

**POLTAVA STATE MEDICAL UNIVERSITY**

**SEMIOTICS OF LESIONS OF THE DIGESTIVE  
SYSTEM AND MAJOR DISEASES IN CHILDREN.  
SYNDROME OF "ACUTE ABDOMEN".**

1

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# PLAN OF THE LECTURE

- 1. The concept (definition) of pylorostenosis.
- 2. Etiology, clinical manifestations, diagnostic of pylorostenosis.
- 3. Causes of acute abdomen in children of different age.
- 4. Syndromes of gastro-intestinal lesion: pain syndrome.
- 5. Syndrome of "acute abdomen".
- 6. Syndromes of gastro-intestinal lesion: dyspeptic syndrome.
- 7. Syndromes of gastro-intestinal lesion: intoxication syndrome.
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# ***PYLOROSTENOSIS***

- ✓ **Pylorostenosis is a disease of infants of the first month of life due to a narrowing of the pyloric canal's aperture because of muscular hypertrophy of the pylorus.**

## Clinical manifestation

- latent period, begin on II-IV week after birth,
- regurgitations up to fountain-like vomit without bile,

# ***PYLOROSTENOSIS***

- condition of child is mostly quite, may be exited before vomiting
- dehydration,
- volume of urine and frequency of urination are considerably reduced (3-4 times),
- malnutrition,
- stomach peristalsis in a form of sand –glass,
- constipation.

# ***PYLOROSTENOSIS***

- X-ray examination:

There is a contraction of the stomach like «hour-glass», the barium remains in it for about 24 hours or more

- Ultrasound:

hypertrophy of the wall > 4mm,

Increase in length >20 mm

- Efficiency of treatment with cholinolytics:

no effect

## ***ACUTE ABDOMEN***

- - symptom, reflecting an abnormal condition of an organism in which there was a serious damage to the abdominal peritoneal irritation. It is characterized by severe severe abdominal pains and abnormal abdominal wall tension.

# CAUSES OF ACUTE ABDOMEN

- ❖ acute inflammatory diseases (appendicitis, cholecystitis, pancreatitis)
- ❖ perforation of hollow organs (stomach, intestine) or their ruptures
- ❖ ruptures of parenchymal organs (liver, spleen, pancreas, uterus and its appendages), accompanied by bleeding into the abdominal cavity
- ❖ various forms of acute intestinal obstruction. In rare cases, there are diseases of organs located outside the abdominal cavity.

# ***Syndromes of gastro-intestinal lesion:***

- 1. Pain syndrome.***
- 2. Dyspeptic syndrome.***
- 3. Intoxication syndrome.***





# 1. **Pain syndrome**

2. Abdominal pain (AbP) is pain that feel anywhere between chest and groin. This is often referred to as the stomach region or belly.



**Abdominal pain** (AbP) is pain that feel anywhere between chest and groin.

This is often referred to as the stomach region or belly.

Abdominal pain in children is common and challenging complaint.

At least 20% of the children will consult a physician for abdominal pain by the age of 15 years.



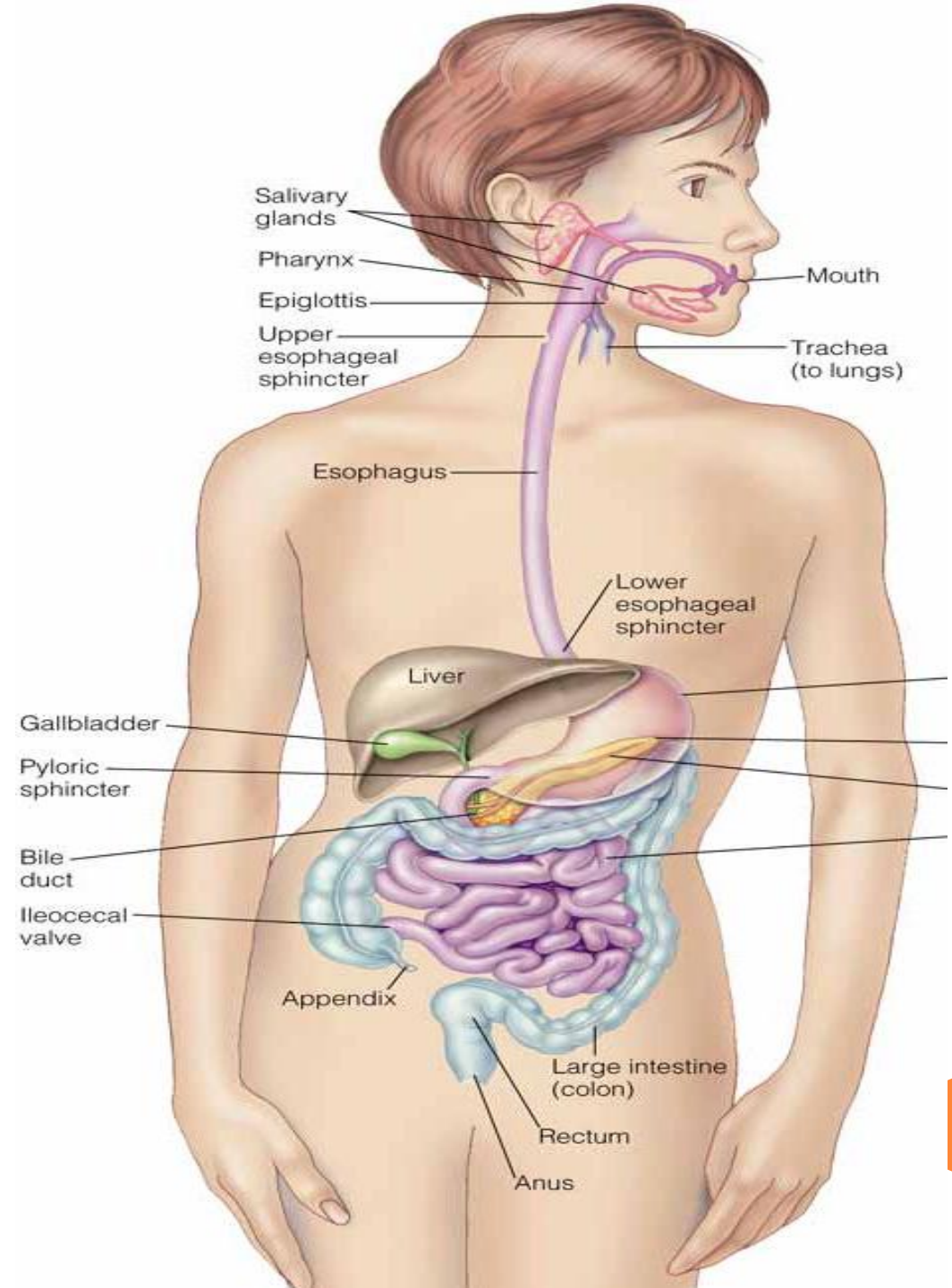
The pediatrician evaluating the child with AbP must decide early whether the child has a “Surgical abdomen” (Acute abdomen).

