



PREPARATION OF SUPPOSITORIES

- Using a **supp. mould** which is made of metal or plastic.
- Traditional metal moulds are in **two halves** which are **clamped** together with a **screw**.
- The internal surface is normally **plated** to ensure that the suppositories have smooth surface.

- Before use it is important to ensure that:
 1. The mould is completely **clean**.
 2. It should be **washed** carefully in warm, soapy water.
 3. Thoroughly **dried**.
 4. Take care **not to scratch** the internal surface.

N.B. The exact shape can vary slightly from one mould to another.



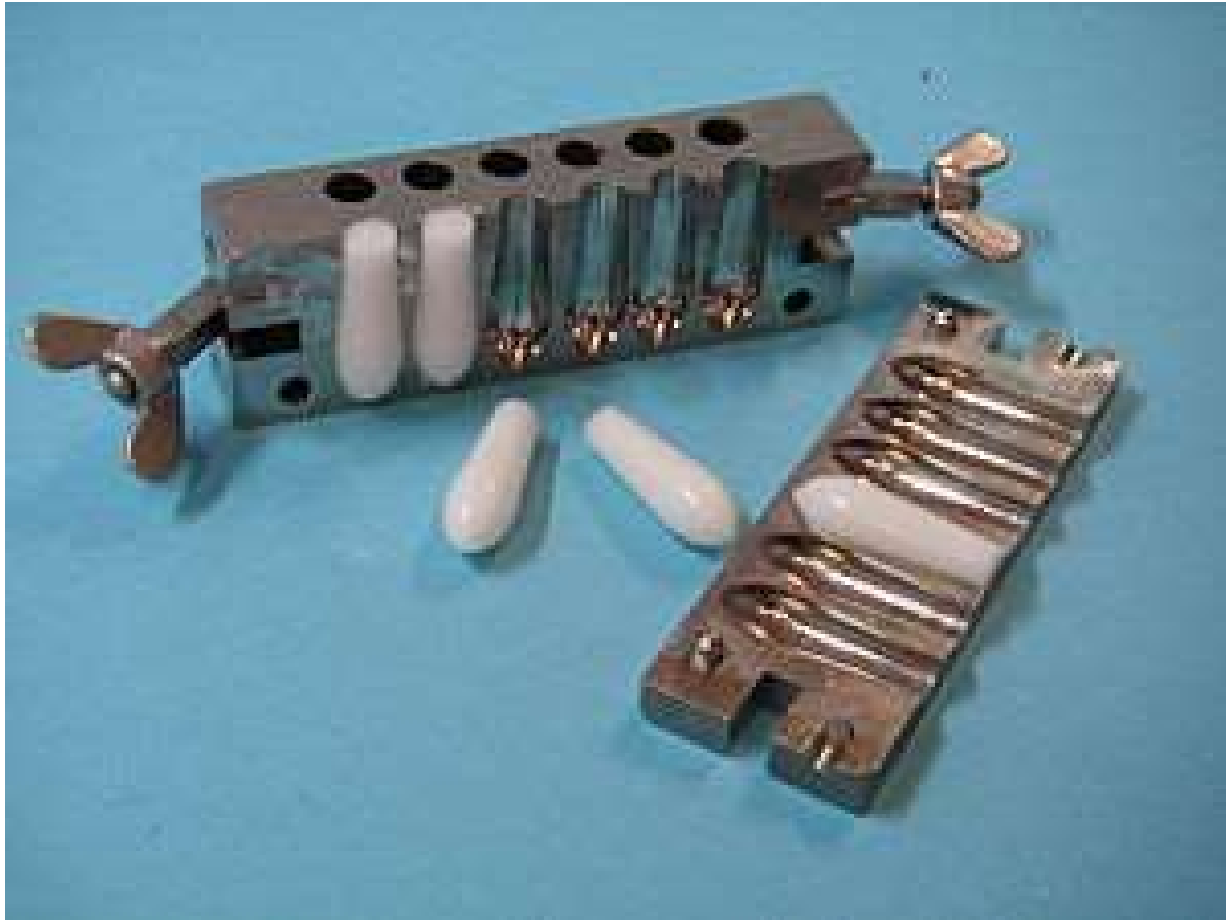


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Lubricants for use with suppository bases

