

# Basic symptoms of the digestive system diseases and their differentiation

# Symptoms of the digestive system diseases

- Abdominal pain
- vomiting
- diarrhoea
- constipation
- gastrointestinal haemorrhage
- enlargement of the spleen
- enlargement of the liver
- jaundice



# Abdominal pain

Abdominal pain in children should be treated **systemically**

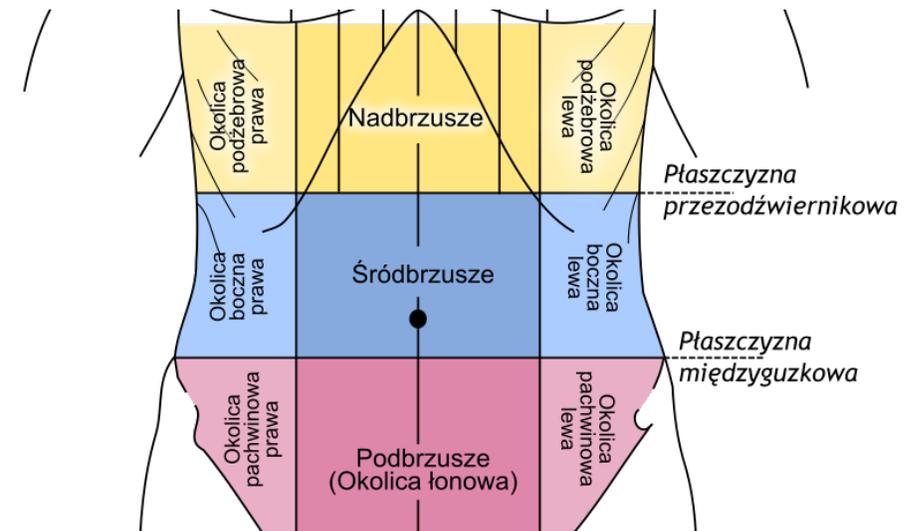
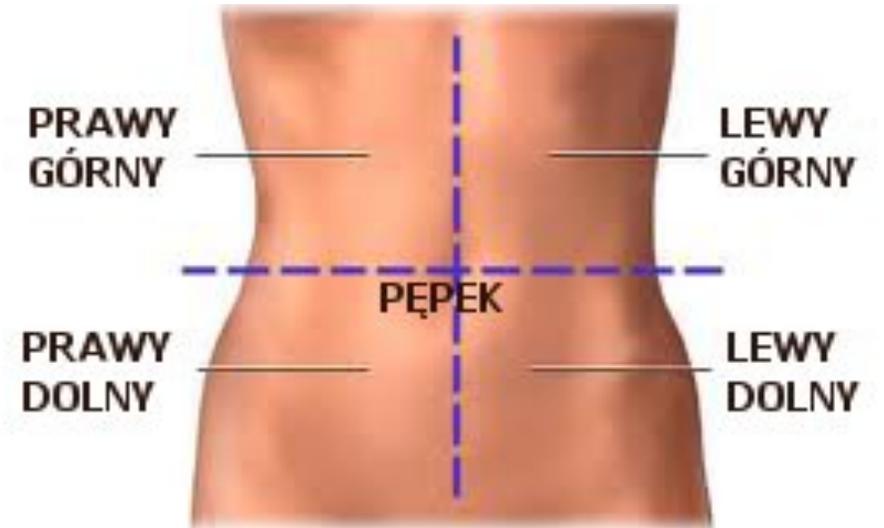
## **Medical history:**

- site of the pain
- radiation
- character of the pain
- exacerbating and relieving factors
- associated symptoms
- duration of the pain and its severity

# Abdominal pain

The components of a physical examination

- inspection
- auscultation
- percussion
- palpation



# Abdominal pain – “Acute abdomen”

“Acute abdomen” requires **surgical** intervention

- most often caused by peritonitis
- abdominal tenderness
- peritoneal signs (i.a. abdominal guarding, Blumberg sign, Rovsing’s sign, Psoas sign)
- Faecal and gas retention
- lack of peristalsis
- patients avoid movements
- common associated symptoms: vomiting, concussion symptoms



# Acute abdominal pain

## **Causes:**

- gastro-intestinal infections
- urinary tract and reproductive organs infections
- kidney stone disease
- peritonitis
- other infections