A serious medical disorder requiring admission or a process that can be managed on an out-patient basis.



There are many organs in the abdomen.

Pain in the abdomen can originate from any one of them, including:




# Organs related to digestion.

1. The aorta.
2. The appendix.
3. The kidneys.
4. The mesenteric lymph nodes.

However, the pain may originate from somewhere else - like chest or pelvic region.

Also a generalized infection affecting many parts of the body, like the flu or streptococcus throat.




The **intensity** of the pain does not always reflect the **seriousness** of the condition causing the pain.

Severe AbP can be from mild conditions, such as gas or the cramping of viral gastroenteritis.

On the other hand, relatively **mild pain or no pain** may be present with **life-threatening** conditions, such as cancer of the colon or early appendicitis.

In infants, prolonged unexplained crying (often called "colic") may be caused by abdominal pain that may end with the passage of gas or stool. Colic is often worse in the evening. Cuddling and rocking the child may bring some relief.



# The abdominal pain can be:

- acute or
- chronic and recurrent

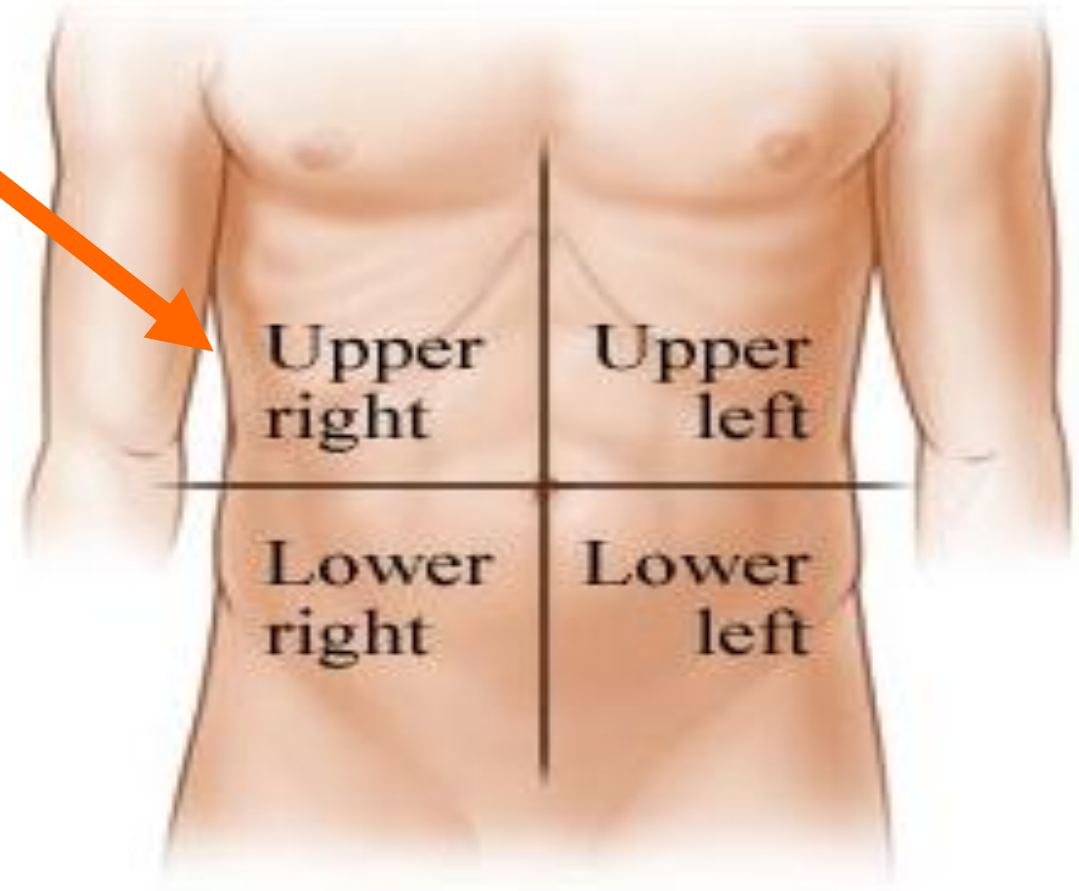
## ○ The cause of pain may be:

- functional or
- organic (disease-based).



