

NOMENCLATURE OF DRUGS

Any drug has three names

- ▶ Full chemical name
- ▶ Non-proprietary
(official or approved)
Generic name
- ▶ Proprietary name
(brand name, trade name)
- ▶ Code name
 - ▶ RO 15-1788 (later named flumazenil)

Full chemical name

- ▶ It describes the chemical (molecular) structure of the drug.
- ▶ **It is unsuitable for prescription**
 - 4-butyl-3,5-dioxo-1,2-diphenylpyrazolidine
 - 3-(10,11-dihydro-5H-dibenz[b,f]-azepin-5-yl)
 - Acetyl-p-aminophenol
 - 1-(Isopropylamino)-3-(1-naphthyloxy) propan-2-ol (propranolol)

Official or approved (Non-proprietary) Generic name

- ▶ United States Adopted Name (USAN) Council
- ▶ r INN (Recommended international nonproprietary name)
- ▶ Older drugs --- more than one name
 - ▶ Mepridine (USA), Pethidine(UK)
 - ▶ Metaproterenol (USA), Orciprenaline (UK)

INN	USAN
<u>Glibenclamide</u>	Glyburide
<u>Paracetamol</u>	Acetaminophen
<u>Pethidine</u>	Meperidine
<u>Rifampicin</u>	Rifampin
<u>Salbutamol</u>	Albuterol

Official or approved(Non-proprietary) Generic name

- ▶ **Non-proprietary name** ---- until the drug is included in a pharmacopoeia
- ▶ **Official name** ---- after official publication in pharmacopoeia
 - ▶ **Phenylbutazone, Imipramine, Paracetamol**
- ▶ It is usually the abbreviated form of the chemical name

Generic name

- ▶ Often misused to mean as **non-proprietary name**
- ▶ It refer to a **chemical or pharmacological group (or genus) of compound** e.g., barbiturates, suphonamide, phenothiazines, tricyclic antidepressants (TCA)

Nonproprietary name

- ▶ Distinct in sound and spelling
- ▶ Freedom from confusion with other drugs
- ▶ Indicating relation between similar substance
- ▶ Benzodiazepines
 - ▶ Diazepam, Nitrazepam, Flurazepam
- ▶ β -blockers
 - ▶ Propranolol, Atenolol, carvedilol, Ismolol

Proprietary name (Brand name, trade name)

- ▶ Trademark (the drug's proprietary trade name)
- ▶ **The name given by the company which markets the drug.**
- ▶ It is the commercial property of a pharmaceutical company
 - ▶ Several companies market the same drug under different proprietary names --- Valium, Mogadon, Dalmane
 - ▶ **Acetaminophen (paracetamol) - colpol, panadol, disprol**

▶ Chemical name

Acetyl-p-aminophenol

▶ Official name --- **Paracetamol**

▶ Proprietary name

▶ **Calpol**

▶ **Panadol**

▶ **Disprol**

▶ Phenylbutazone

- ▶ 4-butyl-3,5-dioxo-1,2-diphenylpyrazolidine
- ▶ Phenylbutazone
- ▶ Butazolidine, butacote, butazone, flexazone

▶ Imipramine

- ▶ 3-(10,11-dihydro-5H-dibenz[b,f]-azepin-5-yl)
- ▶ Imipramine
- ▶ Tofranil



PLACEBO

Placebo (*Latin*, I will Please)

A dummy medicine containing no active ingredient, which the patient believes is the real drug



What are characteristics of a placebo?

- ▶ **An inert substance**
 - ▶ No pharmacological action
- ▶ **Used as dummy drug**
 - ▶ **Made to appear identical with the active drug**
 - ▶ Patient believes it to be the **real drug**

Purposes of use of Placebo

- ▶ **Used as control in scientific evaluation of drugs during clinical trial**
--- **Double blind technique**



Placebo effect -- 'placebo response'

- ▶ **To benefit or to please a patient**
 - ▶ given to satisfy patient symbolic need (**psychic need**) for drug therapy
- ▶ A significant beneficial therapeutic effect -- **Benefit the patient by psychological means**
- ▶ Useful in mild psychological disorders
- ▶ Alleviation of the symptoms may be temporary

