

<http://digestivesystemforkids.com>

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**

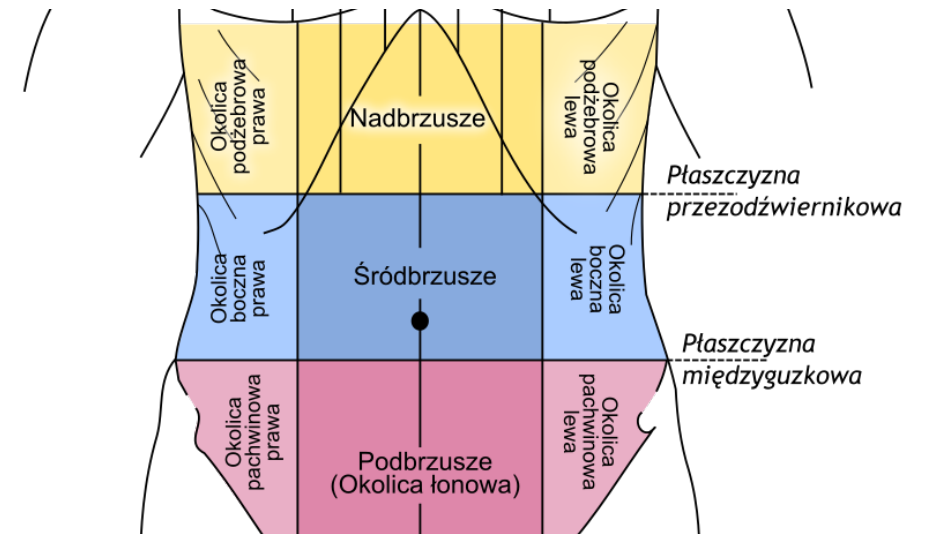
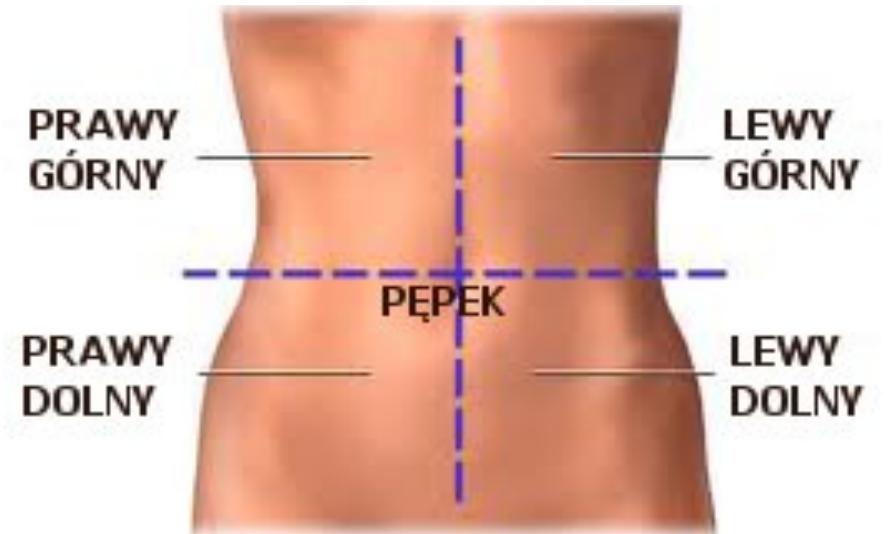
Medical history:

- 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

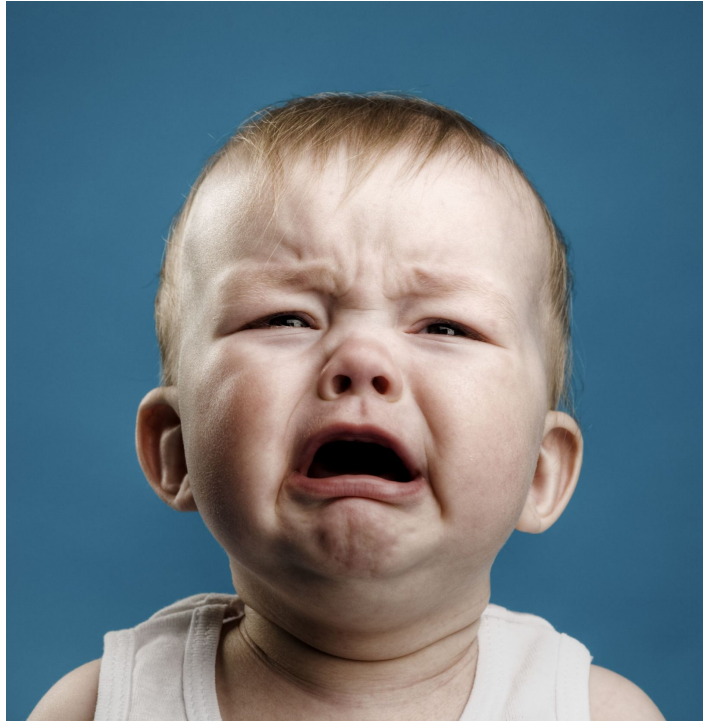
- chronic pain in the right upper quadrant or in the right lower quadrant
- pain that awakens the child during the night
- dysphagia
- persistent vomiting
- bleeding from the digestive tract
- diarrhoea that occurs at night
- positive family history for inflammatory bowel disease, celiac disease or peptic 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 (= 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"> • Physiological jaundice <ul style="list-style-type: none"> • Jaundice connected with breastfeeding • Resorption of the extravasated blood <ul style="list-style-type: none"> • hypothyroidism • Pyloric stenosis • Genetic diseases (Rotor syndrome, Crigler-Najjar syndrome, Gilbert's syndrome) • haemolysis (Rh incompatibility, autoimmune haemolysis, spherocytosis, deficiency of G-6-PDD) 	<ul style="list-style-type: none"> • Biliary atresia • Alpha 1-antitrypsin deficiency • Recurrent intrahepatic cholestasis <ul style="list-style-type: none"> • Alagille syndrome <ul style="list-style-type: none"> • hepatitis • sepsis • Parenteral feeding

sources

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