



Dyspnea, chest pain, acute
abdomen, allergies

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Dyspnea



Dyspnea

- shortness of breath
- a subjective experience of breathing discomfort that consists of qualitatively distinct sensations that vary in intensity
- non-specific symptom of many diseases



Symptoms of dyspnea

- what does the person look like..
 - color of skin – **cyanosis** – bluish color of lips, ears or fingertips
 - frequency of breathing– **tachypnea** (rapid breathing up to 30 and more breaths per minute),
 - shallow breathing
 - pathological sounds – **stridor** (inspiratory or expiratory), wheezing, coughing



Symptoms of dyspnea

- effortful breathing with using additional respiratory muscles
- in-drawing of spaces between the ribs and collarbones
- inability to tell whole sentence because of breath shortness
- flaring nostrils , ortopnoic position, exhaustion, anxiety, sweating, tachycardia, disorders of consciousness



Causes of dyspnea

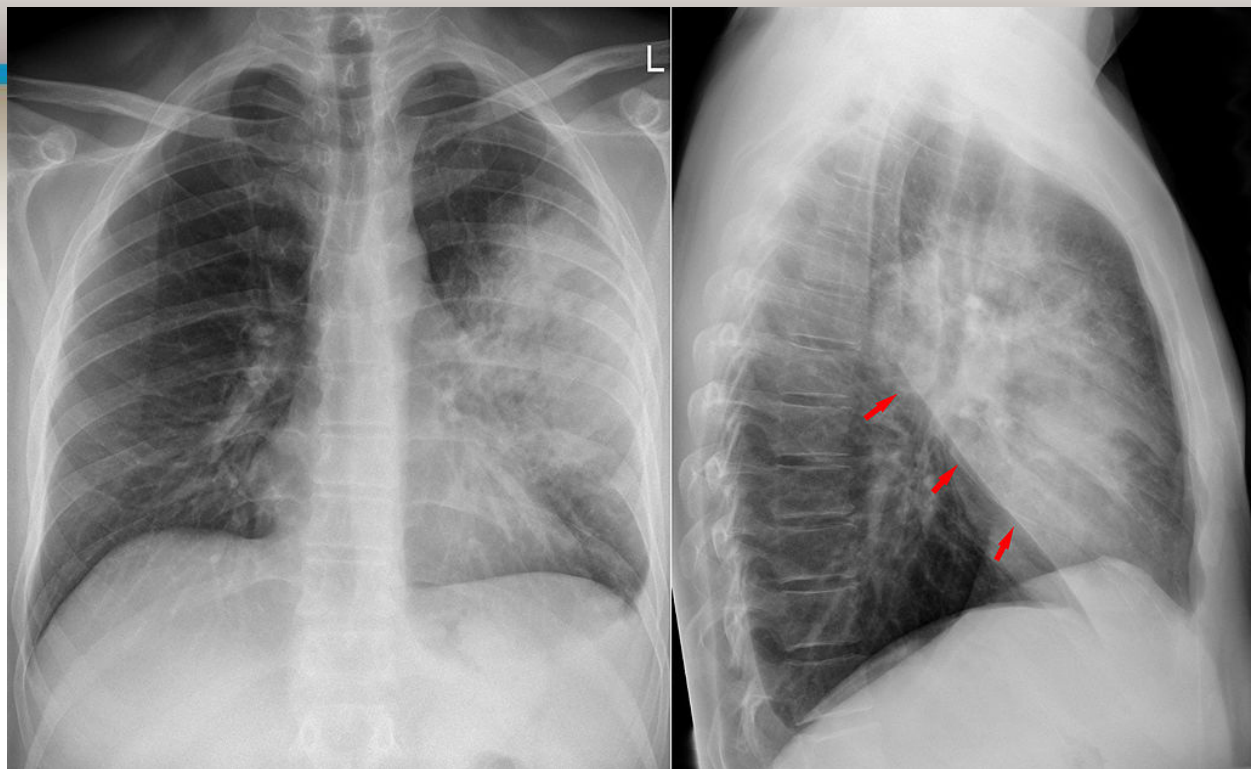
- lungs – COPD, **asthma**, pneumonia (inflammatory disease of the lungs), pneumothorax
- cardiac – heart failure with development of pulmonary edema, heart valves disorders, myocardial infarction
- psychological – panic attacks, hyper-ventilation tetany
- neuromuscular
- hematological – anemia
- airways obstruction
- allergic reactions





