FORENSIC SCIENCE BLOOD SPLATTER PART3

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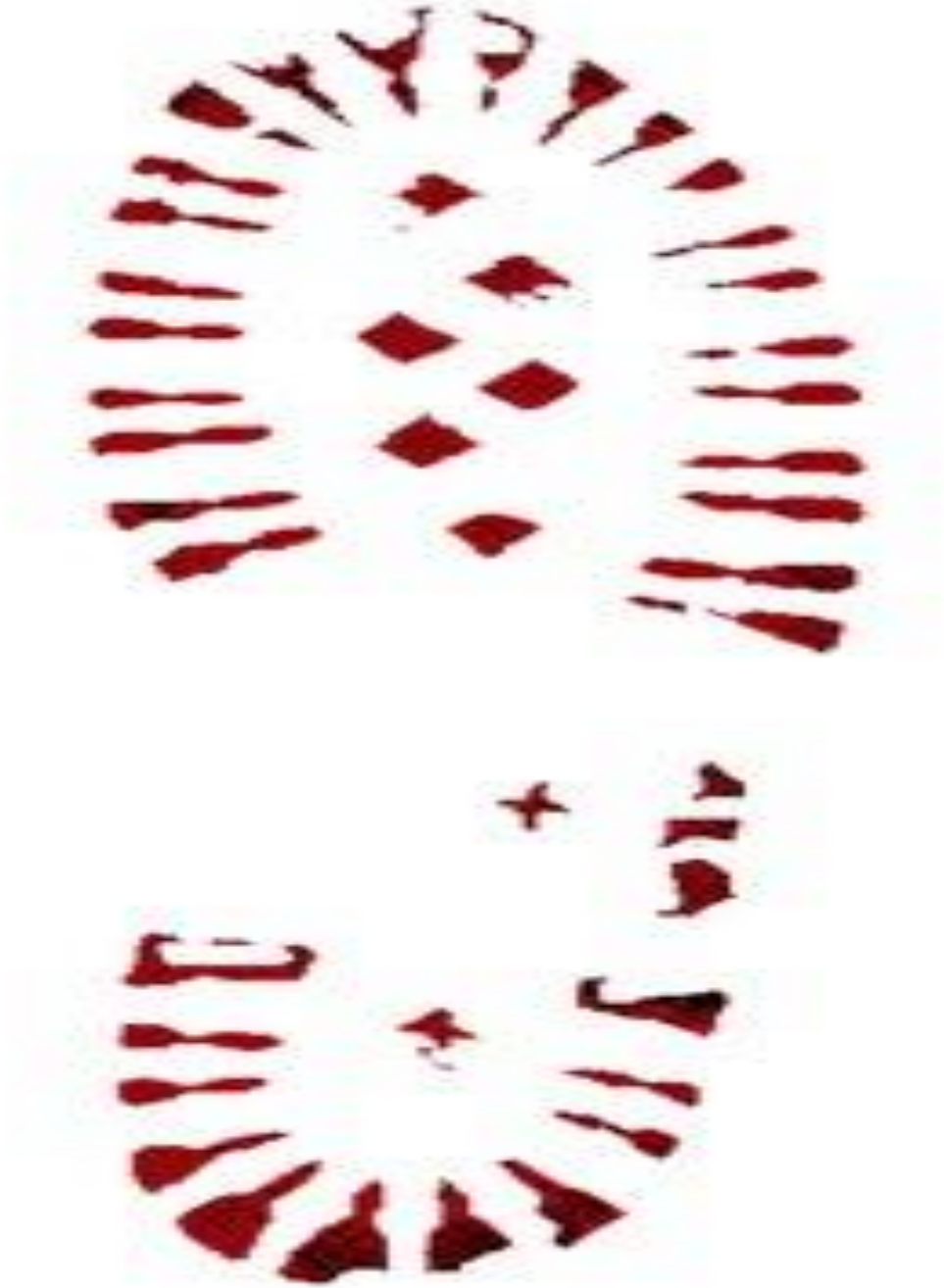
TRANSFER CONTACT

TRANSFER CONTACT FINGER

TRANSFER CONTACT SCREWDRIVER

TRANSFER CONTACT KNIFE

TRANSFER CONTACT FOOTWEAR



WIPE PATTERN

POINT OF CONVERGENCE AND ORIGIN DETERMINATION

- The common point, on a 2-dimensional surface, over which the directionality of several bloodstains can be retraced.
- Once the directionality of a group of stains has been determined, it's possible to determine a two-dimensional point or area for the group of stains.
- By drawing a line through the long axis of a group of bloodstains the point of convergence can be determined. Where the lines of the group of stains intersect one another the convergence point can be established

BLOOD SPLATTER ANALYSIS

- Point or area of origin- helps determine where the crime occurred what height the blood came from
- Angle of Impact 90 degree drop- circular
- Less than 90 degree drop- elliptical
- Mathematic relationship exists between W X L
- W/L = ratio less than 1
- Need the sine function- this gives us an angle

BLOOD SPLATTER ANALYSIS CONTINUED

- Then, go to the floor with a protractor, find the angle, and go up. This will give us a height that the spatter came from.
- This height will be “taller” than the actual height due to gravitational pull.
- Really, this gives us an idea if the victim was standing, lying down, or sitting.
- This info also allows us to call hospitals and have the ER look for certain injuries at certain heights
- For example, knife cut to forearm

