

Industrial Pharmacy/Fifth Stage Lec:3

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Oral Solid Dosage Forms(Tablets)



Oral Tablets for Ingestion

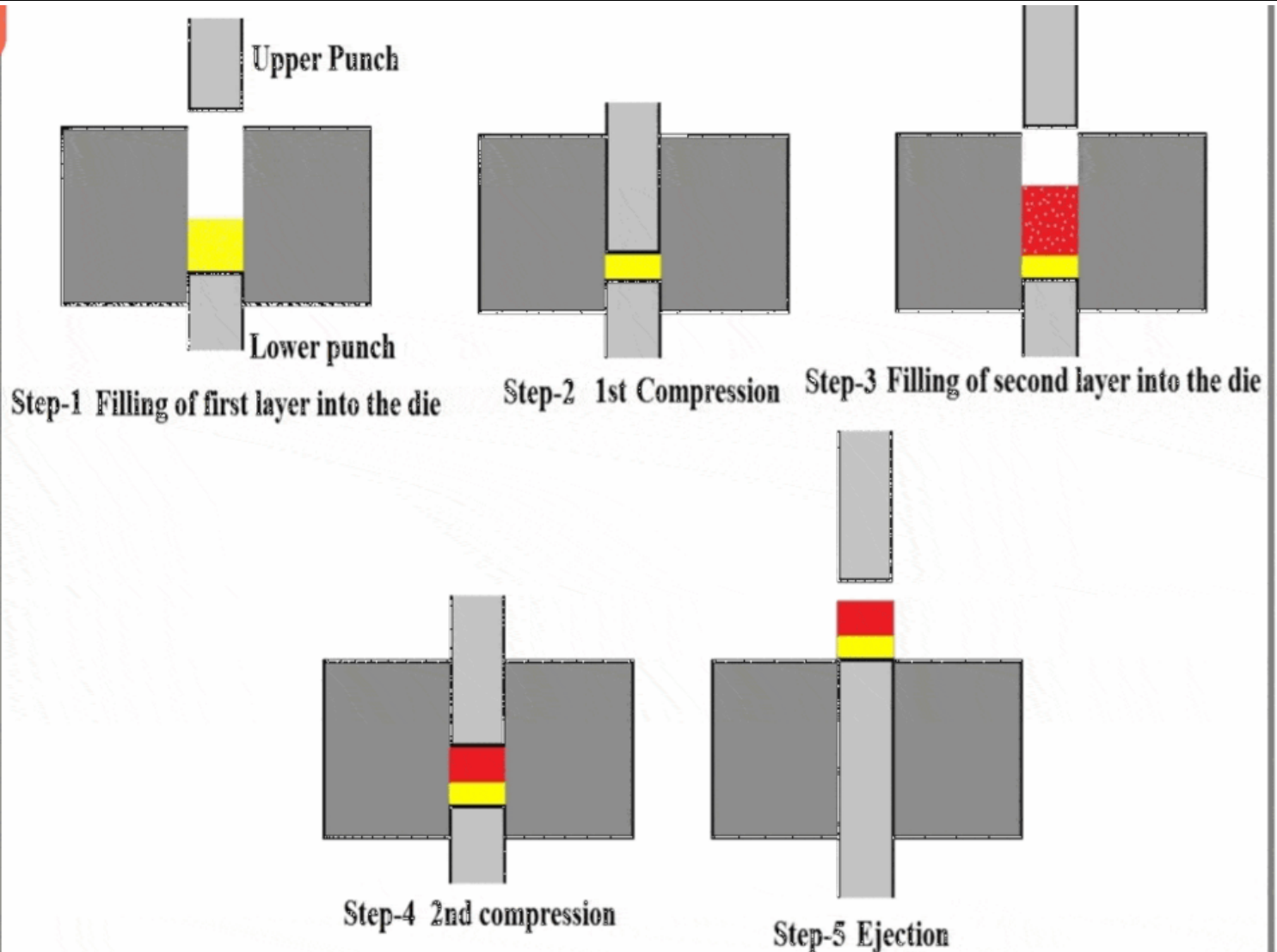
5- Multiple Layered Tablets:

- These are compressed tablets made by **more than one compression cycle**
- The result may be **multiple layered tablet** or a **tablet within a tablet**, where the inner tablet being a **core** and the outer portion being the **shell**



Oral Tablets for Ingestion

- Layered tablets are prepared by **initial compaction** of a portion of a fill material in a die ,
- followed by additional fill material and compression to form two or three layered tablet.



