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ROLE OF FORENSICS IN VICTIM IDENTIFICATION

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ABSTRACT

Forensic science explains the identity (who) of the suspect who committed the crime. The evidence clearly indicates the type (what) of the crime committed. The circumstances speak out about the time (when) of the incident. The forensic evidence proves the location of the offence (where/crime scene). The forensic investigation finds out the modus operandi (how) of the offender. Finally, it establishes the motive behind the crime. The forensic investigators reconstruct identity of the offender and the victim. There can be primary, secondary and tertiary crime scenes depending on the incident.

Proper identification of the dead in disasters is an essential component of ensuring closure to surviving family, while also addressing legal issues pertaining to insurance and inheritance claims.

Forensic science is a dynamic field of knowledge and skills which can be highly helpful and useful for criminal investigation. It applies technical skills to detect, identify and prosecute offenders.

Forensic Odontology is sub-branch of forensic science dealing with dentistry and dentition. This method and approach is used extracting human remains and examining the teeth. The bite marks left on the victim body are matched with the suspect's teeth record. It is regarded in the literature as one of the most reliable and

economical scientific methods for victim identification. Forensic Archeology is the field dealing with buried human and animal remains and artifacts. Forensic anthropology is the medicolegal study of human remains, especially human osteology.

The forensic has always had a central role in the identification of the dead in every day practice, in accidents, and in disasters involving hundreds or thousands of victims. The technological advances, techniques and laboratories are very significant factors in solving crimes.

The Forensic Science includes within its scope the disciplines like Criminology, Criminal Justice, Psychology, Chemistry, Biology, Entomology, Engineering, Medicine, Physics and Geology as crime-solving sciences.

Keywords: Forensic, Victim, identification, law, Role.

Methodology:

All data and information present in this research paper are collected from various reports which are been prepared by national and international legislations for Forensic and Victim identification, information's are collected from several authentic websites and journals relating to Forensic role in victims identification.

INTRODUCTION :

The word "forensic" is derived from the Latin word "forensis" which means suitable or pertaining to court of law. Earlier it was known as criminalistics which meant application of science to criminal and civil laws.

Forensic science, 189 years old, helps to integrate criminal investigators and scientists to objectively analyse the evidence found on the crime scene The application and awareness of forensic science is growing in Law Enforcement.



It can effectively help to find missing persons, establishing their true identities, relate and prosecute through testimony who victimized whom through production of scientific evidence.

Identifying the disaster victim becomes most important for the reasons; first of all it enables us to know about the cause of the disaster that occurred, the number of victims encountered and their identification. DVI enables us to know about the exact loss of the assets and any future consideration of any such type of disaster of that incident.

IMPORTANCE:

Forensic science in today's world is an advanced scientific technique that is used in criminal and civil investigations, is able to answer important questions and is an integrated part of the criminal justice system. Therefore, the concept of forensic science is new in India.

Forensic Science and law are two distinctive professions have become increasingly complicated, to ensure a fair procedure and to observe that justice is done.

Identification of victims is an important aspect as it even enables the investigators to know about the modus operandi in case of man-made disasters.

Reconstruction of the scene of occurrence could be done, by knowing the identity of the victim, the injuries when identified as to be ante mortem or post mortem or to be the probable reason for death, the impact of the disaster could have been known and with which the intensity of an explosion or eruption or earthquake could be known, enabling reconstruction of the scene of occurrence.

Establishing the personal identity of victim by matching the post and the pre mortem records enables us to know the true identity of the individual and then to know about the probable

reason for the disaster to have had occurred in certain cases.

The objective revolves around knowing the number of casualties that had been occurred and listing the number of missing persons.

The next concern revolves around the knowing the extent of Loss that has occurred to the assets, including property.

"Forensic techniques are enormously useful in a wide range of fields outside the criminal justice"
- Mark Walport.

DISASTER VICTIM IDENTIFICATION:

Experiences from previous mass disasters prompted the International Criminal Police Organization (INTERPOL) to develop specific guidelines and protocols for Disaster Victim Identification (DVI). The DVI team consists of volunteers and experts in different fields, working together at internationally accepted procedures and practices to collect and compare ante-mortem and post-mortem data

Many DVI scenarios, forensic identification of victims occurs relatively quickly through DNA, fingerprint, or odontology identification. However, there are many factors in how the identification can be delayed or disrupted.

