

Examination of the cardio-vascular system

Main syndromes in cardiology

Lecture 2 for 2nd year dentistry faculties
students

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Cardinal symptoms

- Chest pain
- Dyspnoea
- Oedema
- Palpitation
- Syncope
- Claudication

Heart disease risk factors

- Family history
- Smoking
- Obesity
- Diabetes mellitus
- Hypertension
- Hypercholesterolaemia

Examination of the cardio-vascular system

Complains

- Write the most common symptoms of heart disease:
 - dyspnea,
 - chest pain,
 - palpitations,
 - edema and syncope
- and make explanation of them.

Chest pain

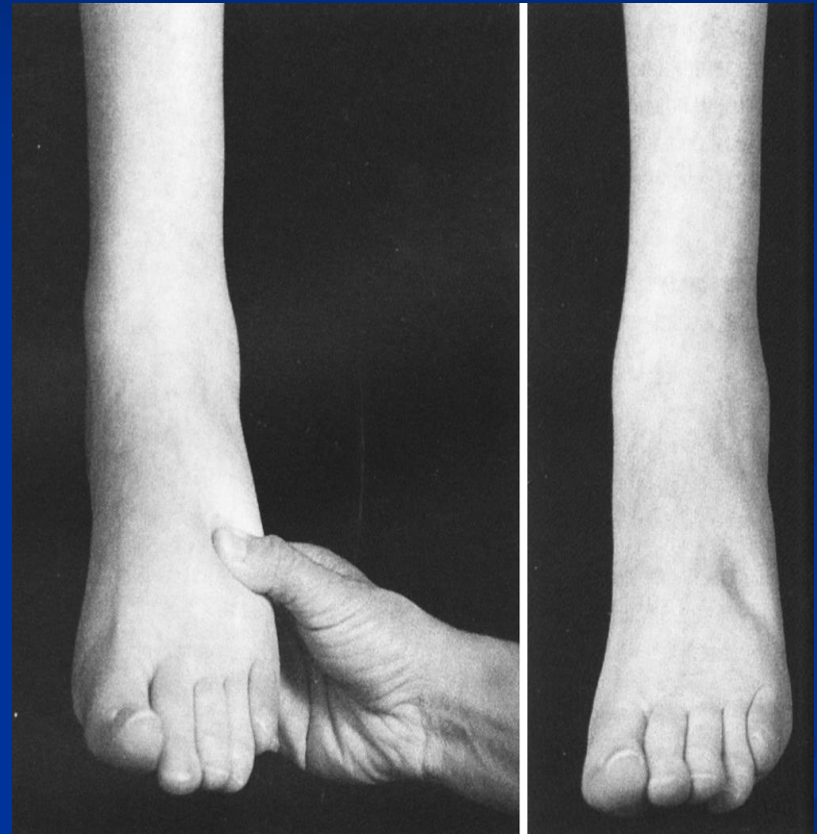
- **Chest pain** is a common complaint and their presence announces multiple problems on different systems, such as musculoskeletal, respiratory, cardiac, and gastrointestinal systems.
- The most common cause of acute chest pain related to cardiac problem is ischemia.

Dyspnea

- **Dyspnea** may be a sign of cardiac disease and indicate an elevated left atrial and pulmonary venous pressure or fluid overload.
- **Dyspnea** may also be caused by pulmonary disease.
- Cardiac dyspnea should be quantified by the amount of activity that precipitates it.
- **Orthopnea** is a dyspnea that occurs in recumbency, and the nocturnal paroxysmal dyspnea is an acute shortness of breath episode, that awakens the patient at night, occurs from 30 minutes to 2 hours after going to bed, and is relieved by sitting or standing up.
- Ask the patient the number of pillows, that he or she uses to relieve his or her symptoms to sleep well at night.

Edema

- **Edema** is a common complaint in patients with heart failure. Do not forget to examine his or her legs.
- One way to document signs of cardiac edema is to measure and document the patient's weight during the physical exam if previous weight is known.



Palpitations

- **Palpitations** are another symptom that may indicate cardiac disease. Palpitations are an awareness of the heart beating irregularly, rapidly, or unusually forcefully within the chest.
- Palpitations can be a normal phenomena that occur in athletes or in normal individuals; it is often associated with caffeine intake. Palpitations alone may be a symptom of diverse disease.

