t is a substance that affects the function of living cells, used in medicine to diagnose, cure, prevent the occurrence of diseases, disorders and prolong the life of patients with incurable conditions. Since 1900 the availability of new drugs, the average life span has increased from 60 years to 75 years. Drugs have contributed to the eradication of once widespread and sometimes fatal diseases such as poliomyelitis and

Classification:

smallpox.

Drugs can be classified in many ways: by the way they are dispensed - over the counter or by prescription; by the substance from which they are derived - plant, mineral, or animal; by the form they take capsule, liquid, or gas; and by he way they are administered by mouth, injection, inhalation, or direct application to the skin absorption). Drugs are also classified by their names. All lrugs have three names: a hemical name, which describes he exact structure of the drug; a eneric or proprietary name, which is the official medical ame assigned by the US dopted Name Council (a group omposed of pharmacists and ther scientists); and a brand or ade name given by the particur manufacturer that sells the rug. If a company holds the atent on a drug – that is, if the impany has the exclusive right make and sell a drug, then the ug is available under one and name only. Another way categorise drugs is by the ay they act against diseases or sorders: chemotherapeutic ugs attack specific organisms at cause a disease without rming the host, while armoc odynamic drugs alter e function of bodily systems stimulating or depressing rmal cell activity in a given stem. The most common way categorise a drug is by its fect on a particular area of the dy or a particular condition.

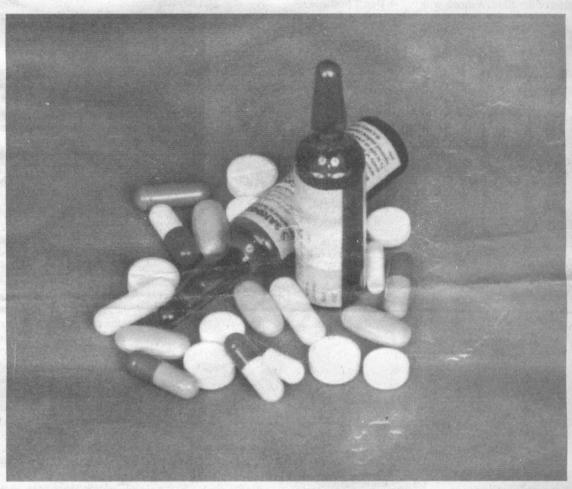
w drugs move through the

dv:

he effects of a drug on the dy depends on a number of cesses that the drug underes as it moves through the dy. All these processes ether are known as irmacokinetics (motion of the g) First in these processes is administration of the drug, er which it must be absorbed the bloodstream. From the odstream, the drug is distrib-I throughout the body to ous tissues and organs. As drug is metabolised, or

Metabolism Hodism Company and medicine

DR. MUHAMMAD OVAIS OMER and DR. MUHAMMAD ASHRAF explain various types of medicine and its functions in the metabolism of body



broken down and used by the body, it goes through chemical changes that produce metabolites or altered forms of the drug, most of which have no effect on the body. Finally, the drug and its metabolites are eliminated from the body.

Administration:

Depending on the drug and its desired effect, there are a variety of administration methods. Most drugs are administered orally, through the mouth. Only the drugs which will not be destroyed by the digestive processes of the stomach or intestines can be given orally. Drugs can also be administered by injection into a vein (intravenously), which assures quick distribution through the bloodstream and a rapid effect; under the skin (subcutaneously) into the

tissues, which results in localised action at a particular site as with local anesthetics; or into a muscle (intramuscularly), which enables rapid absorption through the blood vessels found in muscles. An intramuscular injection may also be given as a depot preparation, in which the drug is combined with other substances so that it is slowly released into the blood. Inhaled drugs are designed to act in the nose or lungs. General anesthetics may be given through inhalation. Some drugs are administered through drugfilled patches that stick to the skin. The drug is slowly released from the patch and enters the body through the skin. Drugs may be administered topically that is, applied directly to the skin; or rectally -absorbed through an enema (an injection of liquid into the

rectum) or a rectal suppository (a pellet of medication that melts when inserted in the rectum).

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Absorption: Absorption is the transfer of a drug from its site of administration to the bloodstream. Drugs that are inhaled or injected, enter the bloodstream more quickly than drugs taken orally. Oral drugs are absorbed by the stomach or small intestine and then passed through the liver before entering the bloodstream.

Distribution:

Distribution is the transport of a drug from the bloodstream to tissue sites where it will be effective, as well as to sites where the drug may be stored, metabolised, or eliminated from the body. Once a drug reaches its intended destination, the