

# Other weapons

In the dispassionate language of the morgue, blunt trauma, sharp trauma, and asphyxiation account for a substantial proportion of homicide. But scientific jargon cannot hide the brutal reality of murder. Improvised clubs, bloody knives, or lengths of cord can bring an end. Though marks from such weapons are not as useful as those from guns, autopsy details may nevertheless provide vital clues.

## BODY OF EVIDENCE

This composite picture of the human body was created using many different imaging technologies. The surrounding images show how some injuries can help to identify at least the type of weapon used to inflict them, and possibly individual characteristics as well. The marks they cause are not always obvious: deep and fatal stab wounds, for example, can close up, leaving a scarcely visible mark on the skin, with little external bleeding.

## SKIN INJURIES ▼

Known as abrasions and contusions to the pathologist, grazes and bruises sometimes show the shape of the weapon with surprising detail. Boots, for instance, can leave prints on the flesh just as they do in mud. More often, though, such marks are less characteristic: a hit from a bar-shaped weapon produces a pair of parallel bruises, indicating its width and the direction of the attack.

## COLLAPSED LUNG ▲

A collapsed lung does not in itself provide any clues to the weapon that caused it, but associated wounds may do so. Deeply penetrating stab wounds to the upper body can puncture the lung, and blunt force trauma can have the same effect if a broken rib penetrates the lung. In this picture it is the lung on the right that has collapsed.

A depressed fracture typical of an assault with a small, blunt instrument shows up as a Y-shaped shadow in this X-ray

## SKULL FRACTURE ►

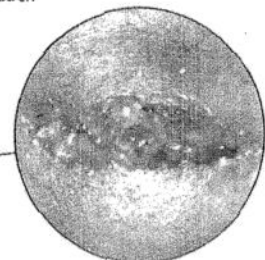
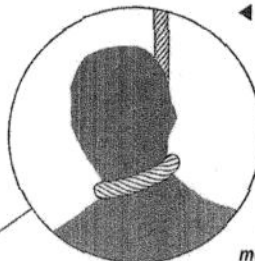
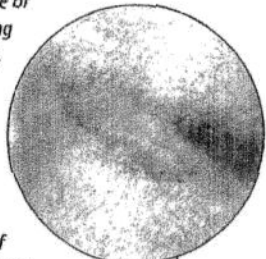
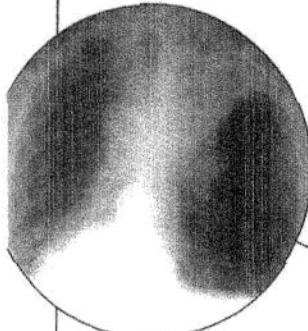
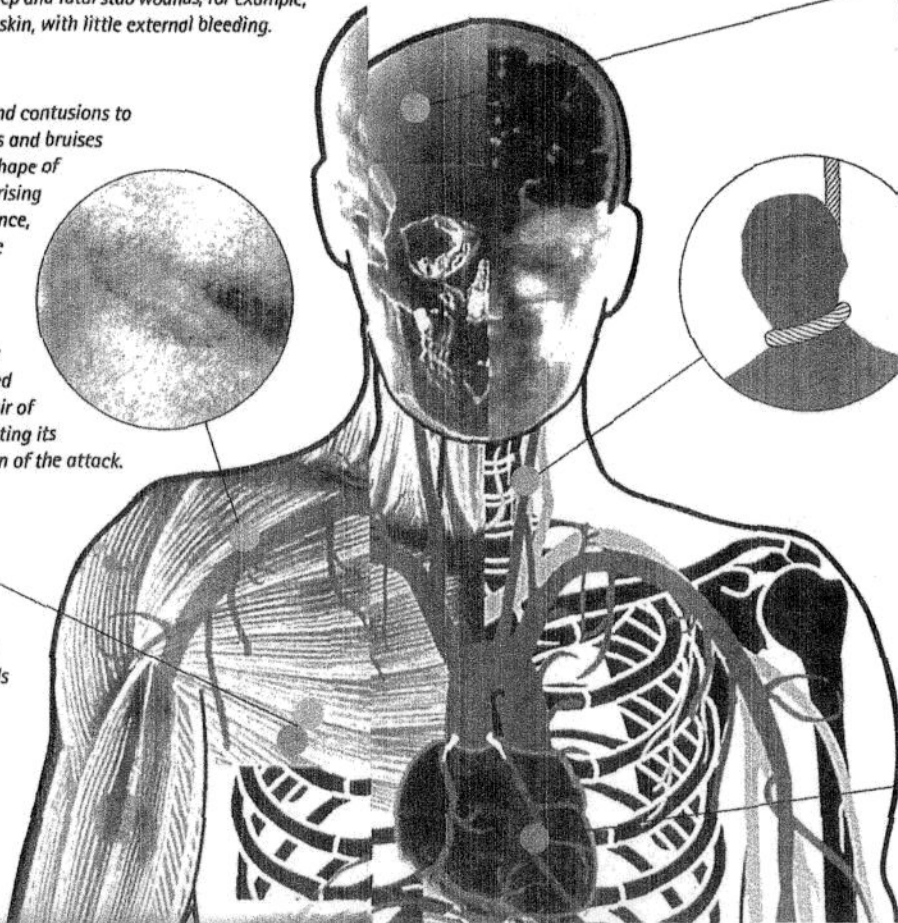
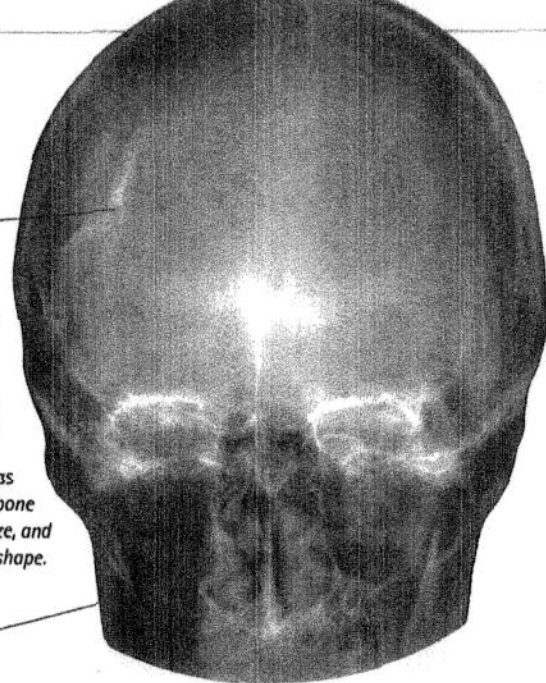
Blows with a broad instrument may fracture the skull, but they do not leave traces that can help identify the weapon. Smaller weapons make marks that are more useful to an investigation. A wrench used as a club, for example, causes a bone impression that suggests its size, and grazing on the skin indicates shape.

