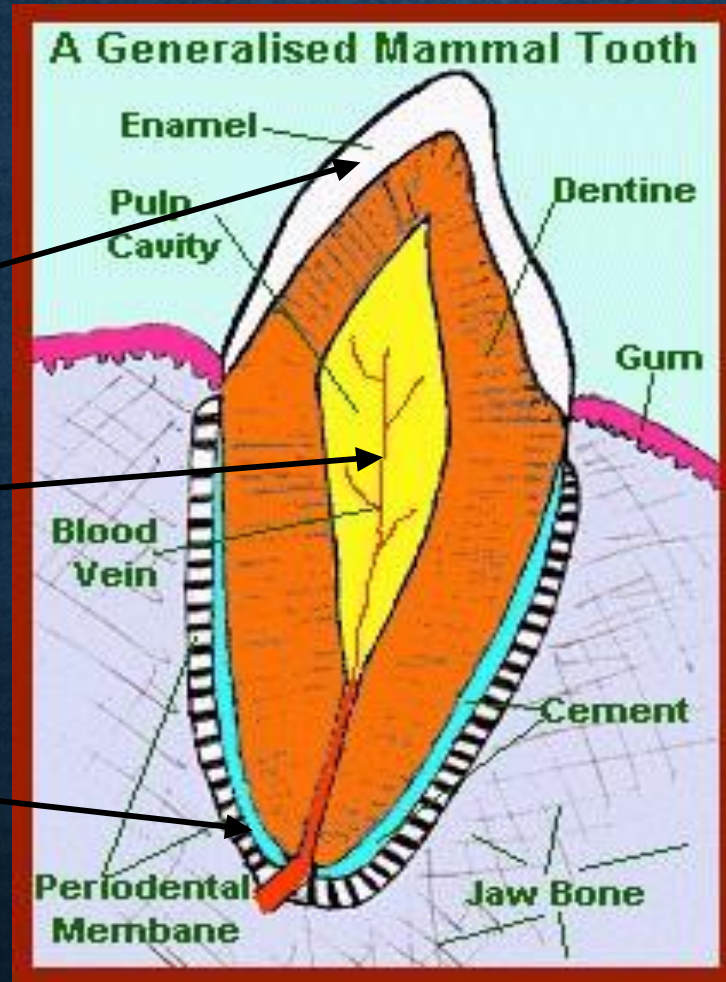
# ANATOMY OF ORAL CAVITY CONTINUED

- Permanent dentition
  - Start at 6-8 years old
  - 32 teeth





# TOOTH ANATOMY



Enamel

Contains DNA

Pulp

Crown

Root



# CEMENTUM

- A body is identified by comparing teeth and bone structures of the body to the dental records of the suspected individual.



