Directions: *Read "**JonBenet Ramsey: Who Did It?**" (page 42), then write brief description of all the ways the police did not secure and process the crime scene correctly.*

Get Started Immediately!

1.7: Searching For/Collecting Evidence

SFS1- Recognize and classify various types of evidence in relation to the definition and scope of Forensic Science:

c. Determine the proper techniques to search, isolate, collect and record physical and trace evidence,

d. Evaluate the relevance of possible evidence at the site of an investigation,

e. Organize relevant information to accurately develop and submit both scene and analysis reports

1/18/17

Part I: Systematic Searches/Search Patterns

- even when suspects are immediately **arrested** and the **motives** and circumstances of the crime are readily apparent, a thorough search for **physical evidence** must be conducted as soon as possible
- failure to do so, even though it may seem unnecessary, can lead to accusations of **negligence** or charges that the investigative agency knowingly "**covered up**" evidence
- most police agencies have trained field evidence technicians to search for physical evidence at the crime scene (they have the **equipment** and **skill** to photograph the scene and examine it for the presence of fingerprints, footprints, tool marks, etc.)

Conducting a Crime Scene Search

- **method** of conducting a crime-scene search depends on:

Conducting a Crime Scene Search

- **method** of conducting a crime-scene search depends on:
  - the locale and size of the area
  - the actions of the suspect(s) and victim(s) at the scene
- one person should **supervise** and coordinate the collection of evidence to reduce confusion and needless duplication of effort
- evidence collectors can **subdivide** the scene into segments and search each segment individually, or the search may start at some outer point and gradually move toward the center of the scene
- searches must include all probable **points of entry and exit**
- typical **search patterns**:

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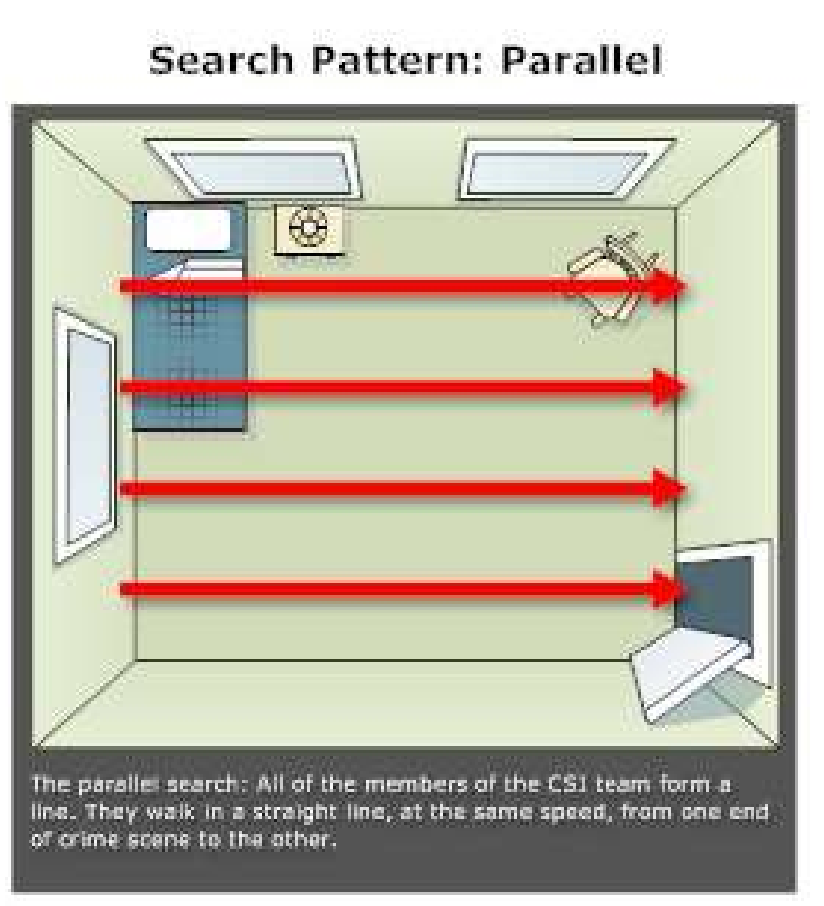