Syncope

- **Syncope** is an abrupt decrease in cerebral perfusion causing brief loss of consciousness (i.e., fainting). Fainting itself can be due to benign conditions.



Cyanosis, deep blue color of face and lips characteristic of death by asphyxia. G. Gresham, Color Atlas of Forensic Pathology, 1975.

Tachycardia

- **tachycardia, sinus tachycardia** /tak'ikar'de-/, an abnormal condition in which the heart (myocardium) contracts regularly but at a rate greater than 90 beats per minute. The heart rate normally speeds up in response to fever, exercise, or nervous excitement.
- Pathological tachycardia goes along with lack of oxygen (anoxia), as caused by anemia, congestive heart failure, bleeding, or shock.

Examination of the cardio-vascular system

- General observation – breathless, cyanosis, oedema
- Hands – temperature, peripheral cyanosis, haemorrhages
- Radial pulse – rate, rhythm, collapsing
- Arm – blood pressure
- Face – color of the skin, cyanosis

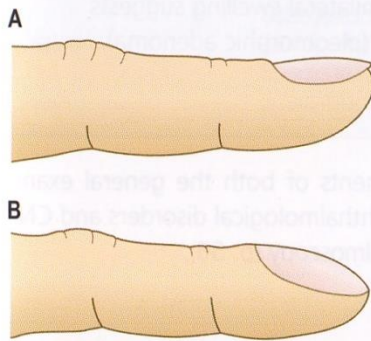


Fig. 3.3 Inspecting the nail bed angle.
 Note the difference between (A) normal and (B) clubbing, with loss of nail bed angle and increased curvature of the nail.

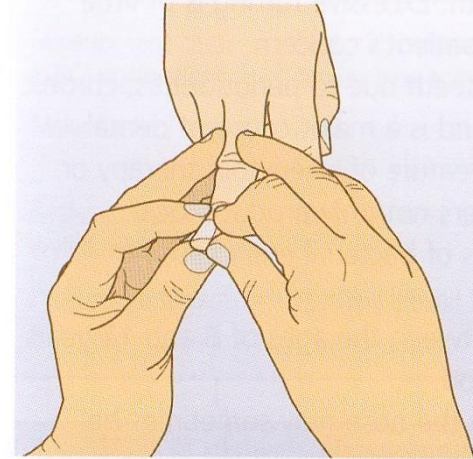
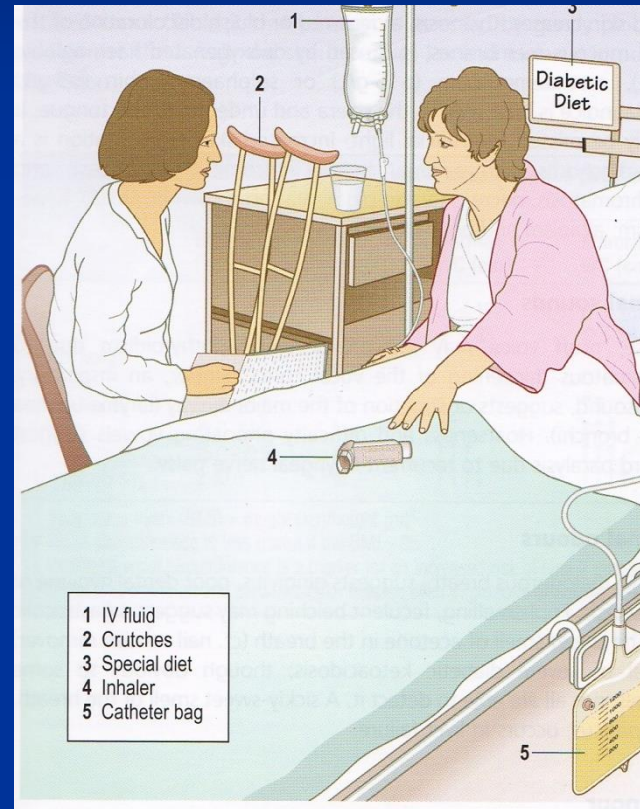


Fig. 3.2 Testing for fluctuation of the nail bed.

