جامعة ساوة الاهلية
كلية التقنيات الصحية والطبية
قسم التخدير - اللجنة العلمية

SAWA UNIVERSITY

INTRODUCTION PHARMACOLOGY

جامعة ساوة

كلية التقنيات الصحية والطبية

قسم تقنيات التخدير

المرحلة

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رقم المحاضرة 1

DEFINITIONS

1-Pharmacology: science dealing with → interactions between chemicals (drugs) and living systems.

2.Drug: chemical substances, when introduced into the body, alters the body's function, producing → biological effects . Can be:

- Stimulatory. * Inhibitory.
- 3.Prodrug: chemical, is readily absorbed and distributed and then converted to → active drug by → biologic process inside the body.

DEFINITIONS

4-Toxicology: deals with the → undesirable effects of chemicals in biological system

5.Pharmacogenomics (pharmacogenetics): study the → genetic variations that cause individual differences in drug response. Aren't found in general population (allergies), but due to→ an inherited trait that produces a diminished or enhanced response to a drug.

GENERAL CONCEPT OF PHARMACOLOGY

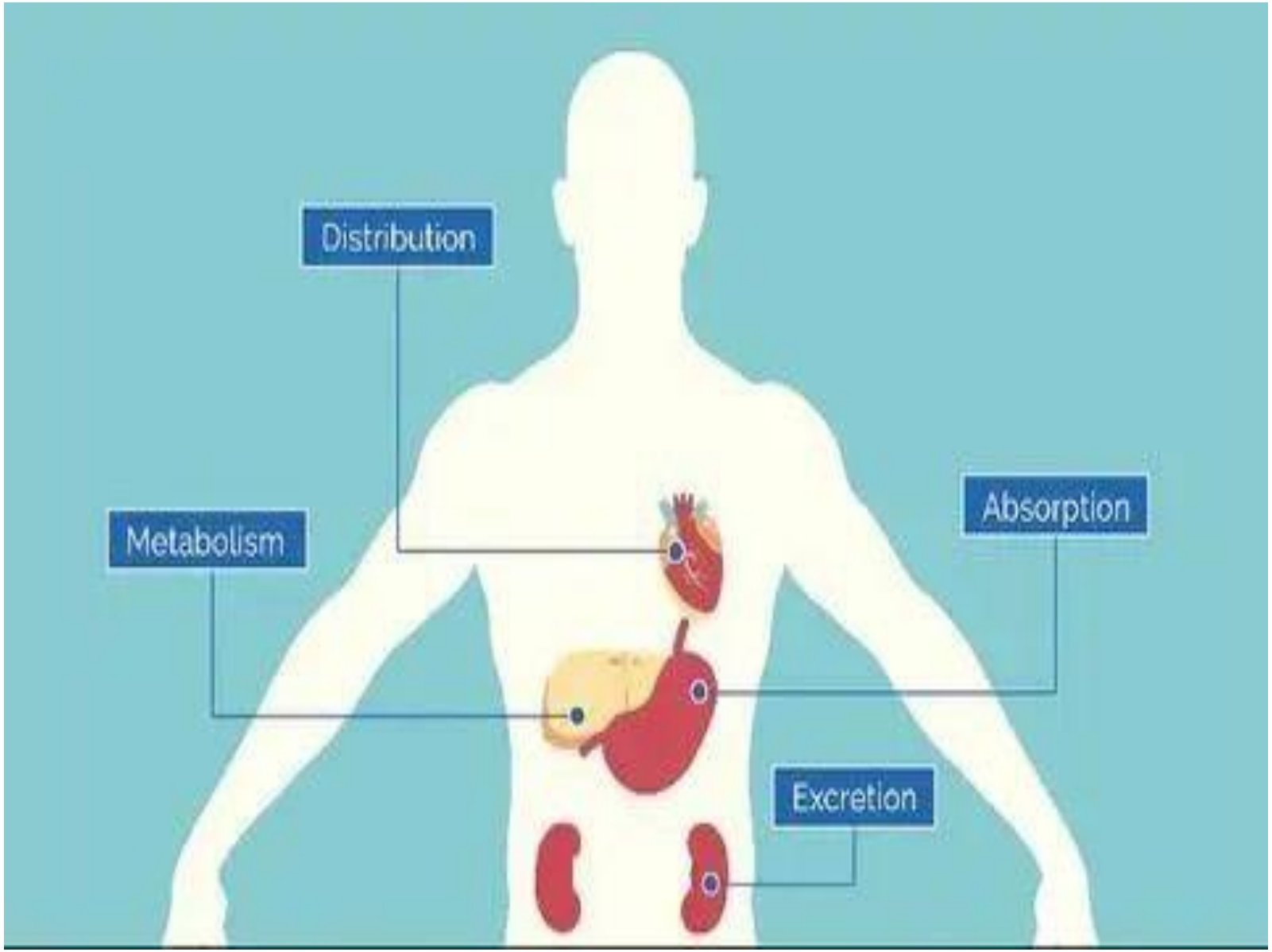
1. Pharmaceutical Phase: when medications → enters the body in one form and changes into another form.

2.Pharmacokinetics: what the body does to the drug.

Absorption. Distribution. Metabolism. Elimination.

3-Pharmacodynamics: what the drug does to the body.

