Processing Versus Analysis

- Crime scene investigations have two aspects – ***processing*** and ***analysis***

- ***Processing*** follows a series of ***standard*** steps

- ***Analysis*** depends on:
  - detailed ***observation***, proper processing, making logical ***connections***, laboratory analysis, analysis of scene ***patterns***, and integrating all the data available

Types of Scenes

- Two major categories of criminal activities having crime scenes:

  ○ ***Property*** crimes (larceny, burglary, auto theft)

  ○ Crimes against ***persons*** (assault, battery, sexual assault, robbery, murder)

Types of Scenes

- The _**nature**_ of the scene will affect the way it is _**handled**_:

  ◦ indoor or outdoor

  ◦ public or private _**property**_

Initial Actions & Scene Security

- General actions of the *first responders*:
  - Render aid and assistance to the victim
  - Arrest any *suspects*
  - Detain any *witnesses*
  - Note *initial* scene conditions
  - *Secure* the scene

First Responders at the Crime Scene

P roceed promptly and safely

R ender aid and assistance

E ffect preliminary notifications

L ocate witnesses

I nvestigate briefly and secure the scene

M aintain control

I nterview witnesses

N ote all conditions

A rrest suspects as appropriate

R eport fully and accurately

Y ield to continuing investigation

Initial Actions & Scene Security

- Crime scene security is needed to preserve the ***integrity*** of the scene

- Once the immediate emergency situation is ***resolved***, subsequent actions at the scene will require a ***warrant***

Scene Processing & Analysis

1) Scene Survey & ***Evidence Recognition***

2) Scene ***Searches***

3) ***Documentation***

4) ***Evidence*** Collection & Preservation

5) Scene ***Analysis*** - **Reconstruction**

1) SCENE SURVEY & EVIDENCE RECOGNITION

Scene Survey

- A scene survey is an *__initial__* walk-through to establish the type of scene, note any *__transient__* evidence, and recognize any potential physical evidence

- *Transient evidence* is evidence that is easily *__destroyed__* or compromised

Evidence Recognition

- *Evidence recognition* is the determination of which physical evidence is ***relevant*** to the case as opposed to being part of the ***background***

Evidence Types

- ***Transient Evidence*** - Odor, Temperature, Imprints and indentations, Markings, Vapor

- ***Pattern Evidence*** - Direct Contact: Person/Object, Object/Object

Evidence Types

- ***Conditional Evidence*** - Light, Smoke, Fire, Location, Vehicle Status, Body Status

- ***Transfer Evidence*** - Classification, Physical Evidence

2) SCENE SEARCHES

Scene Searches

- The objective is to note *every **condition*** and *every **relevant item*** of physical evidence

- The method chosen depends on the ***type*** of scene, ***location***, and the ***area*** it covers

Scene Searches

- *Methods:* zone or quadrant; grid or strip; contracting or expanding spiral; double grid; and the "link" search method

- The method may need to be *changed* or adjusted due to *circumstances*

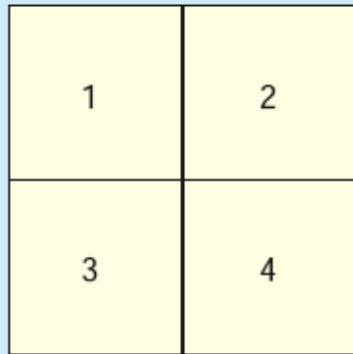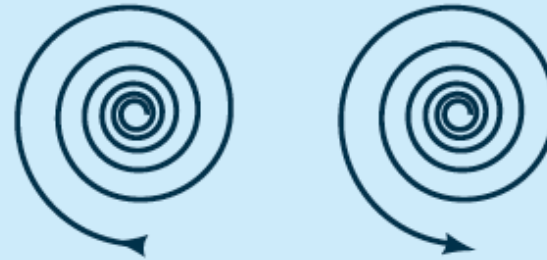# Search Process

