

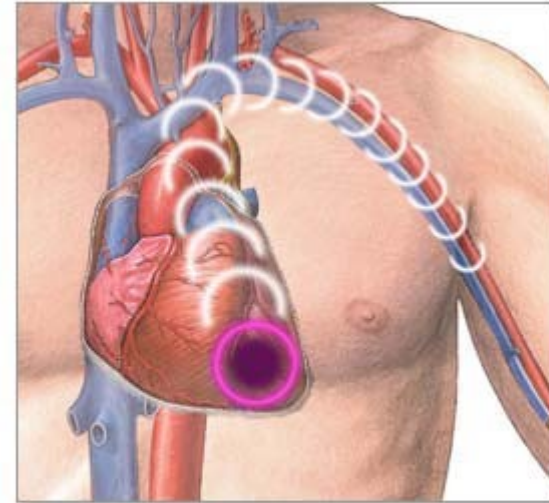
Chest pain, Drowning



MUDr. Lukáš Dadák

Pain

- WHO:
an unpleasant sensory or emotional **experience** associated with actual or potential **tissue damage**, or described in terms of such damage
- often difficult to interpret



Pain radiating
down arm
might signal
heart attack

ADAM.

Thorax

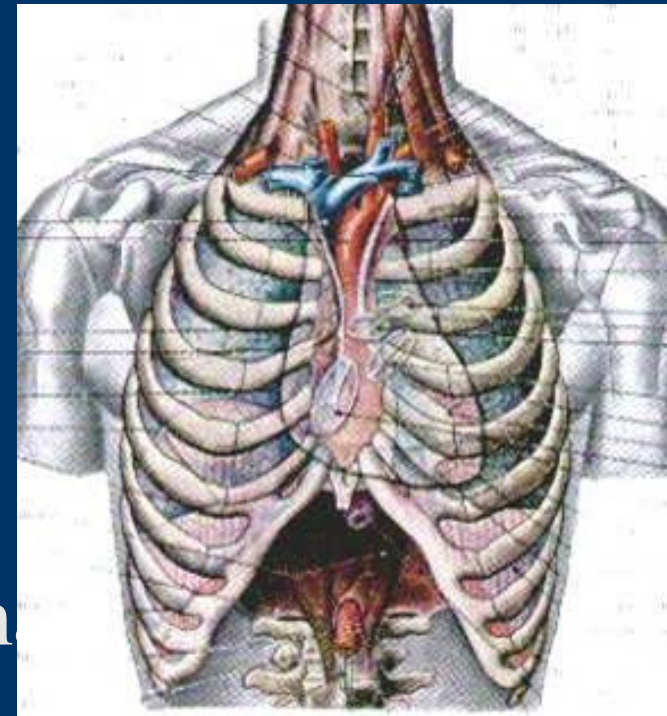
- chest wall
- skin, mm, joints, bones
- pleura

- parietal = somatic
 - local
 - sharp
 - change during movement

■ by finger

- heart
- (lung)
- oesoph
- aorta
- pleura
- visceral
 - diffuse
 - dull, crampy and aching
 - middle line

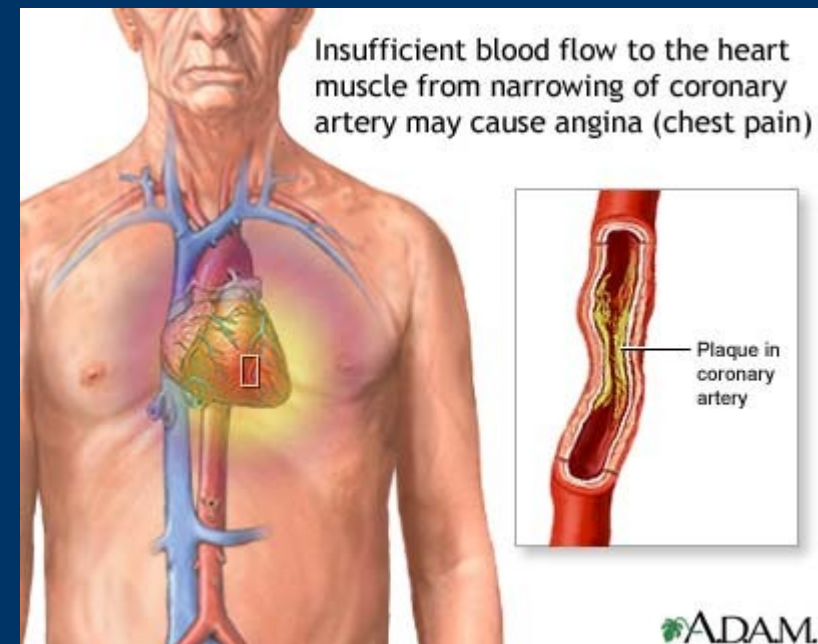
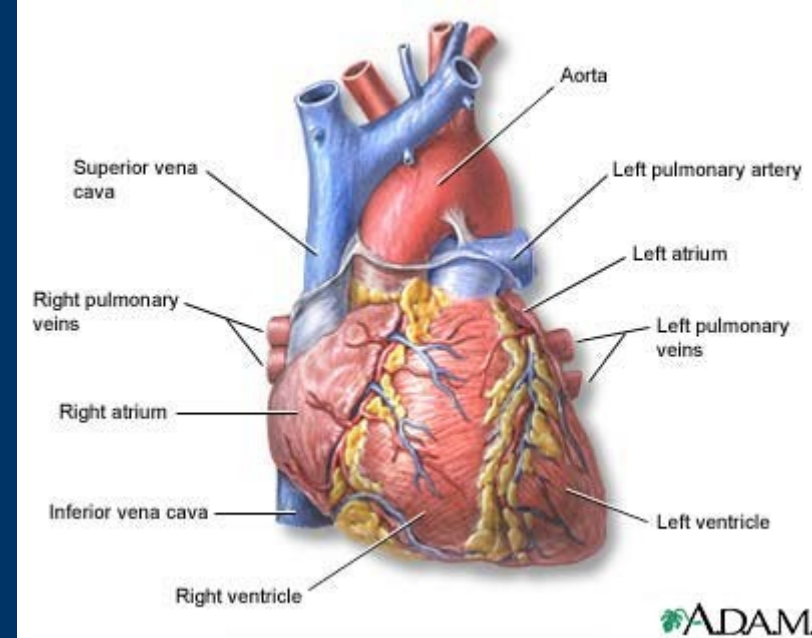
■ by hand