# BODY IDENTIFICATION

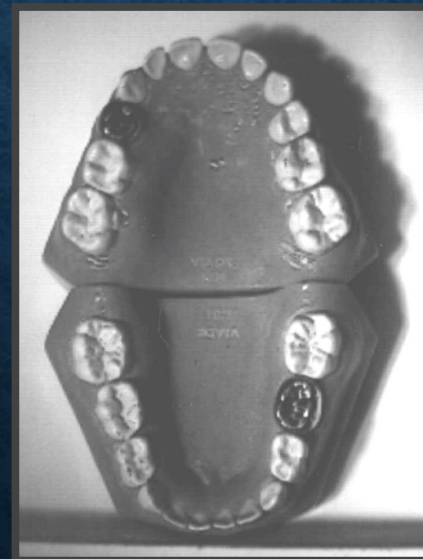
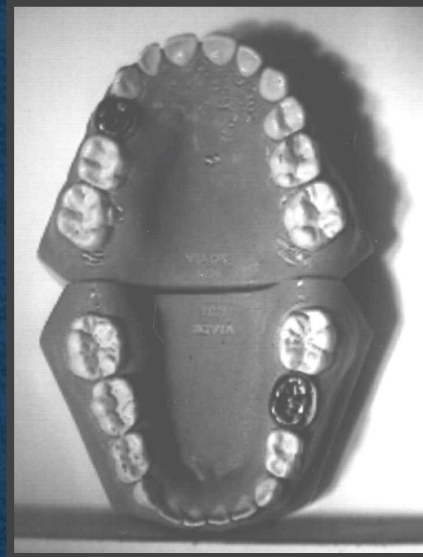
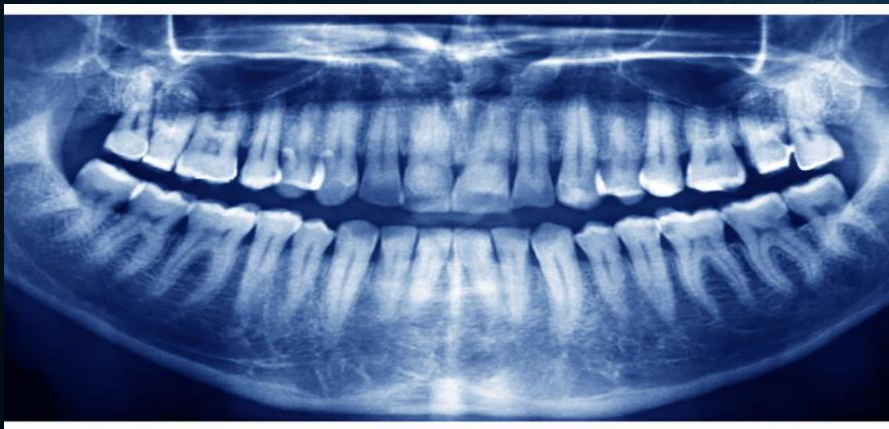
- Postmortem examination of the body
- Locating the antemortem dental records
- Comparing the body to the dental records





# POSTMORTEM EXAMINATION

- May examine teeth while in the body (if body needed for the funeral)
- May remove jaw (using bone saw) and remove soft tissue using hydrogen peroxide
- Record any diseases and the general anatomy



- Each tooth or socket is examined individually, and the following is recorded:
  - Presence/absence of tooth
  - Socket present or healed
  - Healed socket = past removal
  - Present socket = recent removal
  - Erupted vs. Unerupted
  - Filling or crown material



# POSTMORTEM EXAMINATION & ANTEMORTEM RECORDS

- After examination of teeth, they should be photographed, and X-Rays should be taken
- If body is known, dental records can usually be recovered from his or her dentist
- If body is unknown, the examination results are submitted to a missing person registry.



# COMPARISON

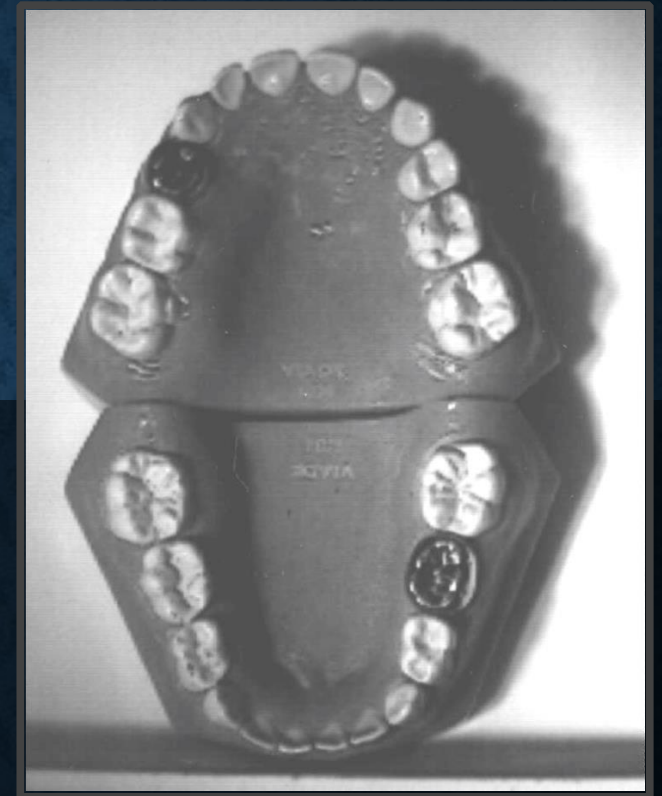
Postmortem  
exam compared  
to antemortem  
records

