



### Forensic Toxicology

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#### Editorial Note

Toxicology may be a science, overlapping with biology, chemistry, pharmacology, and medicine, that involves the study of the adverse effects of chemical substances on living organisms[1] and therefore the practice of diagnosing and treating exposures to toxins and toxicants. The connection between dose and its effects on the exposed organism is of high significance in toxicology. Factors that influence chemical toxicity include the dosage, duration of exposure (whether it's acute or chronic), route of exposure, species, age, sex, and environment. Toxicologists are experts on poisons and poisoning. There's a movement for evidence-based toxicology as a part of the larger movement towards evidence-based practices. Toxicology is currently contributing to the sector of Cancer research, since some toxins are often used as drugs for killing tumor cells. One prime example of this is often Ribosome Inactivating Proteins, tested within the treatment of Leukemia.

Medical toxicology is that the discipline that needs physician status (MD or DO degree plus specialty education and experience).

Clinical toxicology is that the discipline which will be practiced not only by physicians but also other health professionals with a academic degree in clinical toxicology: physician extenders (physician assistants, nurse practitioners), nurses, pharmacists, and allied health professionals. Forensic toxicology is that the discipline that creates use of toxicology and other disciplines like analytical chemistry, pharmacology and clinical chemistry to assist medical or legal investigation of death, poisoning, and drug use. The first concern for forensic toxicology isn't the legal outcome of the toxicological

investigation or the technology utilized, but rather the obtainment and interpretation of results. Occupational toxicology is that the application of toxicology to chemical hazards within the workplace.

Toxicology may be a field of science that helps us understand the harmful effects that chemicals, substances, or situations, can wear people, animals, and therefore the environment. Some ask toxicology because the "Science of Safety" because as a field it's evolved from a science focused on studying poisons and adverse effects of chemical exposures, to a science dedicated to studying safety.

Toxicology uses the facility of science to predict what, and the way chemicals may cause harm then shares that information to guard public health. When talking about toxicology it's important to stay a couple of things in mind.

#### What is a toxicologist?

A toxicologist may be a scientist who features a strong understanding of the many scientific disciplines, like biology and chemistry, and typically works chemically and other substances to work out if they're toxic or harmful to humans and other living organisms or the environment.

Just like there are differing types of doctors, there are differing types of toxicology specialists.

A toxicologist working within the pharmaceutical industry, for instance, might work to form sure that potential new drugs are safe for testing in clinical trials for humans.

A toxicologist performing at the National Toxicology Program (NTP) could be involved in designing and overseeing studies that make a controlled environment that replicates exposures that humans may encounter. NTP toxicologists work to spot hazards from the chemicals or substances they're studying. The dose of the chemical or substance an individual is exposed to is another important think about toxicology. All substances have the potential to be toxic if given to humans and other living organisms in certain conditions and at certain doses or levels. For instance, one or two aspirins could also be good for you, but taking a bottle of aspirin could also be harmful. The sector of toxicology tries to know and identify at what dose and thru what exposure a substance poses a hazard.

