

## CRM 343 – Key Concepts – Module 6

### Key Concepts from Chapter 12:

#### Historical Perspective

- Packaging and types of evidence collected influenced by DNA evaluation capabilities
- O.J. Simpson case affected how evidence is handled to prevent alleged contamination or inadmissibility

#### Purpose of Packaging

- Protect evidence from contamination, breakage, degradation, molding, or decomposition
- To prevent deterioration, samples should be dried as soon as possible, placed in paper bags, and stored in freezer
- Plastic bags should only be used for bone or tissue samples, and must be frozen for preservation
- Tubes of blood should be refrigerated instead of frozen to avoid breakage

#### Types of Packaging

- Multiple types of packages available
- Provides a surface for labeling evidence without affecting contents
- Usually collected in primary package
  - ◆ Filter paper, weighing paper, writing paper
- Primary package is then placed into a secondary package
- Secondary packaging provides:
  - ◆ Means to label material
  - ◆ Seal with evidence tape
  - ◆ Prevent loss or cross-contamination with other collected evidence
- Paper Bags
  - ◆ Brown paper grocery bags useful for large items such as clothing, sheets, and other fabrics
  - ◆ Paper allows internal evidence to breath, especially if evidence is damp
  - ◆ Top is folded over and sealed with evidence tape
- Paper Envelopes
  - ◆ All sizes from standard mailing size to coin envelopes to manila envelope size
  - ◆ Some contain a clear portion so internal contents can be viewed
    - ◆ Useful for handguns, small articles of clothing, and trace evidence
- Paper
  - ◆ Primary collection device
  - ◆ Easily hold trace evidence such as hair, fibers, and particles
  - ◆ Placed in secondary packaging to prevent loss in folds
  - ◆ Filter paper and weighing papers are lightweight, inexpensive, and small
  - ◆ To facilitate placement in coin or mailing envelopes, paper should be folded in conical, druggist, or bundle fashion
- Swabs
  - ◆ Supplied in sterile paper packages
  - ◆ After use need to be dried and placed in breathable packaging
  - ◆ Some kits contain collapsed rectangular boxes that fit two swabs
- Sterile Containers
  - ◆ Several sizes available
  - ◆ Suitable for liquid or breakable specimens
  - ◆ Centrifuge tubes useful to transfer blood tubes to prevent breakage
  - ◆ Specimen cups
    - ◆ Larger and hold up to 300cc of fluid
    - ◆ Have screw on caps to prevent leakage
    - ◆ Useful for transporting tissue or urine samples

## ■ Boxes

- ◆ Protect evidence from crushing or for protective reasons (knives or guns)
- ◆ Clean unused pizza-style boxes or specialty boxes are available and useful for collection of smaller evidence such as jewelry or bullets

## Collecting Evidence at a Scene

- ◆ Photographs of a scene from all angles is useful in later reconstruction of crime for court or consultation purposes
- ◆ Evidence can be marked with cone-shaped numbers and re-photographed
- ◆ Close-up photos with numbers and ruler are best way to document evidence
- ◆ Photograph numbers are recorded in a log with a short description of each piece of evidence for easy referencing

## ■ Bloodstain Patterns

- ◆ Provides valuable information on type of actions occurring at a scene
  - ◆ Beating, gunshot wounds, instruments used, etc.
- ◆ Patterns best documented with photographs taken at 90 degree angle and include a ruler along edge of view field
- ◆ Photographs should include overall photos with a reference point (floor, furniture, etc.)
- ◆ Close-ups of droplets should be taken for directionality and velocity determination
- ◆ Samples of blood should be collected with swab technique
- ◆ Areas should be circled with pen and photographed for documentation

## ■ Blood and Body Fluids

- ◆ All specimens are photographed before collection
- ◆ Wet specimens collected with dry swab
- ◆ Dry specimens collected with dampened swab followed by a second dry swab to absorb specimen
- ◆ Both types need to be air-dried and placed in envelope for transport
- ◆ Known standards of blood samples should also be obtained
  - ◆ Collected in purple-top tubes or via finger stick onto filter paper

## ■ Clothing and Sheets

- ◆ Photographed prior to moving item
- ◆ Adherent trace evidence on clothing should be collected into conical or druggist fold and separately submitted in envelope
- ◆ Air-drying and packaging required of specimens damp with body fluids

