



### **G76 Accidental Injury Caused by a Handheld Circular Saw: An Unusual Industrial Accident**

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After this presentation, the participants will understand how this fatal accident occurred as a result of improper use of a handheld circular saw, as well as how the scene investigation gave investigators some insights on how a tool designed to prevent fatal injuries was involved in an accident that caused serious lesions to the user.

This presentation will impact the forensic science community by showing how multidisciplinary investigations, with the participation of the tool manufacturer, occupational health and industrial safety staff, and medical examiners, were instrumental in reconstructing the chain of events in a unusual industrial accident.

Presented here is a case of death resulting from an unusual industrial accident caused by the laceration of internal thoracic and abdominal organs. The accident occurred when a carpenter fell on a handheld circular saw while he was cutting wood. This report analyzes the scene, the chain of events, and the pathogenetic mechanisms that caused the death of an individual who was in the process of performing an unauthorized activity. The forensic aspects of the case will be discussed. Upon reviewing the existing literature, a large number of cases where various types of saws were used in suicide attempts are reported, but no reports were found on this kind of accidental death due to this type of tool. Under normal conditions, the handheld saw is used by an operator who directs the sharp edge of the saw to a fixed wood fragment located below the saw. The cutting action should not cause any problems because the tool has a protection mechanism (cover). In the case reported, the operator did the opposite. He attached the saw to a table with the cutting edge facing upwards, removed the cover, and put the wood on the cutting edge of the saw. He tripped on the wires and fell on the saw. The operator suffered serious injuries that affected his vital structures of the chest and abdomen, which caused his death due to massive bleeding of the right lung, the heart, and the abdomen. When the scene was processed, it was documented how the saw was improperly attached to the table and how the industrial accident happened. Other saws in the factory were checked in order to determine the cause of the injuries. A case of this type of accidental death has never been reported in the literature.

This case will make an impression on the international forensic community, since it will show how multidisciplinary investigations, with the participation of the tool manufacturer, occupational health and industrial safety staff, and medical examiners, all of whom were instrumental in reconstructing the chain of events. The multidisciplinary team was able to determine the factors involved in this unusual industrial accident. At first it was difficult to determine the manner of death. There was disagreement between the authorities that processed the scene and the medical examiners. The tool involved in this fatality was examined by an expert who found that the expectations of the manufacturer were correct and concluded that the tool had been misused. The medical and psychiatric records of the deceased were reviewed for some kind of psychiatric disorder that could explain the fatality. Since occasionally labor accidents involve the use of drugs of abuse, a toxicology screening of the vital fluids was carried, with negative results.

A case will be presented where an unusual industrial accident with a handheld circular saw was examined. This is an example of the practical application of multidisciplinary investigations and cooperation in order to solve unusual deaths. Forensic investigators must become familiar with tools that are increasingly involved in suicide attempts and fatal accidents.

**Industrial Accident, Fatal, Investigation**