A statement is  
made about each  
tooth

Consistent

Different with  
explainable  
differences

Different with no  
explanation







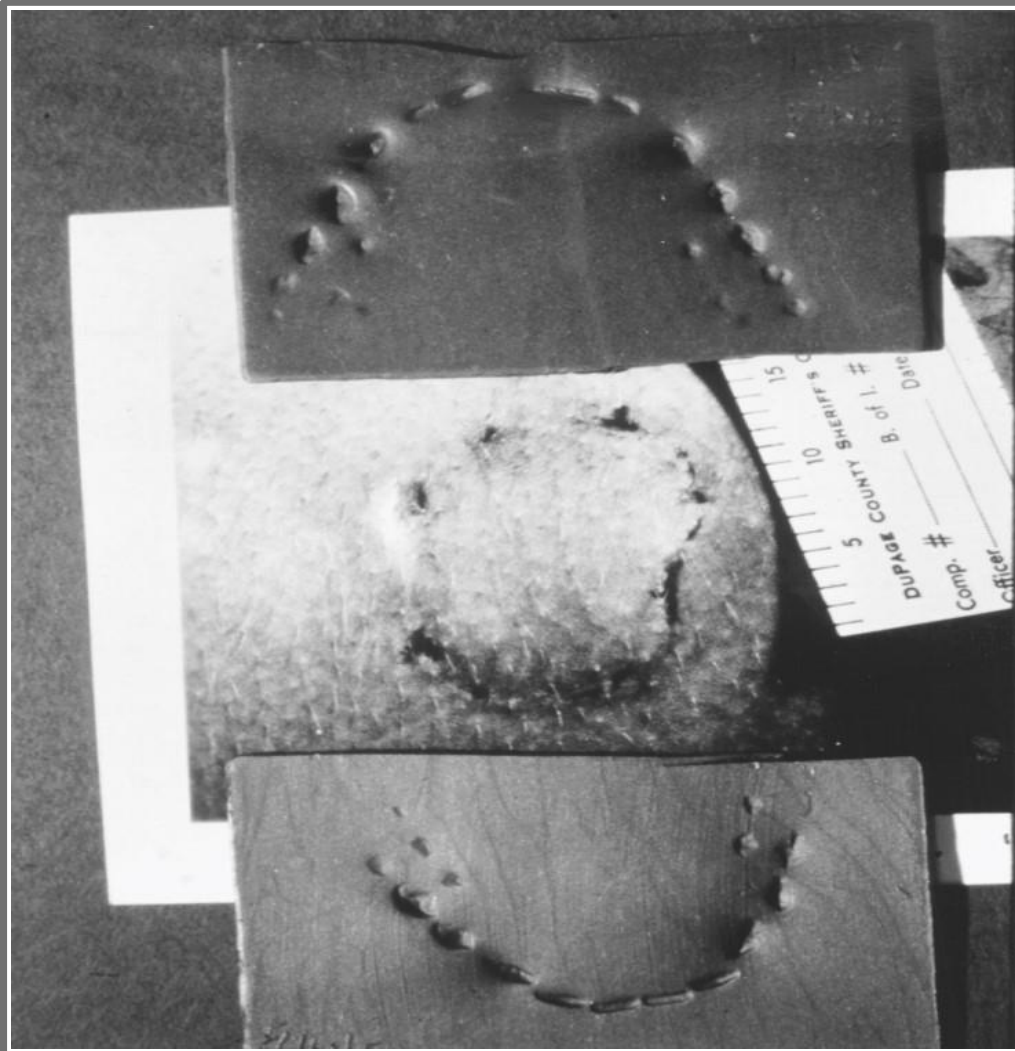
# IDENTIFICATION IN MASS DISASTERS

- Split into 4 teams
- Run by Chief Forensic Dentist
- 1. Recovery at disaster scene
- 2. Postmortem exams at morgue
- 3. Collect antemortem dental records
- 4. Comparisons with computer software