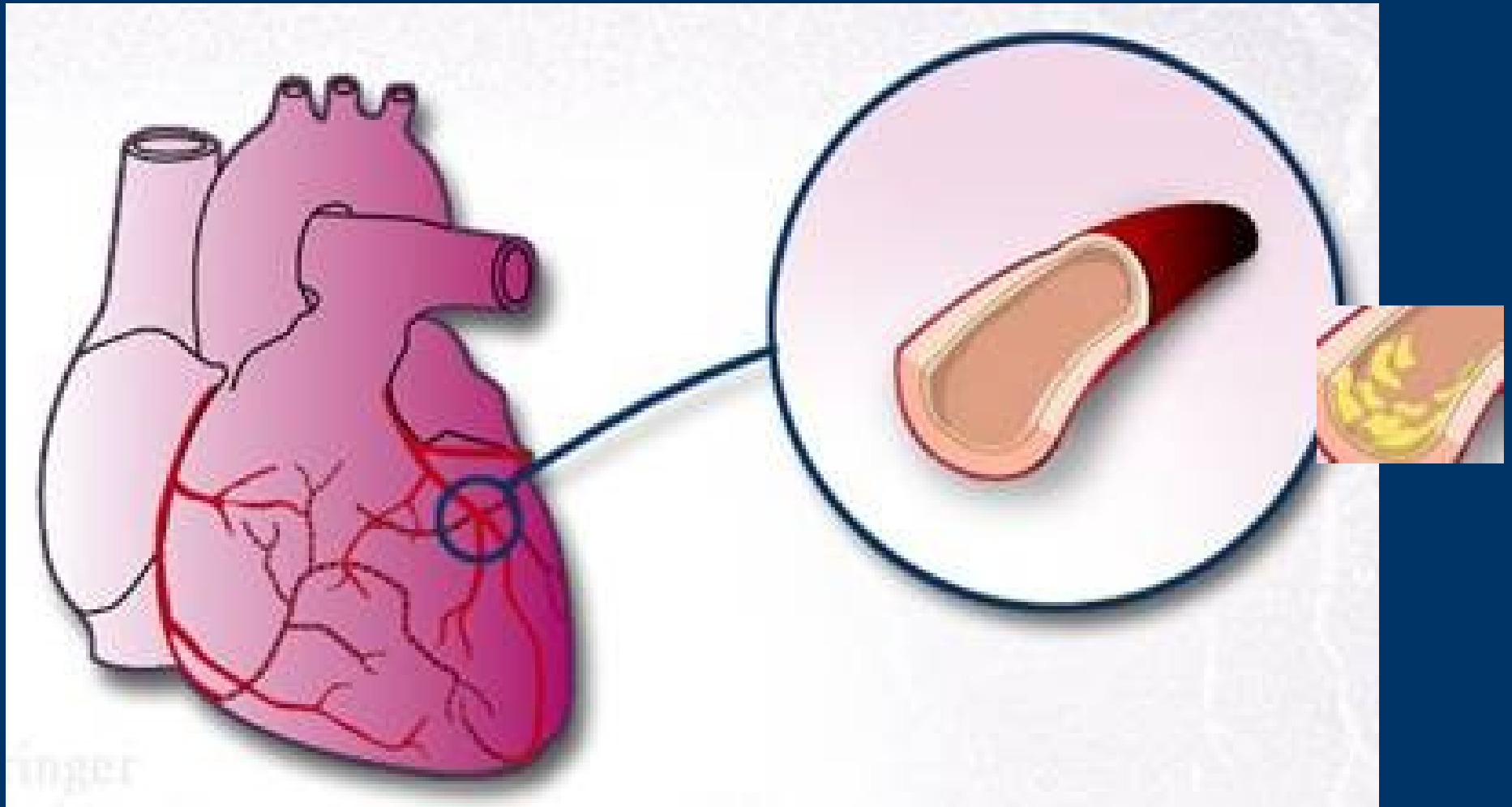
Heart attack

= myocardial infarction

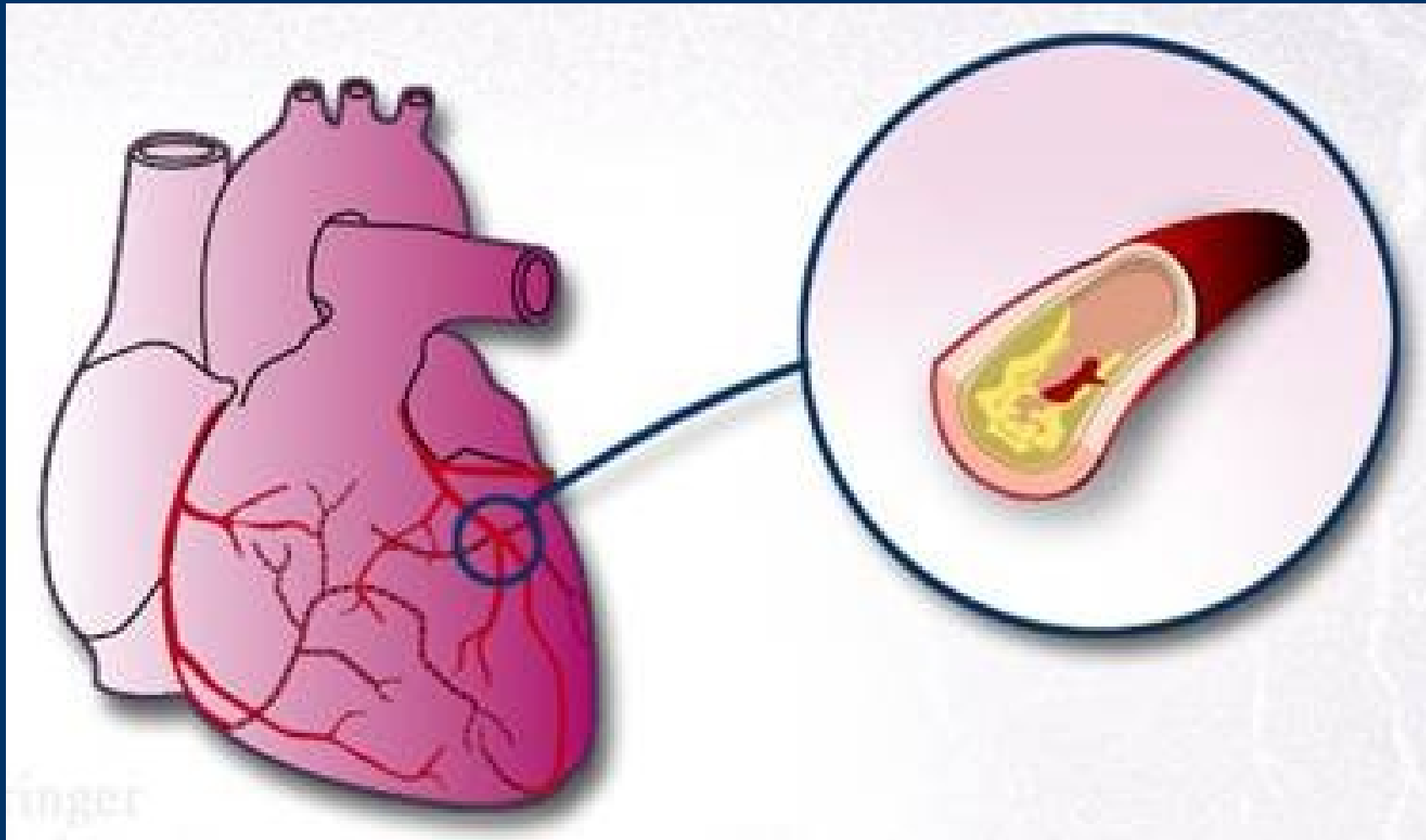
- artery supplies oxygen is blocked
- The heart muscle becomes starved for oxygen and begins to die.
- Heart disease is the leading cause of death (US, EU).