## ◀ LIGATURES

Marks on the neck of strangulation victims can provide detailed information about the weapon used, showing through bruising and grazes its size and surface texture, and even suggesting whether or not it was twisted, or applied repeatedly. However, soft material such as panty hose may not leave surface marks. Similarly, bare-hand strangulation does not leave diagnostic marks, causing only nonspecific bruising to the neck.

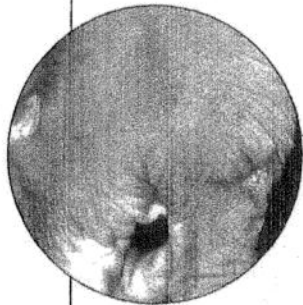
## KNIFE WOUND ▼

Cuts reveal almost nothing about a weapon, but stab wounds do. Their shape can show whether the blade was single- or double-edged (see box), and forcible thrusts can imprint hilt marks on the skin. Dissection of such full-length stab wounds makes it possible to estimate the blade's length.



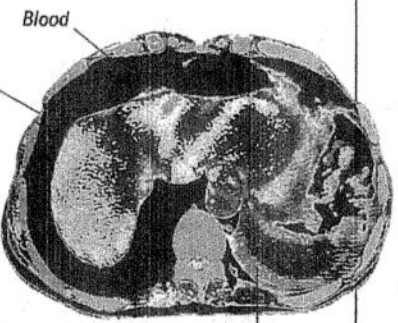
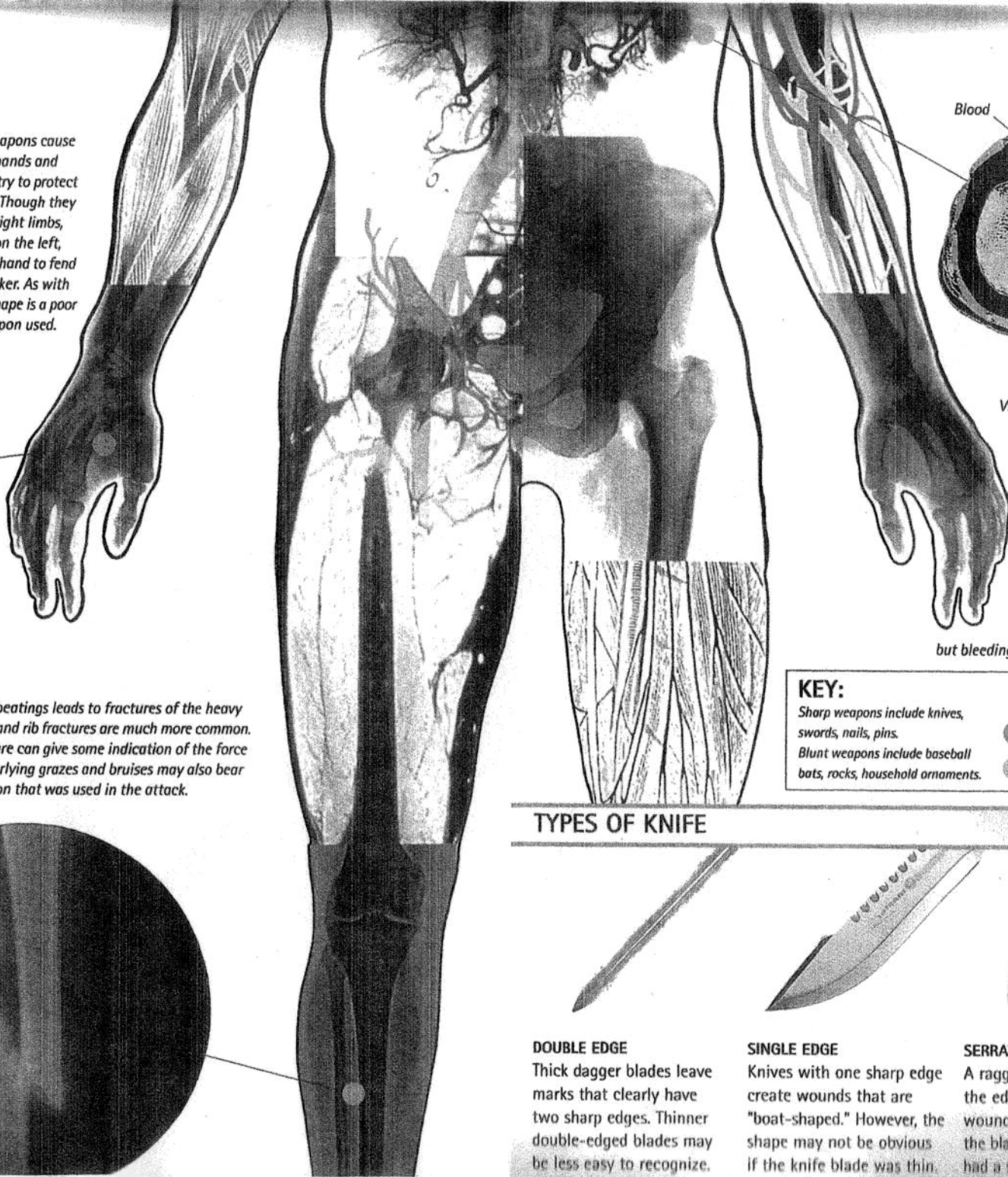
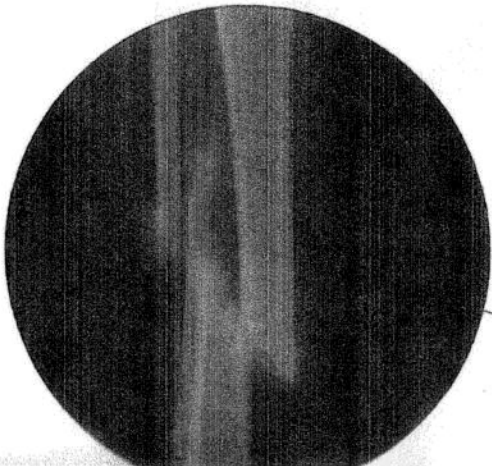
### DEFENSE WOUNDS ▼

Both blunt and sharp weapons cause defense wounds on the hands and forearms, where victims try to protect themselves from attack. Though they appear on either left or right limbs, they are more common on the left, as victims raise their left hand to fend off a right-handed attacker. As with all cutting wounds, the shape is a poor guide to the type of weapon used.