# CHARACTERISTICS OF BITE MARKS

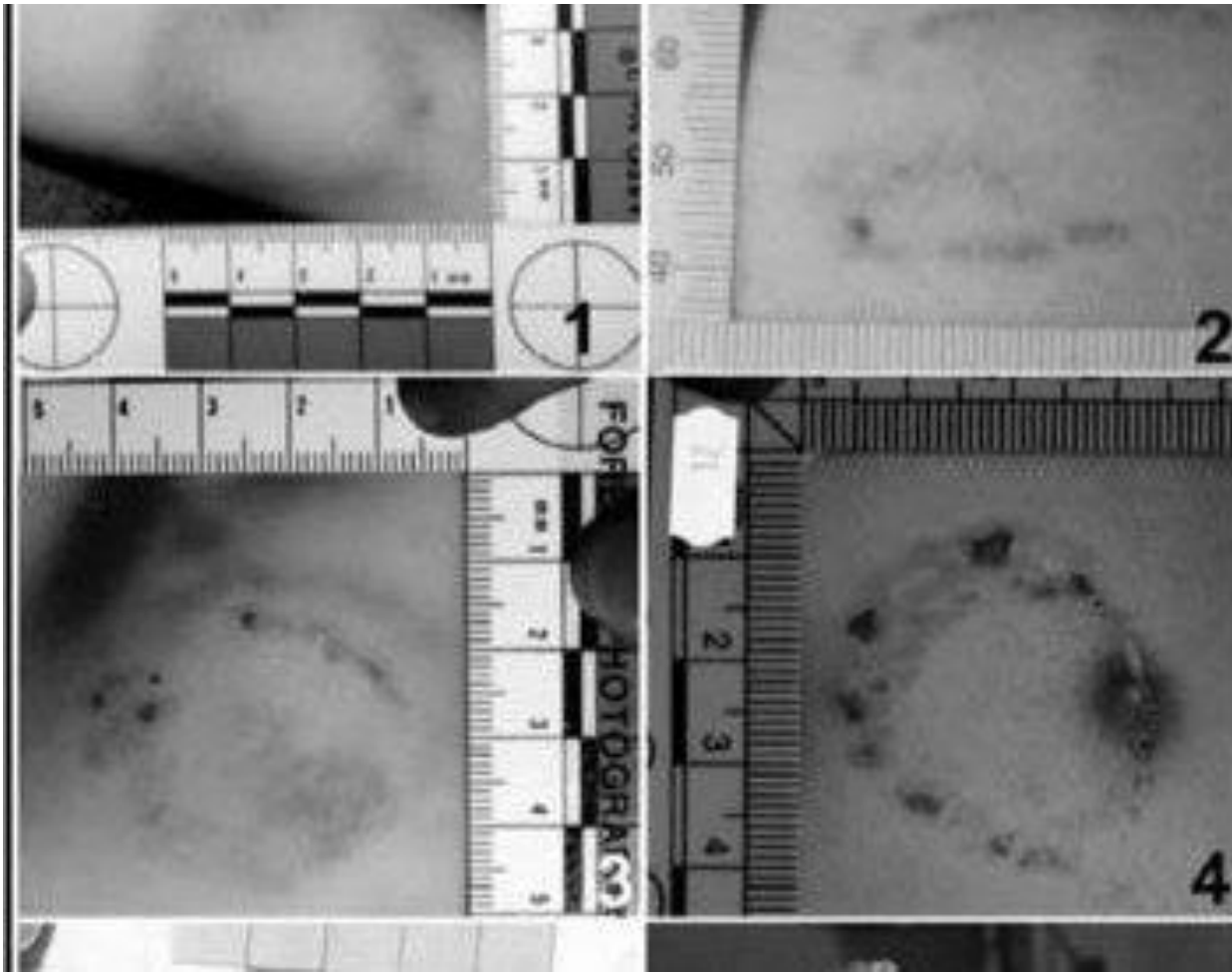
- Shape of two half moons (upper and lower)
- Composed of 6 upper teeth and 6 lower teeth
- Antemortem (diffuse bruise)
- Perimortem (defined bruise)
- Postmortem (no bruise)
- Only persists 8 hours on living person





