

INTRODUCTION TO CAPSULE



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DEFINITION

- Capsules are a solid dosage form in which the drug substance is enclosed in a water soluble shell or an envelope.
- A capsule shell is made up of gelatin
- Primarily intended for oral delivery.



ADVANTAGES

- The drug having unpleasant odour and taste can be administered by enclosing them in a tasteless shell.
- They are smooth, become very slippery when moist and can be easily swallowed.
- The ready solubility of gelatin at gastric pH provides rapid release of medicament in the stomach
- They are attractive in appearance



DISADVANTAGES

- The hygroscopic drugs cannot be filled in capsules.
- The concentrated preparations which need previous dilution are unsuitable for capsules because it may lead to irritation in stomach if administers as such.



TYPES OF CAPSULES

- Capsules are available in two types:

1. Hard gelatin capsules
2. Soft gelatin capsules.





GELATIN



- Gelatin is heterogeneous product derived by hydrolytic extraction of animal's collagen.
- The sources of gelatin including animal bones, and frozen pork skin.

Types

- Type A: gelatin is mainly derived from pork skin by acid treatment
- Type B: gelatin is derived from bones and animal skin by alkaline process.

Preparation Of Gelatin

Dry bone $\xrightarrow{\text{5\% HCl. 10-15 days}}$ \downarrow bone meal
 \downarrow dicalcium phosphate
 $\xrightarrow{\text{Lime 10\% 4-8 wks.}}$ $\xrightarrow{\text{Lime removal}}$ pH Adjust-ment

Calf skin $\xrightarrow{\text{wash}}$ $\xrightarrow{\text{Lime 10\% 6-12 wks.}}$ $\xrightarrow{\text{Water wash 10-30 hrs.}}$

Pork skin $\xrightarrow{\text{wash}}$ $\xrightarrow{\text{Acid 1-5\% HCl. 10-30 hrs.}}$ $\xrightarrow{\text{Acid removal}}$

Hot water extraction \rightarrow Filter \rightarrow Vacuum concentration \rightarrow Cool to solid-
ify \rightarrow Air dry \rightarrow Mill to

THANK YOU

