

CASE REPORT

Steven C. Campman,¹ M.D.; Faye A. Springer,² B.S.; and Donald M. Henrikson,³ M.D.

The Chain Saw: An Uncommon Means of Committing Suicide*

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ABSTRACT: A suicide committed with a power saw is an uncommonly reported incident; and the use of a chain saw in particular has been extremely rare. We report two cases of suicide that were committed by using chain saws. In each case the victim had a history of depression or of a prior suicide attempt, and applied the chain saw to his neck to kill himself. We summarize the findings of the two death investigations and the world literature pertaining to suicide committed with power saws.

KEYWORDS: forensic science, suicide, chain saw, power tools, electric saw

A suicide committed with a power saw is an uncommonly reported incident (1–6). With only two previously reported cases, the use of a chain saw in particular has been extremely rare in cases of suicide (1,2). It is also very rare in cases of purposeful, non-suicidal, self-mutilation (7–9). We report two cases of suicide that occurred in the same rural county, three years apart. In each case the victim had a history of depression or of a prior suicide attempt, and applied a chain saw to his neck to kill himself. We summarize the findings of the death investigations and death scene reconstructions, the pertinent autopsy findings, and also summarize the world literature pertaining to suicide committed with power saws.

Case 1

The decedent was a 69-year-old Caucasian, male, retired electrician. He had a history of major depression and was being treated with psychotherapy and medication including trazadone (an antidepressant), paxil (another antidepressant), and alprazolam (an anti-anxiety, tranquilizer). Although he was not diagnosed with schizophrenia, his family did describe him to investigators as being

“delusional” and fearful that the television news would “broadcast the terrible things that he had done in his life.” He was found dead by family members in the garage that adjoined his house, face down and on his left side, on a carpeted portion of the cement floor. There was an electric chain saw running near his face. It was removed to a nearby tabletop and unplugged when the body was found. There was a pool of blood under a large wound of his neck, and V-shaped blood spatter pattern on the floor (Fig. 1). The saw was held in the “on” position by a hose screw-clamp (of the type commonly used to attach hoses to automobile radiators and engines). No suicide note was found, but there was a small notepad present that contained a brief journal describing feelings of a depressed mood and the actions he took to overcome those feelings. It also contained the entry “arsenic—poison toxic,” and listed several items of value and prices for the items. There was no evidence of a struggle.

An autopsy was performed and documented a 7-in. long, 1¼-in. wide wound on the left side of his neck. The wound extended 1½ in. deep into the neck and involved the sternocleidomastoid muscle, the external jugular vein, the common carotid artery, the hyoid bone, and the left side of the fourth cervical vertebra (Fig. 2). The edges of the wound were generally smooth, with a few jagged skin tags along the anterior/inferior wound edge. There was an area of abrasion of the skin, left and above the wound (Fig. 2). The body had a mist of dried blood droplets over the face, neck, forehead, top of the head, top of the left shoulder, and the backs of both hands. Toxicology was performed on postmortem venous blood samples and was positive for the three prescribed medications, but all below therapeutic levels.

Physical evidence allowed the death scene to be reconstructed as follows: a) The decedent placed the screw clamp to hold the saw “on,” and positioned the saw on the floor; b) He lay down, the left side of his neck on the saw, causing the wound and the first blood spatter pattern (Fig. 1); c) The body came to rest, knocking the saw onto its side, causing the area of abrasion adjacent to the neck wound as the chain passed tangentially out of the wound. The saw came to rest with the chain running through pooled blood on the carpet, causing the second spatter pattern, and the mist of blood droplets on the body surfaces.

Case 2

The decedent was a 27-year-old Caucasian male with a history of alcohol and cocaine abuse. He is reported to have attempted suicide five years earlier, and two years before his death he mentioned

¹ The Armed Forces Institute of Pathology, Office of the Armed Forces Medical Examiner, Rockville, MD.

² Sacramento County District Attorney, Laboratory of Forensic Services and

³ Northern California Forensic Pathology, Sacramento, CA.

