

SUBJECT	FORENSIC SCIENCE
Paper No. and Title	PAPER No.10: Forensic Toxicology
Module No. and Title	MODULE No.34: Laws related to Forensic Toxicology
Module Tag	FSC_P10_M34

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FORENSIC SCIENCE

PAPER No.10: Forensic Toxicology

MODULE No.34: Laws related to Toxicology



Graduate Courses

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1. Learning Outcomes

After studying this module, you shall be able to know that –

- ➤ Various section of Indian Penal Code, 1860 related with the Toxicology.
- ➤ Various section of Code of Criminal Procedure Code, 1973 related with the Toxicology.
- Learn about the various Acts like Pharmacy Act, Drug Control Act, Drug and Magic Remedies Act.

2. Introduction

According to the National Crime Records Bureau (NCRB/ Ministry of Home Affairs) annual report, death due to **Poisoning** reported in the year 2014 are 20,587 and the percentage was somewhat around 4.6% of the total reported Accidental Deaths, which is fortunately much less than previous few years' figures. Even though poisoning cases constantly leads to a cause of worry for the government.

As we know that Forensic Toxicology deals with **Medico-Legal Aspects** of the harmful effects of chemicals on human beings. The term 'Legal', abundantly clarifies the conspicuous incursion of 'Law' into the field of 'Toxicology'.

A number of legal statutes have been passed which are constantly regulating and controlling the manufacture, sale, distribution, and possession of poisons and drugs. The advent of poison is as ancient as the human civilization is and the first ever law related to poisonous substances is seems to be *Lex Cornelia* (Circa 82 BC) which later turned out to be a regulatory statute focussed at careless dispensers of drugs. In India some of the major statutes related to poisonous substances and their handling or mishandling essentially exist which have been discussed in this unit.



3. Indian Penal Code, 1860

The following sections of the Indian Penal Code deals directly or indirectly with offences involving poisons:

Section 272: Adulteration of food or drink intended for sale

It states, "Whoever adulterates any article of food or drink, so as to make such article noxious as food or drink, intending to sell such article as food or drink, or knowing it to be likely that the same will be sold as food or drink, shall be punished with imprisonment of either description for a term which may extend to six months, or with fine which may extend to one thousand rupees, or with both."

Food Adulteration is a menace in the present day criminalities. To gain more pecuniary benefits, chemicals are used in the edible materials for various purposes which include artificial taste, early ripening among others. Most of these chemicals are even hazardous in nature.

Section 273: Sale of noxious food or drink

Whoever sells, or offers or exposes for sale, as food or drink, any article which has been rendered or has become noxious, or is in a state unfit for food or drink, knowing or having reason to believe that the same is noxious as food or drink, shall be punished with imprisonment of either description for a term which may extend to six months, or with fine which may extend to one thousand rupees, or with both.

According to Merriam- Webster Dictionary, term 'Noxious' means 'Physically Harmful' i.e., any substance which may produce harmful effects.

Section 274: Adulteration of drugs

Whoever adulterates any drug or medical preparation in such a manner as to lessen the efficacy or change the operation of such drug or medical preparation, or to make it noxious, intending that it shall be sold or used for, or knowing it to be likely that it will be sold or used for, any medical purpose, as if it had not undergone such adulteration, shall be punished with imprisonment of either description for a term which may extend to six months, or with fine which may extend to one thousand rupees, or with both.



Section 275: Sale of adulterated drugs

Whoever, knowing any drug or medical preparation to have been adulterated in such a manner as to lessen its efficacy, to change its operation, or to render it noxious, sells the same, or offers or exposes it for sale, or issues it from any dispensary for medicinal purposes as unadulterated, or causes it to be used for medicinal purposes by any person not knowing of the adulteration, shall be punished with imprisonment of either description for a term which may extend to six months, or with fine which may extend to one thousand rupees, or with both.

Section 276: Sale of drug as a different drug or preparation

Whoever knowingly sells, or offers or exposes for sale, or issues from a dispensary for medicinal purposes, any drug or medical preparation, as a different drug or medical preparation, shall be punished with imprisonment of either description for a term which may extend to six months, or with fine which may extend to one thousand rupees, or with both.

Section 277: Fouling water of public spring or reservoir

Whoever voluntarily corrupts or fouls the water of any public spring or reservoir, so as to render it less fit for the purpose for which it is ordinarily used, shall be punished with imprisonment of either description for a term which may extend to three months, or with fine which may extend to five hundred rupees, or with both.