Whether accidental or intentional, each mass disaster poses its own issues for forensic professionals in identifying the victims involved. The different factors, circumstances, and challenges a forensic professional may face include the number of victims, type of mass destruction, extent of body fragmentation, DNA degradation, accessibility of the scene and bodies, availability for sample collection, DNA references, and lastly, contamination of the sample.



STEPS TO IDENTIFY:

It can take a long time to accurately identify victims, especially if a large number of people were killed. The four stages are:

- Scene examination: Depending on the incident, and where it happened, it can take days or even weeks for all the victims and their property to be recovered.
- Post-mortem or PM data: The human remains are examined by specialists to detect forensic evidence to help identify the victim. This can include:

Fingerprints – if available, these are highly reliable, but as most people's fingerprints are not on record they can be of limited value

Odontology – or dental examination. Teeth provide one of the most reliable forms of identification as they are highly durable and most people have dental records.

DNA profiling – direct comparisons can be made from a victim and a profile taken from their home, for example from a hair brush. Indirect comparisons can also be made using the parents' DNA.

Physical indications – tattoos, scars or surgical implants which may be unique to the victim.

Visual identification is not considered to be accurate.

- Ante-mortem or AM data: Dental and medical records, fingerprints and DNA are recovered from the victims' homes or provided by family members.
- Reconciliation: Once the PM and AM data is collected, a team of specialists compares and reconciles the two sets of information to identify the victims.

TECHNOLOGY:

1. the DNA profile is one of the most recent and reliable method action of investigation in forensic science. DNA is the abbreviation of in the term, "deoxyribose nucleic acid". It is an organic substance found in all living cells and gives an individual ndarogenetic imprint. DNA can be obtained from a wide variety of ng sources such as, blood, sperm, bone, saliva etc."

Blood patterns can be very helpful in the investigation of homicides .Passive drops, transfer/contact patterns, swipe patterns, wipe patterns, and void patterns

2. A polygraph test or the Lie detector test is an instrumental measurement which records the physiological responses relating to the blood pressure, pulse, respiration and son conductively which the subject is asked and to answers a series of questions for the theory of false answer.

National Human Rights Commission has also published the guidelines in the year 2000 for the Administration of polygraph test relating to violation of human Right.

3. The analysis of the narcs is a process by which subjected to sleep or put into a send-drowy state by means of chemical injection and then interrogated while in this state of sleep, or the process of injection of a "true" drug in a patient/suspected to induce the semi consciousness and then interrogate the patient /suspect This process was used to improve a witness memory.

The Nacro Analysis test for criminal investigations is a valuable technique that would profoundly affect both the innocent and the guilty and accelerate the cause of



justice. It is the violation of Article 20 (3) and Article 21 of the Constitution.

4. Forensic scientists have used fingerprints in criminal investigations as a means of identification for centuries. Fingerprint identification is one of the most important criminal investigation tools due to two features their persistence and their uniqueness. Fingerprints are unique to an individual. Even identical twins have different fingerprints.

Types:

- Latent fingerprints are made of the sweat and all on the skin's surface. This type of fingerprint is invisible to the naked eye and requires additional processing in order to be seen. This processing can include basic powder techniques or by the use of chemicals.
- Patent fingerprints can be made by blood, grease, ink or dirt. The type of fingerprint is easily visible to the human eye.
- Plastic fingerprints are three-dimensional impressions and can be made by pressing your fingers in fresh paint, wax, soap, or tar. Like patent fingerprints, plastic fingerprints are easily seen by the human eye and do not require additional processing for visibility purposes

Lip prints are frequently found on glasses. Tire tracks, bite marks, foot prints, and prints left by bare feet may also provide useful evidence.

5. Handwriting a useful test of identity experiments and observation having disclosed the fact which contain the general principles and question pertaining to the reliability of

genuineness of handwriting under Section 47 of the Indian Evidence Act, it is only the opinion of a person specially skilled in questions relating to the identity of handwriting, which is relevant in nature.

6. Dental-Identification cases where the identity of a victim is difficult because of tissue decomposition or death caused by explosions or extremely fatal collisions, a victim's teeth may be used for comparison with the dental records of missing people. Dental surgery is the biggest factor in the uniqueness of each tooth and along with developmental characteristics makes it the key to the identification of unknown corpses by means of teeth. An important feature of the teeth is that they are the hardest part of the body and that after death remain almost unchanged despite the action of thermal changes and despite the fact that, for example, thousands of years lie in the country. This is why the teeth are very important in the identification of dead bodies, individually or in accidents when involving larger group of people.

Use of CAD/CAM and CAT Scan in the teeth and jaws has been widely Documented and a range of unique features of An individual can be measured and matched to the CAT data. This has enhanced the ability To collect informative dental data.