pulmonary edema

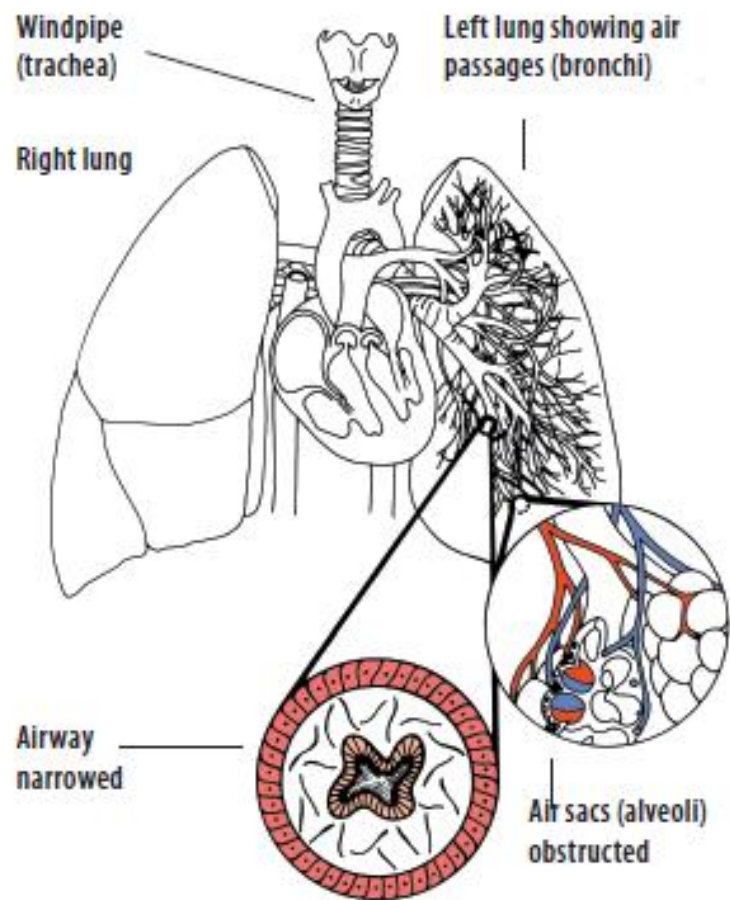
lobar pneumonia



Asthma

- common condition in which breathing becomes difficult due to inflammation of the airways
- asthma attack – condition with acute narrowing of the airways by bronchoconstriction, increased mucus production and swelling; resulting in „air trapping“ inside the lungs and difficulties with breathing out





Asthma

- common triggers of an asthma attack
 - pollens
 - dust
 - smoke
 - cold air
 - exercise
- signs – shortness of breath, wheezing, coughing, obvious difficult breathing, anxiety



Asthma

- first aid
 - help the person to rest, to take a position of greatest comfort (usually sitting upright)
 - assist with relieving medication
 - asthma patients usually have their medication, assist them with application on inhalatory drugs (bronchodilators) which can have rapid effect on improvement of their condition
 - if the problem persists, call an ambulance



Medications for Asthma Management

Relievers

- Inhaled short acting β_2 -agonists
- Short acting anticholinergics
- Methylxanthines



Controllers

- Inhaled corticosteroids
- Inhaled long-acting β_2 -agonists
- leukotrienes modifiers
- Sustained release theophylline
- Systemic glucocorticosteroids
- Anti-IgE (Omalizumab)



First Aid for Asthma

1

Sit the person comfortably upright.

Be calm and reassuring.
Don't leave the person alone.

2

Give 4 puffs of a blue/grey reliever

(e.g. Ventolin, Asmol or Airomir)

Use a spacer, if available.

Give 1 puff at a time with 4 breaths after each puff

Use the person's own inhaler if possible.

If not, use first aid kit inhaler or borrow one.

