



H188 Cable-Tie Neck Ligatures: A Series of Five Cases

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Learning Overview: After attending this presentation, attendees will understand about occasional deaths that occur in association with cable-tie neck ligatures. Five cases will be highlighted, including a double-homicide, a suicide, and a combined homicide-suicide.

Impact on the Forensic Science Community: This presentation will impact the forensic science community by drawing attention to the use of cable ties as ligatures for potential strangulation.

Asphyxial deaths occur due to decreased oxygenation of tissues related to depleted environmental oxygen, chemical interference with oxygen utilization, external or internal airway obstruction, trauma or compression resulting in the inability to breathe, or external neck compression, which may involve airway and blood vessel compromise. Most deaths related to external neck compression involve a neck ligature. Such ligature-related cases are typically categorized into two subtypes: hanging, in which the victim's body weight contributes to the compressive force of the ligature, and strangulation, in which the victim's body weight does not contribute to the compressive force of the ligature. While asphyxiation is not an uncommon suicide mechanism, suicide via ligature strangulation is rare because the patient is often unable to maintain tension in the ligature after losing consciousness. Ligature strangulation is much more common in homicides. The use of cable ties as ligatures for strangulation has been reported in the scientific literature and news media, but its occurrence is rare. This study presents a series of five forensic cases in which cable-tie ligatures were discovered about the necks of the decedents.

The first two cases were related to a combined double-homicide/suicide in which two brothers, aged 11 and 15 years, were strangled with industrial cable ties by a family friend with a history of paranoid schizophrenia, who then hanged himself. One of these cases involved a unique mechanism in which the cable tie was not around the anterior neck, but instead was around the anterior chin with marked posterior compression of the mandible and pharynx. In case three, a middle-aged man with a history of alcoholism and depression had an argument with his mother shortly prior to securing two cable ties tightly around his neck. Cases four and five represent a homicide-suicide scenario in which cable ties were found loosely fastened around the decedents' necks. A father and his 6-year-old son were found dead and decomposing in the enclosed compartment of a motor vehicle, the interior of which had been soaked with gasoline and other volatile hydrocarbons. Both succumbed to asphyxia via inhalation of volatile hydrocarbons, with the cable-tie ligatures presumably in place as a back-up mechanism to ensure their deaths.

Intentional self-harm accounts for most asphyxial deaths reported nationally.¹ Although suicide by ligature strangulation is rare, it has been reported in the medical literature.² Suicide via strangulation using cable ties has also been reported.³⁻⁵ Despite the presence of several media reports of cable ties used in homicidal strangulations, reporting of such cases in the scientific literature is rare.⁶ Suicides employing multiple methods are referred to as "complex suicides."⁷ Cases four and five are a situation where the neck cable-tie ligatures represent a presumed planned secondary method for ensuring both deaths.

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