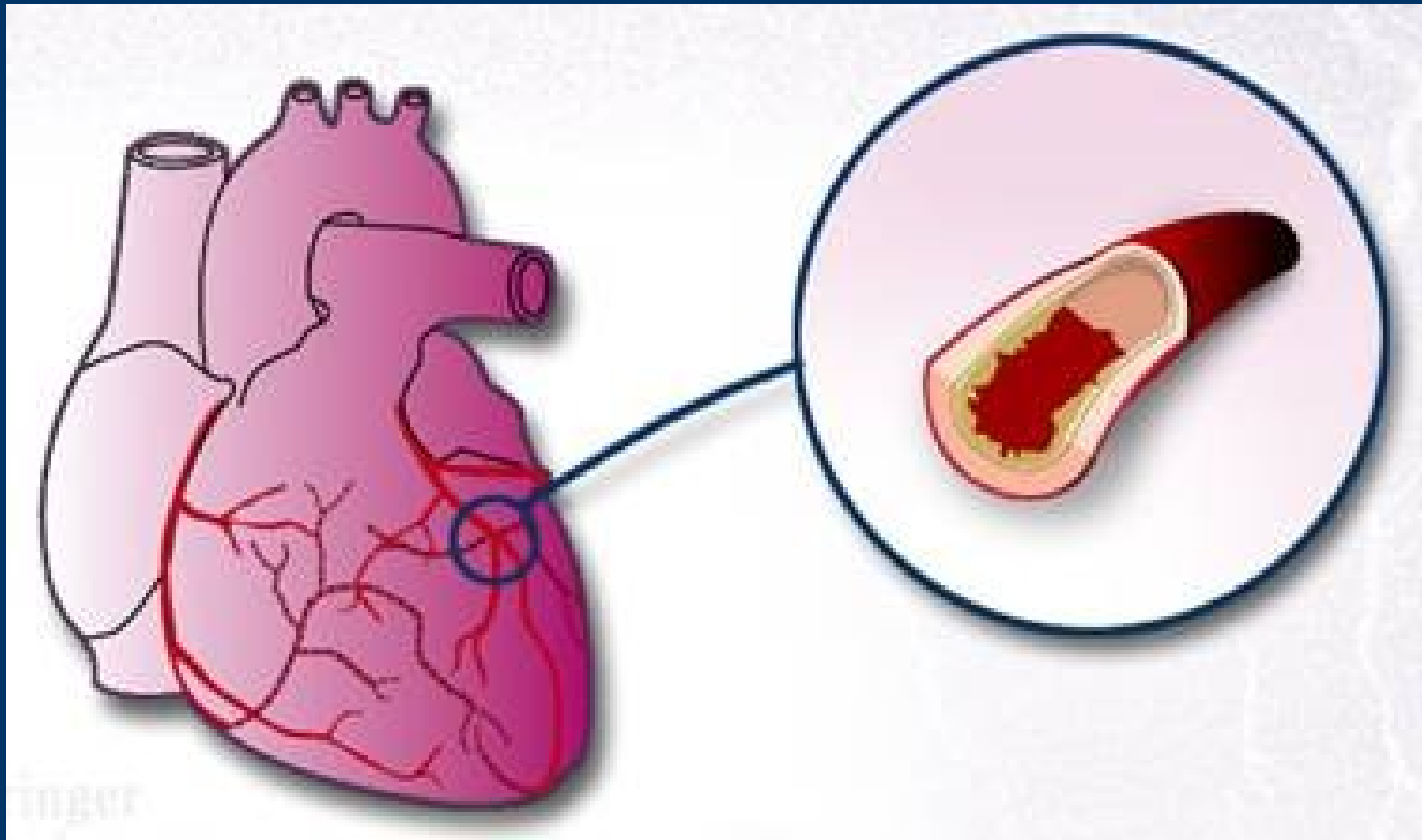


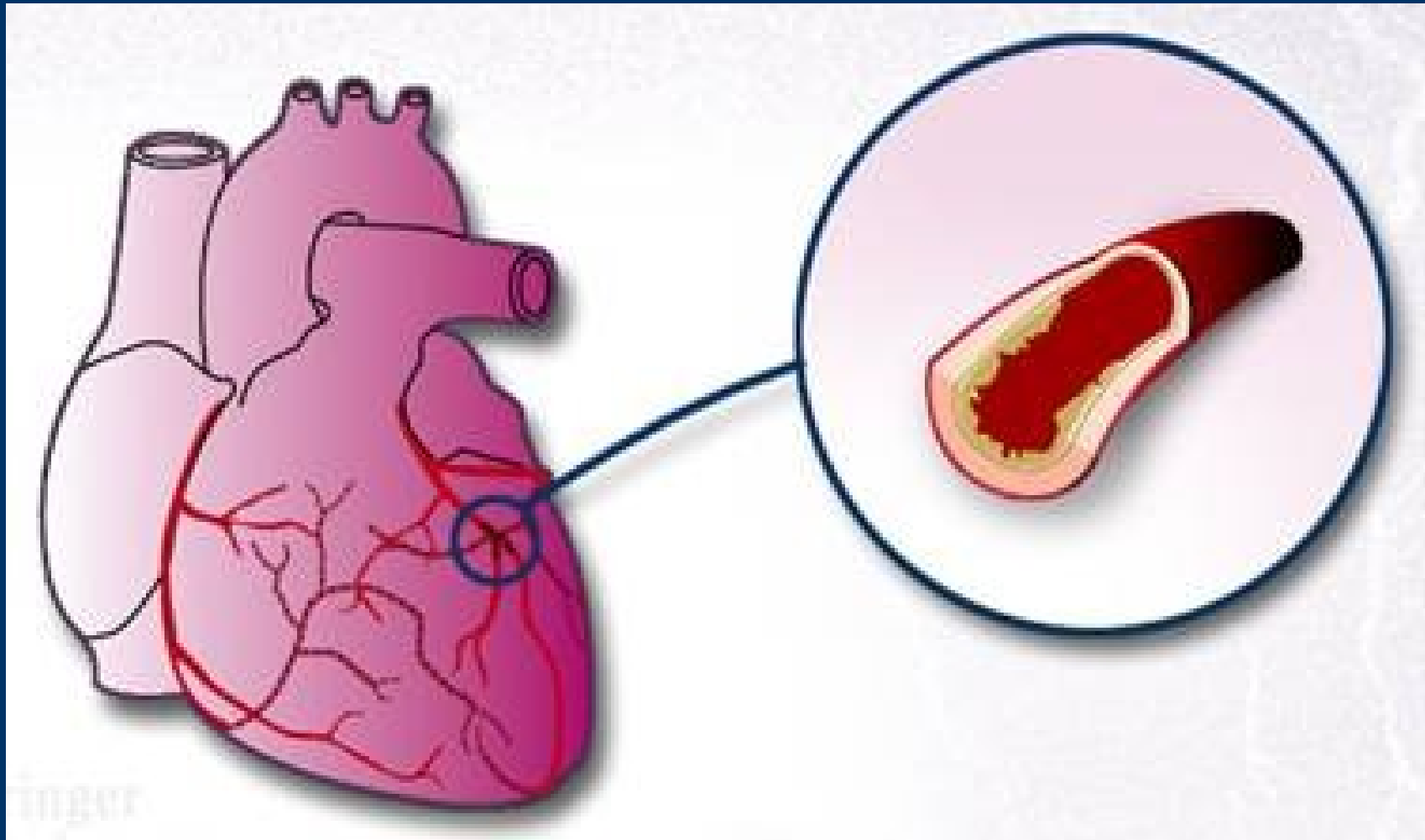
