



## Misc.

- Gaseous drug dosage forms
- Doses for children
- Prescription of narcotics and psychotropic drugs



# Preparata gaseosa

- Ready-made preparations in pressure bottle
  - Gasa medicata
  - Gasa ad inhalationem
  - Aerodispersiones
  - Spumae medicatae
  - Inhalanda



# Gasa medicata

## Therapeutic gases

- For special therapeutic or diagnostic purposes
- Stored in metal bottles under pressure
  - Sign and color band

→ *Nitrogenii oxidum*

→ *Oxygenum*

→ *Carbonei dioxidum*

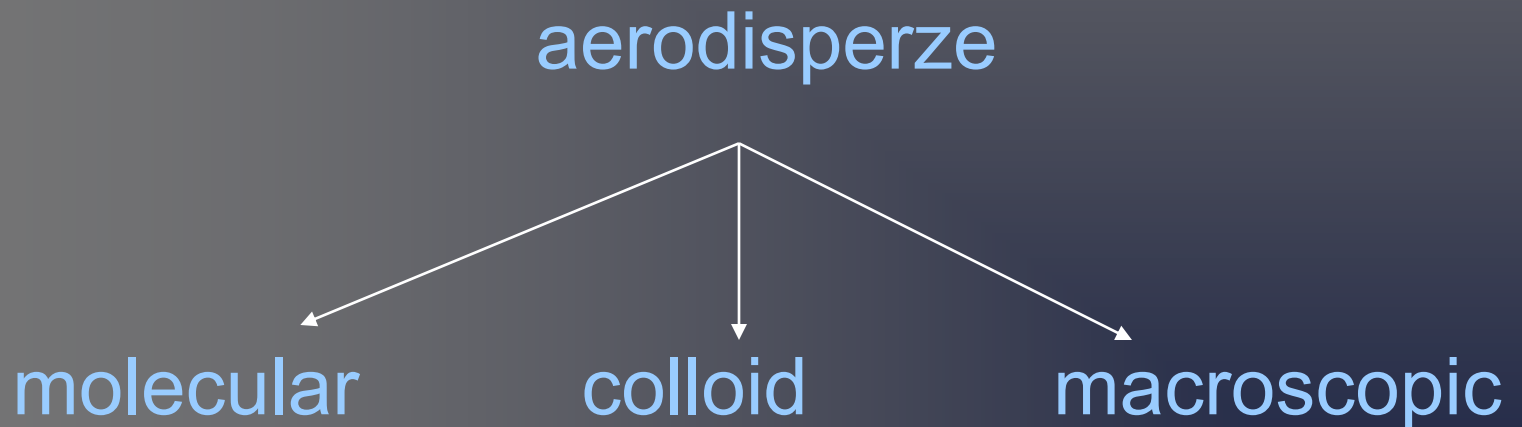
→ *Nitrogenum*

→ *Aer medicinalis* (95% O<sub>2</sub> + 5% CO<sub>2</sub>)

# Aerodispersiones

## Aerodispersions

- Gases, liquids or powders dispersed in gas (mostly air)





# Aerodispersiones

## ➤ **Aerosols**

- For inhalation
- For local or systemic purpose

## ➤ **Macrodispersions** (sprays – nebulae)

- For local application on skin, mucous tissue, body cavities, disinfection of air
- In pressure bottles with applicator or mechanic atomiser



# Aerodispersiones

- *Preparata liquida nasalia pro aerodispersione*
  - Nasal sprays
- *Pulveres adspersorii pro aerodispersione*
  - powders
- *Preparata auricularia pro aerodispersione*
  - Ear sprays



# Spumae medicatae

## Therapeutic foams

- Gas dispersed in liquid
- Foam is formed at the time of application
  
- *Preparata pharmaceutica in vasis cum pressu*
  - local treatment of skin or mucose tissue
  - Panthenol spray



# Inhalanda

## Inhalant preparations

- Liquid or solid
- Administered as vapors, aerosols or very fine powders
- max. diameter of the particle: **10  $\mu\text{m}$** 
  - No irritation in the lungs





# Inhalanda

## ➤ **Application:**

- Mechanical atomiser
  - Atomiser under pressure
  - Inhalator for dry powder
- 
- *Inhalanda in vasis cum pressu doses emittentia*



# Drug dosage for children



# Dosage for children

- For babies and kids up to 15 years
- Ready-made – in the original box, databases
- IPLP – ČL 2002, 2005

The dose depends on:

- Age
- Body weight
- Body surface
- Individual sensibility
- Health



# Dosage for children

## ➤ Dose calculation based on body surface

$$\text{dose} = \frac{\text{body surface m}^2}{1,73} \times \text{dose for adults}$$

## ➤ Body surface of the child

$$\text{body surface} = \frac{7 \times \text{age} + 45}{100}$$

# • • • | Dosage for children

**Usual therapeutic doses of officinal drugs** (Table V. in ČL 2002)

- Based on body weight and surface

## Based on age:

- 0-1, 1-6, 6-15
- Interpolation for every year
- Day dose = 3x individual dose
- Overdosage signed with exclamation: !

