



Case #153

NAME Educational Activities Committee

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Left arm

Left side of the back

An adult male is found dead with multiple injuries. Examination of the back reveals the findings shown in the autopsy photograph. Which of the following circumstances surrounding the death is most consistent with the photograph?

- A. He was struck with a leather belt producing blunt force injuries
- B. Emergency medical intervention was attempted
- C. The body was found lying supine on a fenestrated surface for a prolonged period after death
- D. He was wearing a grommited strap across the chest and upper back, pressed into the skin by the body's weight

Answer...

Answer Choices ↓	Percentage ↓	Responses ↓	
 A. He was struck with a leather belt producing blunt force injuries	9.24%	39	...
 B. Emergency medical intervention was attempted	10.90%	46	...
 C. The body was found lying supine on a fenestrated surface for a prolonged period after death	11.14%	47	...
 D. He was wearing a grommited strap across the chest and upper back, pressed into the skin by the body's weight	68.72%	290	...
Total		422	

CORRECT ANSWER

B. Emergency medical intervention was attempted

The subject sustained multiple gunshot wounds. In the provided photograph, a gunshot exit wound is seen, and the body was received with an elastic hemostatic rubber tourniquet across the back compressing the wound.

According to the investigation, the subject was discovered dead but medical intervention was still attempted. In the forensic setting, it is not uncommon to observe evidence of medical intervention despite the individual having been found dead at the scene. Responders encountering an unresponsive person with obvious penetrating wounds initiate hemorrhage control before, and often during, the determination of death, as they do not withhold it pending that determination. The presence of a hemostatic device is therefore evidence that intervention was attempted, irrespective of whether circulation had already ceased when it was applied.



CORRECT ANSWER

B. Emergency medical intervention was attempted (continues)

The skin pattern shown in the photograph is consistent with the morphology of a perforated elastic band such as those pictured at right. Congestion is transmitted through the open perforations while the intervening material blanches the skin, producing the resulting pattern.

These emergency devices are frequently used to control arterial bleeding on the limbs and are generally not sufficient to control truncal hemorrhage, but when they are available at scene, they may be applied temporarily to compress an actively bleeding wound. This does not happen often, and when such devices are applied to unusual body sites, they can create confusion during the external examination because the resulting pattern on the skin may mimic other conditions.



Other responses...

A. He was struck with a leather belt, producing blunt force trauma

Blunt force trauma produced by a belt generally consists of linear or tramline patterned contusions of variable intensity across the contact arc. Such injuries are typically encountered in hangings, where a belt is secured around the neck producing an abraded furrow, and in inflicted injury where the resulting pattern may reproduce the morphology of the belt.

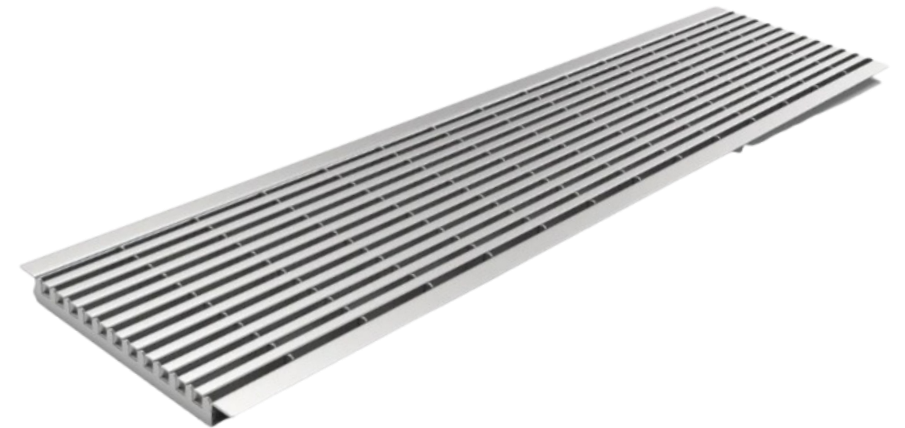
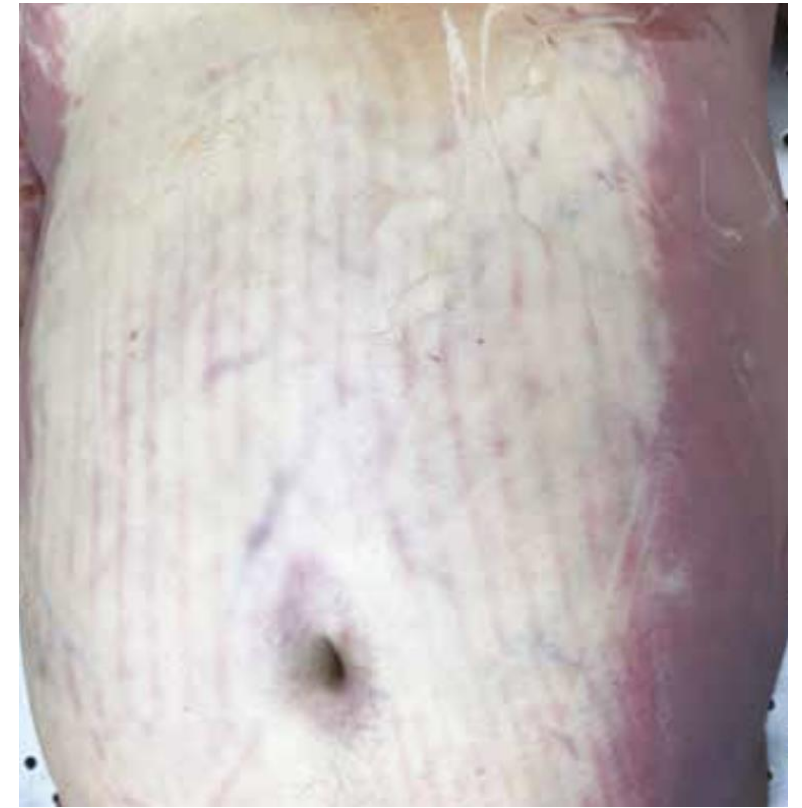
A belt can produce lacerations of the skin, but it is unlikely to generate discrete marks of uniform size arranged symmetrically around an unrelated defect.