OR

Give 2 separate doses of a Bricanyl or Symbicort inhaler

If a puffer is not available, you can use Symbicort (**people over 12**) or Bricanyl, even if the person does not normally use these.

3

Wait 4 minutes.

If the person still cannot breathe normally, **give 4 more puffs.**

4

If the person still cannot breathe normally,

CALL AN AMBULANCE IMMEDIATELY (DIAL 000)

Say that someone is having an asthma attack.

Keep giving reliever.

Give 4 puffs every 4 minutes until the ambulance arrives.

Children: 4 puffs each time is a safe dose.

Adults: For a severe attack you can give up to 6–8 puffs every 4 minutes

Wait 4 minutes.

If the person still cannot breathe normally, **give 1 more dose.**

If the person still cannot breathe normally, **CALL AN AMBULANCE IMMEDIATELY (DIAL 000)** Say that someone is having an asthma attack.

Keep giving reliever while waiting for the ambulance:

For Bricanyl, give 1 dose every 4 minutes

For Symbicort, give 1 dose every 4 minutes (up to 3 more doses)

HOW TO USE INHALER

WITH SPACER



- Assemble spacer
- Remove puffer cap and shake well
- Insert puffer upright into spacer
- Place mouthpiece between teeth and seal lips around it
- Press once firmly on puffer to fire one puff into spacer
- Take 4 breaths in and out of spacer
- Slip spacer out of mouth
- Repeat 1 puff at a time until 4 puffs taken – remember to shake the puffer before each puff
- Replace cap

WITHOUT SPACER



- Remove cap and shake well
- Breathe out away from puffer
- Place mouthpiece between teeth and seal lips around it
- Press once firmly on puffer while breathing in slowly and deeply
- Slip puffer out of mouth
- Hold breath for 4 seconds or as long as comfortable
- Breathe out slowly away from puffer
- Repeat 1 puff at a time until 4 puffs taken – remember to shake the puffer before each puff
- Replace cap

BRICANYL OR SYMBICORT



- Unscrew cover and remove
- Hold inhaler upright and twist grip around and then back
- Breathe out away from inhaler
- Place mouthpiece between teeth and seal lips around it
- Breathe in forcefully and deeply
- Slip inhaler out of mouth
- Breathe out slowly away from inhaler
- Repeat to take a second dose – remember to twist the grip both ways to reload before each dose
- Replace cover



Airway obstruction

- partial airway obstruction
 - breathing labored, gasping or noisy
 - stridor – sound created by air flowing along the object which causes airways obstruction
 - coughing or making crowing noise
 - extreme anxiety or agitation



Airway obstruction

- total airway obstruction
 - inability to effectively cough, breathe or speak
 - obvious efforts to breathe with in-drawing of spaces between the ribs and collarbones
 - clutching the throat with both hands (universal sign of choking)



Airway obstruction

- first aid
 - ask the patient „are you choking?“
 - if they can answer or breathe – partial obstruction – encourage the patient to cough and expel the foreign body - 1. cough it out
 - if coughing doesn't work, help them bend forward and give up to 5 sharp back blows between their shoulder blades - 2. slap it out
 - if back blows doesn't work, give up to five abdominal thrusts (Heimlich maneuver) – 3. squeeze it out



Airway obstruction

- first aid
 - ask the patient „are you choking?“
 - if squeeze it out doesn't work, call immediately for help
 - if they become unresponsive and they are not breathing normally , start CPR immediately



Hyperventilation

- excessive breathing, normally caused by extreme anxiety and can happen at the same time as a panic attack
- breathing is unnaturally fast or deep, this makes the blood lose more CO₂ than usual, which can make them feel dizzy and weak, tingling in the hands and muscle cramps in the hands and feet
- first aid – calm them down and „force them breathe normally – this usually doesn't work – you tell them to breathe into a paper bag (why this helps?)

