

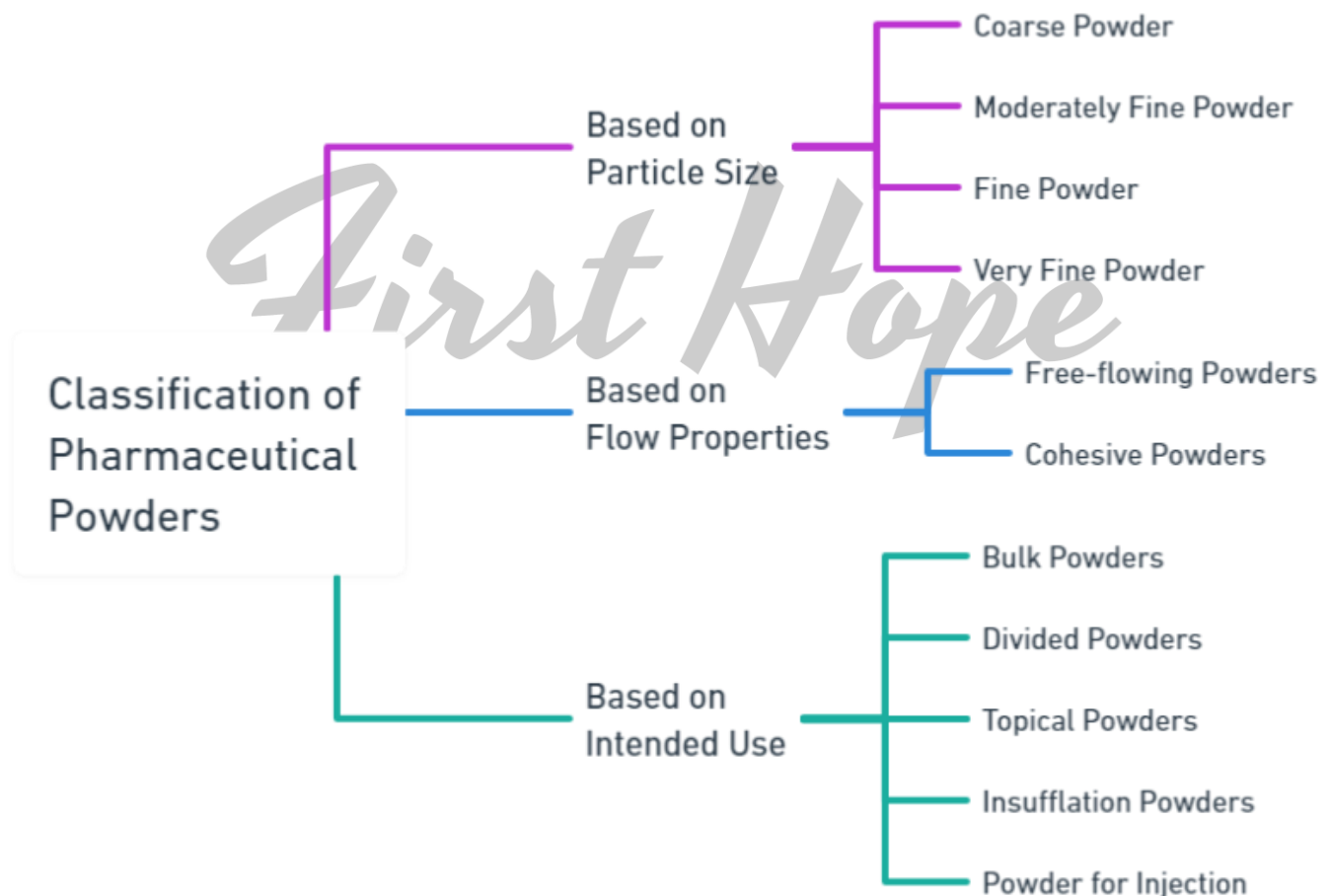
Powders

Introduction to Powder

- Powders are a dosage form in which a medication is presented as a dry, solid, and finely divided substance.
- They can be administered internally (e.g., orally, rectally) or externally (e.g., topically).
- Powders are prepared by grinding or triturating the solid drug particles until they reach the desired degree of fineness.

Classification of Powders

- Pharmaceutical powders are solid dosage forms used for drug delivery.
- They can be classified based on different criteria, such as particle size, flow properties, or intended use.