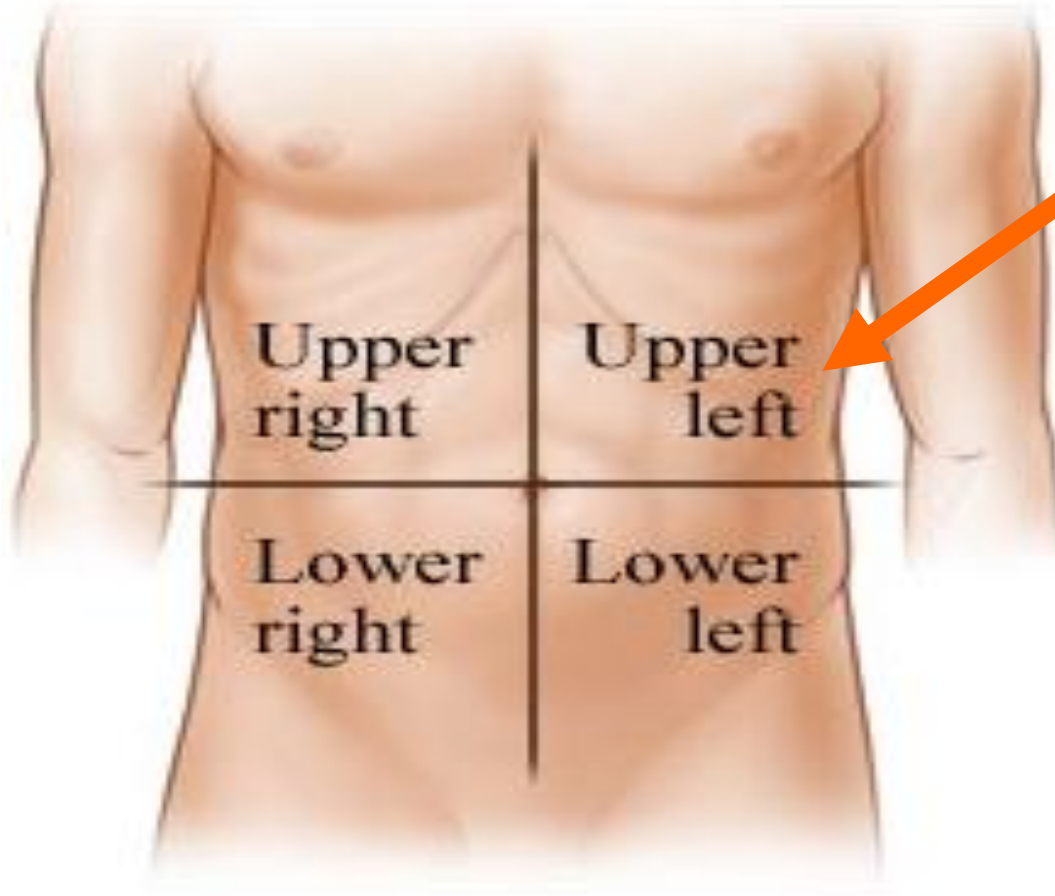
## LOCALIZING PAIN - RUQ

- **Hepatitis**
- **Cholecystitis**
- **Cholangitis**
- **RLL pneumonia**
- **Subdiaphragmatic abscess**