plaque

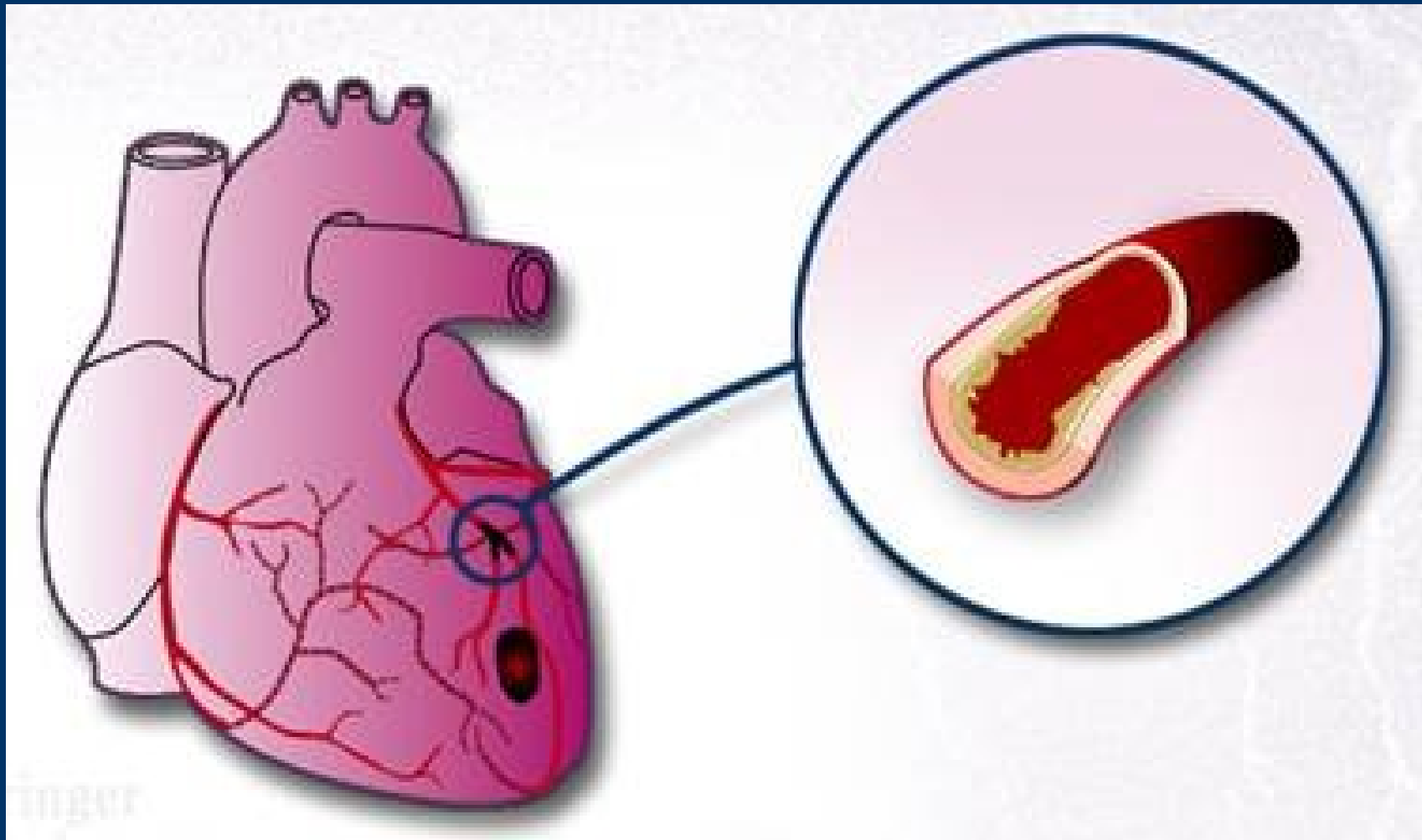