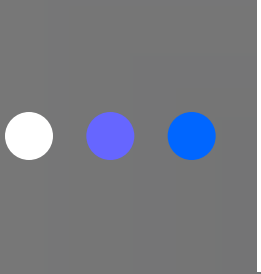


# Dosage for children

Název léčiva	Způsob podání	Denní dávka (g/kg)	Jednotlivé dávky podle věku (g)			Poznámka
			0 – 1	1 – 6	6 - 15	
Ampicillinum natricum	p. o.	0,025 – 0,1	0,25 – 0,75	0,75 – 1,5	1,5 – 3,0	4x denně po 6hod
Atropini sulfas monohyd.	i. m.	0,01 – 0,02 mg	0,1 mg (do 3kg)	0,2 mg (7-9kg)	0,3 mg (12-16kg)	Premedikace v anesteziologii
Lactulosum	p. o.		2,0	3,0	7,0	1-2x denně v závislosti na věku a indikaci



# Prescription of narcotics and psychotropic drugs



# Narcotics and psychotropic drugs

## → Law 466/2004 Sb. about addictive substances

- rules for handling with narcotisc and psychotropic drugs and their precursors

## Table I. ČL 2002

- §§ narcotisc
- § psychotropic drugs
- (§) precursors





# Narcotics and psychotropic drugs

- Narcotics group I and psychotropic drugs groups II and III
  - Prescriptions with a blue band
  - Standard of the form: public notice No. **34/2004 Sb.**
  - Form are personal delivered to the physician (or person with authorization form) with serial number of the form and code of the municipal office

Kód zdravotní  
pojišťovny

**Recept na léčivé přípravky  
obsahující omamné látky sk. I  
a psychotropní látky sk. II**

00000 Série AA

Jméno a příjmení

Identifikační číslo  
pojištěnce

Datum narození

Adresa

*Rp.*

Kód

Úhrada  
pojišťovnou Kč

Datum

Razítko poskytovatele  
"Jmenovka" a podpis  
předepisujícího lékaře  
\* jestliže poskytovatelem  
je právnická osoba

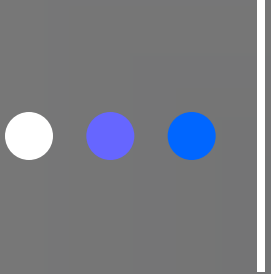
Celkem Kč

Přijal:

Připravil:

Vydal:

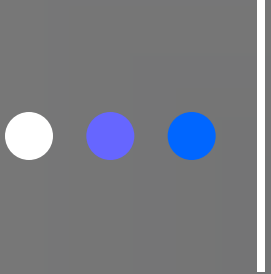
Poř. č.



# Narcotics and psychotropic drugs

## Blue band prescription forms:

- have to be stored in a safe place (safe) in order to prevent theft of loss
- theft of loss has to be reported to the local municipal office and police
- unfilled forms cannot be signed or stamped
- in case of death of the physician, the form have to be returned to the municipal office in 10 days



# Narcotics and psychotropic drugs

- The form has **2 copies**
- Only **one** preparation can be prescribed to such form



# Narcotics

## Group I

- opioids and other substances with high risk of development of addiction -

## Group II

- opioids and other substances with lower risk of development of addiction
- normal prescriptions
- codeine, dextropropoxyphen, ethylmorphine, folkodine



## Narcotics – group I

§§ Alfentanyl

§§ Diphenoxilate

§§ Fentanyl (**Durogesic**)

§§ Hydrocodone

§§ Cocaine

§§ Levorphanole

§§ Methadone

§§ Morphine (**MST Continus**)

§§ Opium

§§ Oxycodone (**Oxycontin**)

§§ Oxymorphone

§§ Pethidine (**Dolsin**)

§§ Piritramide

§§ Sufentanyl (**Sufenta**)

§§ Remifentanyl

§§ Tilidine



# Psychotropic drugs

## group II

- Psychostimulants with high risk of development of physical addiction – amphetamine,

## group III

- Barbiturates with possible development of addiction -
- amobarbitale, buprenorphine, pentobarbitale

## group IV

- BZDs, some některé barbiturates and other substances with possible development of addiction in long term use – normal Rx
- diazepam, oxazepam, meprobamate, phenobarbitale, methylphenobarbitale



## Psychotropic drugs – group III

§ Amphetamine

§ Buprenorphine (**Subutex**)

§ Dronabinole

§ Phencyclidine

§ Phenmetrazine

§ Flunitrazepam (**Rohypnol**)

§ Methamphetamine

§ Secobarbitale





# Precursors

- ephedrine
- pseudoephedrine
- ergotamine
- ergometrine