Section 278: Making atmosphere noxious to health

Whoever voluntarily vitiates the atmosphere in any place so as to make it noxious to the health of persons is general dwelling or carrying on business in the neighbourhood or passing along a public way, shall be punished with fine which may extend to five hundred rupees.

Section 284: Negligent conduct with respect to poisonous substance

This section deals with negligent conduct in relation to poisons, and it states, "Whoever does with any poisonous substance any act in any manner so rash or negligent as to endanger human life or to be likely to cause hurt or injury to any person, or knowingly or negligently omits to take such order with any poisonous substance in his possession as is sufficient to guard against any probable danger to human life from such poisonous substance, shall be punished with imprisonment up to 6 months, or fine up to Rs.1000, or both".



The crux of this offence is culpable negligence with regard to poisonous substances. The fact that a person has the custody of any dangerous substance suffices itself to impose upon him the duty of being careful.

Section 299: Culpable homicide

This section deals with culpable homicide. It states, "Whoever causes death by doing an act with the intention of causing death, or with the intention of causing such bodily injury as is likely to cause death, or with knowledge that he is likely by such act to cause death, commits the offence of culpable homicide".

Such acts comprise the use of poisonous substances, apart from conventional weapons of assault.

Section 300: Murder

The concern of murder is dispensed within this section which is analogous to the definition of Culpable Homicide u/s 299 of IPC, but it puts more emphasis on deliberate intention and premeditation. The punishment for culpable homicide can be any term of imprisonment up to a maximum of life sentence, but that for murder can extend to the imposition of death penalty, the minimum sentence being life imprisonment. However, the detection of intention in poisoning cases are among the most difficult to distinguish and bring to justice.

Section 304A: Causing death by negligence

It deals with death caused by a rash or negligent act and states, "Whoever causes the death of any person by doing any rash or negligent act not amounting to culpable homicide, shall be punished with imprisonment up to two years, or fine, or both".

Such act of negligence can be with reference to the handling or storage of poisonous substances, apart from carelessness in the use of a vehicle or machinery. For example, if a chemist leaves a storeroom containing toxic drugs unlocked and accidentally a child consumes those drugs, out of his curiosity, leading to his death. In that circumstance the chemist will be held guilty under this section. Besides Section 304A such cases may also attract Section 284 of IPC.

Section 324: Voluntarily causing hurt by dangerous weapons or means

This section deals with the causing of hurt by any dangerous weapon or means (including the use of a poisonous substance).



It states, "Whoever voluntarily causes hurt by means of any instrument for shooting, stabbing, or cutting, or any instrument which when used as a weapon of offence is likely to cause death, or by means of fire or any heated substance, or by means of any poison or any corrosive substance, or by means of any substance which is deleterious to the human body to inhale, to swallow, or to receive into the blood, or by means of any animal, shall be punished with imprisonment up to 3 years, or fine, or both."

Section 326: Voluntarily causing grievous hurt by dangerous weapons or means

It states, "Whoever, except in the case provided for by Section 335, voluntarily causes grievous hurt by means of any instrument for shooting, stabbing or cutting, or any instrument which, used as a weapon of offence, is likely to cause death, or by means of fire or any heated substance, or by means of any poison or any corrosive substance, or by means of any explosive substance, or by means of any substance which it is deleterious to the human body to inhale, to swallow, or to receive into the blood, or by means of any animal, shall be punished with imprisonment for life, or with imprisonment of either description for a term which may extend to ten years, and shall also be liable to fine."

The wording of this section is very similar to that of Section 324, except for the fact that the injury caused should be of any of the eight types mentioned under section 320, namely,

- 1. Emasculation
- 2. Permanent privation of sight
- 3. Hearing
- 4. Any member or joint
- 5. The impairment of the power of any member or joint
- 6. Permanent disfiguration of head or face
- 7. Fracture or dislocation of any bone or tooth
- 8. Any hurt which endangers life, or causes the sufferer to be in severe bodily pain, or unable to follow his ordinary pursuits for a minimum period of 20 days.

Section 328: Causing hurt by means of poison, etc., with intent to commit an offence

Like section 284, this section deals specifically with poisons. It states, "Whoever administers to any person any poison, or any stupefying, intoxicating, or unwholesome drug with intent to cause hurt to such person, shall be punished with imprisonment up to 10 years, and shall also be liable to fine."



4. Code of Criminal Procedure, 1973

The Code of Criminal Procedure, being a procedural law, deals with the judicial proceeding at various stages of enquiry and trial.

Section 39: Public to give information of certain offences

Chapter IVB of the CrPC talks about Aid to the Magistrates and the Police. Section 39 under this chapter says that, "All cases of homicidal poisoning, whether definite or suspected, must be compulsorily reported to the police as per Section 39 (1) of the Criminal Procedure Code. Failure to do so will make him culpable under section 176 of the Indian Penal Code (IPC)."