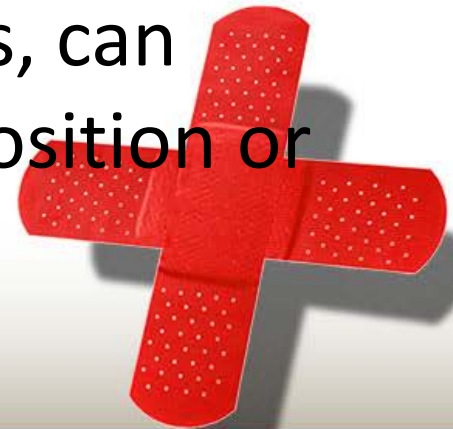


Chest pain



Chest pain

- nowadays, in connection with chest pain, everybody thinks of heart attack, but chest pain has many causes and many of them are not life threatening conditions...
- any kind of pain, which is located in the area of chest, can radiate into some areas, can change with movement, changing position or deep breathing



Chest pain

- causes
 - thoracic spine disorders
 - neuromuscular etiology – disorders of intercostal muscles or other muscles in the area of chest, irritation of the intercostal nerves
 - heartburn
 - shingles (herpes zoster)
 - inflammatory diseases of the airways



Chest pain

- causes
 - pleurisy (pleuritis)
 - pulmonary embolism
 - thoracic aortal dissection
 - pericarditis or myocarditis
 - coronary artery diseases (CAD)
 - angina pectoris
 - heart attack



Chest pain of cardiac etiology

- pain or uncomfortable pressure in the middle of the chest that can radiate into the jaw and teeth or shoulder or arms
- can feel as if crushing weight is resting on the patient's chest or as if a steel band around the chest is being tightened
- can be accompanied by shortness of breath, sweating, nausea, vomiting, anxiety



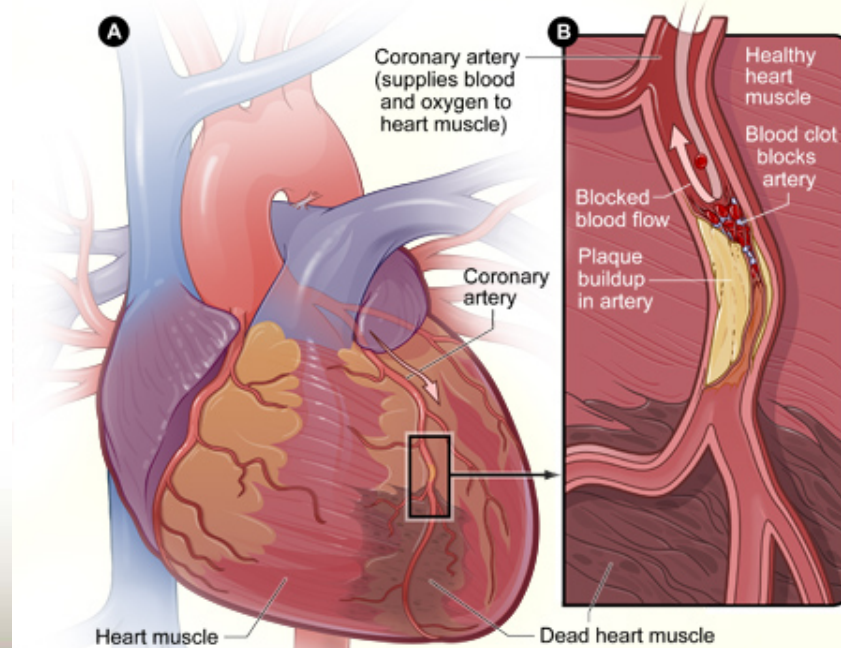
Chest pain of cardiac etiology

- angina attack
 - should be relieved when the patient is at rest
 - may lead to a heart attack later
 - insufficient oxygen delivery into myocardium, usually occurs during exercise or some activities



Chest pain of cardiac etiology

- heart attack
 - occurs when heart (coronary) artery, which supplies heart muscle with oxygen, is blocked



Chest pain of cardiac etiology

- first aid – conscious person
 - ask about character, localization and radiation of the chest pain
 - consider risk factors – smoking, obesity, age, lifestyle, similar problems in the past
 - if suspicious of heart attack, call ambulance immediately
 - calm (yourself and the patient), let him sit into the most comfortable position