### BROKEN BONES ▼

Only the most severe of beatings leads to fractures of the heavy leg bones, but jaw, nose, and rib fractures are much more common. The severity of the fracture can give some indication of the force used to inflict it, and overlying grazes and bruises may also bear the imprint of any weapon that was used in the attack.



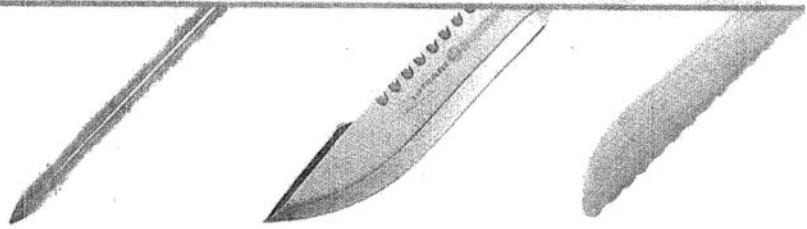
Spleen

### RUPTURES ▲

Violent assaults that damage the abdominal organs do not necessarily leave external grazes and bruises. These kicks, punches, and attacks commonly damage the liver and spleen, and can cause lacerations to the stomach and bladder. Cause of death is usually not organ failure, but bleeding into the abdominal cavity.

**KEY:**  
Sharp weapons include knives, swords, nails, pins. ● SHARP INJURIES  
Blunt weapons include baseball bats, rocks, household ornaments. ● BLUNT INJURIES

### TYPES OF KNIFE



**DOUBLE EDGE**  
Thick dagger blades leave marks that clearly have two sharp edges. Thinner double-edged blades may be less easy to recognize.

**SINGLE EDGE**  
Knives with one sharp edge create wounds that are "boat-shaped." However, the shape may not be obvious if the knife blade was thin.

**SERRATED**  
A ragged appearance to the edge of a victim's wound may suggest that the blade used in the attack had a serrated edge.