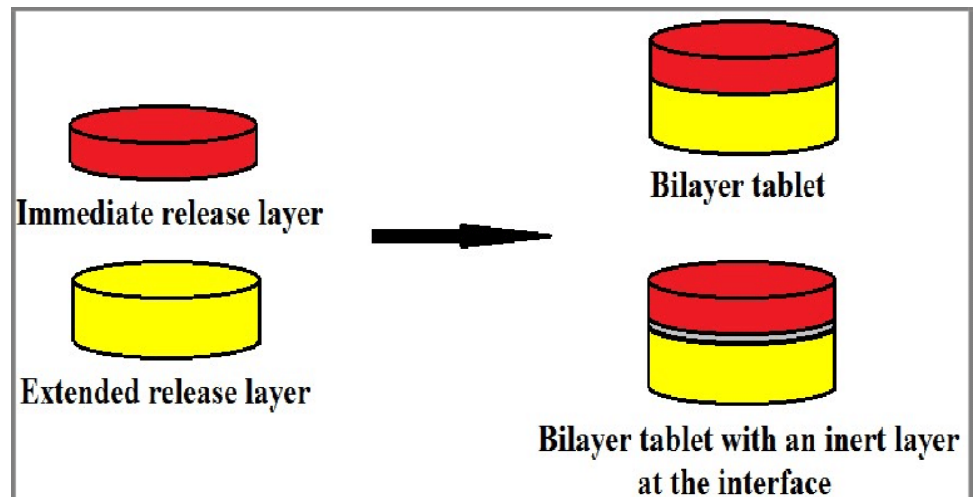
Oral Tablets for Ingestion

- The tablet within a tablet are prepared by feeding previously compressed tablets into a special tableting machine and compressing another granulation layer around the preformed tablets.
- Each layer may contain the same or different active ingredient.

Oral Tablets for Ingestion

➤ Layered tablets are prepared for many reasons:

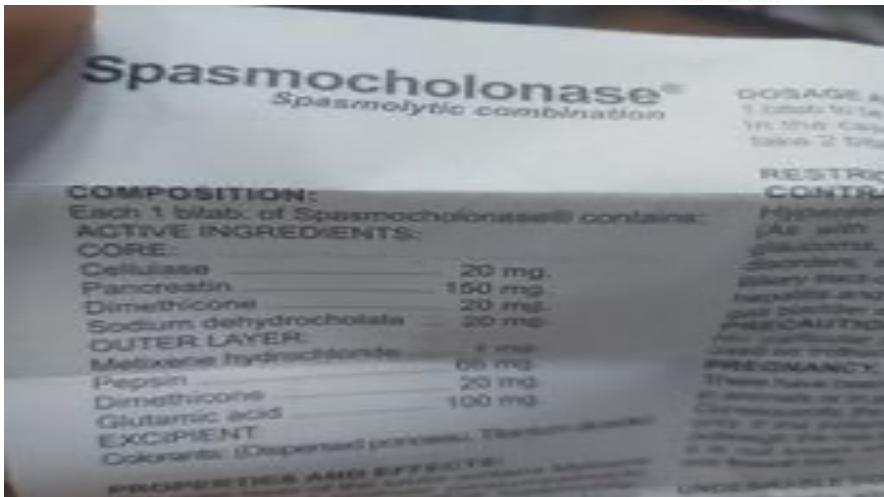
- 1- Chemical or physical instability.
- 2- Staged drug release



Oral Tablets for Ingestion

- If the mixing process is inadequate to guarantee uniform distribution of two or more active ingredients
- Unique appearance of the of the layered tablet, as each layer has different color to produce distinctive-looking.

Oral Tablets for Ingestion



Oral Tablets for Ingestion

➤ Disadvantages of the layered tablets:

- 1-release of part of sustained release layer with the immediate release
- 2- tablet hardness not enough
- 3-the tablet has tendency to laminate
- 4- large size difficult to swallow, and require complicated techniques in preparation.

Oral Tablets for Ingestion

6- Controlled Released Tablets:

- Compressed tablets can be formulated to release the drug slowly over a prolonged period of time. Hence, these dosage forms have been referred to as *prolonged-release or sustained-release* dosage forms as well
- These tablets can be categorized into three types:
 - (1) those that respond to some *physiological condition* to release the drug, such as enteric coatings.
 - (2) those that release the drug in a *relatively steady, controlled manner*.
 - (3) those that combine *combinations of mechanisms to release pulses of drug*, such as repeat-action tablets

Oral Tablets for Ingestion

7- Chewable Tablets

- Have smooth ,rapid disintegration upon chewing ,usually contain mannitol for its pleasant cooling sensation.
- Chewable tablets is very useful for administration of tablets to children or elderly with difficulty in swallowing solid dosage form.

Advanced Form of Oral Tablets for Ingestion

➤ Rapidly Dissolving Tablets:

It may also called **orodispersible tablet** , and characterized by **rapid disintegration** or dissolving in the mouth within a period of less than **one minute**.

➤ This type of tablets designed for children and elderly , they **liquefy** on the tongue and the patient **swallow the liquid**

Advanced Form of Oral Tablets for Ingestion

➤ These tablets are prepared using **very water soluble excipients** to wick water into the tablet for rapid disintegration.

➤ It can be prepared by **compression or lyophilization**.

➤ Disadvantages associated with this type of tablets include **taste masking difficulty, being friable , stability of the product and manufacturing cost**.

Advanced Form of Oral Tablets for Ingestion

H.W?????



- What is the principle of the zydis technology used in preparation of rapidly dissolving tablets????

Thanks for
Listening