- Assign Responsibilities, Establish Patterns

  ○ *Circular*/*Spiral Search* - Out-In or In-Out

  ○ *Zone*/*Quadrant* - Assigned blocks

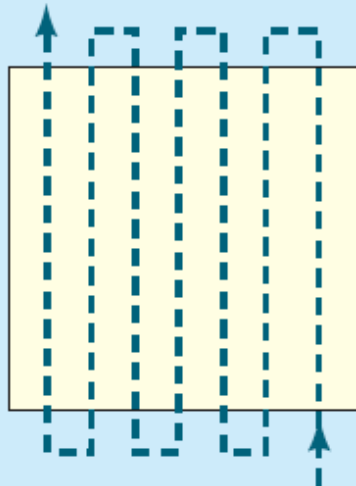 ○ *Lanes* /*Grid* - Good for Large Areas
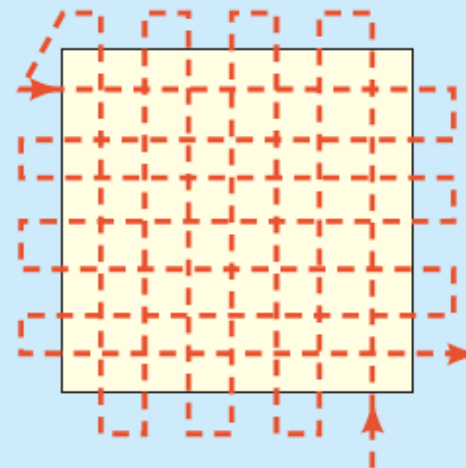
Scene Search Methods

(a) Zone or quadrant

(b) Contracting/expanding spiral

(c) Grid or strip

(d) Double grid

3) DOCUMENTATION

Documentation

- The creation of a ***detailed***, complete record of the scene using:

  ◦ Notes

  ◦ Sketches

  ◦ Photographs

  ◦ Video recording

Documentation

- Each method requires:
  - date, time, location, case number, and name(s) of the person(s) recording or collecting evidence

- With ***evidence items*** the following additional information is required:
  - Description
  - Assigned number

Notes

- Written or **_audiotaped_** records for documenting a crime scene

- Contains information such as the **_initial_** condition of the scene, names and contact information for **_witnesses_**, vehicle license plate numbers, etc.

Notes

- Also includes **_photo_** logs, **_evidence_** logs, and **_security_** logs

- Notes are often used as the basis for preparing a **_formal_** written report at a later time

Sketches

- Are ***drawings*** of scenes with measurements to ***scale***, depicting the correct ***spatial*** relationships between scene fixed points and evidence items

- Two general types: ***rough***/preliminary and smooth/***finished***

Photographs

- Objective is to **_completely_** document the scene

- Both **_technical_** and **_forensic_** aspects to consider

Photographs - Technical

- *Camera types*: "point & shoot", 35 mm, 4x5, digital
- *Lighting* (front, back and side lighting)
- *Sharpness* (focus & lack of camera motion)
- *Exposure* (f-stop and exposure time)

Video Recording

- *Videography* has several potential roles:

  ◦ As a ***stationary monitor***, recording all individuals who entered the scene and all activities

  ◦ To document the ***overall layout*** of a scene, evidence location, pattern evidence

Video Recording

- ***Narration*** is optional and may be used to help understand and ***orient*** the viewer

4) EVIDENCE COLLECTION AND PRESERVATION

Evidence Collection

- After documentation, all physical evidence items recognized as relevant are ***collected***, packaged, and ***preserved***

Basics of Collection Methods

- Whenever possible, items should be collected "***intact***," otherwise a sampling method is used

- Sampling methods include using ***forceps*** (tweezers), ***tape lifts***, or ***vacuuming*** the item

Basics of Collection Methods

- ***Biological*** material may be sampled by cutting, swabbing or scraping

- Shaking or scraping the item should be done in a ***lab*** environment

Numbering & Description Methods

- Numbering and a brief ***description*** are marked on the packaging and in the ***evidence*** log

- Numbers used at the scene, on the packaging, and in the evidence log should all ***agree***

Packaging Options - Basics

- The majority of items will be packaged in **_paper_** containers or bags

- Small items and particles should be packaged in **_folded paper_** as the primary container, and then a **_secondary_** container to prevent any loss

- Plastic zip-lock bags are suitable for solid items that are **_non-biological_**

Laboratory Submission

- A specific "***Request for Analysis***" form is completed for evidence items submitted for forensic lab analysis

- The form should have the following information:
  - Type of incident
  - Date and time of incident
  - A brief description of the case facts
  - Names of victim(s) and suspect(s)
  - A list of items being submitted
  - Types of analyses or tests required
  - Submitting agency & investigator contact information

5) CRIME SCENE ANALYSIS AND RECONSTRUCTION

Crime Scene Analysis

- Crime scene analysis involves **_theory_** building from **_all_** scene and investigative information

Crime Scene Analysis

- ***Investigative*** information includes:
  - Forensic laboratory analysis and comparisons of all relevant evidence submitted for analysis

  - Medical examiner's report on the ***cause*** and manner of death, which usually includes the results of ***toxicological*** analysis of biological samples from the autopsy

Reconstruction

- The formulation of the "**_best_** theory" of the events in a case

- Based on all the available evidence, information, and supportive data

- May require **_experiments_** to try and **_duplicate_** some of the events (ex. blood spatter)

- May be **_complete_**, partial, or **_limited_**

Reenactment

- A ***<u>hypothetical</u>*** rendition of a set of events at a crime scene partially based on the reconstruction theory