

UNIT-1

DOSAGE FORMS

LESSON -5

Need Of Dosage Forms

Mainly depend on Patient Safety and Drug Safety/ Benefits.

1. Deliver precise dosages in a safe and easy manner. Example – Tablets, capsules, syrups
 2. Cover bitter taste or odor of drug substances. Example – Capsules, coated tablets, flavored syrups
 3. Insoluble or unstable in the selected vehicle, provide a liquid formulation of the insoluble or unstable medication. Example – Suspension
 4. Controlled-release methods prolong the duration of medication effect. Example – Controlled release tablets, After oral delivery, a drug substance is protected from stomach acid. Example – Enteric-coated tablets
- Provide optional drug action from topical administration sites. Example – Ointment, cream, ear and nasal preparations

Drugs can be injected into the body's tissues. Example – Implants

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The Active Pharmaceutical Ingredient (API) is the component of a medication that creates its action.

Definition of Excipients

- Do not increase or affect the therapeutic action of the active components.
- They are also known as inactive components or excipients and have no pharmacological action in general.
- Examples of inactive components are dyes, preservatives, sweetening agents, binding materials, coloring agents and flavoring agents, etc.

Definitions to Different Dose Form

1. Liquid

- **Droughts:** Liquid oral formulations comprising single or several doses of medication.
- **Elixirs:** Excipients and medicaments in a liquid formulation for oral administration.
- **Emulsions:** Water-based suspension of oils and fats using an emulsifying agent. Emulsifying agent coats oil particles so they do not coalesce when the interfacial tension between oil and water decreases. As a result, an emulsion is created.
- **Suspensions:** One or more active components dispersed in a suitable medium are used in biphasic liquid formulations for oral administration. When shaken, it disperses into a uniform suspension that is stable enough to deliver the precise dosage.
- **Gargles:** Externally applied aqueous solutions that are concentrated for treating throat infections.

Gels: Dispersions of medicaments in water used as antacids.

Lotions: External liquid preparations are generally administered without friction.

Liniments: The application of external liquid preparations is generally done via friction.

Mixtures: One or more medications are included in liquid oral preparations.

Mouthwashes: In a similar manner to gargles, these mouthwashes are used for oral cleanliness and to treat oral infections.

Nasal drops: Dropper-instilled liquid solutions used to treat nose infections and blockages.

Solutions: Liquid medicine that can be used for internal or exterior applications.

Syrups: With or without sugar and medicaments, sweet, viscous, concentrated liquid medicines are made.

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Powders: Solid dose formulations comprising micron-sized, finely fragmented particles.

Tablets: Medication in solid dose form, either with or without excipients.

Granules: Particles in a group.

Capsules: Gelatin capsules are used to encapsulate drugs.

- **Pills:** Excipients are contained in this small pill.
- **Lozenges:** Sugar and gum-based solid formulations used to treat mouth and throat disorders.
- **Suppositories:** Solid dosage form carrying medication that is put into bodily cavities other than the mouth, such as the rectum, nose, or ear.

semisolid

- **Ointments:** Ointment-based semisolid dose forms for external application that include or do not contain medications.
- **Creams:** With or without medicaments, semisolid external dose forms with an appropriate fatty basis are available.
- **Paste:** With an appropriate fat basis, semisolid external dosage forms include a significant proportion of finely powdered medicaments.
- **Gels:** Contains hydrophilic or hydrophobic base and gelling agents. Transparent semisolid dose forms for external usage.

4. Gaseous

- **Aerosols:** Dispersion of solid or liquid particles in gas for application to the respiratory tract, using an atomizer.
- **Inhalations:** It consists of pharmaceutical liquid preparations for internal consumption, which are either dispersed or suspended in the propellant.
- **Sprays:** Application of alcohol-containing medication aerosols to the nose or throat using an atomizer or nebulizer.