## LOCALIZING PAIN - LUQ

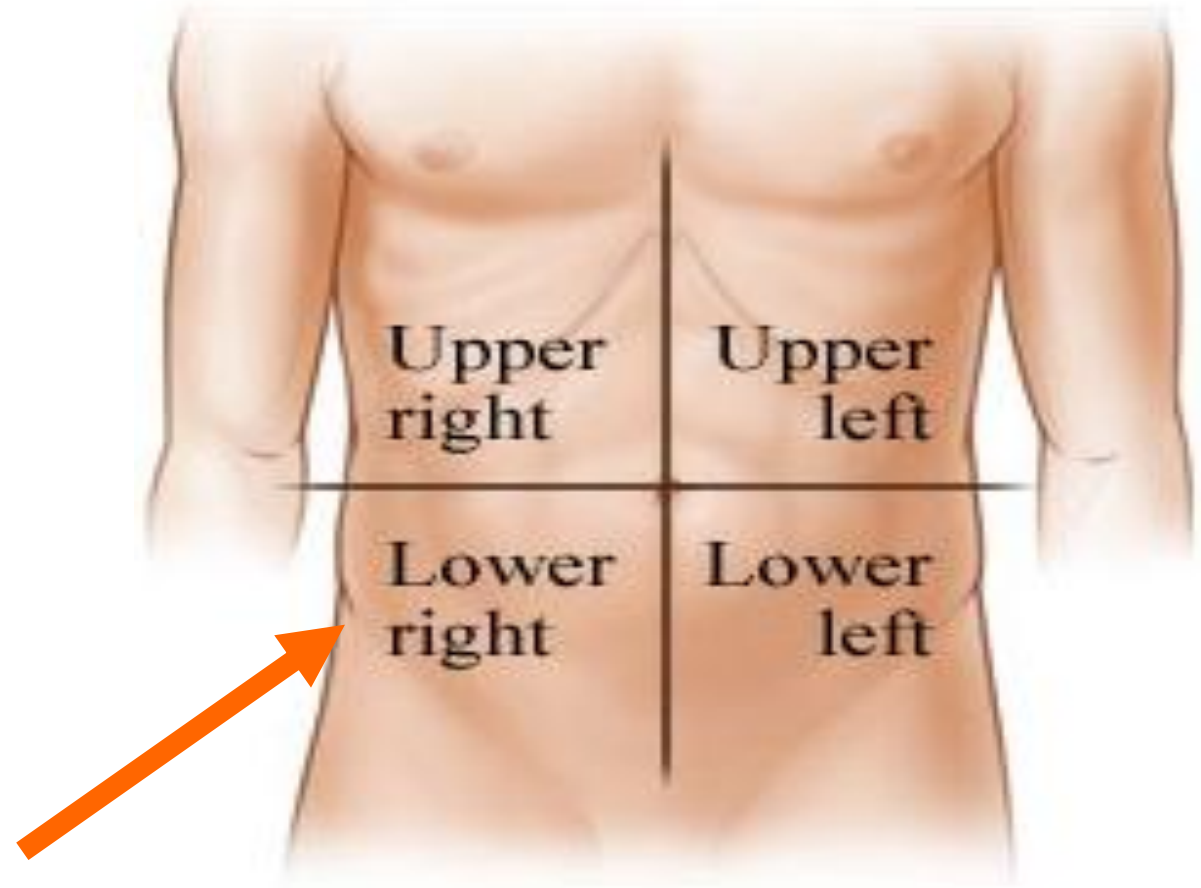


- **Gastritis**
- **Splenic infarct**
- **Splenic abscess**

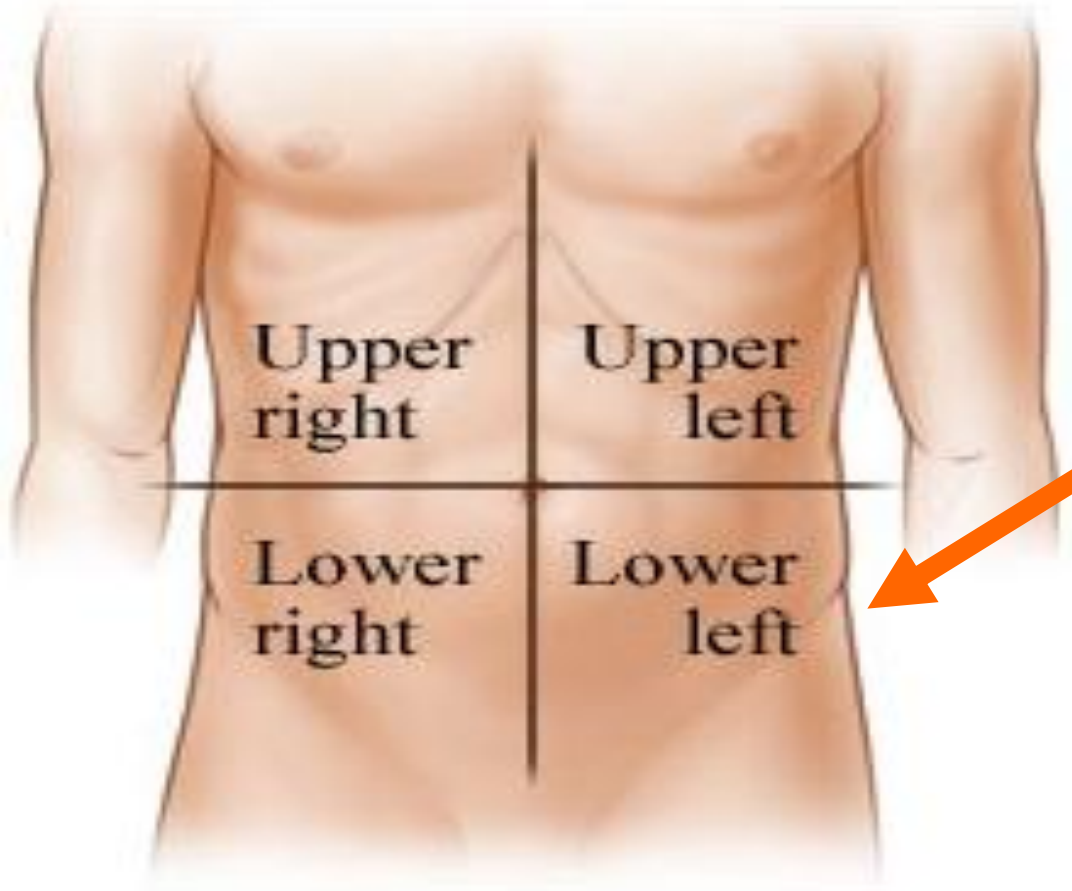


## LOCALIZING PAIN - RLQ

- **Appendicitis**
- **Inguinal hernia**
- **Nephrolithiasis**
- **Salpingitis**
- **Ectopic pregnancy**
- **Ovarian pathology**



## LOCALIZING PAIN - LLQ



- **Diverticulitis**
- **Inguinal hernia**
- **Nephrolithiasis**
- **Salpingitis**
- **Ectopic pregnancy**
- **Ovarian pathology**



# Epigastric pain



- **Peptic ulcer disease**
- **Gallbladder disease**
- **Most commonly with hemolytic disorders**
- **Pancreatitis**
- **Trauma.**



# Periumbilical pain



- **Functional abdominal pain (infant colic)**
- **Appendicitis**
- **Gastroenteritis (virus, bacteria, parasite)**
- **Carbohydrate intolerance**



Periumbilical  
region



- **Abdominal migraine**
- **Drugs (Antibiotics, anticonvulsants)**
- **Small bowel bacterial overgrowth**
- **Streptococcal pharyngitis**