## ■ Hairs, Fibers, and Miscellaneous Trace Evidence

- ◆ Small capacity vacuum cleaner devices used on large areas where trace evidence may have been scattered, but not seen
- ◆ These vacuums have small, specialty filter that are submitted to lab for evaluation
- ◆ Items should be gently collected with tweezers, placed in conical or druggist fold, sealed in an envelope, and labeled
- ◆ Collection of known standards including head hairs, pubic hairs, and fibers should be remembered

## ■ Paint/Glass

- ◆ Large paint fragments can be placed in rigid container to prevent breakage
- ◆ Glass should be placed in similar containers to prevent injury to personnel
- ◆ Paint scrapings/smears can be scraped into filter cone or druggist fold
- ◆ This type of evidence often procured from wounds of victims, especially hit and run motor vehicle accidents

## Collection Kits

### ■ Sexual Assault Kits

- ◆ Prepared by a company to comply with each state's medical examination protocol
- ◆ Includes supplies and instructions to collect necessary evidence for DNA analysis
- ◆ One kit for victim and one for a suspect
  - ◆ Victim kit includes specimens collected from all possible sites

- ◆ Suspect kit includes saliva, blood, pubic hair combings, head hair, and pubic hair samples
- FAA Kit
  - ◆ Prepared by Federal Aviation Association
  - ◆ Used on flight crew in aircraft or other mass disaster
  - ◆ Contains all necessary tubes and containers to fulfill FAA evaluation requirements and self-explanatory instructions
- DNA Kit
  - ◆ Blood is specimen of choice
  - ◆ Collected in purple top tubes or finger stick onto filter paper
  - ◆ Liquid blood is transported refrigerated
  - ◆ Blood dried on filter paper is easily transported and stored frozen
  - ◆ Other kits include buccal swab kits
    - ◆ Minimally invasive to subject and easily collected
    - ◆ Swab used to rub inner cheek
    - ◆ Specimen should be air dried and frozen to best preserve sample
    - ◆ Court order may be required
- Toxicology Kit
  - ◆ Typically used for DUI or drug testing of live person
  - ◆ Includes two gray top tubes and container for submission of urine sample

#### Labeling of Packages

- Evidence packages should be labeled with the following information using an indelible marker:
  - ◆ Assigned case number
  - ◆ Collector's name or initials
  - ◆ Date and time of collection
  - ◆ Contents of evidence package
  - ◆ Location where evidence was found
  - ◆ Evidence tape that is initialed and dated
- Seal the container with evidence tape, initial and date the seal
- All evidence should be recorded on an evidence list

#### Chain of Custody

- Defined as documentation of accountability for property or evidence
  - ◆ Type of evidence
  - ◆ Time and date of collection
  - ◆ Signatures of all individuals who possessed it
  - ◆ Identification of where it was secured
- Documents proper storage and prevention of tampering or contamination
- Identifies who performed collection and testing
- Important during evidentiary motions and admissibility as evidence in court

#### Shipping Evidence

- Best to contact receiving lab to obtain shipping requirements
- Standard operating procedures may include times of evidence receipt and packaging requirements
- The lab's service request form needs to accompany package on exterior
- Evidence should not be shipped overnight on a Friday to avoid compromising sample integrity
- All mail carriers have their own requirements for shipping evidence and biohazardous materials
- Frozen samples need to be packed with dry ice or with closed ice packs
  - ◆ Regular ice will leak and may dislodge evidence
- Glass tubes should be packed inside a container to prevent leakage then enclosed within another plastic bag marked with a biohazard symbol (blood)
- Shipping often requires air travel
  - ◆ Tubes containing liquids should not be overfilled to avoid bursting

- Styrofoam packing protects contents during automated sorting procedures and mishandling
- Warning labels should clearly mark package exterior
  - ◆ “Biohazard”
  - ◆ “Glass”
  - ◆ “HIV or Hepatitis B Positive”
  - ◆ “Sharp”
  - ◆ “Fragile”
- Shipping labels need to be clearly marked with indelible marker or permanent ink to ensure timely delivery
  - ◆ Delivery address
  - ◆ Return address
  - ◆ Individual or department attention
  - ◆ Instructions for proper handling
  - ◆ Marked “Evidence”
  - ◆ Proper chain of custody
- Use certified or registered mail with return receipt
- Generally, US Mail will not accept human tissue or body parts – other carriers should be consulted for their regulations on biohazardous materials
- Some materials such as flammable contents need to be delivered to lab in person
- Carriers should be consulted prior to mailing firearms
- Firearms should be shipped unloaded
- Syringes should be shipped without needles or placed in special packaging

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#### REFERENCE

Bucholtz, A., & Lewis, J. (2005). *Biological evidence*. San Clemente, CA: Lawtech Custom Publishing.