Chest pain of cardiac etiology

- help them take their relieving medications –
Nitrates 1-3 tbl. underneath the tongue
(Nitroglycerin, Nitro Mack) or 1-2 spray injections
underneath the tongue (Isoket, Nitromint,
Nitrospray)
- if available , let them chew Anopyrin or Aspirin in
doses up to 500mg (1tbl. = 100mg)
- prepare for possible deterioration of the patient's
condition
- bring AED in advance, if available



Chest pain of cardiac etiology

- first aid – if unresponsive
 - if the person is unresponsive and not breathing normally, immediately start CPR with use of AED



Chest pain of non-cardiac etiology

- pulmonary embolism
 - obstruction of pulmonary artery or it's branches
 - chest pain, dyspnea, tachypnea, tachycardia, hypotension, cyanosis
 - can be discreet – without any symptoms or massive with immediate death of the patient



Chest pain of non-cardiac etiology

- thoracic spine disorders
 - sharp pain irradiating from the spine
 - changes according to the movements or positioning of the person
 - can be localized into some spot
 - can worsen with deep breathing
- heartburn
 - caused by gastro-esophageal reflux disorder
 - can worsen when laying, bending forward or after meal



Chest pain of non-cardiac etiology

- broken ribs
 - often connected with chest trauma, worsens with deep breathing
- shingles
 - caused by Varicella zoster virus
 - blisters, accompanied by sings of upper airways viral infection, localized in the course of affected nerve



Acute abdomen



Acute abdomen

- intraabdominal process, which
 - causes severe pain
 - has acute (fast) development of symptoms
 - requires a fairly immediate judgement or decision as to management, often requiring surgical intervention
 - untreated can cause severe medical complications and death



Acute abdomen

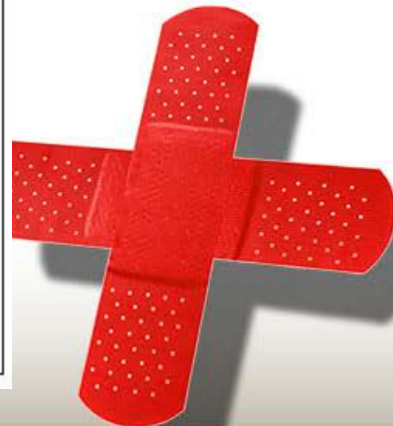
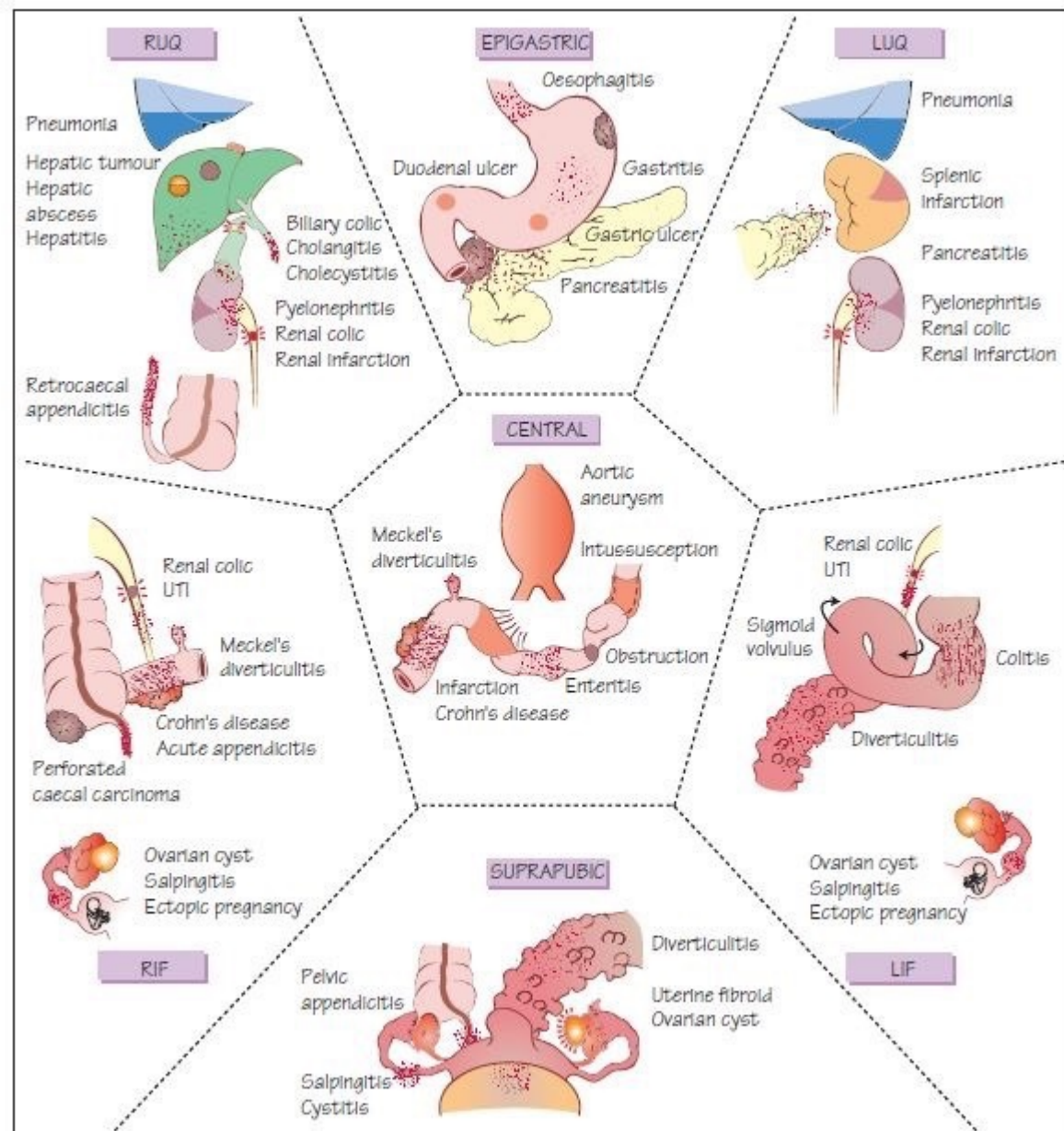
- causes
 - inflammatory – acute appendicitis, diverticulitis, gastric ulcer perforation, cholecystitis, pancreatitis
 - obstructive (ileus) – obstruction of the bowels and stagnation of the bowel content – incarcerated hernia, carcinoma of the bowel, bowel ischemia
 - bleeding – e.g. from perforated ulcer or cancer
 - traumatic
 - gynecological problems in women



