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Drug metabolism is the

Metabolic breakdown of drugs by
living organisms, usually through
specialized enzymatic systems.
More generally, xenobiotic
metabolism (from the Greek
xenos "stranger" and biotic
"related to living beings) is the
set of metabolic pathways that
modify the chemical structure of
xenobiotics, which (are

compounds foreign to

organism's normal biochemistry,
such as any drug or poison.
These pathways are a form of
biotransformation present in all
major groups of organisms, and
are considered to be of ancient
origin.

FACTORS AFFECTING DRUG METABOLISM

The duration and intensity of

pharmacological action of most

lipophilic drugs are determined by the rate they are metabolized to inactive products. The

Cytochrome P450

monooxygenas system is the

most important pathway in this
regard. In general, anything that
increases the rate of metabolism
(e.g., enzyme induction) of (
pharmacologically active
metabolite will decreases the
duration and intensity of the drug
action. The opposite is also true
(e.g., enzyme inhibition).
However, in cases where an
enzyme is responsible for
metabolizing a pro-drug into a
drug, enzyme induction can
speed up this conversion and
increase drug levels, potentially
causing toxicity.

Various physiological and

pathological factors can also
affect drug metabolism.
Physiological factors that can
influence drug metabolism
include age, individual variation
(e.g., pharmacogenetics),
enterohepatic circulation,
nutrition, intestinal flora, or sex
differences.

In general, drugs are metabolized
more slowly in fetal, neonatal and

elderly humans and animalss than in adults.