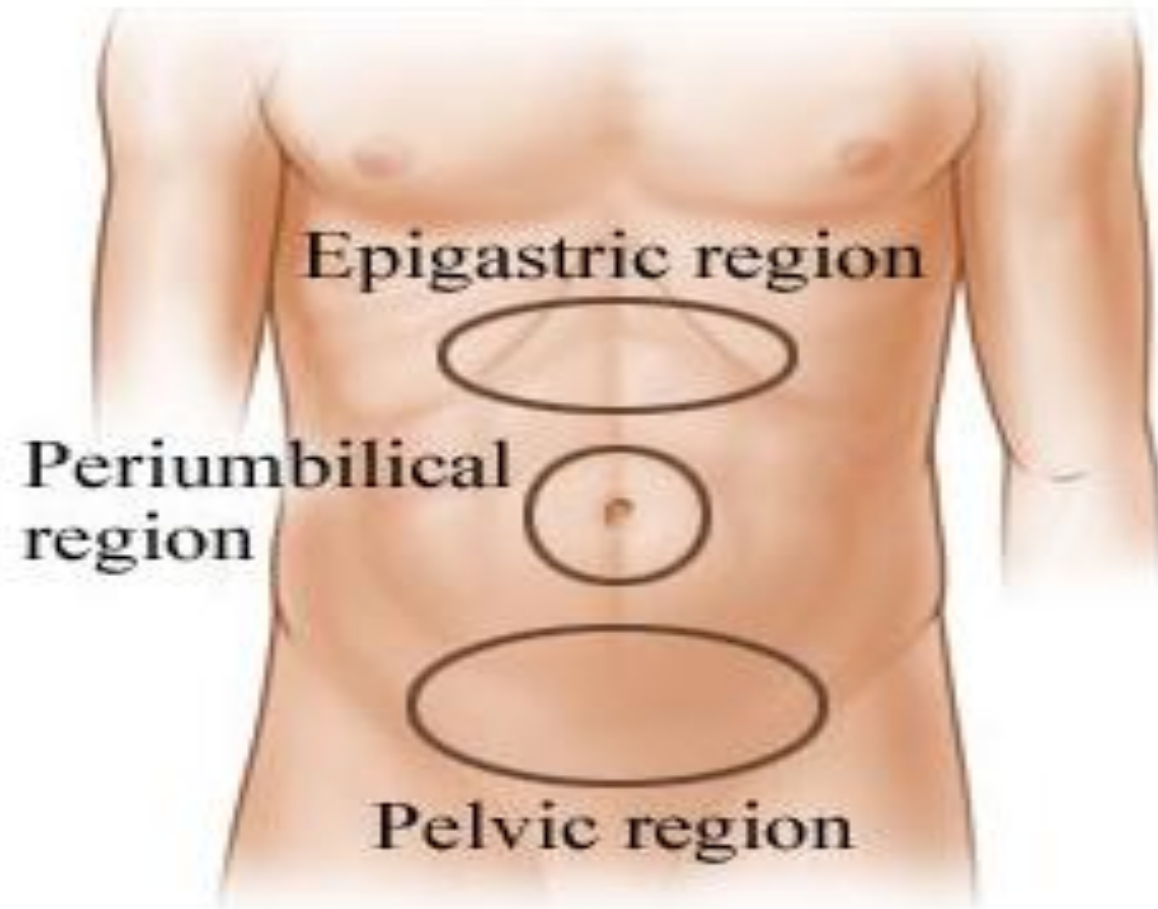
# Suprapubic pain



- **Urinary tract infection with dysuria, fever, foul-smelling urine**
- **Pyelonephritis**
- **Urinary retention**
- **Cyclic pain with onset of menstrual cycle**
- **Pain midcycle with ovulation**



## LOCALIZING PAIN - DIFFUSE



- **Gastroenteritis**
- **Ischemia**
- **Obstruction**
- **Others:**
  - **Vitamin D deficiency**
  - **Adrenal insufficiency**





## **2. Dyspeptic syndrome** usually describes a group of

symptoms. These symptoms include:

Loss of appetite.

Feeling uncomfortably full after eating.

Burping.

Heartburn.

Nausea and vomiting.

Diarrhea.

Constipation.

Meteorism (Bloating ).



**Burping** (eructation) is the voluntary or involuntary, sometimes noisy release of air from the **stomach** or **esophagus** through the mouth.

Burping 3 to 4 times after eating a meal is normal and is usually caused by swallowing air in infants.

Other causes of burping include nervous habits or other medical conditions, such as an ulcer or a gallbladder problem.



# HEARTBURN

is feeling of discomfort or burning behind a sternum, spreading up from an epigastric region, sometimes goes up to the neck.