7. Bar coding: Incorporation of bar codes into dentures and Other prosthesis have been used in the past. These barcodes can hold large amounts of Information about the person. The drawback of this technique was that the thickness of the Acrylic resin made it hard to scan the actual Barcode.



METHODS OF IDENTIFICATION OF THE VICTIMS:

The methods by which the identification of the victim is done, divided into two groups

- Primary identification- Primary identification in the most basic terms, involves the identification of victim based on the finding of the various disciplines involved and the findings are usually found as the effect of the disaster on the victim. Primary evidences are factor governed, such as the time since incidence took place, the extent or level of damage caused to the victim, the changes in the condition of corpse with the delay in investigation time. Mostly DNA fingerprinting, analysis of dental records and ridge analysis are found to be the most reliable.
- Secondary identification- Alternatives for primary identification is Secondary identification basically involves the personal effects and belongings, tattoo marks, scar marks, description of the victim's clothing and the jewellery worn, medical records. All these can corroborated with the other primary informations gathered of the victim but can't stand alone as an individual evidence for identifying the victim. Identification through Photographs although can serve the purpose but it can't be that it is errorless as cases with false information collected meet.

Both the secondary and the primary data of significant value and concerned area of interest should be found. The quality of the ante-mortem and the post-mortem data collected needs to be scrutinized carefully so as to obtain a reliable result.

Centres for identification:

- a) The identification centre property section is concerned with the collection and recording of the property of the

victim. Basically document each and every item collected from the victim in the form of photographs and registering them in the victim's property log book. The items not only encountered on the victim but also on the crime scene are to be documented and photographed and to be placed in "E" numbered bags, this responsibility is also of the property section.

- b) Identification centre medical section contains the responsibility of comparison of physical features of the victim based on the AM and PM records. The basic anatomical structure is considered in case of re arrangement of the victim, when mutilated victims are found. Once the general observations, the matching of the body parts should be done as to their belongingness to the same individual.
- c) The next department includes the department of dental section that basically involves the estimation of age, habits of the individual, search for anomaly and aids in investigation. If an antemortem x-ray or dental record is present it will be easy to match both and identify the victim.
- d) The DNA analysis department plays a major role in identifying of the individual as it can be helpful to seek the relatives of the victim. Protective gloves should be worn so that contamination need not be done. It should be of significant concern that the sample should be collected from the least affected area, so that investigation does not get affected.
- e) Body release section is in mortuary section. It not only related to just release the body but before the release victim's family needs to accept the place where the body needs to be sent, if the body is to be cremated locally, should the belonging be sent to the family and in cases where approval for local burial of the body is given, is there any of the



belonging of the victim to be buried along.

ADMISSIBILITY OF FORENSIC SCIENCE IN INDIAN COURTS:

The Indian Evidence Act:

- Sections 45 and 46, provide a brief overview of the admissibility of forensic reports in courtrooms. It provides relevancy to expert opinion in any field of expertise in forensic science, to help the court in framing judgements considering technically complicated and sophisticated matters.
- Main ingredients – The court will rely on skilled experts with technical and field expertise of the facts mentioned in the case whenever it deems it necessary. The court will rely on the report submitted by the official or expert who has arrived at his conclusions using a variety of procedures with good faith. Any evidence that looks irrelevant to the court but is significant in the expert's judgment will be awarded relevance as a result of the expert's view.
- Section 47 – handwriting opinion and elaborates the circumstances under which the handwriting expert shall consider it to be a disputed handwriting.
- Section 67 – gives details of methods of how a signature in a document should be proved.
- Section 73 – any person is compelled to give his/her fingerprints on orders from the court. And it does not amount to violation of fundamental rights.

FORENSIC LAWS RELATED TO MEDICAL JURISPRUDENCE IN INDIA :

According to Criminal Procedure Code:

- Section 53 (I) –At the request of a police officer who is employing reasonable

force, an accused may be examined by a medical practitioner.

- Section 53 (ii) –When a female accused person is to be examined, it must be done solely by or under the supervision of a female registered medical practitioner
- Section 54-A medical practitioner may examine an arrested individual at his request in order to detect evidence in his favor .
- Section 174- Inquest procedures, Police must investigate and report suicides, among other things
- Section 176 –Magistrate's inquiry into the cause of death.
- Sec 293 – lists some Government Scientific Experts for the admissibility of expert opinion in the court of law.