Acute abdomen

- in the first aid, isn't important to find an exact cause of this condition, but to discover this condition and secure professional help
- signs
 - pain (according to it's localization we can think of an exact cause), vomiting (gastric or bowel content), loss of bowel opening, hiccup, diarrhea
 - general – fatigue, malaise, fever, abdominal wall stiffening and painful reaction during abdominal palpation





Acute abdomen

- acute pain located in the epigastrium (area of the stomach), combined with nausea or vomiting, can be the only signs of heart attack which is located in the inferior wall of the left ventricle !!!

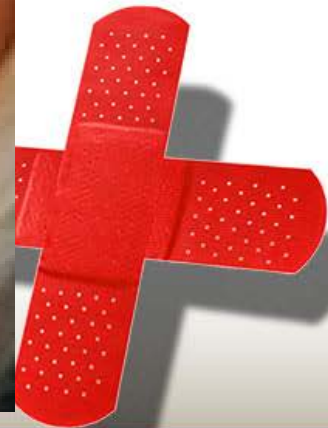


Acute abdomen

- first aid
 - recognize that it is this condition – if you have any suspicion, treat the person as if it was an acute abdomen
 - transport to the hospital or call an ambulance
 - give nothing to drink and eat
 - let the person take the relieving position
 - monitor the person until EMS arrives



Allergies



Allergies

- hypersensitive reaction of human immune system to typically harmless substances in the environment
- development of the signs is fast, in connection with exposition to the allergens
- anaphylaxis – serious allergic reaction that is rapid in onset and may cause death
- anaphylactic shock – most severe allergic reaction with risk of immediate death



Allergens

- pollen
- dust
- insects
- animals – cats, dogs, birds
- medications
- food – cow's milk, eggs, fish, wheat, peanuts, soya



