

Student's individual work

Theme: Solid dosage forms



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Course: 2

❑ **Drugs are prepared in various forms for administration.**

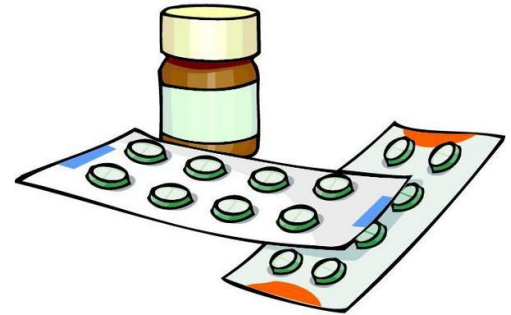
❑ **The solid type of preparation is most common.**

❑ **The advantages of solid drug forms are convenience of administration; accuracy and reproducibility of a dosing; increased of a drug stability and easy of mass production.**



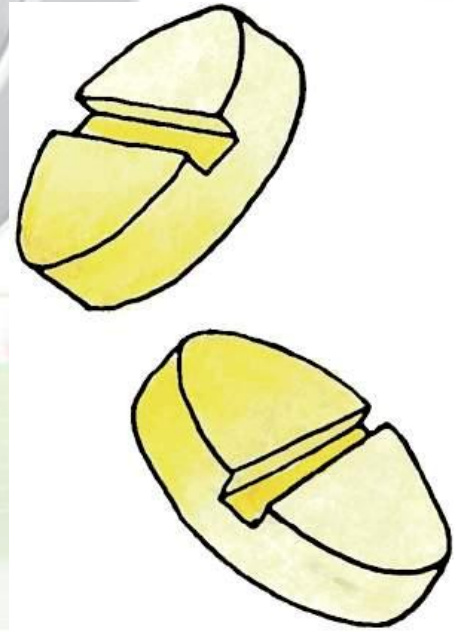
Solid drug forms

- ❑ tablets
- ❑ capsules
- ❑ sugar-coated tablets (dragee)
- ❑ powders
- ❑ granules
- ❑ sachets



Tablets (tabuleta, -ae)

- A tablet is a solid dosage form that is prepared by compressing or molding of the drug into various sizes and shapes.
- Dissolution is the rate-limiting step in the delivery of drug from a tablet to the systemic circulation.



Types of tablets:

1] Tablets for oral administration

2] Tablets for vaginal administration

3] Tablets for implantation (pellets)

Tablets for oral administration

- Film coated tablets
- Enteric coated tablets
- Effervescent tablets
- Sublingual tablets
- Buccal tablets
- Troches (lozenges)
- Chewable tablets
- Controlled release tablets - slow release tablets (SR) and modified release tablets (MR)



Film coated tablets

latin - Film tabulettae (film tab.)

□ The tablet is coated with a membrane of polymeric substances that improves physicochemical stability of the drug and delays the rate of drug absorption.

□ e.g. Augmentin

Enteric coated tablets

*latin - Tabulettae enterosolventes
(tab. enterosolv.)*

□ The tablet is coated with an acid-resistant substance that will dissolve only in the less acidic portions of the intestines

□ e.g. Voltaren, Ospen



Effervescent tablets

*latin – tabulettae effervescentes
(tab. efferv.)*

- The tablet contain sodium bicarbonate in addition to the drug substance.
- Before use they are dissolve in water.
- e.g. Acetylsalicylic acid

Sublingual tablets

latin – linguetta (ling.)

- The tablet is placed under the tongue
- Sublingual tablets are absorbed quickly into the bloodstream
- e.g. Nitroglycerin, Uprima

Buccal tablets

latin – tabulettae buccales (tab. bucc.)

- Buccal tablets are placed in the pouch between the cheek and gum
- They are usually small, flat and oval in shape
- e.g. Sandopart

Troches (lozenges or pastilles)

latin – pastillae

□ The tablets contain a drug substance in flavored base.