SPLATTER DETERMINATIONS

- Spatter determined by:
  - Quantity of blood available
  - Amount of force applied
  - Created when force is greater than surface tension
  - Varies with GSW, stabbing, beating

WHY ID AND INTERPRET SPLATTER

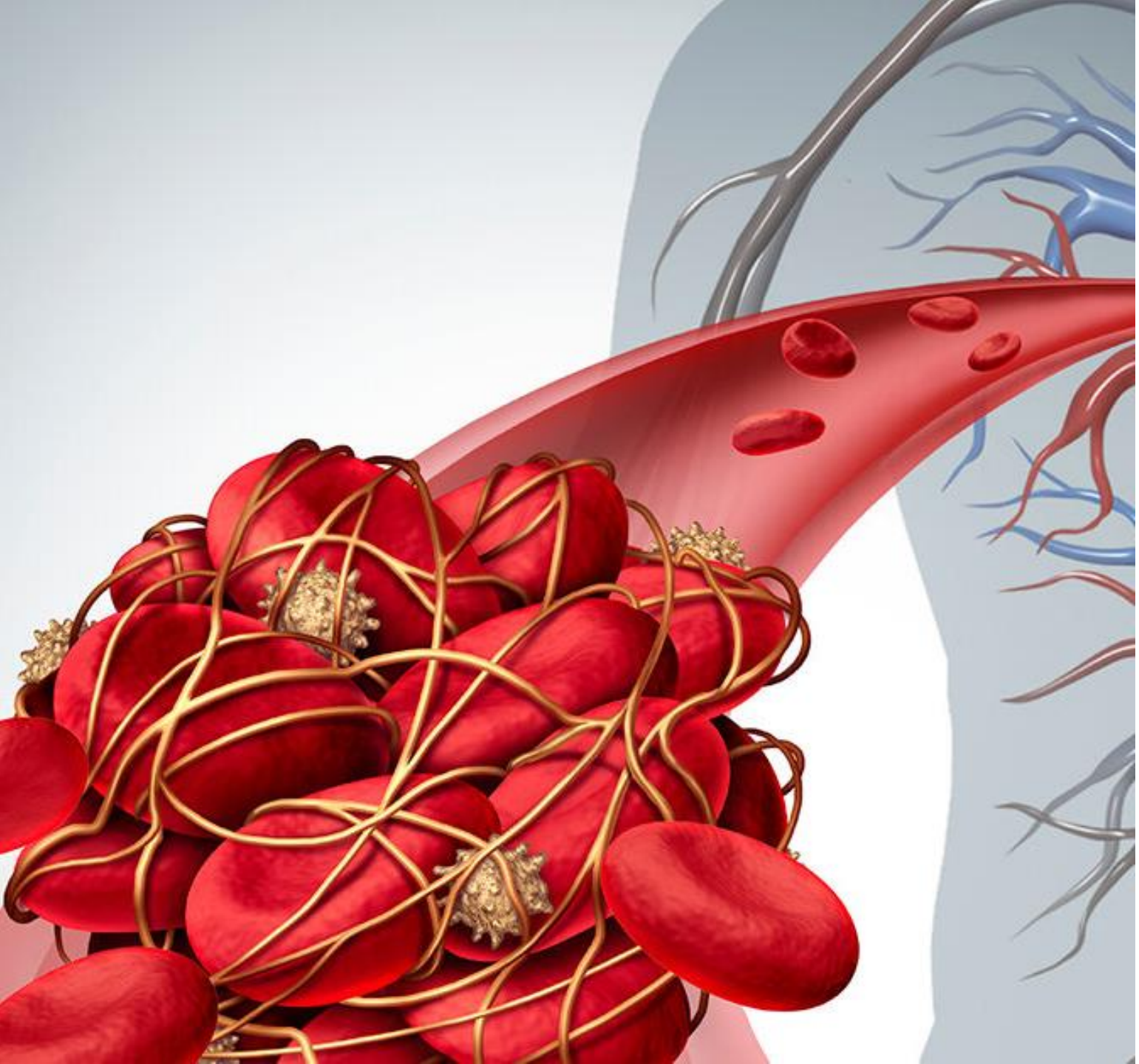
- Determine the area / location of origin of blood source
- If found on suspect, may place at crime scene
- Determine mechanism by which it was created
- Impact Projection
- GSW-castoff
- Beating-arterial
- Satellite-expiated

SPLASH PATTERNS

- Deflection from one surface to another
- Movement of victim or assailant
- Projected blood- force exceeds gravity
- Edges will exhibit numerous spike like projections with narrow streaking of secondary spatter- vomit, then running through the blood

EXPIATED (EXHALED) BLOOD

- Similar to GSW
- Blood fills mouth, nose, lungs
- You try to breathe and force the blood out
- Blood may have air bubbles
- Blood may be mixed with saliva
- But, what must I find on the body to substantiate this
- Injury to head, neck, face



ALTERED PATTERNS

- If blood dries, then is wiped, or stepped in skeletonized pattern
- This shows movement after injuries are inflicted
- Blood normally clots in 3-15 minutes
- Clot is a jelly like mass
- Coughing up clotted blood, shows postinjury survival time
- Void Patterns- no blood where it should be- big puddle, shoe image in center

BLOOD ON CLOTHES OR SHOES

- Whose blood is it?
- What is the staining pattern?
- “I came in the room and found them lying there. I only touched them to see if they were alive.”
- What if they have a transfer pattern?
- What if they have spatter?

THANK YOU! COMMENTS AND QUESTIONS?