Interaction of drugs with → cellular proteins(receptors/enzymes), to → control changes in physiological function of particular organs:


Distribution
Metabolism
Absorption
Excretion

SOURCES OF DRUGS:

1. Animals: Insulin, thyroid extract, heparin.
2. Plants: Morphine, digoxin, atropine, castor oil.
3. Minerals: magnesium sulfate.
4. Synthetic source: Aspirin.
5. Micro-organisms: Penicillin and many other antibiotics.
6. Genetic engineering: Human insulin, human growth hormone etc.

ROUTES OF ADMINISTRATION

its determined by:

Properties of the drug (water/lipid soluble).

Therapeutic objective (desirability of a rapid onset of action).

1. Enteral (GI route) → systemic:

Oral: by the → mouth (most common).

Sublingual: drugs subject to → high degree of first-pass metabolism.

Rectal (high vascular): excellent site of → absorption (it's also

used to → administer antiemetic agents)

2. PARENTERAL (INJECTIONS) ROUTE → LOCAL: THEY'RE THREE:

Intravascular (I.V.).

Intramuscular (I.M.).

Subcutaneous (S.C.).

3. OTHERS:

Inhalation.

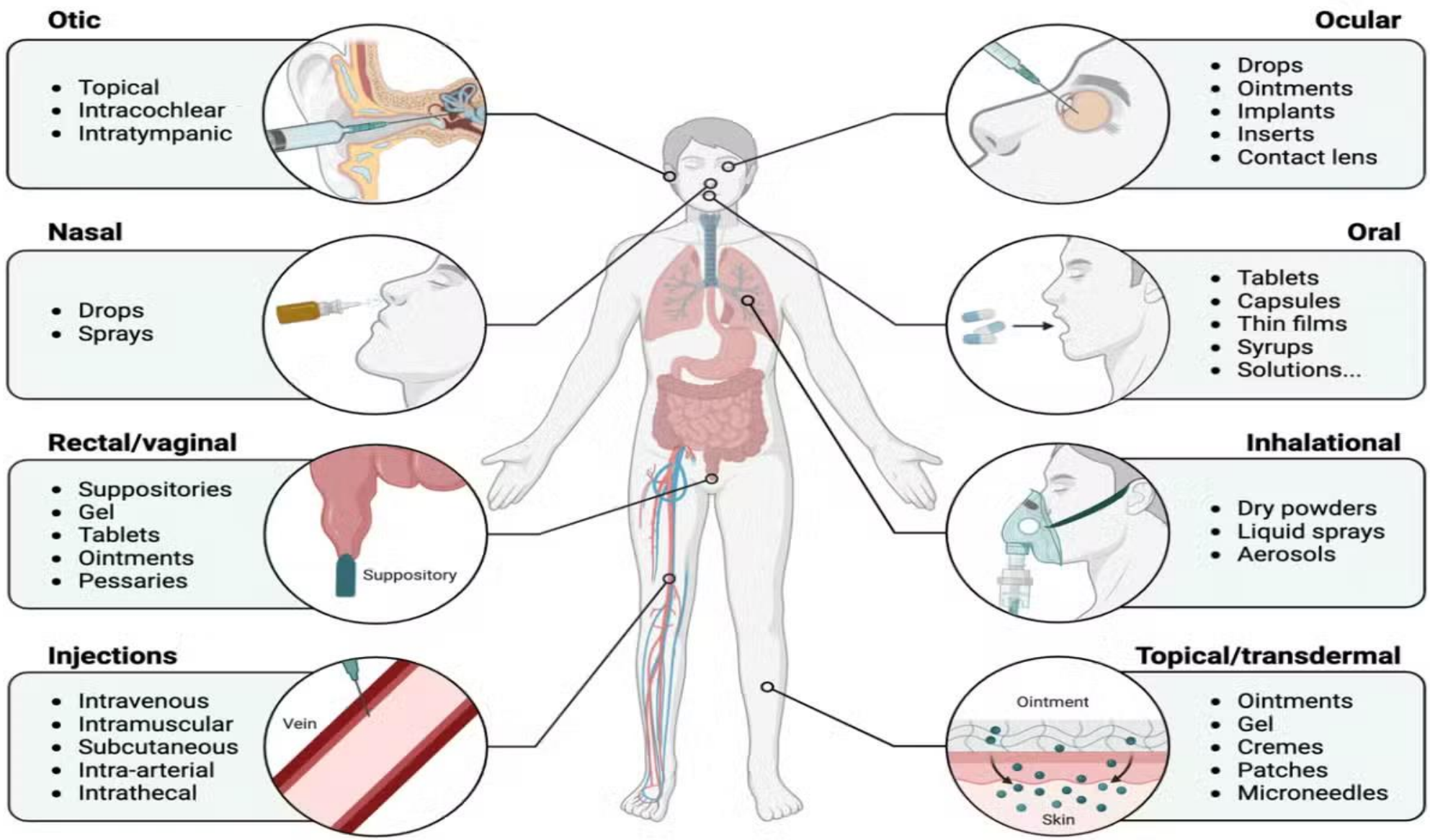
Intrathecal

Intraventricular.

Topical (skin and mucous membrane). Trans-dermal.

Intranasal.

Drug Administration Routes



Thank you for listening

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