



Department of Pharmacology & Toxicology
Medical University – Sofia
Dr. Rumen Nikolov, PhD

Solid dosage forms



- ❑ 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

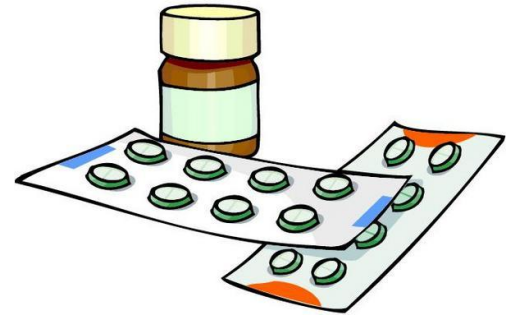
capsules

sugar-coated tablets (dragee)

powders

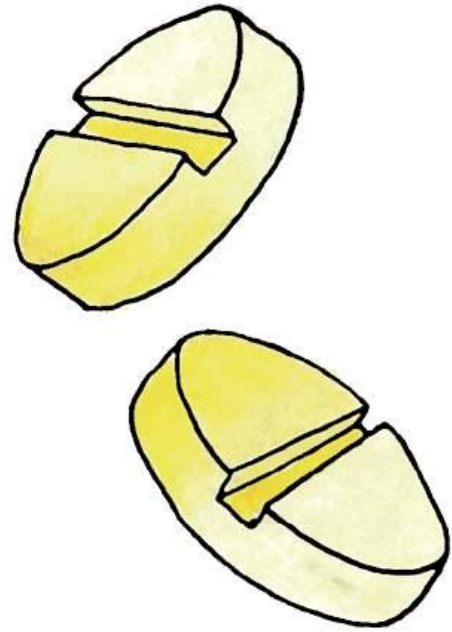
granules

sachets



Tablets (tabuletta,-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:

□ Tablets for oral administration

□ Tablets for vaginal administration

□ 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-tablettaa (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.**

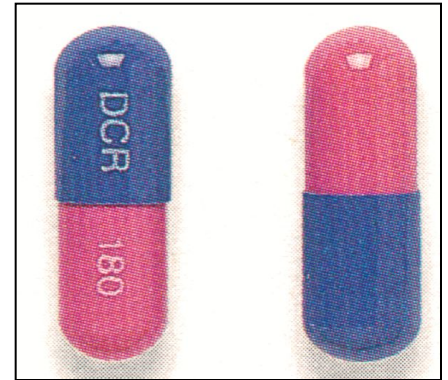


Capsules

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



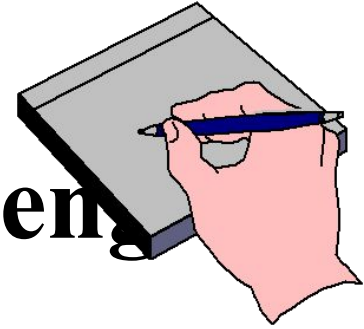
❑ The soft-shell gelatin capsules contain oils



□ 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**.

4a) Prescribe nitroglycerin in sublingual tablets of 0,5 mg.

Rp/ Nitroglycerini 0,5 mg

D. scat. №1 in ling.

S. Place 1 tablet under the tongue.

4b) Prescribe metronidazole in vaginal tablets of 500 mg.

Rp/ Metronidazoli 500 mg

D.scat. №1 in tab. vag.

S. Insert 1 tablet in vagina every evening for 7 days.

5a) Prescribe ofloxacin in film coated tablets of 400 mg.

Rp/ Ofloxacini 400 mg

D. scat. №1 in film tab.

S. Take 1 tablet every 12 hours for 5 days.

5b) Prescribe acetylsalicylic acid
in effervescent tablets of 324 mg.

Rp/ Acidi acetylsalicylici 324 mg

D. scat. №1 in tab.efferv.

S. Take 1 tablet 3 times daily.

**6a) Prescribe isoptin in
slow-release tablets of 240 mg.**

Rp/ Isoptin SR 240 mg

D. scat. №1 in tab.

S. Take 1 tablet daily.

6b) Prescribe preductal in modified-release tablets of 35 mg

Rp/ Preductal MR 35 mg

D. scat. №1 in tab.

S. Take 1 tablets 2 times daily.

7a) Prescribe allergosan in dragee of 25 mg.

Rp/ Allergosani 25 mg

D. scat. №1 in drag.

S. Take 1 dragee 2 times daily.

7b) Prescribe amoxicillin in capsules of 500 mg.

Rp/ Amoxicillini 500 mg

D. scat. №1 in caps.

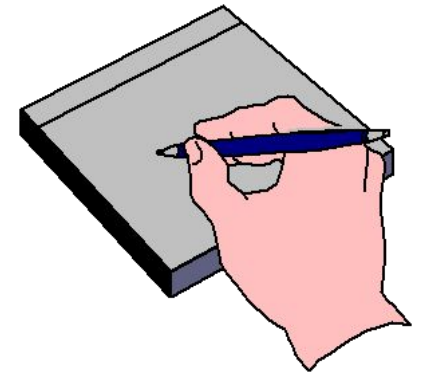
S. take 2 capsules every 8 hours for 5 days .

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**

8a) Prescribe as powder 50 g sodium bicarbonate.

Rp/ Natrii hydrocarbonatis 50 g

D. S. Take one teaspoon 1 hour after meals and at bedtime.

**8b) Prescribe 20 powders
contain 50 mg Caffeine and 500
mg Analgin each.**

*Rp/ Coffeini Natrii benzoatis 50 mg
Analgini 500 mg*

M. D. t. d. №20

S. Take 1 powder 3 times daily.

9a) Prescribe 20 powders
contain 10 mg Codeine each.

Rp/ Codeini phosphatis 10 mg
Sacchari lactatis q.s.

M. D.t.d. №20

S. take 1 powder 3 times daily.

q.s. – quantum satis

9b) Prescribe as officinal powder Topocin powder 5 g for external application.

Rp/ Pulv. adsp. Topocini 5 g

D. scat. №1

S. For external application.