Sub - section (1) summarily states as, "Every person, aware of the Commission of, or of the intention of any other person to commit, any offence punishable under any of the following sections of the Indian Penal Code (45 of 1860), namely-

- (iv.) sections 272 to 278, both inclusive (that is to say, offences relating to adulteration of food and drugs, etc);
- (v.) sections 302, 303 and 304 (that is to say, offences affecting life);

Section 174: Police to inquire and report on suicide, etc

It says,

- When the officer in charge of a police station or some other police officer specially empowered by the State Government in that behalf receives information that a person has committed suicide, or has been killed by another or by an animal or by machinery or by an accident, or has died under circumstances raising a reasonable suspicion that some other person has committed an offence, he shall immediately give intimation thereof to the nearest Executive Magistrate empowered to hold inquests, and, unless otherwise directed by any rule prescribed by the State Government, or by any general or special order of the District or Sub-divisional Magistrate, shall proceed to the place where the body of such deceased person is, and there, in the presence of two or more respectable inhabitants of the neighbourhood shall make an investigation, and draw up a report of the apparent cause of death, describing such wounds, fractures, bruises, and other marks of injury as may be found on the body, and stating in what manner, or by what weapon or instrument (if any); such marks appear to have been inflicted
- (2) The report shall be signed by such police officer and other persons, or by so many of them as concur therein, and shall be forthwith forwarded to the District Magistrate or the Sub-divisional Magistrate



- (3) When—
- (i) the case involves suicide by a woman within seven years of her marriage; or
- (ii) the case relates to the death of a woman within seven years of her marriage in any circumstances raising a reasonable suspicion that some other person committed an offence in relation to such woman; or
- (iii) the case relates to the death of a woman within seven years of her marriage and any relative of the woman has made a request in this behalf; or
- (iv) there is any doubt regarding the cause of death; or
- (v) the police officer for any other reason considers it expedient so to do, he shall, subject to such rules as the State Government may prescribe in this behalf, **forward the body**, with a view to its being examined, to the nearest Civil Surgeon, or other qualified medical man appointed in this behalf by the State Government, if the state of the weather and the distance admit of its being so forwarded without risk of such putrefaction on the road as would render such examination useless.
- (4) The following Magistrates are empowered to hold **inquests**, namely, any District Magistrate or Sub-divisional Magistrate and any other Executive Magistrate specially empowered in this behalf by the State Government or the District Magistrate.

Section 176: Inquiry by Magistrate into cause of death

- (1) When any person dies while in the custody of the police or when the case is of the nature referred to in **clause** (i) or clause (ii) of sub-section (3) of Section 174, the nearest Magistrate empowered to hold **inquests** shall, and in any other case mentioned in sub-section (1) of section 174, any Magistrate so empowered may hold an inquiry into the cause of death either instead of, or in addition to, the investigation held by the police officer; and if he does so, he shall have all the powers in conducting it which he would have in holding an inquiry into an offence
- (2) The Magistrate holding such an inquiry shall record the evidence taken by him in connection therewith in any manner hereinafter prescribed according to the circumstances of the case
- (3) Whenever such Magistrate considers it expedient to make an examination of the dead body of any person who has been already interred, in order to discover the cause of his death, the Magistrate may cause the body to be disinterred and examined
- (4) Where an inquiry is to be held under this section, the Magistrate shall, wherever practicable, inform the relatives of the deceased whose names and addresses are known, and shall allow them to remain present at the inquiry



5. The Poison Act, 1919

This Act was amended in 1958 and repealed in 1960. It deals with the import of poisonous substances into India, issuance of license for possession of certain specified poisons, and restrictions in the sale of such substances (mostly chemicals) as poisons, over which control is to be exercised.

6. Drugs and Cosmetics Act, 1940

This Act was amended in 1964, and very recently in 2008, and is today referred to as the **Drugs and Cosmetics** (Amendment) Act, 2008. It deals with the import, manufacture, distribution, and sale of all kinds of drugs like Allopathic, Ayurvedic, Unani, Siddha, etc., besides cosmetics. As per the Act, every patented or proprietary medicinal preparation should display on the label of the container, either the exact formula or a list of the ingredients. The amended Act has enhanced the scale of punishment for various offences, including sale of spurious drugs, adulteration of drugs and cosmetics, toxic contamination, etc.