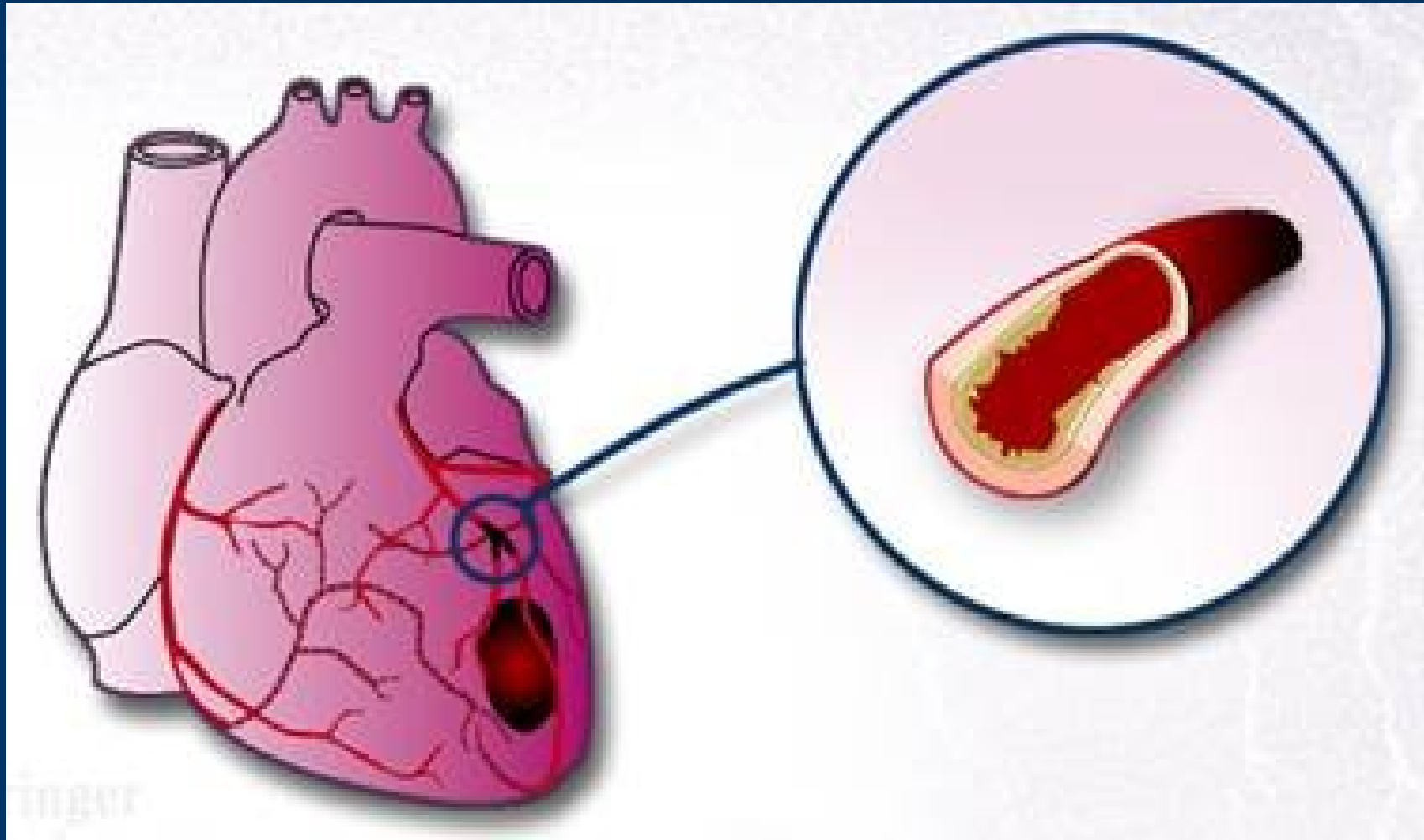
coagulation of blood