DRUG GROUPS

Drug groups

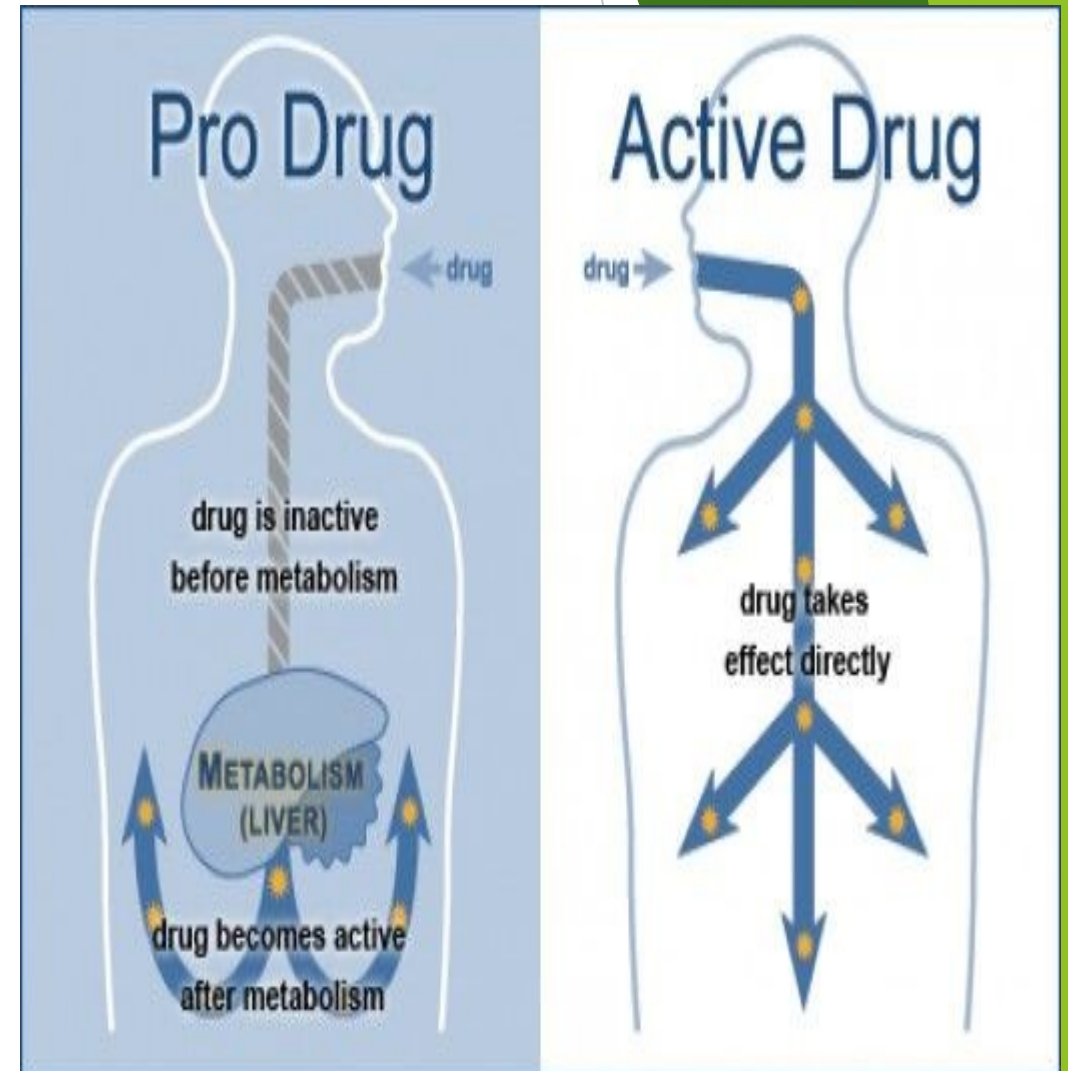
- ▶ Impractical goal & **fortunately un-necessary** to learn each pertinent fact about individual drug
- ▶ Several thousand drugs arranged in about **70 groups**.
- ▶ In a group there is **one or more** prototype drugs and other classified as **variants** of the prototype

PROTOTYPE DRUGS

- ▶ **Typify the most important characteristics of the group**
- ▶ Only the **prototype** must be learned in detail and for the other remaining drugs (variants), only the differences from the prototype

Prodrug

- ▶ The chemicals which need some metabolic conversion in the body before becoming an active pharmacological agent
 - ▶ Methyldopa, an antihypertensive is first converted into alpha methylnorepinephrine to produce its pharmacological effects



Me-too drugs / products



A product created by a company that is similar to a competitor's product.

It is usually produced by simple chemical alteration of pharmacokinetic properties of the original drug making an **identical formulation**

Drugs and prescription

▶ **OTC** (over the counter) drugs

-- Non-prescription

- ▶ Safe & effective in treating common ailments
- ▶ May interact with the prescription medication
- ▶ OTC may be misused or abused

▶ **Prescription drugs**

Restricted to **sale by prescription only** ---
Prescription by a licensed prescriber

- ▶ **Controlled drugs** -- Drugs with abuse potential include opioids, hallucinogens, stimulants