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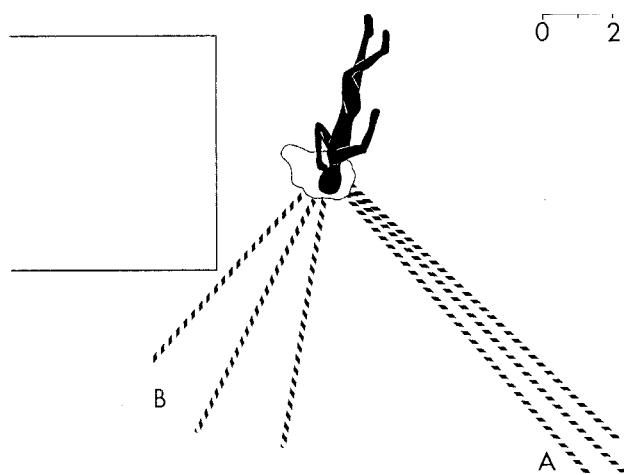


FIG. 1—Sketch of the position (when discovered) of the victim in Case 1, showing the blood spatter occurring at the time of injury (A), and after the injury in the saw's final position (B) (approximate scale, in feet).

using a chain saw to take his life. He was estranged from his family, lived in his pick-up truck, and had periodic employment as a tree trimmer. His last job was one week before he died, and he was last seen by friends the day before his body was found. They described him as "distant and detached from reality" when they last saw him.

His body was found lying in the middle of a street on a hill with a scenic valley view, next to the left (driver's) side of his truck, with the truck's left side door open. His body was positioned with the head and shoulders under the truck. A gasoline-powered chain saw was lying next to his right side with a portion of its handle on top of his right arm. The saw was not running but its switch was in the "on" position. There was a gaping injury involving the back of the neck, extending around to beneath the right ear (Fig. 3).

An arterial blood spurting pattern was present inside of the open cab's doorjamb and the left side of the truck immediately behind the door. Most of the blood spatter pattern on the truck was between

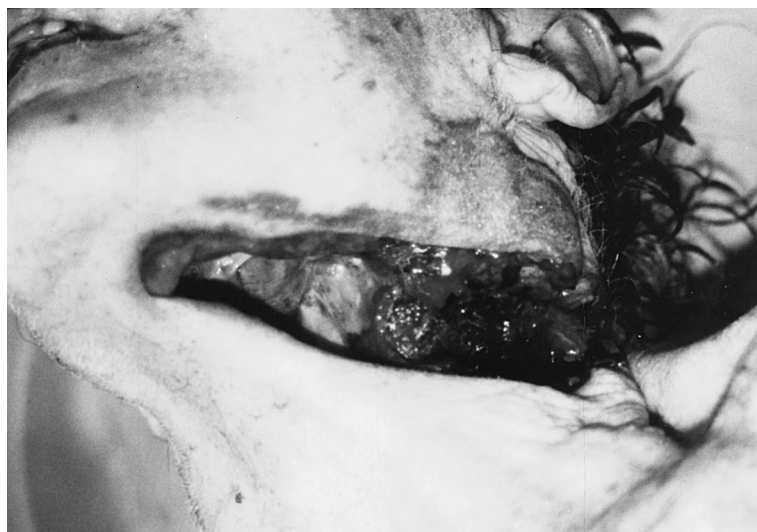


FIG. 2—Autopsy photograph of the victim in Case 1 (cleaned) showing the neck wound and the adjacent abrasion.

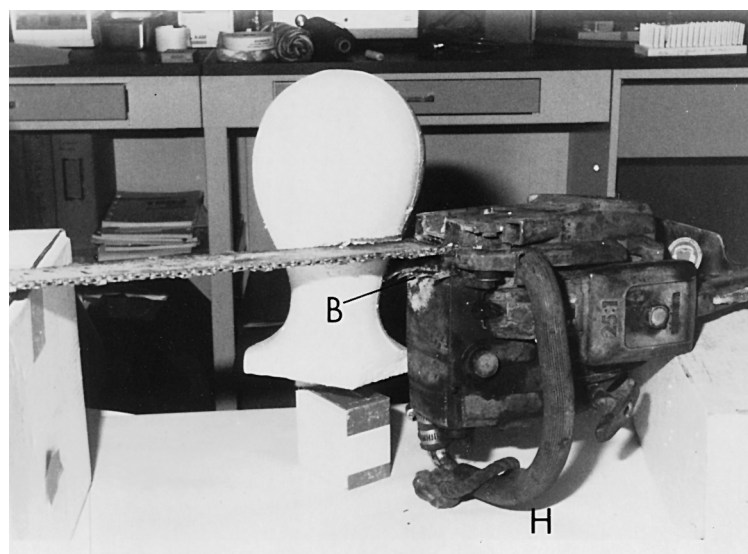


FIG. 3—Reconstruction on a manikin neck and head, showing the saw used by the victim in Case 2, and the relative position of the wound. The laceration caused by the bucking spikes (B) and the abrasions caused by the ridged rubber handle grip (H), helped to establish how the victim held the saw.