7. The Drugs and Cosmetics Rules, 1945

This is a branch of the **Drugs and Cosmetics Act, 1940**, and is concerned largely with the standard and quality of drugs, apart from exercising control over the manufacture, sale, and distribution, of drugs and cosmetics. It was amended in 1988, and is now referred as **Drugs and Cosmetics Rules (Eighth Amendment), 1988**.

All categories of drugs used in therapeutics have been comprised: allopathic, homeopathic, ayurvedic, unani, and siddha. All drugs and cosmetics are compulsorily to be characterized and packed properly. To advise the Central and State Governments on technical matters relating to drug control, the following Boards have been set up:

- 1. The Drugs Technical Advisory Board,
- 2. The Ayurvedic and Unani Technical Advisory Boards,
- **3.** The Drugs Consultative Committee.

In order to expedite the analysis or testing of drug samples to assess their quality, the **Central Drugs Testing Laboratory** (**CDTL**) was established in 1962. Individual states have also set up **Drug Control Laboratories**. Rigorous punishments have been laid down for manufacture, stocking, or sale of inferior or spurious drugs.



8. The Pharmacy Act, 1948

The objective of this statute is to allow only registered pharmacists to compound, prepare, mix, or dispense any medicine on the prescription of a Registered Medical Practitioner.

Under this Act, the **Pharmacy Council of India, New Delhi** has been established, under the Ministry of Health and Family Welfare, which regulates the study of pharmacy throughout the country. Individual states have their own **State Pharmacy Councils** for the registration of pharmacists.

9. The Drug Control Act, 1950

This Act controls the supply and distribution of drugs, and also guides the manufacturer or dealer in fixing the maximum price for every drug.

10. The Drug and Magic Remedies (Objectionable Advertisement) Act, 1954

The purpose of this Act is to make sure that ethical standards are retained when drugs are promoted by the manufacturers. Advertisements which cause offense decency or morality can be barred under this Act. Also, those which claim magical powers for certain drugs, e.g. enhancement of potency, cure for incurable diseases, etc. Magical remedies include the use of talismans or charms such as "mantras", "kavachas", etc.

11. The Medicinal and Toilet preparation (Excise Duty) Act and Rules, 1955

This enactment deals with regulatory problems arising out of the usage of alcohol in medicinal and toilet preparations. It has helped greatly in reducing the large scale inter-state trafficking of **alcoholic medicinal**, and toilet preparations which existed before due to different rates of excise duties in different states. This Act has made uniform rates of duty applicable throughout the country.



12. Narcotics Drugs and Psychotropic Substance Act, 1985

The Narcotic Drugs and Psychotropic Substances (NDPS) Act was enacted in India and subsequently amended in 1988, to implement the provisions of the Convention on Psychotropic Substances (1971), and the Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (1988), both held in Vienna.

This Act renders three previous Acts, which are now obsolete—

- 1. The Opium Act, 1857
- 2. The Opium Act, 1878
- 3. The Dangerous Drugs Act, 1930

The term "narcotic" in the legal sense is quite different from that used in the medical context which denotes a sleep inducing agent. Legally, a narcotic drug could be an Opiate, which is a true narcotic; or Cannabis, which a non-narcotic; or even Cocaine which is the very antithesis of a narcotic, since it act as a stimulant. The term "Psychotropic Substance" is with reference to mind-altering drugs such as LSD, Phencyclidine, Amphetamines, Barbiturates, Methaqualone, Benzodiazepines, Mescaline, Psilocybin, and Designer Drugs (MDMA, DMT, etc.).

The NDPS Act enforces complete prohibition on the cultivation of Coca, Poppy, and Cannabis plants, and the manufacture, sale, purchase, use, or transport of any narcotic drug or psychotropic substance except for medical or scientific purposes.

The minimum punishment for any offence committed under the Act is 10 years rigorous imprisonment and fine of Rs.1 lakh, while the maximum punishment is 20 years rigorous imprisonment and fine of Rs.2 lakhs. There is also sufficient scope under the NDPS Act for enhanced punishment for recurrence of offences specifically after previous convictions, which includes the imposition of even the death penalty. To constitute an offence the first time around, the minimum quantity seized should be equal to or over 250 mg for heroin, 5 gm. for *hashish* or *charas*, 5 gm. for opium, 125 mg for cocaine, and 500 gm. for *ganja*.

In addition to persons directly involved in trafficking narcotic drugs and psychotropic substances, any person who finances trafficking, or harbours a person involved in trafficking, or abets, or is a party to a criminal conspiracy, including a criminal conspiracy to commit an offence outside India is also liable to the same scale of punishments.