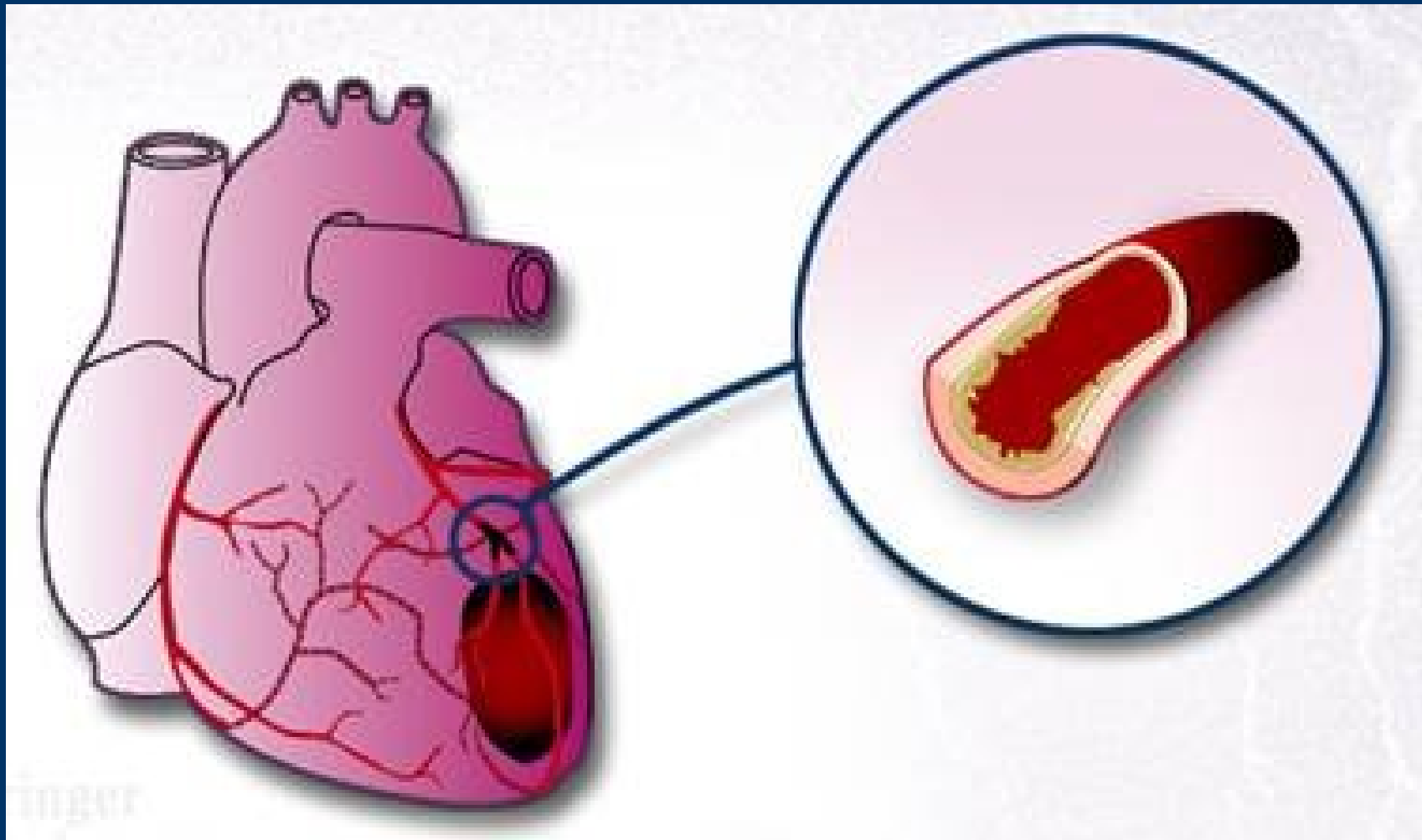


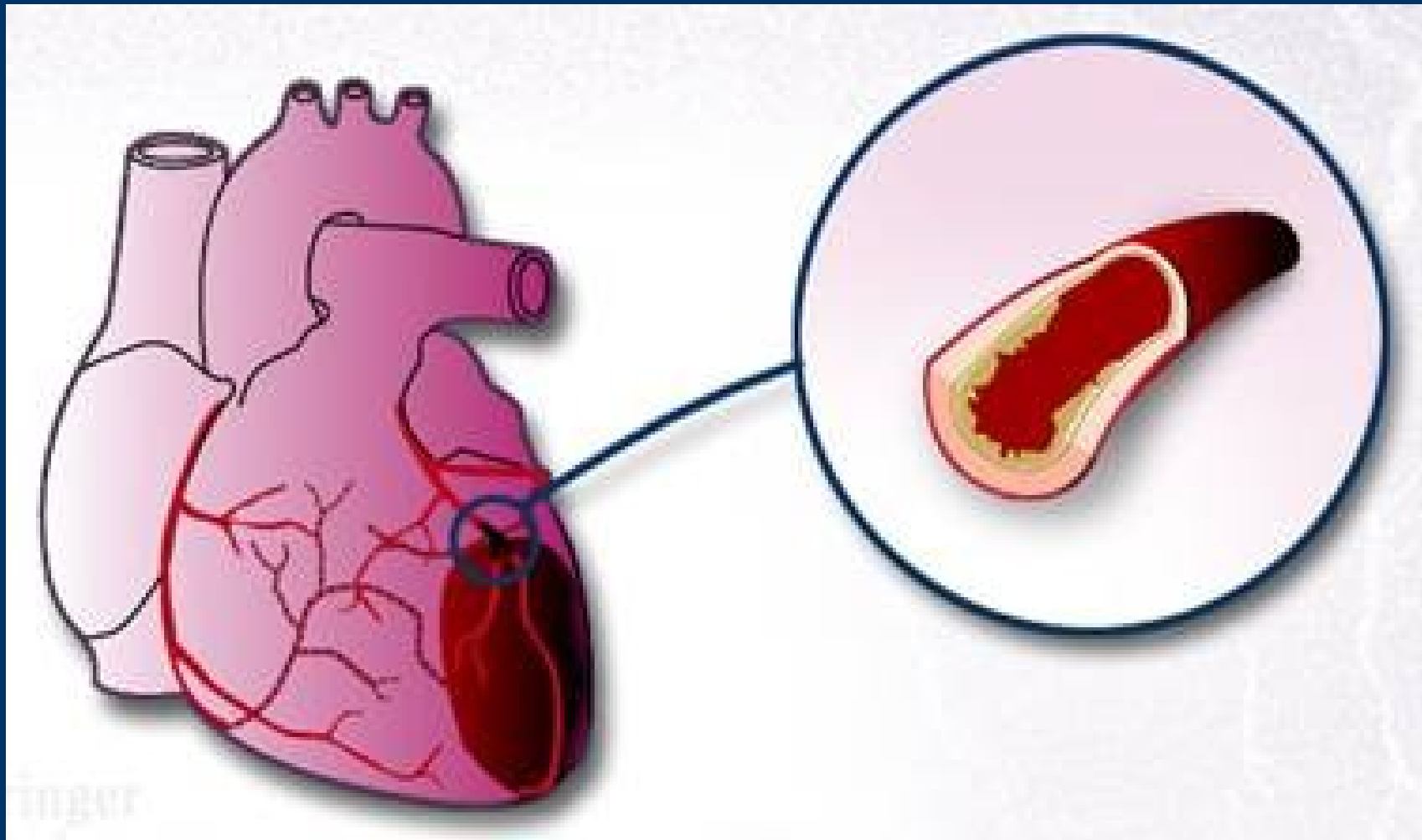