Allergies

- signs
 - skin
 - swelling itching, rashes, swelling
 - respiratory
 - coughing, shortness of breath, wheezing, stridor, runny nose, swelling of the conjunctiva
 - gastrointestinal
 - tongue swelling, abdominal pain, diarrhea, vomiting
 - cardiovascular
 - tachycardia, vasodilation, shock



Allergies

- sings
 - can be mild – allergic rhinitis, conjunctivitis, urticaria, through more severe conditions – swelling of an eye lids, lips and tongue up to life threatening conditions as are airway obstruction and cardiovascular failure





Allergies

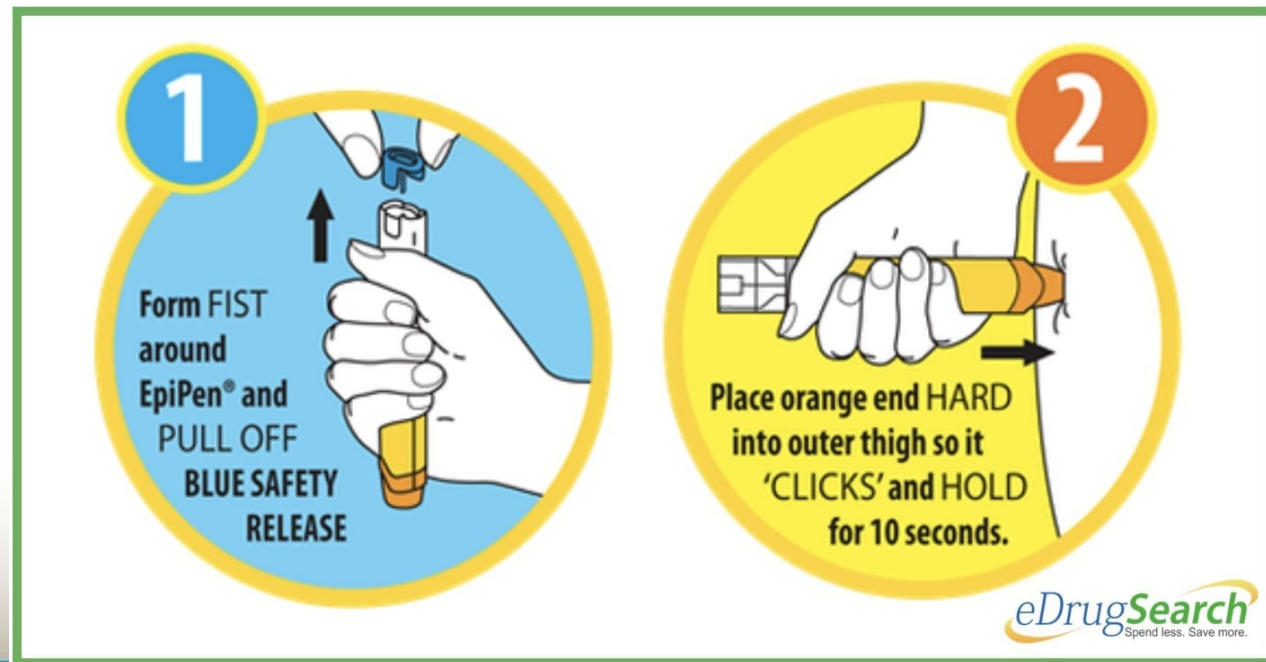
- first aid
 - recognize and start treating as fast as possible
 - remove allergens, if possible
 - people who were diagnosed with allergies may have „allergic first aid kit“:
 - antihistaminic drugs – Dithiaden, Alerid, Analergin, Claritine, Fenistil, Zodac, Zyrtec
 - corticosteroids – Hydrocortizon, Prednisone
 - inhalational drugs – Ventolin, Berodual



Allergies

- first aid
 - people with history of severe anaphylactic reactions should always carry with them an EpiPen (epinephrine, adrenalin), which has defined dose of adrenalin (0,5mg) and should be used for „one shot“ intramuscular injection, reapplication after 10-15 minutes may be necessary, if symptoms persist
 - when severe symptoms, always call EMS







Thank you for your attention!

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