□ Lozenges are allowed to dissolve in the mouth. They are commonly used for cold and sore throat.

□ e.g. Chlorhexidine



Chewable tablets

□ The tablets are placed in the mouth, chewed and swallowed.

□ e.g. Talcid, Aspirin Direct



Slow release tablets (SR)

latin - depot-tablettae (depot-tab.)

- ❑ The tablets are treated with special coatings so that various portions of the drug will dissolve at different rates.
- ❑ They are designed to produce drug effects over an extended time.
- ❑ SR tablets are administered less frequently (usually once daily).
- ❑ e.g. Isoptin SR, Ravel SR

Modified release tablets (MR)

Modified release tablets are a more advanced version in which release of the active ingredient is related to time.

e.g. Preductal MR



Implants (pellets)

□ A small tablet that is prepared for insertion under the skin by giving a small surgical cut into the skin which is stitched after the insertion of tablets. The tablet must be sterile one.

□ Contraceptive tablets are formulated as implant.

Tablets for vaginal administration

latin – tabulettae vaginales (tab. vag.)

□ The tablets are intended for insertion into the vagina.

□ e.g. Metronidazole, Tinidazole, Dinprostone



Sugar coated tablets

latin – dragee (drag.)

- ❑ The tablet that contains active ingredient(s) of unpleasant taste may be covered with sugar to make it more palatable.
- ❑ This type of tablet should be administered in whole form.
- ❑ Example: Vitaferro, Quinine.



latin – capsulae (caps.)

□ The drug is contained in a gelatin shell that breaks open after the capsule has been swallowed, releasing the drug.

□ The hard-shell gelatin capsules contain solid drugs



□ The soft-shell gelatin capsules contain oils

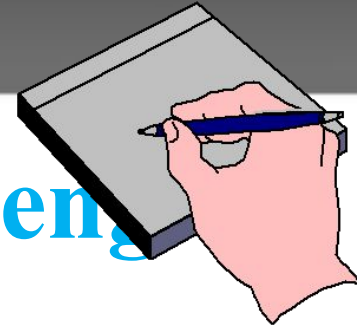


❑ Slow-release capsules contain pellets that dissolve in the gastrointestinal tract, releasing the drug slowly.

❑ Gastro-resistant capsules contain pellets that dissolve in the intestine.



Writing prescription order for tablets, sugar coated tablets, and capsules



- The name of the drug and the strength in metric units are given in praescriptio.
- The total number of the single doses (or the number of blisters) and the drug form are given in subscriptio.
- The directions to the patient are filled in signatura.

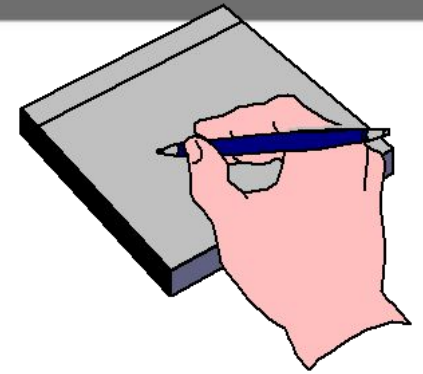
Powder

latin - pulvis (pulv.)



- ❑ Powders are drugs or drug extracts that are dried and ground and micronized into fine particles.
- ❑ According to the division into prescribed doses powders are pulveres indivisi (all doses are given inseparably) and pulveres divisi (they are divided into the prescribed number of doses).
- ❑ According to the composition are simplex powders (consist one active ingredient) and complex powders (a mixture of more than one active ingredient).

Writing prescription order for bulk powders (pulveres indivisi)



□ The name and the total bulk of the drug are filled in praescriptio

□ The size of the single dose and the number of doses per day written in signatura

References

- ❖ www.pharmainfo.net;
- ❖ <http://www.share.net/fagooson/i-4-dosage-forms-and-route-of-drug-administration>
- ❖ www.google.kz