- Lubricating the cavities of the mould is helpful in producing elegant suppositories and free from surface depression.
- The lubricant must be **different in nature** from the suppository base, otherwise it will be become absorbed and will fail to provide a buffer film between the mass & the metal.
- The **water soluble lubricant** is useful for **fatty bases** while the **oily lubricant** is useful for **water soluble bases**.
- The lubricant should be applied on a **piece of cotton** or with **fairly stiff brush**.





Examples of lubricants

Base	Lubricant
Theobroma oil	Soap spirit {soft soap, glycerin(1 part) & alcohol 90% (5 parts)}
Glycerol-gelatin base	Almond or arachis oil, liquid paraffin
Synthetic fats	No lubricant required
Macrogols	No lubricant required

Production problems

Problem	Causes	Solution
Splitting, pitting and cracking	<ul style="list-style-type: none">• Excipient contracts strongly.• Too great a difference between the temperatures of pouring & cooling.	<ul style="list-style-type: none">• Use an excipient which crystallizes more slowly.• Dropping the pouring temperature (if possible) or ↑ the cooling temp. or both.
Sticking to mold	<ul style="list-style-type: none">• Improper molds.• Premature removal from the mold.• Excipient contracts weakly.• Insufficient cooling.	<ul style="list-style-type: none">• Use appropriate equipment.• Prolong molding period.• Use an excipient which crystallizes more rapidly.• Reduce cooling temp.



Poor product homogeneity	<ul style="list-style-type: none">• Insufficient stirring.• Pouring temperature too high.• Cooling too slow or too weak.	<ul style="list-style-type: none">• Improve technique.• Reduce if possible.• Increase if possible.
Product insufficiently solid	<ul style="list-style-type: none">• Inclusion of air.• Improper excipient.	<ul style="list-style-type: none">• Check the stirring level & type.• Use an excipient having a high mechanical resistance.



FORMULATION OF VAGINAL DOSAGE FORMS

Types of formulations:

- Tablets,
- Capsules,
- Pessaries,
- Solutions,
- Sprays,
- Foams,
- Creams,
- Ointments.



Vaginal tablets

- Because of the low moisture content under normal physiological conditions, additives are used to improve the disintegration of vaginal tablets.
- Good filler for vaginal tablets is **lactose**?
 - As this is a natural substrate for the **vaginal micro flora**, which **converts lactose into lactic acid**, resulting in a pH value of 4 - 4.5.



Vaginal suppositories

➤ Vaginal suppositories (pessaries) are mostly prepared with **glycerol-gelatin bases** while Polyethylene glycols are less common ?

- As **glycerol-gelatin base** is **well tolerated** while **PEG** are said to promote irritation. **Fatty excipients** are not much used.

N.B.

- Most delivery forms for vaginal application demand an **auxiliary device** to obtain deep insertion of the delivery system.

Vaginal foam

- It contains **estrogenic** or **contraceptive** substances.

Use: the same manner as creams
generally O/W (light cream)

Water miscible and non-greasy.



Vaginal Jellies and Gels

- **Contraceptive, antiseptic, non-medicated** lubricant jellies
(for examination procedures).



Powders for vaginal douches

- To prepare solutions for irrigative **cleansing**.
- Adds the prescribed amount to warm water to dissolve.
- Contains anti-infective against **monilial and trichomonal infections**.
- Prepared in **bulk** measures or unit packages.

e.g. **Boric acid, povidone-iodine, detergents (Sod lauryl Sulphate)**.

solutions for vaginal douches

- From powders, liquid solutions or liquid **concentrates** liquid concentrates (table-spoonful, bottle cup-full) to specified amount (1 litre) of warm water.