

Introduction to Tablets and Different types of compressed tablets and their properties

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Introduction

- Tablet is defined as a compressed solid dosage form containing medicaments with or without excipients.
- According to the Indian Pharmacopoeia Pharmaceutical tablets are solid, flat or biconvex dishes, unit dosage form, prepared by compressing a drug or a mixture of drugs, with or without diluents.

Advantages:

- More stable than liquid dosage forms, may have longer shelf –life.
- Portable, easy to handle.
- Better in accuracy & precision of dose.
- Cost is lowest of all oral dosage form.
- Easiest and cheapest to package and strip.

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- Objectionable odour and bitter taste can be masked by coating technique.
- Greatest chemical and microbial stability over all oral dosage form.
- Sustained release product is possible by enteric coating.

Disadvantages:

- Difficult to swallow in case of children and unconscious patients.
- Disintegration & dissolution of tablets are rate-determining factors for drug absorption & usually they show slow onset of action.
- Slower onset of action than parental dosage form.
- Drugs having low bulk density cannot be formulated into dense compact tablets.
- Tablets cannot be used in emergency cases.

TYPES OF TABLETS

- (A) TABLETS INGESTED ORALLY:

1. Compressed tablet
2. Multiple compressed tablet
3. Multilayered tablet
4. Sustained action tablets
5. Enteric coated tablets
6. Sugar coated tablet
7. Film coated tablet
8. Chewable tablet

Cont...

(B) TABLETS USED IN ORAL CAVITY:

1. Buccal tablet
2. Sublingual tablet
3. Troches or lozenges
4. Dental cone

Cont...

(C) TABLETS ADMINISTERED BY OTHER ROUTE:

1. Implantation tablet
2. Vaginal tablet, e.g. Clotrimazole tablet

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D) TABLETS USED TO PREPARE SOLUTION:

1. Effervescent tablet
2. Dispensing tablet
3. Hypodermic tablet
4. Tablet triturates



MULTILAYERED
TABLETS



LOZENGE TABLETS



BUCCAL TABLET



SUBLINGUAL TABLET



EFFERVESCENT TABLETS



DENTAL CONES



VAGINAL TABLETS



TABLET TRITURATES

TABLETS INGESTED ORALLY

- **Compressed tablet (C.T):** These tablets are uncoated, provides rapid disintegration & drug release. These tablets contains water soluble drugs.
- **Multiple compressed tablets (M.C.T):** To avoid incompatibility, the ingredients of the formulation except the incompatible material are compressed into a core tablet & then incompatible substance along with excipients are compressed over the previously compressed core tablet.
- **Multilayered tablets:** These tablets consist of two or more layers of materials compressed successively in the same tablets. These tablets having layers of different colours are known as “multicoloured tablets”. These tablets are prepared to separate incompatible ingredients physically.

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- **Sustained action tablets:** These tablets give a sustained action of medicaments. These tablets release the medicaments in a sufficient quantity as & when required to maintain the maximum effective concentration of the drug in the blood throughout the period of treatment.
- **Enteric coated tablets:** These tablets are designed in such a way that they bypass the stomach & get disintegrated in the intestine only. e.g. anthelmintics & amoebicides.
- **Sugar coated tablets :** use for mask the unpleasant odour, taste of the medicament & also protect from the atmospheric effect.
- **Film coated tablets :** Use the polymers for coating purpose such as, HPMC, hydroxypropyl cellulose, ethyl cellulose for protection from atmospheric effect. These polymers little increase in weight & have less elegance than that of sugar coated tablets & tasteless.

TABLETS USED IN ORAL CAVITY

Buccal Tablets: These tablets are placed in the buccal pouch or betw. the gums & lips. Those tablets main role is slowly disintegrate & absorbed directly without passing into the alimentary canal .e.g. tablets of ethisterone

- **Sublingual Tablets :** These tablets are placed under the tongue where they dissolve or disintegrate quickly & absorbed directly without passing G.I.T .e.g. tablets of glyceryl trinitrite.

- **Lozenge tablets & troches :** These tablets are designed to exert a local effect in the mouth or throat. These tablets are used commonly to treat sore throat or to control coughing in common cold.

- **Dental Cone :** These are minor compressed tablets meant for placing them in the empty sockets after tooth extraction. They prevent the bacterial action by using antibacterial compounds or to reduce bleeding by containing the astringent. These tablets contains lactose, sodium bicarbonate, sodium chloride etc. These tablets dissolved in 20 to 40 mint. time.

TABLETS ADMINISTERED BY OTHER ROUTES

- **Implantation Tablets** : These tablets are placed under the skin by minor surgical operation & are slowly absorbed. The implants must be sterile & should be packed individually in sterile condition. Those are mainly used for administration of hormones such as testosterone etc.
- **Vaginal Tablets** : These tablets are dissolve slowly in the vaginal cavity. These are oval or pear shaped. These tablets used to release steroids, antibacterial agents, antiseptic or astringents to treat vaginal infection.

PRODUCE SOLUTIONS

- **Effervescent Tablets:** These type of tablets dissolve rapidly in water & produce effervescence due to chemical reaction in between alkali bicarbonate & citric acid or tartaric acid or combination of both. These tablets should be stored in air tight containers for prevention of moisture.
- **Dispensing Tablets :** These tablets are highly toxic if taken orally. This type of tablets are added to a given volume of water to produce a solution of a given concentration. In that tablets include mild silver proteinate, bichloride of mercury merbromin and quaternary ammonium compounds. e.g. enzyme tablets (Digiplex)



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- **Hypodermic Tablets** : These are compressed tablets which are contains one or more drugs with readily water soluble ingredients. These tablets are dissolved in sterile water or water for injection and administered by parenteral route. So, special precautions are needed to be taken during their preparations. These tablets however are not preferred nowadays because chances that the solution prepared from hypodermic tablets may be anon-sterile.





Thank you!