# NAUSEA

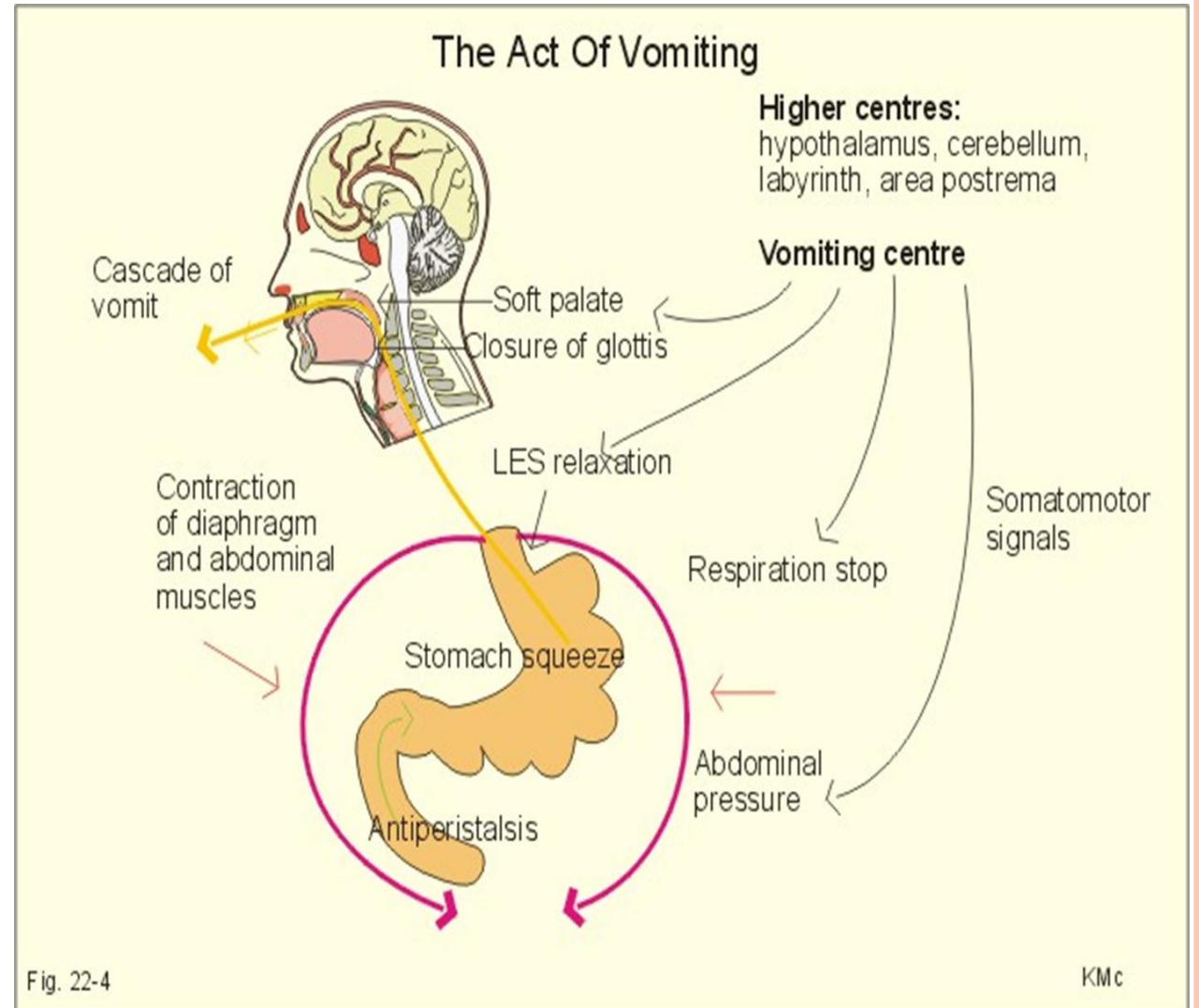


is a sensation of uneasy and discomfort in the upper stomach with an involuntary urge to vomit. Nausea (and vomiting) can be psychological or physical in origin. It can originate from problems in the brain or organs of the upper GIT (esophagus, stomach, small intestine, liver, pancreas, and gallbladder).



# Vomiting

encompasses all retrograde ejection of gastrointestinal contents from the mouth. It may be caused by a wide variety of conditions. Vomiting can be due to central and GIT causes.





# CONSTIPATION



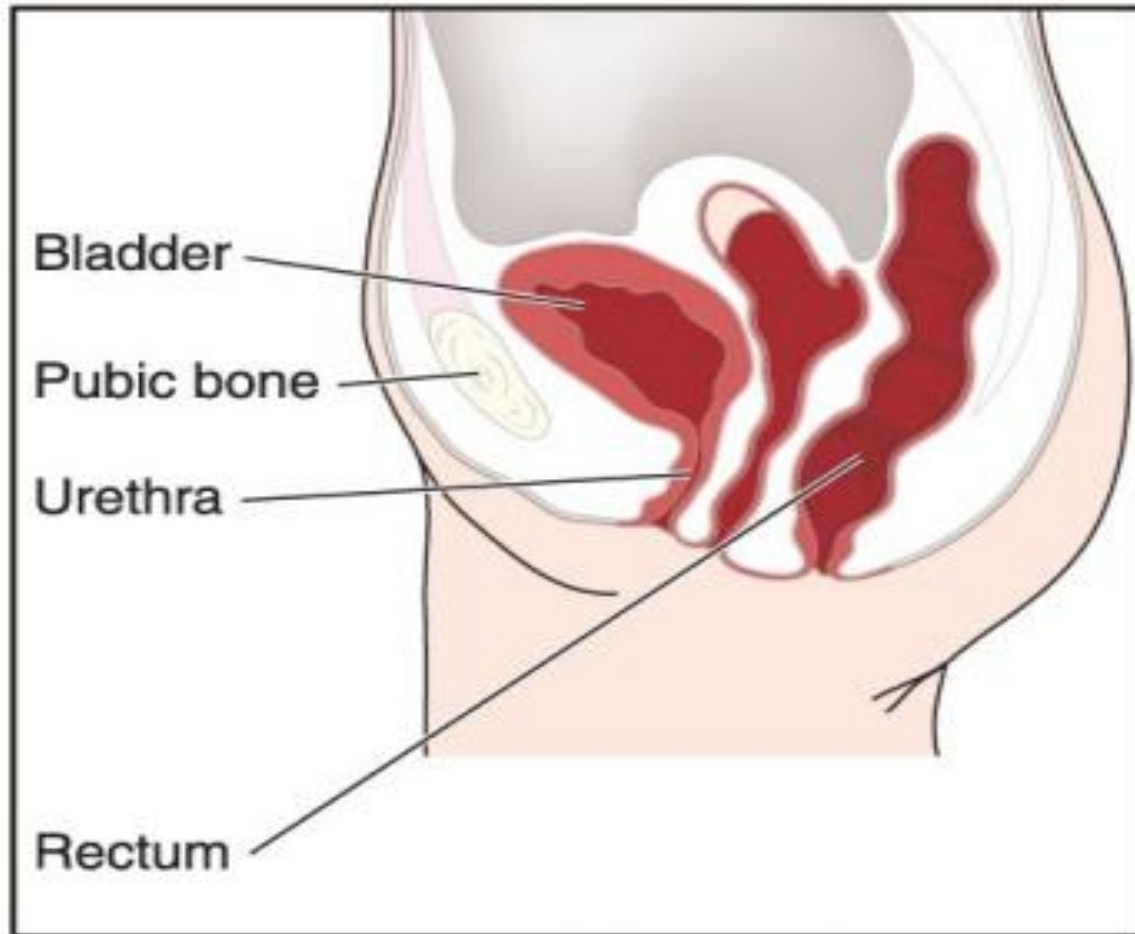
**THE NORMAL STOOL** FREQUENCY DECREASES FROM 4 OR MORE PER DAY DURING INFANCY TO ONCE PER DAY AT 4 YEARS OF AGE.