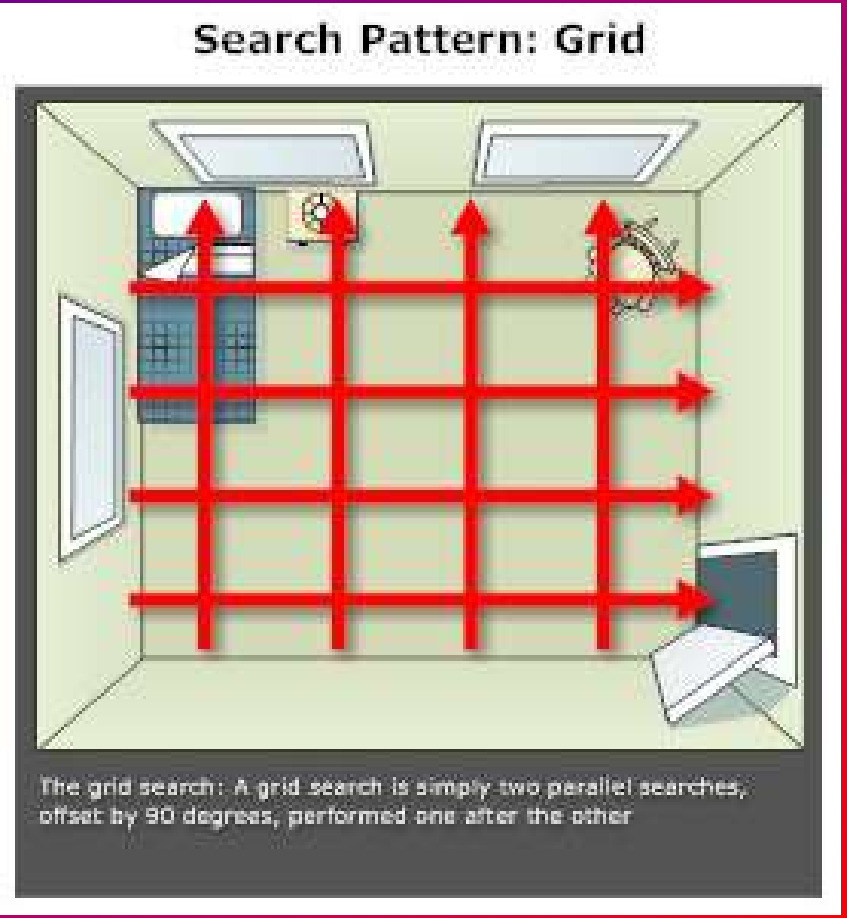

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