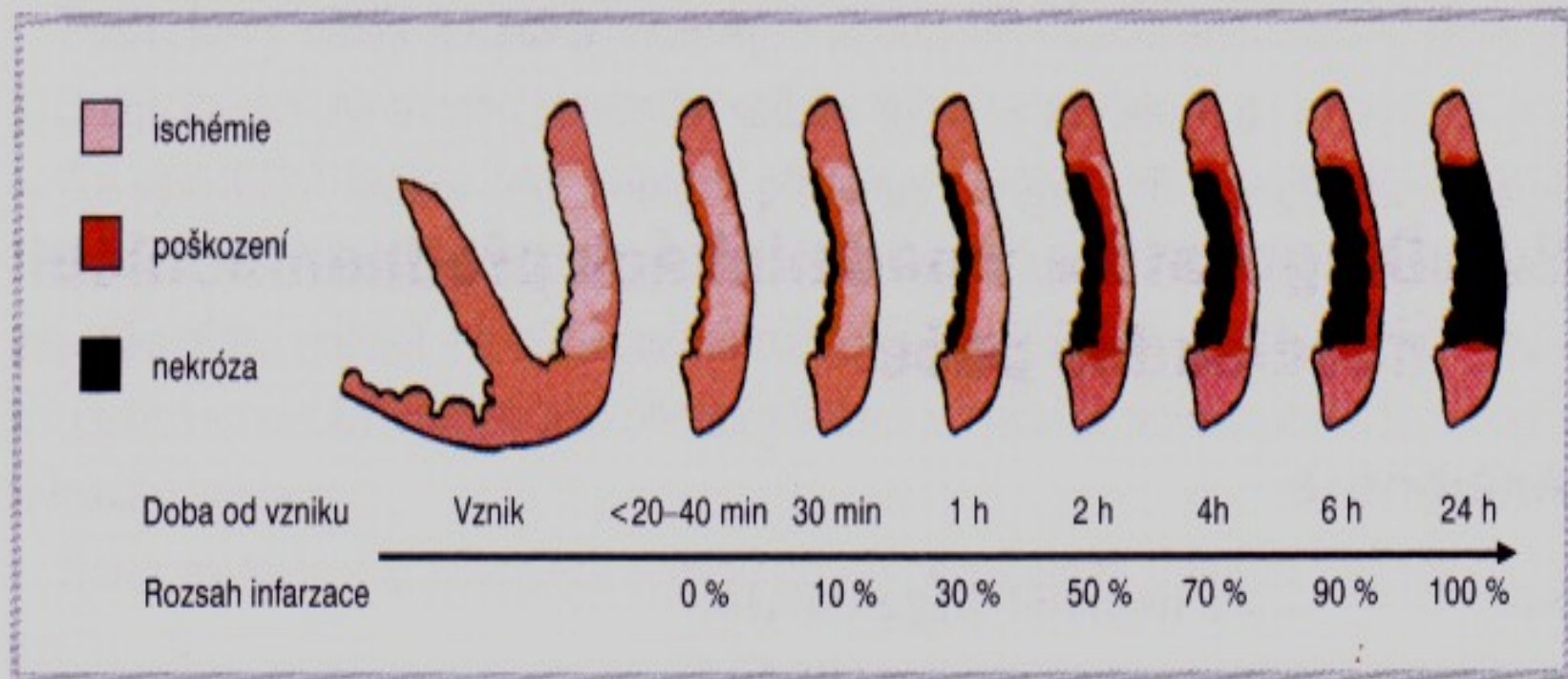








MI during time:



