



## Pharmaceutical Dosage Forms: From Tablets to Injections

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### Description

Pharmaceutical dosage forms are the various forms in which drugs or medications can be administered to patients. They are designed to deliver drugs in a manner that is safe, effective, and convenient for the patient.

#### Different types of dosage forms used in pharmaceuticals

**Tablets:** Tablets are solid dosage forms that are made by compressing a mixture of active pharmaceutical ingredients and excipients. Tablets come in various sizes, shapes, and colors, and they can be scored to allow for easy splitting if needed. They can be coated to make them easier to swallow and to mask unpleasant tastes or odors. Tablets can be formulated to provide immediate or sustained release of the active ingredient.

**Capsules:** Capsules are solid dosage forms that consist of a gelatin shell that contains the active pharmaceutical ingredient(s) and other excipients. Capsules can be either hard or soft, and they can be formulated to provide immediate or sustained release of the active ingredient. They can also be designed to be swallowed whole or opened and the contents mixed with food or liquid.

**Injections:** Injections are dosage forms that are administered by injecting the drug directly into the bloodstream, muscle, or tissue. Injections can be either Intra Venous (IV), Intra Muscular (IM), Sub-Cutaneous (SC), or Intra Dermal (ID). They are typically used for drugs that cannot be administered orally or those that require rapid onset of action.

**Topical preparations:** Topical preparations are dosage forms that are applied directly to the skin, mucous membranes, or other body surfaces. They include creams, ointments, gels, lotions, and transdermal patches. Topical preparations are used for local or regional effects, such as pain relief or skin conditions.

**Suppositories:** Suppositories are solid dosage forms that are designed for insertion into the rectum or vagina. They are made of a mixture of active pharmaceutical ingredients and excipients, and they can be formulated to provide either systemic or local effects.

**Inhalations:** Inhalations are dosage forms that are administered by inhaling the drug into the lungs. They include Metered-Dose Inhalers (MDIs), Dry Powder Inhalers (DPIs), and nebulizers. Inhalations are used for drugs that require rapid onset of action in the lungs or for the treatment of respiratory diseases.

**Parenteral nutrition:** Parenteral nutrition is a dosage form that is administered intravenously to patients who cannot obtain adequate nutrition through oral or enteral means. It is a mixture of carbohydrates, amino acids, lipids, vitamins, and minerals that is delivered through a catheter into a vein.

### Conclusion

In conclusion, there are various types of pharmaceutical dosage forms that are used to deliver drugs to patients. The choice of dosage form depends on the specific drug, the patient's condition, and the desired route of administration. It is important to choose the appropriate dosage form to ensure that the drug is delivered safely and effectively to the patient.

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