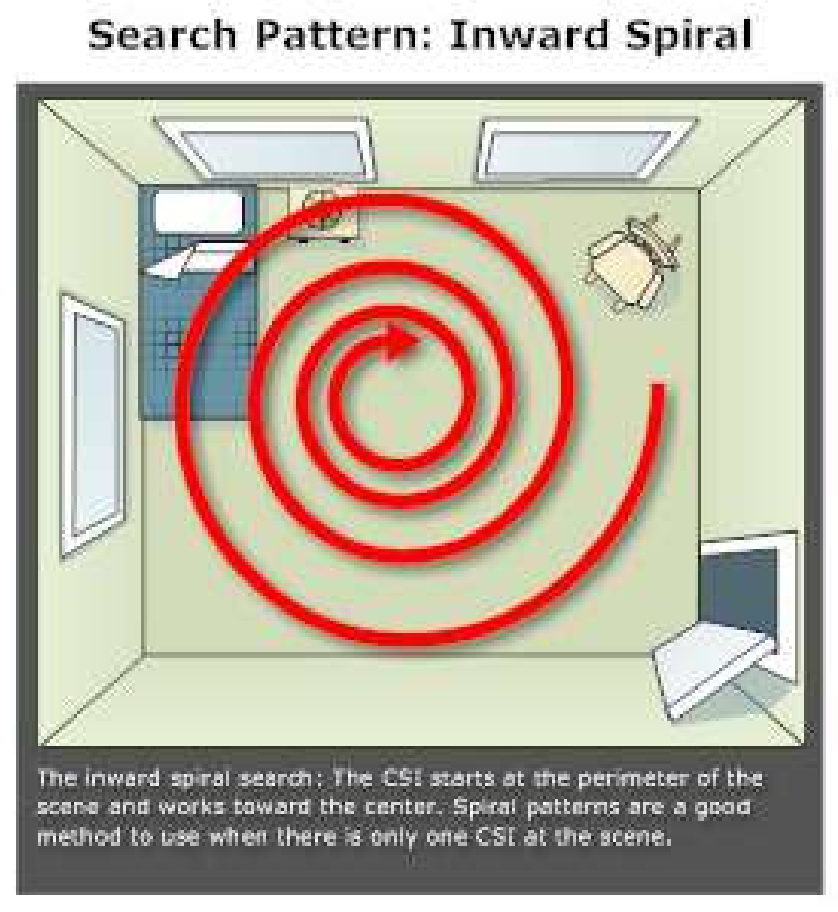
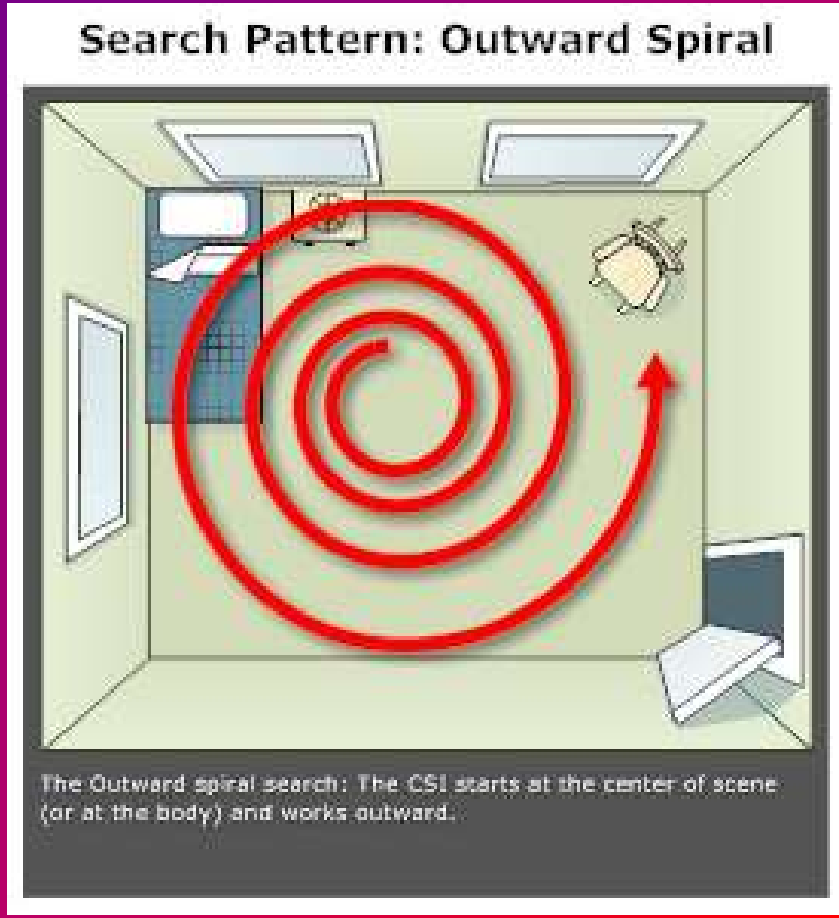
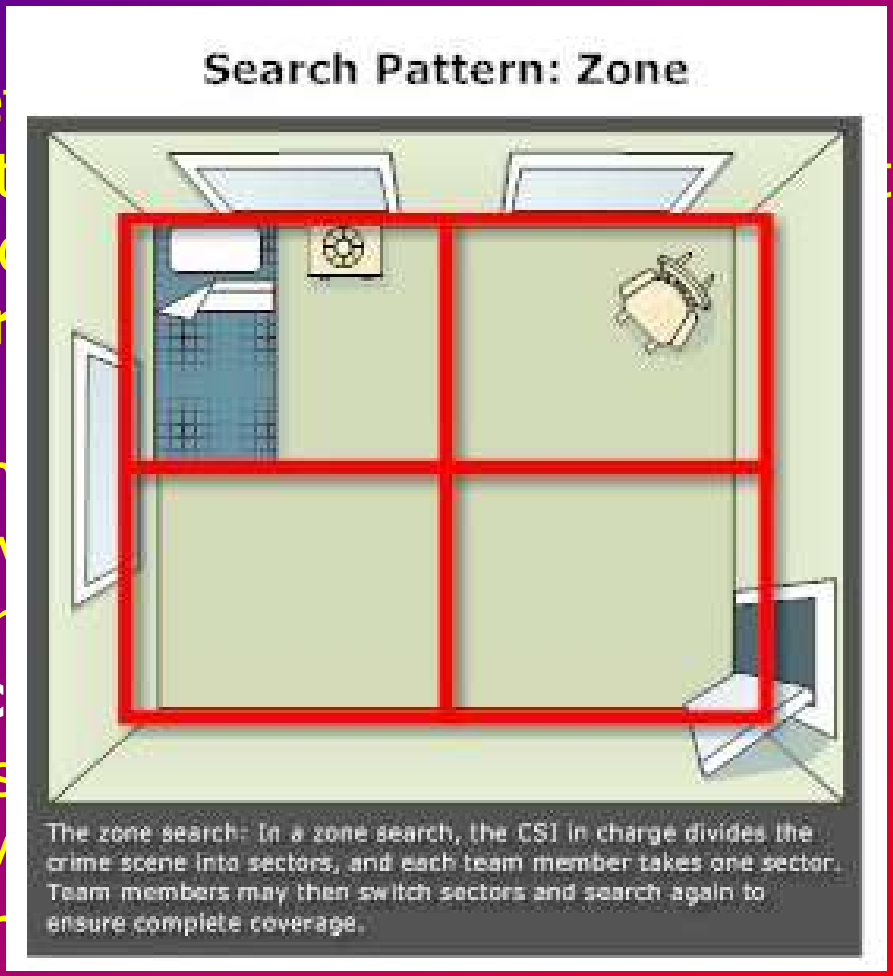