# COLLECTION OF BITE MARKS

- 1. Identify as potential bite mark
- 2. Collect 3 swabs
  - ABO blood test, amylase detection
  - DNA analysis
  - Microorganism analysis
- 3. Photograph bite mark
- 4. Make an impression of bite mark

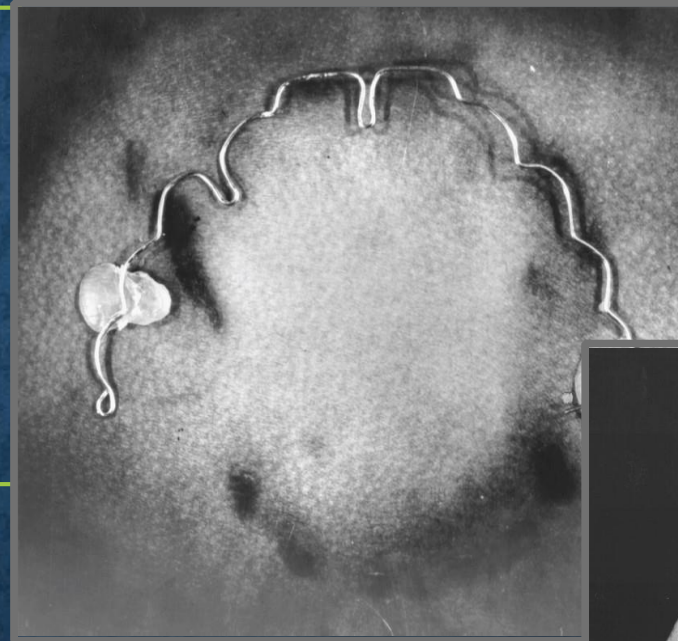


# COMPARISON OF BITE MARKS

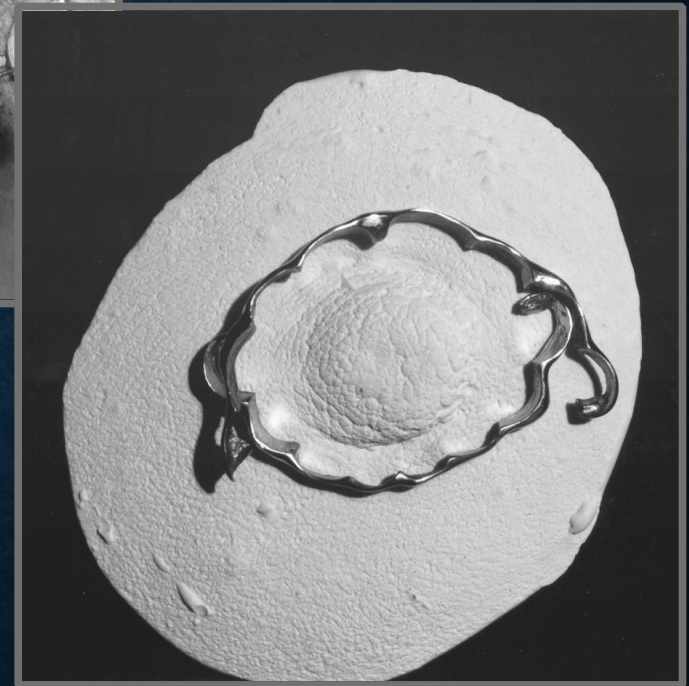
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1. Photographic overlay of suspect's teeth and bite mark

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2. Compare mold of suspects teeth to bite mark or impression of bite mark





**THANK YOU FOR  
YOUR ATTENTION!**



**QUESTIONS & COMMENTS**