1. Based on Particle Size

- Coarse powder:** Particles with a size range of **355 to 1000 microns**.
- Moderately fine powder:** Particles with a size range of **180 to 355 microns**.
- Fine powder:** Particles with a size range of **75 to 180 microns**.
- Very fine powder:** Particles **smaller than 75 microns**.

2. Based on Flow Properties

- A. **Free-flowing powders:** Flow easily due to low cohesion between particles; preferred in manufacturing processes.
- B. **Cohesive powders:** Tend to clump or stick together; can cause manufacturing issues and require extra processing.

3. Based on Intended Use

- A. **Bulk powders:** Directly consumed or used as raw materials for tablets, capsules, or granules.
- B. **Divided powders:** Pre-weighed and pre-packaged doses, typically for oral use.
- C. **Topical powders:** Applied externally to skin, mucous membranes, or wounds for therapeutic purposes.
- D. **Insufflation powders:** Finely ground powders administered through the **nasal or respiratory route**.
- E. **Powder for injection:** Sterile, dry powders reconstituted with a solvent before injection.

Advantages of Powders

1. Rapid onset of action:

- Due to their fine particle size, powders have a large surface area, which facilitates quick dissolution and absorption.

2. Flexibility in dosing:

- Powders can be easily adjusted to provide the appropriate dose for an individual patient.

3. Ease of administration:

- Powders can be conveniently mixed with food or drink, making them suitable for patients who have difficulty swallowing solid dosage forms.

4. Stability:

- Powders generally have good stability since they are not exposed to moisture or heat, which can degrade some medications.

5. Versatility:

- Powders can be formulated for various routes of administration, providing flexibility in meeting patient needs.

Disadvantages of Powders

1. Hygroscopicity:

- Some powders can absorb moisture from the air, leading to clumping or degradation of the medication.

2. Taste:

- Some medications have an unpleasant taste, which can make powders unpalatable for oral administration.

3. Inaccuracy in dosing:

- If not properly divided, powders may result in inaccurate dosing, especially for potent medications.

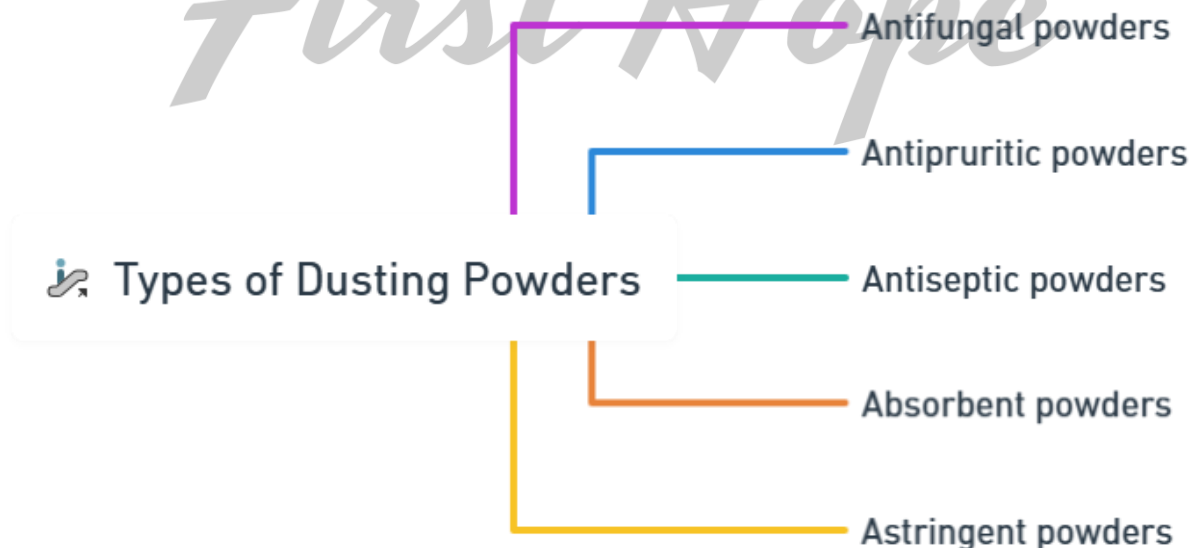
4. Inconvenience:

- Preparing and administering powders can be more time-consuming and less convenient than using other dosage forms, such as tablets or capsules.