Obr. 8.1. Rozsah infarzace

Risk factors

- age
 - smoking
 - diabetes
 - male gender
 - high cholesterol level
 - high blood pressure (hypertension)
 - family history of heart disease/heart attack
 - obesity
 - atherosclerosis (hardening of the arteries)
 - lack of exercise and physical activity
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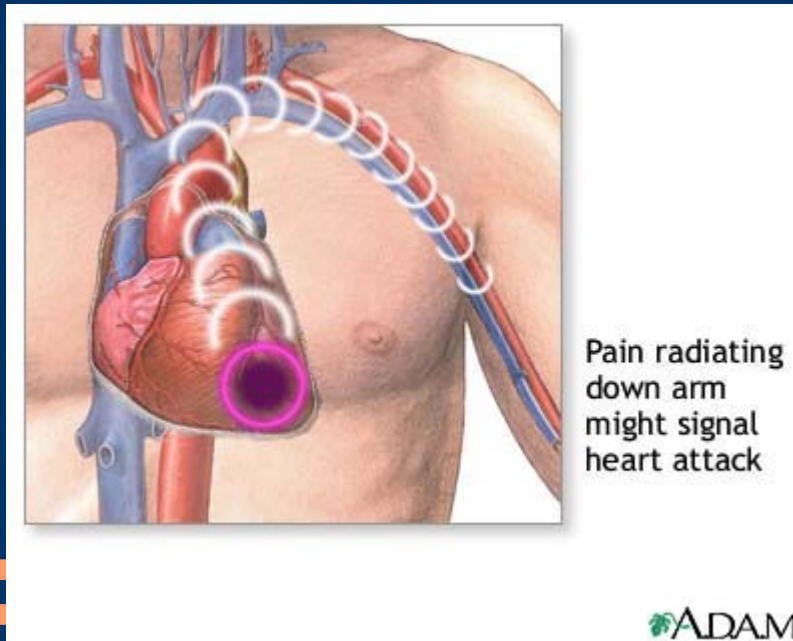
Where it happens?

- home (70%)
 - work (10%)

 - resting (45%) (morning time)
 - sleeping (17%)
 - daily activity (30%)
 - hard work (8%)
-
-

Warning signs and symptoms:

- Uncomfortable pressure, fullness or squeezing pain in the center of chest lasting more than a few minutes.
- Pain spreading to your shoulders, neck or arms.
- Lightheadedness, fainting, sweating, nausea or shortness of breath.



First aid:

- Have the person sit down, rest, and try to keep calm + ABC + nothing p.os, NO smoking
 - Loosen any tight clothing.
 - Ask if the person **takes any chest pain medication** for a known heart condition. + Help to take the medication (nitroglycerin, which is placed under the tongue).
 - If the pain does not go away promptly with rest or within 3 minutes of taking nitroglycerin, call for emergency medical help.
 - give ASA = acylpyrin= Anopyrin
 - unconscious: local emergency number + CPR.
-

Do not

- DO NOT leave the person alone except to call for help, if necessary.
 - DO NOT allow the person to deny the symptoms and convince you not to call for emergency help.
 - DO NOT wait to see if the symptoms go away.
 - DO NOT give the person anything by mouth unless a heart medication (such as nitroglycerin) has been prescribed.
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Pulmonary embolism

- An embolus is an accumulation of foreign material (usually a blood clot) that blocks an artery.
 - Tissue death occurs when the tissue supplied by the blocked artery is damaged by the sudden loss of blood.
 - Pulmonary embolism describes the condition that occurs when a clot (usually from the veins of the leg or pelvis) lodges in an artery of the lung.
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Signs and symptoms of PE:

- Sudden, sharp chest pain that begins or worsens with a deep breath or a cough, often accompanied by shortness of breath
 - Sudden, unexplained shortness of breath, even without pain
 - Cough that may produce blood-streaked sputum
 - Rapid heartbeat
 - Anxiety and excessive perspiration
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First aid

= As with a suspected heart attack

- ABC + rest + call for emergency medical assistance immediately.

Inflammation of lung and pleura



= Pneumonia with pleurisy

- chills + fever (tachycardia)
- cough
- pain
 - of inflammation of pleura
 - worsening by deep breath or cough
- fatigue



Drowning

- = Near-drowning means a person almost died from not being able to breathe (suffocating) under water
- disaster in the lung = H₂O

Why:

- jump to flat water
- fall to wildwater
 - head trauma / C spine
- Inability to swim or panic while swimming
- alcohol



CHILDREN AREN'T WATERPROOF

small children unattended around bathtubs and pools

How it works:

- After initial breath holding, when the victim's airway lies below the liquid's surface, an involuntary period of laryngospasm is triggered by the presence of liquid in the oropharynx or larynx. At this time, the victim is unable to breathe in air, causing oxygen depletion and carbon dioxide retention. As the oxygen tension in blood drops further, laryngospasm releases, and the victim gasps, hyperventilates, possibly aspirating variable amounts of liquid. This leads to further hypoxemia.
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First Aid

■ Safely - Out of water

If the water is too deep or dangerous to enter or if the victim is too far out to reach with a long object, a throwing assist may be wisest



ADAM.

If the victim is in deep or dangerous water but there is a dock to stand on, try a reaching assist with a long, sturdy object



ADAM.

People who have fallen through ice may not be able to grasp objects within their reach or hold on while being pulled to safety.

First aid:

- 1) Do not place yourself in danger. Do NOT get into the water or go out onto ice unless you are absolutely sure it is safe.
 - 2) (start the breathing while still in the water)
 - 3) Move victim to dry land - give CPR if needed.
 - 4) Assume neck or spine injury
 - 5) Keep the person calm and still. Seek medical help immediately.
 - 6) Remove any cold, wet clothes from the person and cover with something warm, if possible. = prevent hypothermia.
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DO NOT

- DO NOT go into rough or turbulent water that may endanger you.
 - The Heimlich maneuver is NOT part of the routine CPR
 - Do not go home
All near-drowning victims should be checked by a doctor. Even though victims may revive quickly at the scene, lung complications are common.
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Interesting web pages

www.heartfailure.org

www.bbc.co.uk/health/first_aid_action/es_drown.shtml

www.bbc.co.uk/health/first_aid_action/es_heart.shtml