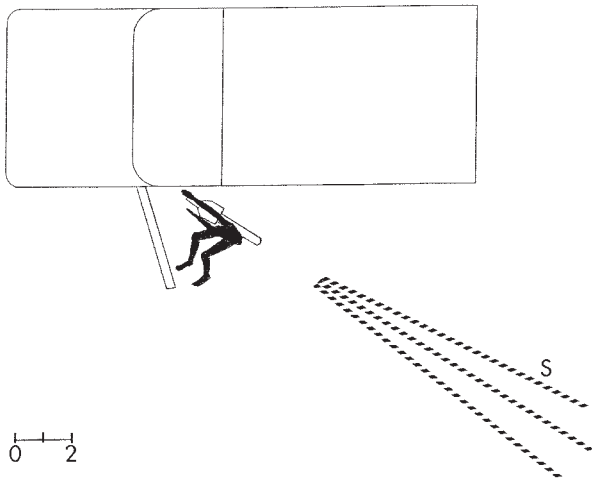


FIG. 4—Scene reconstruction sketch showing the position of the victim in Case 2 at the time of his suicide, with spatter (S) of blood, hair, and tissue (approximate scale, in feet).

17–36 in. from the ground. No blood was present on the inside of the door itself; however, blood, hair, and tissue were spattered on the street to the left and behind the truck (Fig. 4).

An autopsy was performed and documented an injury similar to that described in Case 1, but positioned over the posterior and right aspect of the neck. It extended deep to involve the vertebral column (and spinal cord), and the major blood vessels of the neck. One to two-in. below and parallel to the wound and beneath the ear, there was a shallow linear laceration. There was also an area of patterned abrasion on the right biceps area of the arm, consisting of superficial parallel abrasions, approximately $\frac{1}{8}$ -in. apart, over a $1\frac{1}{2} \times 1$ -in. area. Sawdust, oily residue, and red paint chips, all of which could have come from the saw, were present on the decedent's palms. Toxicological studies were negative.

The physical evidence allowed the death scene to be reconstructed as follows: a) The decedent parked his truck; b) He sat on the ground inside the truck's open door with the running saw resting on his right arm and shoulder (possibly supporting his right elbow on the floor of the truck), with the saw's blade pointing towards the rear of the truck (Fig. 4); c) He leaned back and/or pushed the saw into the back of his neck, causing the blood and tissue to be thrown from the chain towards the left and rear of the truck, and the arterial blood spatter pattern inside the cab's lower doorjamb; d) The ribbed rubber grip of the saw's handle caused the patterned abrasion on his right arm, and the saw's bucking spikes caused the neck laceration below the major injury (Fig. 3); e) There was not sufficient room between the door and the truck frame for another person to have caused the injuries to the victim.

Discussion

With fewer than 15 cases of suicide reported in the literature to involve the use of power saws (1–6) (band saws, circular saws, or chain saws), and only two of those involving chain saws, these two additional cases of the use of chain saws contribute to the description of the features of this uncommon manner of death. As with most of the previously reported cases, these deaths have unusual features, including the perceived lethality of the weapon of death, and the location and depth of the wounds, that might bring up the

suspicion of homicide at the beginning of the death investigation.

In suicides committed with power saws, the wounds are most often deep and involve the head and neck (1–6), although two transections of the same arm (4) and a shallow mid-chest wound (1) have also been reported. The decedent generally has only one large wound. Neither of these men exhibited hesitation wounds, but cases having such marks are reported (1,2,4,6). In those cases, the marks were caused by other edged instruments, knives for example (1,4), or by the saw itself (2,4,6). In the two cases presented here, smaller abrasions or lacerations, apart from the main injury, served to help position the saw relative to the victim's body, and helped to reconstruct the fatal events.

The wounds in these two cases and most of the others involving the head and neck (2–5) share the feature that they involve the back or side of the victim's body; a position that might seem awkward or misleading for the investigator trying to reconstruct the scene.

As with almost all of the reported cases (1,3,4), the decedents had prior suicide attempts, a history of major depression, or schizophrenia. Both of these decedents were male, and in the literature the male:female ratio is 3:1 (1–6). One of the men that we report had occupational experience with the saw. In the literature, six of ten of the victims are reported to have had such practical experience with tools of this type (3–6).

These two cases add to the literature on suicides occurring with the use of power tools by further illustrating that the power saw is most often applied to the back or side of the head or neck, that the decedents usually have a history of psychiatric illness, and that they are more likely male and have occupational experience with the saw. Because of the uniqueness of their circumstances, these cases might present the forensic investigator with an initial impression of homicide.

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Additional information and reprint requests:
Steven C. Campman, Maj, USAF, MC
Office of the Armed Forces Medical Examiner
OAFME—AFIP Annex
1413 Research Blvd., Bldg. 102
Rockville, Maryland 20850