# CHRONIC abdominal pain

## Red flags that prompt to intensify diagnostics

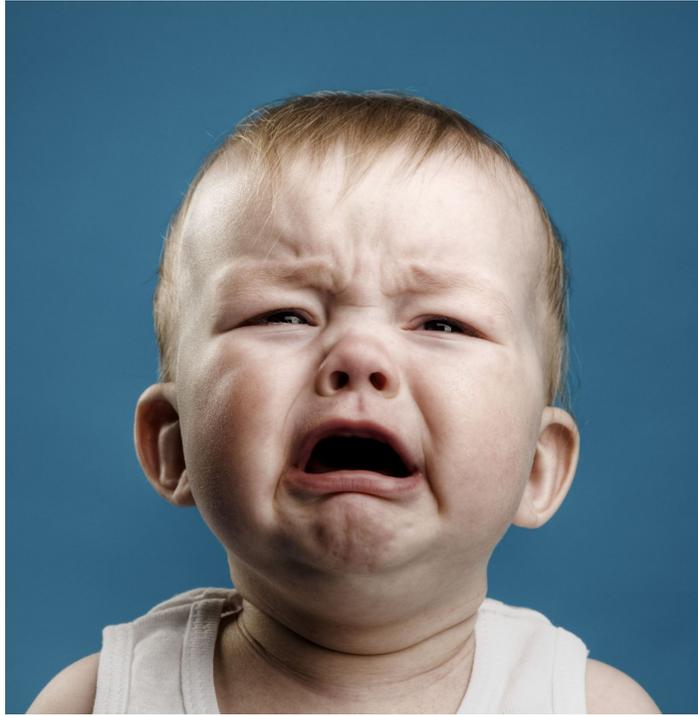
- chronic pain in the right upper quadrant or in the right lower quadrant
- pain that awakens the child during the night
- dysphagia
- persistent vomiting
- bleeding from the digestive tract
- diarrhoea that occurs at night
- positive family history for inflammatory bowel disease, celiac disease or peptic ulcer disease
- joint pain
- perirectal lesions
- unintentional weight loss
- deceleration in growth
- delayed puberty
- unexplained fevers



# Chronic abdominal pain

## Possible causes:

- inflammation of the esophagus/stomach/duodenum
- peptic ulcer disease
- pancreatitis, hepatitis, cholangitis
- gallstone
- inflammatory bowel diseases
- Celiac disease
- cancer
- endocrine and metabolic disorders (diabetes, porphyria, hyperthyroidism and hypothyroidism)
- rheumatic diseases (e.g. systemic lupus erythematosus)



## CHRONIC abdominal pain

In case of the rejection of the organic causes of the chronic abdominal pain **functional background of the complaint** should be considered.

# Vomiting

## 1. NAUSEA

A. The sudden ejection of the matter from the stomach with the active involvement of the contraction of the diaphragm and the abdominal press.

## 2. REGURGITATION

B. The act of unintentional bringing recently swallowed food back into the mouth with spitting.

## 3. RUMINATION

C. The act of bringing up food from the stomach and swallowing it again.

## 4. VOMITING

D. Feeling the need to vomit.

1. ???

2. ???

3. ???

4. ???

# vomiting

## Medical history:

- character and the circumstances of the occurrence
- pathological admixtures
- other patient's diseases
- taken medication
- associated symptoms (e.g. abdominal pain, weight loss, a loss of balance and neurological deficits, headaches)

# vomiting

## **Specific symptoms that can help to establish a diagnosis:**

- acetone breath
- Kussmaul breathing
- pyloric stenosis
- projectile vomiting
- morning sickness
- coffee-ground vomit



# CONSTIPATION

## Definition:

- Defecating less than 3 times a week or defecating more often, but with straining to go (in toddlers).
- **Breastfed infants** can defecate **after every feed or every few days**. Stools are pasty or runny.

**Formula-fed infants** defecate from **2 to 3 pasty or solid stools** daily.

# CONSTIPATION

## Medical history:

- duration of the symptoms
- onset of the symptoms
- time when the newborns and infants pass meconium
- dietary history
- associated symptoms (e.g. abdominal pain, nausea/vomiting, loss of appetite, bloating, pathological admixtures in the stool)

# CONSTIPATION

- 90% has a functional background
- possible organic causes:
  - anorectal malformations
  - congenital defects of the rectum innervation
  - metabolic disorders
  - collagenosis
  - side effects of taken medicines
  - heavy metal poisoning



# ACUTE AND CHRONIC DIARRHOEA

## **DEFINITION?**

Change of the texture of the stool to runny or loose and/or increase of the frequency of defecation (usually >3/24 hour)

# DIARRHOEA

## Medical history:

- the number and the texture of the stools
- duration of the symptoms
- pathological admixtures
- influence of the food on the symptoms
- epidemiological inquiry
- associated symptoms (e.g. abdominal pain, nausea/vomiting, loss of appetite, fever, weight loss, growth inhibition)

## **Possible causes:**

- infection
- inflammatory bowel disease
- celiac disease
- acute appendicitis
- food allergies and intolerances
- enzyme deficiencies
- irritable bowel syndrome

# BLEEDING FROM THE GASTROINTESTINAL TRACT

- Bleeding from the upper gastrointestinal tract is rarer, but generally it is more serious than bleeding from the lower GI tract.
- Procedure depends on the cause of the bleeding and the general condition of the patient.



