



# SEMI SOLID DOSAGE FORMS

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## 1. Introduction

- Semi solid dosage forms are mainly used for external application.
- Creams, pastes, jellies, ointment comes under semi solid dosage form.
- Suppositories also included in this category although this is a unit dosage form.

## 2. Ointments

Ointment is a semi solid preparations which are meant for external use on the skin or mucous membrane. The ointments usually contain a medicament or medicaments dissolved, suspended or emulsified in an ointment base. They contain a suitable antimicrobial preservative. The ointments are mainly meant as protective or emollient to the skin.

### 2.1. Classification of ointments

The ointments are classified according to the following. They are:

According to therapeutic activity based on penetration. According to their therapeutic use

Ointments classified according to the property of therapeutic activity based on penetration.

They are:

- **Epidermic ointments:** The ointments are used for action on epidermis which produces local effect.
- **Endodermic ointments:** The ointments are used for action on deeper layers of cutaneous tissue.
- **Diadermic ointments:** The ointments are used for deep penetration which release the medicament that pass through the skin and produce systemic effect.

### 2.2. Ointments classified according to their therapeutic uses

**Antibiotic ointments:** The ointments which are meant to kill microorganisms.

**Antifungal ointments:** The ointments which are meant to kill fungi.

**Anti-inflammatory ointments:** The ointments which are meant to release inflammatory and allergic conditions of the skin.

**Antipruritic ointments:** The ointments which are meant to relieve itching.

**Astringent ointments:** The ointments which causes contraction of the skin and decreases discharges.

**Ant eczematous ointments:** The ointments which are meant to prevent oozing and excretion from vesicles on the skin.

**Keratolytic ointments:** The ointments which are used to remove or soften the horny layers of the skin.

**Counter irritants ointments:** The ointments which are applied locally to irritate the skin. Thus reduces the pain.

**Ointment used for dandruff treatment:** The ointments which are applied locally to get relief for dandruff.

**Ointment used for psoriasis:** The ointments which are used for the treatment of psoriasis.

**Parasiticial ointment:** The ointments which are used to kill the living infestations, such as lice and ticks.

### 3. Creams

These are viscous semi solid preparations which are meant for external application. They mainly contain water soluble bases due to which they can be easily eliminated from the skin. They have softer consistency and has less weight when compared to true ointment.

Creams are of two types. They are:

- Aqueous creams
- Oily creams

**Aqueous creams:** In aqueous creams, the emulsions are oil in water type. These creams are relatively non-greasy.

**Oily creams:** In oily creams, the emulsions are water in oil type. These creams are relatively greasy.

### 4. Pastes

Paste is a semi solid preparations meant for external application to the skin. Pastes are usually thick and stiff. They don't melt at ordinary temperatures. They form a protective coating over the areas where they are applied. They are mainly used as anti-septic protective.

## 5. Jellies

Jellies are transparent, non-greasy, semi solid preparations which meant for external application to the skin or mucous membrane. They are prepared from natural gums such as tragacanth, acacia, pectin or some synthetic derivatives of natural substances, like methyl cellulose and sodium carboxy methyl cellulose. These are similar to mucilage such that they are prepared from gums, but they differ from mucilage by having jelly like consistency.

Types of jellies. They are:

- Medicated jellies
- Lubricated jellies
- Miscellaneous jellies

**Medicated jellies:** These are chiefly applied on mucous membrane and skin for their spermicidal and anti-septic properties. These jellies contain sufficient water.

**Lubricated jellies:** These jellies are meant for the lubrication of diagnostic equipment such as surgical gloves, fingerstalls, rectal thermometer etc. These jellies should be sterile such that they are used as lubricants.

**Miscellaneous jellies:** These jellies which are meant for patch testing and electrocardiography. These jellies are used as vehicles for allergens which are applied on skin to check the sensitivity. This jelly is applied on the electrode to reduce electrical resistance between the patient skin and the electrode.

## 6. Suppositories

These are semi solid dosage form of medicament which is used for insertion into body cavities other than mouth. The suppositories may be inserted into rectum, vagina or nasal cavity. The suppositories are available in different shapes, sizes and weights. Suppositories are meant to produce local, systemic and mechanical action.

The suppositories are also called as “Pessaries”.

Suppositories are of 5 types. They are:

- **Rectal suppositories:** The suppositories which is used for introduction into the rectum for their systemic effect.
- **Vaginal suppositories:** The suppositories which is used for introduction into the vagina.
- **Nasal suppositories:** The suppositories which is used for introduction into the nasal cavity and also called as “Nasal bougies”.
- **Urethral suppositories:** The suppositories which is used for introduction into the urethra and also called as “Urethral bougies”.

- **Ear cones:** The suppositories which is used for the introduction into the ear and also called as “Aurinaria”.

### **7. Advantages of Semi Solid Dosage Form**

- Smooth texture
- Non-greasy and non-staining
- It is meant for external purpose
- The side effects are reduced

### **8. Disadvantages of Semi Solid Dosage Form**

- There is no accurate dosage.
- The base can be easily oxidized which is used in the dosage form.
- If we go out after applying the semi solid dosage form it causes problems.

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