

Forensic medicine: Unveiling the secrets of justice and truth

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INTRODUCTION

Forensic medicine, also known as forensic pathology or legal medicine, is a captivating field that intersects the realms of medicine and law. It plays a vital role in the criminal justice system by utilizing medical expertise to investigate and provide evidence in legal cases. By applying scientific knowledge and techniques, forensic medicine assists in solving crimes, identifying victims, and delivering justice. In this article, we explore the fascinating world of forensic medicine, its methodologies, and its impact on society [1].

DESCRIPTION

Forensic medicine encompasses a wide range of activities aimed at assisting legal investigations and proceedings. Its primary objectives include:

Determining the cause of death: One of the key roles of forensic medicine is to establish the cause and manner of death in cases where it is suspicious or unclear. Forensic pathologists examine the deceased through autopsies and other investigative procedures to identify any injuries, toxins, or underlying medical conditions that may have contributed to the individual's demise. This information is crucial in determining whether the death was natural, accidental, or the result of a criminal act [2].

Identification of human remains: Forensic medicine plays a vital role in identifying human remains, especially in cases involving mass disasters, homicides, or missing persons. Forensic experts employ various techniques, such as dental records, DNA analysis, fingerprints, and anthropological assessments, to establish the identity of the deceased. This information not only brings closure to families but also aids in the investigation and prosecution of crimes.

Collection and analysis of forensic evidence: Forensic medicine assists in collecting, preserving, and analyzing physical evidence found at crime scenes. This includes examining biological samples, such as blood, semen, or hair, for DNA profiling; studying fingerprints, footprints, and tool marks; and evaluating ballistic evidence. These analyses help establish links between suspects, victims, and crime scenes, providing crucial evidence for legal proceedings [3].

Examination of living individuals: Forensic medicine extends beyond the deceased, as it also involves the evaluation of living individuals in cases involving assault,

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sexual abuse, or other crimes. Forensic medical professionals conduct thorough examinations, document injuries, collect biological samples, and provide expert testimony regarding the nature and extent of the injuries. Their findings can be pivotal in criminal investigations and court proceedings.

Forensic medicine methodologies: Autopsies are a cornerstone of forensic medicine. They involve the systematic examination of a deceased individual's body to determine the cause, manner, and circumstances of death. Autopsies can uncover hidden injuries, identify toxic substances, and provide critical information regarding the timeline of events leading to death.

Forensic toxicology: Forensic toxicology focuses on the detection and analysis of drugs, poisons, and other toxic substances within the human body. By examining blood, urine, and tissue samples, forensic toxicologists can identify the presence of illicit drugs, medications, or chemical agents that may have contributed to a person's death or impaired their behaviour [4].

Forensic anthropology: Forensic anthropology utilizes anthropological techniques to analyze skeletal remains and assist in the identification of human remains. Anthropologists can determine the age, sex, stature, and ancestry of the deceased, providing valuable clues to aid in identification efforts.

Forensic odontology: Forensic odontology involves the examination of dental evidence to establish the identity of individuals or analyze bite marks left at crime scenes. Dental records, dental impressions, and bite mark analysis are utilized to connect suspects to crimes or assist in identifying victims.

Forensic DNA analysis: DNA analysis has revolutionized forensic medicine by providing highly accurate identification and profiling techniques. DNA samples collected from crime scenes or victims can be compared with samples obtained from suspects, leading to the establishment of connections or exclusions.

Forensic medicine plays a pivotal role in the pursuit of justice and truth within society. Its impact can be witnessed in several key areas:

Crime solving and prevention: Through the collection and analysis of forensic evidence, forensic medicine helps solve crimes and bring perpetrators to justice. The accurate identification of suspects, the establishment of timelines,

and the reconstruction of events based on forensic findings all contribute to the resolution of criminal cases. Moreover, the knowledge that forensic evidence can be used to link individuals to crimes acts as a deterrent, potentially preventing future offenses.

Humanitarian efforts: Forensic medicine aids in identifying victims of mass disasters, armed conflicts, and humanitarian crises. By providing accurate identifications, forensic experts help families find closure and enable the repatriation of remains for proper burial. Additionally, forensic evidence can be used to hold those responsible for war crimes or human rights abuses accountable.

Safeguarding innocence: Forensic medicine is not solely concerned with convicting the guilty; it also plays a crucial role in exonerating the innocent. Through DNA analysis, for example, individuals who have been wrongfully convicted can be exculpated, bringing justice to those who have suffered unjustly [5].

Improving public health: The insights gained from forensic medicine can also contribute to public health efforts. Data collected during autopsies and examinations can reveal trends in injury patterns, the prevalence of certain diseases or conditions, and the impact of environmental factors on health. This information can guide public health policies, aid in the development of preventive measures, and promote overall community well-being.

CONCLUSION

Forensic medicine serves as the bridge between medicine and the legal system, unraveling mysteries and ensuring justice. By employing scientific methodologies and expertise, forensic medical professionals contribute to the investigation and resolution of crimes, the identification of human remains, and the protection of the innocent. Through their work, they leave an indelible impact on society, providing closure to families, safeguarding the innocent, and upholding the principles of justice and truth.

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CONFLICT OF INTEREST

None.

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