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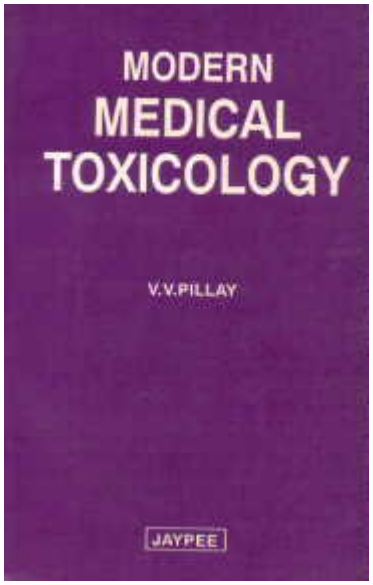
Book Reviews: Technical Books Section

EXCELLENT ADDITION TO TOXICOLOGICAL LITERATURE

Modern Medical Toxicology, 1st Edition by Vijay Vasudev Pillay, softcover 5"x8"

Jaypee Brothers Medical Publishers (P) Ltd, EMCA House, 23/23B Ansari Road, Daryaganj, New Dehli 110 002, India. . E-Mail: jpmedpub@del2.vsnl.net.in. Web site: http://www.jpbros.20m.com: xvi + 353 Pages, Published 1995, ISBN 81-7179-411-4: Price Indian Rs. 150.00



"All substances are poisons; there is no such thing as a non-poison".

-Paracelsus

Thus begins chapter one of this excellent reference on toxicology. The text is divided into eight chapters with 8 appendices, covering general principles of toxicology, corrosive poisons, irritant poisons, neurotoxic poisons, cardiovascular poisons, asphyxiant poisons, miscellaneous poisons, and obstetric and pediatric considerations.

While the book is intended for an Indian audience with specific reference to resources, laws and trade names specific to India, it is still a valuable reference for those outside the country as the scientific names of drugs are given and the guiding principles are the same the world over.

The book is broken down as follows:

Chapter One - General Principles

Chapter one introduces the subject of toxicology including the effects of poison, whether local, systemic or combined, as well as types of poisoning. The classification of poison types is also given and breaks down into types matched by those used for chapters 2 through 7. Toxicity rating and lethal dose are explained. Pages 5&6 detail the Indian law on drugs and poisons. This is followed by a discussion of the general management of poison cases including diagnosis, assessment, and treatment methods. Antidotes are also discussed, and it is interesting that the notion of an antidote as portrayed in fiction bears little resemblence to their actual use. In fact there are few poisons for which a genuine antidote exists and most cases are treated with supportive measures.

Chapter Two - Corrosive Poisons

...Most entries have both a usual fatal dose and a toxicity rating listed. Usual fatal dose is an approximate value based on adult poison victims, but it gives one a place to start when faced with a dead victim and an empty bottle of some toxic substance...
Includes inorganic acids such as sulfuric acid, organic acids such as carbolic acid and alkalies such as ammonia. All cause tissue destruction to various degrees.

Chapter Three - Irritant Poisons

Includes inorganic irritants such as phosphorus, clorine, arsenic, lead and mercury, as well as organic irritants of plant and animal origin (castor, capsicum, snake and insect venoms). Among this group arsenic has a historic reputation as a homicidal poison. At one time it was referred to as "inheritance powder". Also covered in this chapter is lead, which is still a commonly encountered accidental poison, particularly among small children who can be exposed by chewing items painted with lead based paints.

Chapter Four - Neurotoxic Poisons

These are poisons which act on the nervous system, broken into three groups by area of action- cerebral, spinal or peripheral. Cerebral poisons compose the majority of the group and are further broken down by mode of action into four groups- Somniferous, inebriant, deliriant and psychotropic. Spinal poisons are rare, with the only notable examble being strychnine. Peripheral poisons include hemlock and curare. Some of the poisons in the neurotoxic group have medical uses, and the majority of drugs of abuse (including alcohol) fall into this group, so they are often encountered as accidental overdoses.

Chapter Five - Cardiovascular Poisons

...Entries also list "Medicolegal Importance" which indicates common licit and illicit uses for the substances, and common routes of exposure. Famous cases of poisoning from around the world are presented throughout the text...

This group includes antihypertensives, anticoagulants, and cardiotoxic poisons. Medications with antihypertensive or anticoagulant effects are widely prescribed. Anticoagulants are also used in rodent poisons. Cardiotoxic poisons are those which act directly on the heart. Oleander, aconite, digitalis and tobacco fall into this category.

Chapter Six - Asphyxiant Poisons

These are poisons whose method of action is respiratory interference. The two prime examples are carbon monoxide and cyanide. In the United States Carbon Monoxide is often encountered in cases of accidental exposure and suicide.

Chapter Seven - Miscellaneous Poisons

Those poisons which fit none of the previous categories are discussed here. Antipyretics, non-steroidal anti-inflammatory drugs, antihistamines, anti-infectives, hypoglycemics, food poisons and a final catch-all "odds and ends" (caffeine, vitamines & etc).

Chapter Eight - Obstetric and Pediatric Considerations

Chapter Eight Obstetric and Pediatric Considerations. Explains and describes poisons related to these specialties Eight Appendices follow. Each chapter includes a list of references.

Notable features

- Nice illustrations by the author.
- Most entries have both a usual fatal dose and a toxicity rating listed. Usual fatal dose is an approximate value based on adult poison victims, but it gives one a place to start when faced with a dead victim and an empty bottle of some toxic substance. If the bottle contains far less than the usual fatal dose for that substance, then other means of death need to be investigated. The lower the usual fatal dose, the higher the toxicity rating.
- Symptoms and significant post mortem findings are indicated. For an investigator knowledge of the symptoms of a particular poison is important when questioning family members & etc. about the behavior of a possible poison victim. Knowing when the symptoms began may be of importance in narrowing down the list of those who may have poisoned the victim, or may indicate an accidental exposure.
  ...This book is a good choice for medical and police personnel who need a handbook for diagnosis and treatment of poisons or as a reference to their effects and symptoms...
- Entries also list "Medicolegal Importance" which indicates common licit and illicit uses for the substances, and common routes of exposure. Again for the investigator knowledge of those industries which commonly use the substance in question can greatly aid in narrowing down the list of people who might be responsible or indicate an exposure in the workplace.
- Famous cases of poisoning from around the world are presented throughout the text.

In the United States, as most places, cases of homicidal poisoning are rare. However, accidental and suicidal poisonings are fairly common. Knowledge of the different types of poisons, as well as their use and mis-use is quite valuable. Few investigators have knowledge of the different poisons and their effects, making a guide book like this one extremely valuable. (As a parent it is a bit frightening how many things are poisonous).

I have found the text to be quite helpful in looking up the effects of a number of substances encountered in my case work. For instance, poisoning by Carbon Monoxide is not uncommon, either by accidental exposure, or as a method of suicide. (It is interesting that while this is a fairly common method of suicide in the United States the author reports it as unusual in India). In one recent case a man was operating a gasoline powered concrete saw in his basement and was overcome. Several of the emergency medical personnel also became ill from the high level of Carbon Monoxide in the basement.

In another case we were curious about the effects of Diphenhydramine and were surprised to find that it can be very toxic at 5 times the normal dose, although the usual fatal dose is not known.

This book is a good choice for medical and police personnel who need a handbook for diagnosis and treatment of poisons or as a reference to their effects and symptoms.

-Daryl Clemens



-Daryl Clemens
Daryl Clemens is on the editorial board of Anil Aggrawal's Internet Journal of Forensic Medicine and Toxicology. For more information on him, please the linked page (editors 2.html#clemens).

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