# BLEEDING FROM THE GASTROIN TESTINAL TRACT

## Medical history:

- the duration of the symptoms
- how the stool/vomit looks like
- dietary history
- taken medication
- a possibility of consuming a caustic substance
- associated symptoms (e.g. abdominal pain, nausea/vomiting, loss of appetite, bloating, pathological admixtures in the stool)

## BLEEDING FROM THE GASTROINTESTINAL TRACT

### **Is the patient stable?**

- symptoms of a concussion (tachycardia, pale skin, impaired consciousness, a prolonged capillary refill)

### **Is it certainly blood?**

- red shade of the stool: beetroot, food colouring, medications (rifampicin)
- black shade of the stool: activated charcoal, blueberries, medications (iron, bismuth)

### **Is it certainly from the gastrointestinal tract?**

- nosebleed , bleeding gums, genital tract bleeding

## BLEEDING FROM THE UPPER GASTROINTESTINAL TRACT

Every child with the symptoms of GI bleeding should be hospitalized.

### **Possible causes:**

- Varices
- Esophagitis & gastritis
- Mallory-Weiss tear
- Ulcers
- Vascular malformations

# BLEEDING FROM THE LOWER GASTROINTESTINAL TRACT

## **Causes:**

- Inflammatory bowel diseases
- Anal fissures
- Colitis
- Hemorrhoids
- Rectal varices
- Infections

# ENLARGED SPLEEN

## Medical history:

- presence of an acute infection
- chronic diarrhoea
- hyperbilirubinemia/jaundice/anaemia in the medical history
- epidemiological inquiries
- risky sexual behaviour
- injuries
- co-existing diseases and the history of surgeries
- family history of hematologic diseases
- associated symptoms (e.g. fever, weakness, tendency to bruise, weight loss, night sweats)

# ENLARGED SPLEEN

- It is a symptom not a diagnosis! We look for a cause and treat it!
- Causes:
  - Infections that occur with the enlarged spleen (e.g. mononucleosis, salmonellosis)
  - hematologic diseases (e.g. anaemia, haemolytic anaemia, congenital haemolytic spherocytic anaemia, thalassemias)
  - malignancy (leukaemia, lymphoma)
  - Langerhans cell histiocytosis
  - storage and metabolic diseases
  - autoimmune diseases
  - circulatory disorders in the portal or the splenic vein

# ENLARGED LIVER

## Medical history:

- Presence of an acute infection
- chronic diarrhoea
- hyperbilirubinemia/jaundice/anaemia in the medical history
- epidemiological inquiries
- risky sexual behaviour
- injuries
- co-existing diseases and the history of surgeries
- family history
- associated symptoms (e.g. fever, weakness, tendency to bruise, weight loss, night sweats)

# ENLARGED LIVER

It is a symptom not a diagnosis! We look for a cause and treat it!

- In the paediatric population a liver can be examined physiologically.
- Causes:
  - inflammatory changes (e.g. acute viral infections, chronic hepatitis, parasitic diseases and fungal infections)
  - drug-induced liver damage
  - cancer
  - storage and metabolic diseases
  - congestive changes in the circulation (circulatory insufficiency, Budd-Chiari syndrome)

# JAUNDICE

## Medical history:

- time of onset and the rate of acceleration
- In infants: mother's blood type, medicines taken during pregnancy, breastfeeding
- associated symptoms (e.g. fever, vomiting, sleepiness, lethargy, loss of appetite, itching of the skin, pale stools and dark urine)

|                               | Haemolytic jaundice   | Regurgitation jaundice  |
|-------------------------------|---|---|
| Indirect serum bilirubin      | increased   | normal  |
| Direct bilirubin              | normal  | increased   |
| Direct bilirubin in the urine | normal  | increased<br>(= dark urine)   |
| Urobilinogen in the urine     | increased   | reduced or absent   |
| Shade of the stool            | dark  | pale  |
| Liver enzymes                 | normal  | increased   |
| Itching of the skin           | no  | yes   |
| Causes                        | <ul style="list-style-type: none"> <li>• Physiological jaundice</li> <li>• Jaundice connected with breastfeeding</li> <li>• Resorption of the extravasated blood <ul style="list-style-type: none"> <li>• hypothyroidism</li> <li>• Pyloric stenosis</li> </ul> </li> <li>• Genetic diseases (Rotor syndrome, Crigler-Najjar syndrome, Gilbert's syndrome)</li> <li>• haemolysis (Rh incompatibility, autoimmune haemolysis, spherocytosis, deficiency of G-6-PDD)</li> </ul> | <ul style="list-style-type: none"> <li>• Biliary atresia</li> <li>• Alpha 1-antitrypsin deficiency</li> <li>• Recurrent intrahepatic cholestasis <ul style="list-style-type: none"> <li>• Alagille syndrome <ul style="list-style-type: none"> <li>• hepatitis</li> <li>• sepsis</li> </ul> </li> </ul> </li> <li>• Parenteral feeding</li> </ul> |

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