C. He was lying supine on a fenestrated surface for a prolonged period after death

Prolonged supine positioning on a fenestrated surface does produce a patterned contact artifact, because livor mortis develops in the dependent posterior tissues and the areas compressed against the solid portions of the surface blanch, while the skin overlying the open fenestrations remains congested. The resulting mark reproduces the surface (see example to the right).

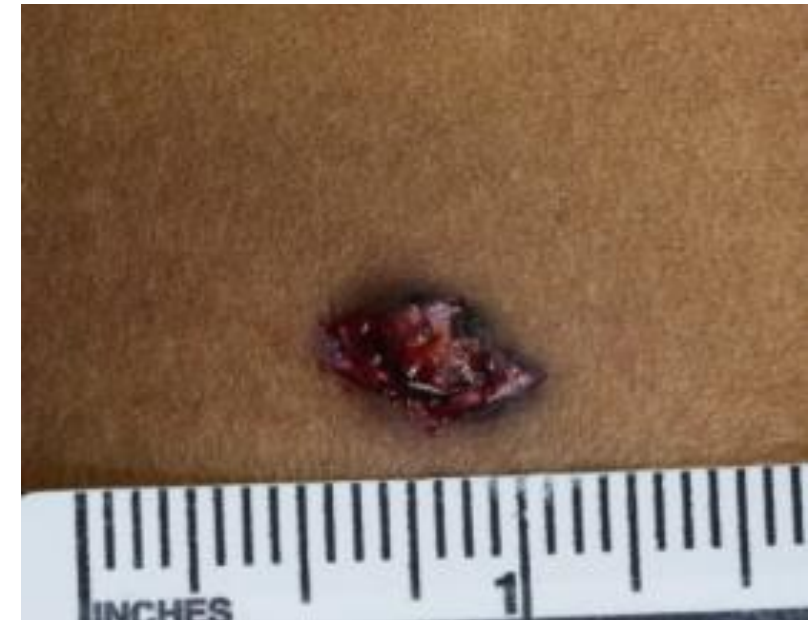
However, the photograph demonstrates a single, limited horizontal row of discrete, uniformly sized and evenly spaced marks flanking the defect. The row runs across the scapula, an angled surface, and lies within a larger zone of blanched skin bordered above and below by skin showing livor mortis. A flat perforated surface cannot mark skin that is not in contact with it, nor can it produce blanching that sweeps across anatomic curvature. A single row of marks, sharply confined and accompanied by curved linear blanching, is more suggestive of a strap-like mark than of an entire surface.



D. He was wearing a grommeted strap across the chest and upper back, pressed into the skin by the body's weight

This answer is the principal confounder, as the eyelets of a grommeted strap (top right) can form a continuous series of patterned lesions running the length of the strap and crossing the field without beginning or ending at any particular point. Body weight, however, loads a garment element unevenly across the torso, producing marks of variable intensity, whereas the uniform diameter and density of the marks seen here indicate an object applied deliberately and evenly against the skin.

Two elements made this answer less likely: first, just wearing this type of strap would not produce the wound observed in this case, regardless of the wound's nature; second, an exit gunshot wound arising in an area heavily compressed by a strap would generally be 'shored' (bottom right), showing an abrasion collar, which is absent here.



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