STOOL FREQUENCY OF LESS THAN 3 TIMES PER WEEK AT ANY AGE IS **ABNORMAL**. CONSTIPATION IS DEFINED AS A DELAY OR DIFFICULTY IN DEFECATION, PRESENT FOR 2 OR MORE WEEKS AND SUFFICIENT TO CAUSE SIGNIFICANT DISTRESS TO THE PATIENT.

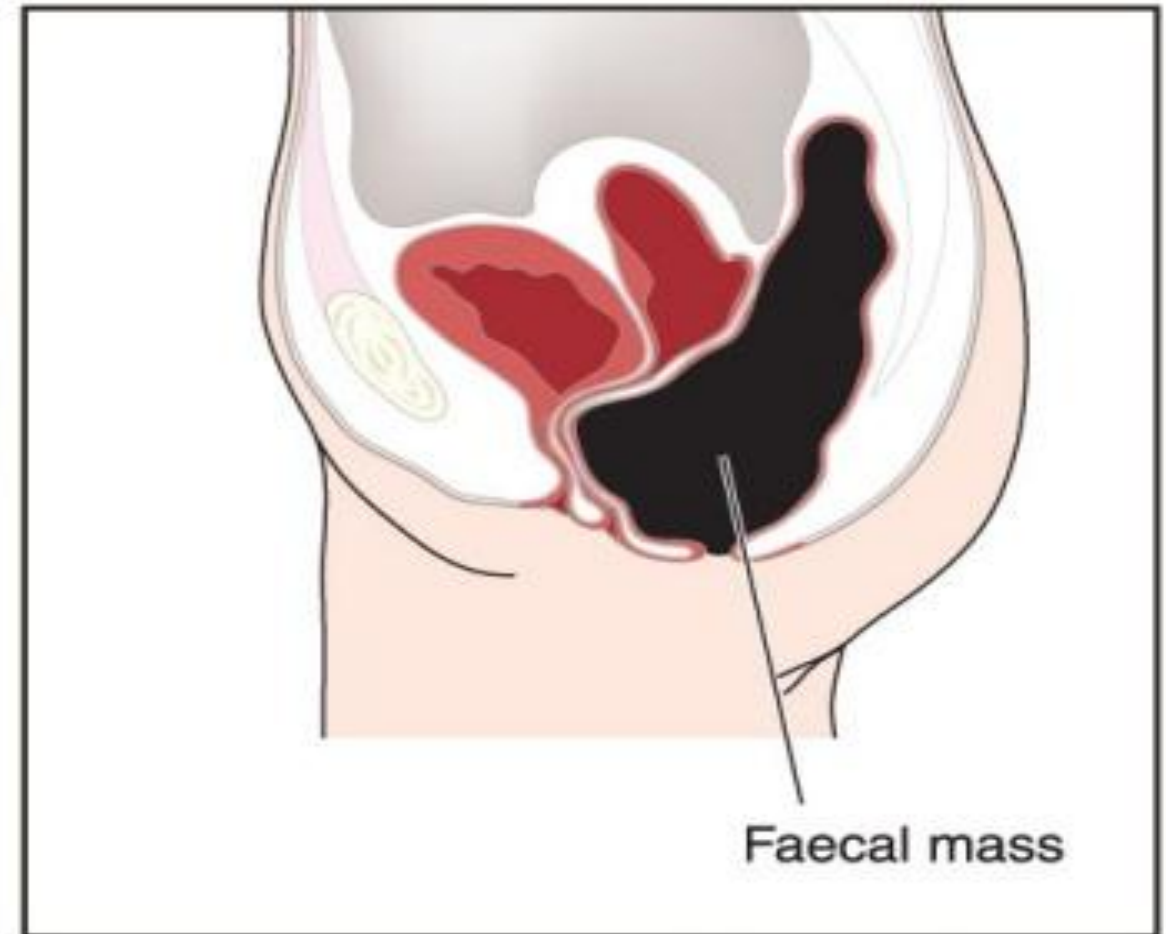
**CONSTIPATION IS CHARACTERIZED BY:**

INFREQUENT BOWEL EVACUATIONS;  
HARD,  
SMALL FECES, OR  
DIFFICULT AND PAINFUL DEFECATION.





**Normal bowel**



**Constipated bowel**





# Constipation

may be:

- functional (non-organic) or
- organic



# DIARRHEA



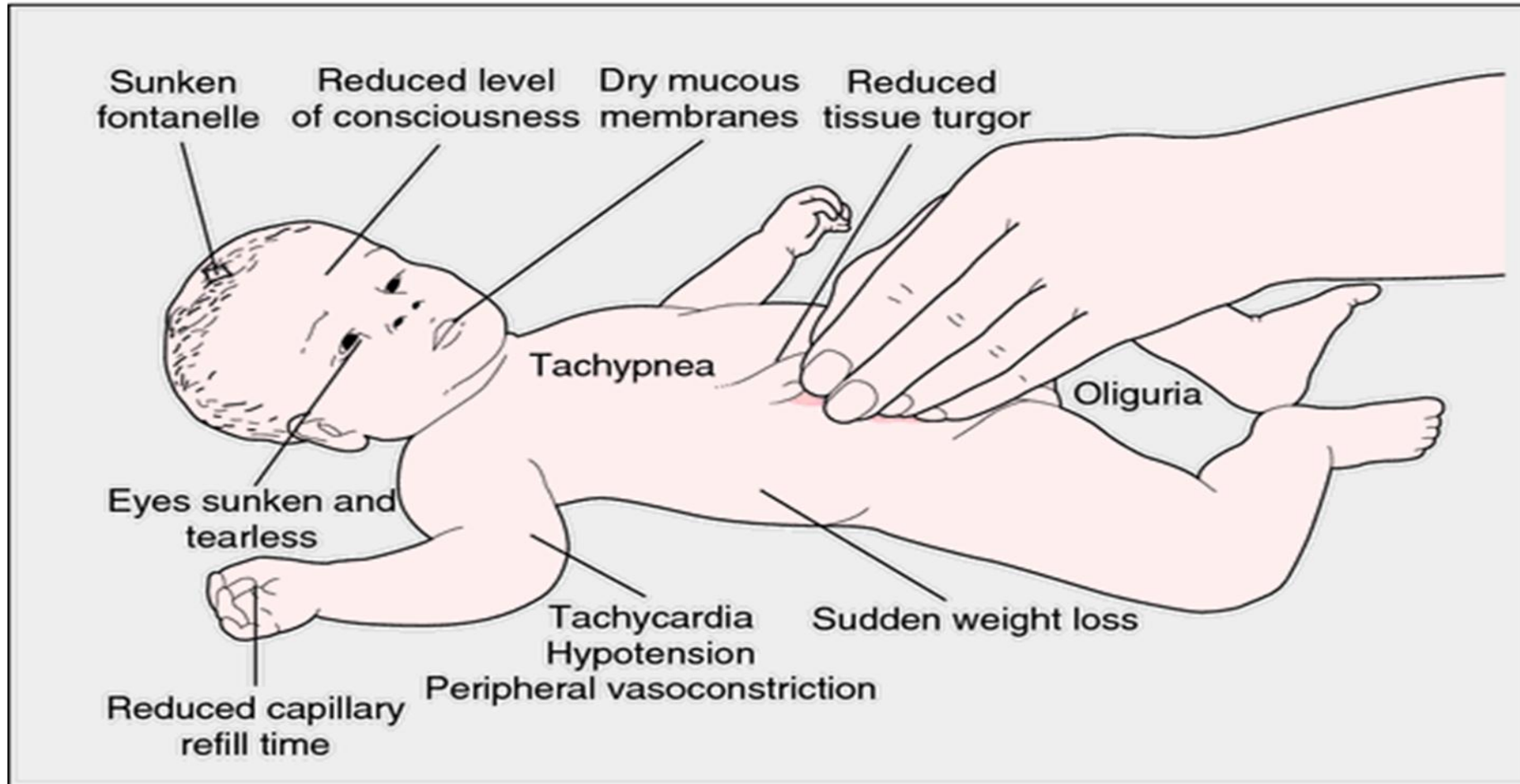
**Diarrhea** is leading cause of morbidity and mortality:

1.5 billion episodes and 1.5 - 2.5 million deaths occur annually among children aged <5 years. Diarrhea defined as an alteration in stool frequency and/or stool consistency and usually includes an increase in stool water content.

- **The 2 main risks of diarrhea are:**
- malnutrition and
- dehydration.
- **Diarrhea** results when the normal absorptive capacity of the bowel is exceeded or when there is an imbalance between the secretory and absorptive roles of the gut.



# Clinical signs **OF DEHYDRATION** are:



# SIGNS OF DEHYDRATION

- Sunken fontanel
- Reduced level of consciousness
- Eyes sunken and tearless
- Dry mucous membranes
- Reduced tissue turgor
- Tachypnea
- Tachycardia
- Hypotension
- Oliguria
- Sudden weight loss
- Peripheral vasoconstriction
- Reduced capillary refill time



# Acute diarrhea

Short in duration · Usually lasts less than 2 weeks

## Volume

- In infants stool volume > 10 g/kg
- In children older than 3 and adults stool volume > 200 g/day

Most common causes of diarrhea are:

Viral gastroenteritis (rotavirus 60-80%)

Bacterial gastroenteritis:

Shigella, E. coli, V. cholera, Salmonella, Campylobacter,  
Antibiotic - induced,  
Food poisoning (toxins).

**Chronic diarrhea** - diarrhea lasting for 6 weeks or more.

## **Meteorism –**

accumulation of gas in the abdomen or the intestine, usually with distension.

### **Causes of meteorism:**

1. Vascular would prompt the recall of mesenteric thrombosis or embolism. Aortic aneurysms may precipitate bouts of meteorism by causing mesenteric vascular insufficiency.
2. Inflammatory conditions: peritonitis, pancreatitis, lobar pneumonia, typhoid fever and dysentery.
3. Neurologic conditions: transverse myelitis, spinal cord trauma and anterior spinal artery occlusion.

## **Causes of meteorism:**

1. Intoxication should bring to mind the many parasympatholytic drugs (i.e., Pro-Banthine) that cause paralytic ileus.
2. Autoimmune conditions such as granulomatous colitis and ulcerative colitis may produce meteorism.
3. Trauma to the spinal cord has already been mentioned, but penetrating wounds, contusions, and intraperitoneal bleeding may cause meteorism.
4. Allergy would suggest food allergies such as sensitivity to chocolate, peanuts, etc.



### 3. Intoxication syndrome:

- weakness,
- lucidity,
- bad sleep,
- headaches,
- irritability,
- tearfulness,
- increased disposition to perspiration,
- blue shadows under the eyes.



**THANK YOU FOR YOUR ATTENTION!**



## LITERATURE, WAS USED IN THE LECTURE

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