- typical **search patterns**:
- **what to search for** will be de
  circumstances of the crime, but
  rely on his/her **experience** an
  successful strategy to recover **r**
  example:
  - in the case of **homicide**, th
    weapon and any type of ev
    contact between the victim
    Locard's Exchange Princ
  - for a **burglary** case, efforts
    marks at the point of entry
- **vehicle searches** must be car
  - in **hit-and-run** cases, the outside and undercarriage of the car is examined carefully



- **vehicle searches** must be carefully carried out:
  - in **hit-and-run** cases, the outside and undercarriage of the car is examined carefully
  - in cases of **vehicle-involved homicide, burglary, kidnapping**, etc., all areas of the vehicle, inside and outside, are searched—particular attention is paid to cross-transferred evidence (blood, tissue, hair, fibers, and fabric impressions)
  - traces of **paint** or **broken glass** may be located on the victim(s) inside the car
- in almost **all** crimes, a thorough search for **latent fingerprints** is required

SELF-CHECK QUESTIONS!

The method of conducting a crime-scene search depends on:

1) the locale and size of the area, and 2)the actions of the suspect(s) and victim(s) at the scene

If investigators had a large field to search, what search pattern(s) might be the most appropriate for that situation?

parallel or grid

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Part II: Types/Location of Physical Evidence

- physical evidence can be anything from massive objects to microscopic traces

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- physical evidence can be anything from **massive** objects to **microscopic** traces
- many items of evidence are **obvious**, but others may be detected only through close examination in the crime lab under microscopic inspection:
  - minute traces of blood may be discovered on clothing
  - hairs and fibers may be revealed in vacuum sweepings
- therefore, possible **carriers** of trace evidence are collected:
  - all **clothing** worn by the participants in a crime (each clothing item should be handled carefully and wrapped separately to avoid loss of trace materials)

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  - **rugs** and **carpet** sections are often rolled up and taken to the lab
  - upholstered **car seats** are removed for close inspection in the lab
- a portable **vacuum** cleaner equipped with special **filter** attachments are often used to collect trace evidence
- **fingernail scrapings** from victims who contacted crime-scene surfaces or scratched their assailant are useful as well (the undersurface of each nail is scraped with a dull object, such as a toothpick, to avoid cutting the skin)

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- **mobile crime lab** = vehicle carrying the ne protect the crime scene, photograph, collect physical evidence, and perform latent print
- physical evidence is also collected in the **au** deceased victims):
  - the medical examiner/coroner carefully examines the victim to establish a **cause** and **manner** of death (more on this later)

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- **tissues/organs** are routinely retained for pathological/ toxicological examination
- evidence collected and sent to the forensics lab:
  1. victim's clothing
  2. fingernail scrapings
  3. head and pubic hairs
  4. blood (for DNA typing purposes)
  5. vaginal, anal, and oral swabs (in sex-related crimes)
  6. recovered bullets from the body
  7. hand swabs from shooting victims (for gunshot residue analysis)

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- also, a lengthy **time delay** in obtaining many of these items will diminish or destroy their forensic value

SELF-CHECK QUESTIONS!

Name at least 2 items of evidence that might only be detected through close examination in the crime lab under microscopic inspection:

blood, hair, fibers, etc.

What sort of object should be used to collect evidence from under a victim's fingernails?

toothpick or
other blunt object

Why is it important to collect evidence from the body as soon as it comes in for autopsy?

evidence may be lost or destroyed over time

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Part III: Procedures for Collecting/Packaging Physical Evidence

- physical evidence must be handled and processed in a way that **prevents any change** from taking place between the crime scene and the lab
  - **changes**: contamination, breakage, evaporation, accidental scratching or bending, or loss of evidence through improper or careless packaging

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- an item must be kept in its **original condition** (as it was found at the crime scene)

- whenever possible, evidence should be submitted to the laboratory **intact**
  - blood, hairs, fibers, soil particles, and other types of **trace evidence** should not normally be removed from garments, weapons, or other articles they are attached to

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- evidence adhering to **large structures** (such as a door, wall, or floor) should be removed with tweezers or another appropriate tool
- for **bloodstains**, either scrape the stain off the surface, transfer the stain to a moistened swab, or cut out the area of the object bearing the stain

- each different item or similar items collected at different locations must be placed in a **separate** container
- packaging evidence separately prevents damage through contact and prevents **cross-contamination**

SELF-CHECK QUESTIONS!

True or False: Evidence should be removed from articles of clothing before being submitted to the crime lab for analysis.

False

True or False: Evidence that is similar but found in different locations (such as hairs found in a drain and on a countertop) should be placed in the same container.

False

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