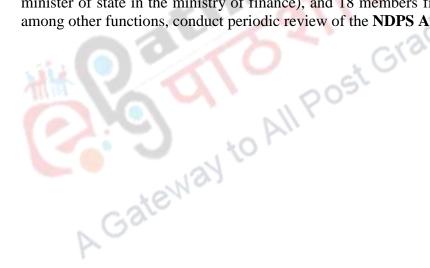


However, immunity from prosecution is given to addicts volunteering for detoxification. Section 64A of the NDPS Act states that any addict who is not charged with any offence punishable under Sections 15 to 25, or Section 27A, and who voluntarily seeks to undergo medical treatment for detoxification or de-addiction from a hospital or an institution maintained or recognised by the government or a local authority, and undergoes such treatment shall not be liable to prosecution under Section 27 of the Act (once in his lifetime). Such immunity granted may be withdrawn if the addict does not undergo the complete treatment, and in such circumstances the accused shall be prosecuted for the said offence.

Further, the Act makes a distinction between possession for personal consumption and trafficking, the punishment for the former being limited to between six months and one year only.

The Central Government of India established **Narcotics Control Bureau** (**NCB**) in 1986 under the Ministry of Home Affairs with its headquarters at New Delhi, and zonal offices at Mumbai, Kolkata, Chennai, and Varanasi.

In 1988, the Central Government instituted the **Narcotic Drugs and Psychotropic Substances Consultative Committee**, consisting of a chairman (the minister of finance/minister of state in the ministry of finance), and 18 members from diverse fields who would among other functions, conduct periodic review of the **NDPS Act**.





	Narcotic drug / Psychotropic substance	Quantity (Kg)
1.	Opium	10
2.	Morphine	1
3.	Heroin	1
4.	Codeine	1
5.	Thebaine	1
6.	Cocaine	0.5
7.	Hashish	20
8.	Any mixture of the above drugs	1.5
9.	LSD (Lysergic acid diethylamide)	0.5
10.	THC (Tetrahydrocannabinol)	0.5
11.	Amphetamines	1.5
12.	Methaqualone	1.5
13.	Salts and preparations of above (9 to 12)	1.5

Minimum quantity of seizure (in repeat offence) for imposition of death penalty

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13. Medico Legal Complications involving consent

The consent of a patient is essential for all diagnostic and therapeutic procedures, mainly those which are invasive or risky in nature. Undertaking such procedures without consent can amount to an assault in the legal sense, even if it is done for the benefit of the patient unless explanatory situations exist. A patient, who has knowingly consumed a poisonous substance or overdosed a therapeutic drug, is likely to be persistent and may repel all efforts at treating him.

The attending physician may then be uncertain as to the legal implications of forcing treatment on the patient who may even threaten the doctor with a law suit if therapeutic procedures are forcefully carried out. It is however a fact that a patient who attempts suicide has lost the right to refuse treatment, and no court has so far upheld a patient's complaint of **forced treatment** in such circumstances. It is also true that in many such cases of toxic ingestions, the patient can be declared unreasonable enough to refuse treatment on account of depression or disturbance of mental functions which can be believed to impair judgement.

On the other hand, a physician may become liable for negligence if he does not do what is medically indicated. There are times however, such as in a excitedly distressed or extremely stubborn patient, when overenthusiastic attempts to remove a poison or drug overdose may place the patient at greater risk of physical harm than the ingestion itself.

In the case of a comatose patient, consent must be obtained from the next of families. However, if it is an emergency and consent is being refused on unreasonable grounds, the medical doctor can go ahead with the compulsory treatment even in the absence of consent. In such cases, the court will always support his decision if it comes to a legal action, since it was made in good faith with the safety of the patient as the major consideration.

It is appropriate to note that if an accused person has been arrested and then brought for examination where it can be rationally believed that such examination can afford valuable evidence as to the commission of an offence, it is not necessary for consent to be obtained from the individual. Medical examination can be carried out in such cases on the basis of a request made by a police officer not below the rank of a Sub-Inspector.



14. Summary

- 1. Forensic Toxicology deals with Medico-Legal Aspects of the harmful effects of chemicals on human beings.
- 2. A number of legal statutes have been passed which are constantly regulating and controlling the manufacture, sale, distribution, and possession of poisons and drugs.
- 3. The term "narcotic" in the legal sense is quite different from that used in the medical context which denotes a sleep inducing agent.
- 4. The NDPS Act enforces complete prohibition on the cultivation of Coca, Poppy, and Cannabis plants, and the manufacture, sale, purchase, use, or transport of any narcotic drug or psychotropic substance except for medical or scientific purposes.
- 5. A patient, who has knowingly consumed a poisonous substance or overdosed a