Dusting Powders

- Dusting powders are **topical pharmaceutical powders** applied to the **skin** or **mucous membranes** for therapeutic purposes.
 - They are usually formulated with **active ingredients** and **inert excipients** to create a finely ground, free-flowing powder.
 - Uses include treating skin conditions, reducing friction, absorbing moisture, and providing a cooling sensation.

Types of dusting powders:



1. Antifungal powders:

- Used to treat fungal infections on the skin, such as athlete's foot or jock itch.

2. Antipruritic powders:

- Used to relieve itching and inflammation associated with skin conditions like eczema or insect bites.

3. Antiseptic powders:

- Used to prevent infection in minor cuts, scrapes, or burns.

4. Absorbent powders:

- Used to absorb moisture and reduce friction in areas prone to chafing or irritation.

5. Astringent powders:

- Used to reduce inflammation and promote the healing of damaged skin.

Advantages of Dusting Powders

1. Easy to apply:

- Dusting powders can be easily sprinkled or applied with a powder puff to the affected area.

2. Non-greasy:

- They do not leave a greasy residue on the skin, making them suitable for patients who prefer a dry feel.

3. Cooling effect:

- Dusting powders often have a cooling effect, which can be soothing for irritated skin.

4. Absorbent:

- They can help absorb moisture and reduce friction, preventing further irritation or chafing.

Disadvantages of Dusting Powders

1. Limited drug penetration:

- Due to their topical application, dusting powders may have limited penetration into the skin, which can reduce their effectiveness for some conditions.

2. Inconsistent coverage:

- It can be challenging to achieve uniform coverage with a powder, potentially resulting in uneven drug distribution.

3. Inhalation risk:

- Fine particles can be accidentally inhaled during application, leading to respiratory irritation or other issues.

4. Messy application:

- Applying dusting powders can be messy, as the powder may spread to other surfaces.

Examples of dusting powders

1. Miconazole powder:

- An antifungal dusting powder used to treat skin infections caused by fungi, such as athlete's foot or jock itch.

2. Boric acid powder:

- An antiseptic dusting powder that can be used to treat minor cuts, scrapes, or burns.

Effervescent Powders

- Effervescent powders are pharmaceutical dosage forms that, when dissolved in water or another liquid, produce a fizzy, carbonated solution.
- They typically contain an active pharmaceutical ingredient (API), along with a mixture of an acid and a base, which react to generate carbon dioxide gas when in contact with water.
- Effervescent powders are commonly used for oral drug administration, and they can be formulated to provide various therapeutic effects.

Types of Effervescent Powders



1. Antacid powders:

- Used to neutralize stomach acid and relieve heartburn, indigestion, or acid reflux.

2. Analgesic powders:

- Used to provide pain relief for conditions such as headaches or muscle pain.

3. Cold and flu powders:

- Used to alleviate symptoms of colds or flu, such as fever, congestion, or sore throat.

4. Vitamin and mineral supplements:

- Used to provide essential nutrients in a convenient, easy-to-take format.

Advantages of effervescent powders

1. Rapid onset of action:

- The effervescent reaction promotes quick dissolution of the API, leading to faster absorption and onset of action.

2. Improved taste:

- The fizzing sensation and the use of flavouring agents can help mask the taste of unpleasant drugs, making them more palatable.



FREE PREVIEW

[Click here to visit our website](#)

PHARMACY PREMIUM NOTES

Complete subject
and semesters are
available on
FirstHope app only.



[Scan or click here](#)

Click here to get the app



Available on Google Play

JOIN THE FIRSTHOPE COMMUNITY

Join our Telegram channel

Click here to join Telegram



[Scan or click here](#)

@FirstHopeNotes

Instagram

@firsthope.official

[Click here to follow >](#)

YouTube channel

FirstHope-Pharmacy / Live streams

[Click here to watch >](#)

WhatsApp channel

Follow FirstHope on WhatsApp

[Click here to join >](#)

FirstHope website

firsthopenotes.com

[Click here to visit >](#)

B.Pharm / D.Pharm / M.Pharm / Pharm.D

Preview notes. Complete subjects and semesters in the FirstHope app.