Under identification of Prisoners Act:

- Sec 5 and 6- allows acquiring thumb impressions and handwriting samples. It also declares that these shall not be used against the person as personal testimony.

Under Indian Penal Code, 1860

- Section 44: Injury–Any illegal harm to a person's body, mind, reputation, or property of any kind.
- Section 319 Hurt- Harm: Any individual who is hurt suffers from bodily pain, disease, or infirmity
- Sec 323 Punishment for Intentionally Causing Harm 1 year, with or without a fine of up to Rs. 1000
- Section 324 Dangerous Weapon punishment – is up to 3 years in prison, with or without a fine.
- Sec 325 Punishment for Voluntarily Causing Grievous Hurt 7 years in jail, with or without a fine.
- Sec 320 & 321- Grievous Injury
- Section 326 Punishment for Voluntarily Causing Grievous Hurt by a Dangerous



Weapon is ten years with or without a fine.

- Section 351 Assault as a threat or attempt to use force.
- Section 328 - causing harm by means of poison, etc. Is punishable by imprisonment for up to ten years, with or without a fine.

CASE LAWS:

Tandoor Murder Case (1995) Delhi - This was the first criminal case in India to be solved using forensics. In this case, Shusil Sharma murdered his wife Naina Sahni at home by firing three gunshots into her body. He murdered his wife, believing she was having an affair with Matloob Karim, a classmate and fellow congressman. Sharma drove his wife's body to the Bagiya restaurant after murdering her, where he and restaurant manager Keshav Kumar attempted to burn her in a tandoor. Sharma's revolver and blood-stained clothes were confiscated by police and sent to the Lodhi Road forensic laboratory. They also extracted a blood sample from Harbhajan Singh and Jaswant Kaur, Sahni's parents, and sent it to Hyderabad for a DNA test. "Blood samples preserved by the doctor while conducting the post mortem and blood stains on two leads taken from the head and neck of deceased Naina's body are of the 'B' blood group," according to the lab report. "The findings prove beyond any reasonable doubt that the burned body is that of Naina Sahni, who is the biological offspring of Mr. Harbhajan Singh and Jaswant Kaur," the DNA report concluded, confirming that the body was that of Sahni. Finally, with the use of forensic evidence, Mr. Shusil Sharma was found guilty.

In **Royo George v. Deputy Superintendent of Police -Supreme Court**, in this case held that the criminal started using very sophisticated and modern techniques to commit the crime. The conventional method of investigation and interrogation of offenders will not be successful

in the solution and there is a need to use scientific techniques

Nagireddy A.vs. State of Andhra Pradesh held an expert in one who has acquired special knowledge and skill in any science. His position based on observations of experiments is relevant in cases where questions relating to forensic science arises

In **Anant Chintaman Lagu vs. State of Bombay (AIR. 1960 S.C. 500)**, The essential ingredients in a case of poisoning are no longer in doubt.

- i) Death took place by poisoning
- ii) Accused had the poison in his possession;
- iii) Accused had the opportunity to administer poison to the decease.

Devi Prasad and another vs. State: A. I. R. 1967, The Court as a matter of prudence and caution shouldn't hesitate or he slow to has it finding solely upon the observation or comparison of Handwriting, which provides a deceive weight or influence of decisions .

Pritam Singh vs. State of Punjab (AIR 1956 S.C. 415) there is an observation to the effect that the science of identification by footprints is a rudimentary science and much reliance cannot be placed on the result of such identification.

Suntekben Shermabhal Jadeja vs. State of Gujarat it was held that all possible alternatives to find out the truth of Criminals, necessary so the requirement of such forensic test is necessary. The Nihart Killer Case where the accused Surinder Kohli and Mohinder Sagh Pandr were subjected to narc analysis fast. Various confessional statements were made by the accused under the effect of the drug, and even name of the persons he murdered we brought out.

Vasu vs. Santha 1975 in this case the court has established some standards regarding DNA tests and their admissibility to show parentage.



CONCLUSION:

“Forensic science is the union of natural science and legal principles”

forensic science’s role in solving crimes involves Investigative operations such as ascertaining the cause of death, identifying suspects, locating missing persons, and profiling criminals. They inspect over the fluids and tissues to determine the cause and manner of death by analysing evidence collected at the site of a crime, such as fibres, hairs, blood, fingerprints and examining Autopsies. These techniques are also used to rescue the innocents.

To make a speedy investigation and lessen the chances of further disasters at same manner by criminals the forensic analysis team can be a golden standard mark to enhance the investigating capacity and to provide justice to the deceased as well as the living victims.

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