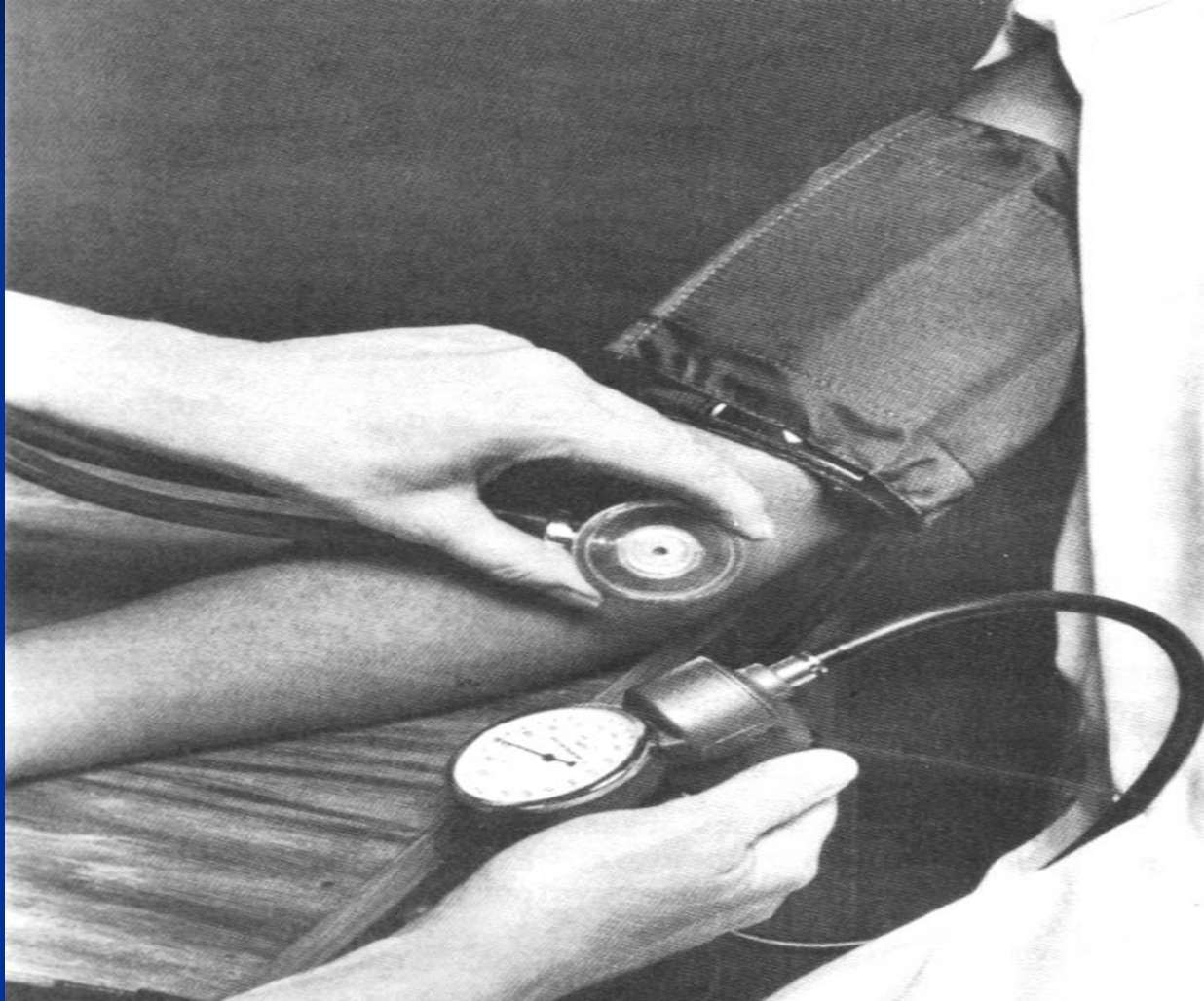
Examination of the cardio-vascular system

Chest -

- Inspection
- Palpation
- Auscultation



Blood pressure examination



Elevated blood pressure
> 140/90 mm Hg - abnormal

Classification of blood pressure (BP)

Class	Systolic BP	Diastolic BP
Optimale	<120	<80
Normale	<130	<85
High normal BP	130-139	85-89
Soft HT Subgroup Borderline HT	140-159 140-149	90-99 90-94
Moderate HT	160-179	100-109
Htavy HT	>180	>110
Isolate systolic HT Subgroup isolate systolic HT	>140 140-149	<90 <90

Cyanosis

Acrocyanosis

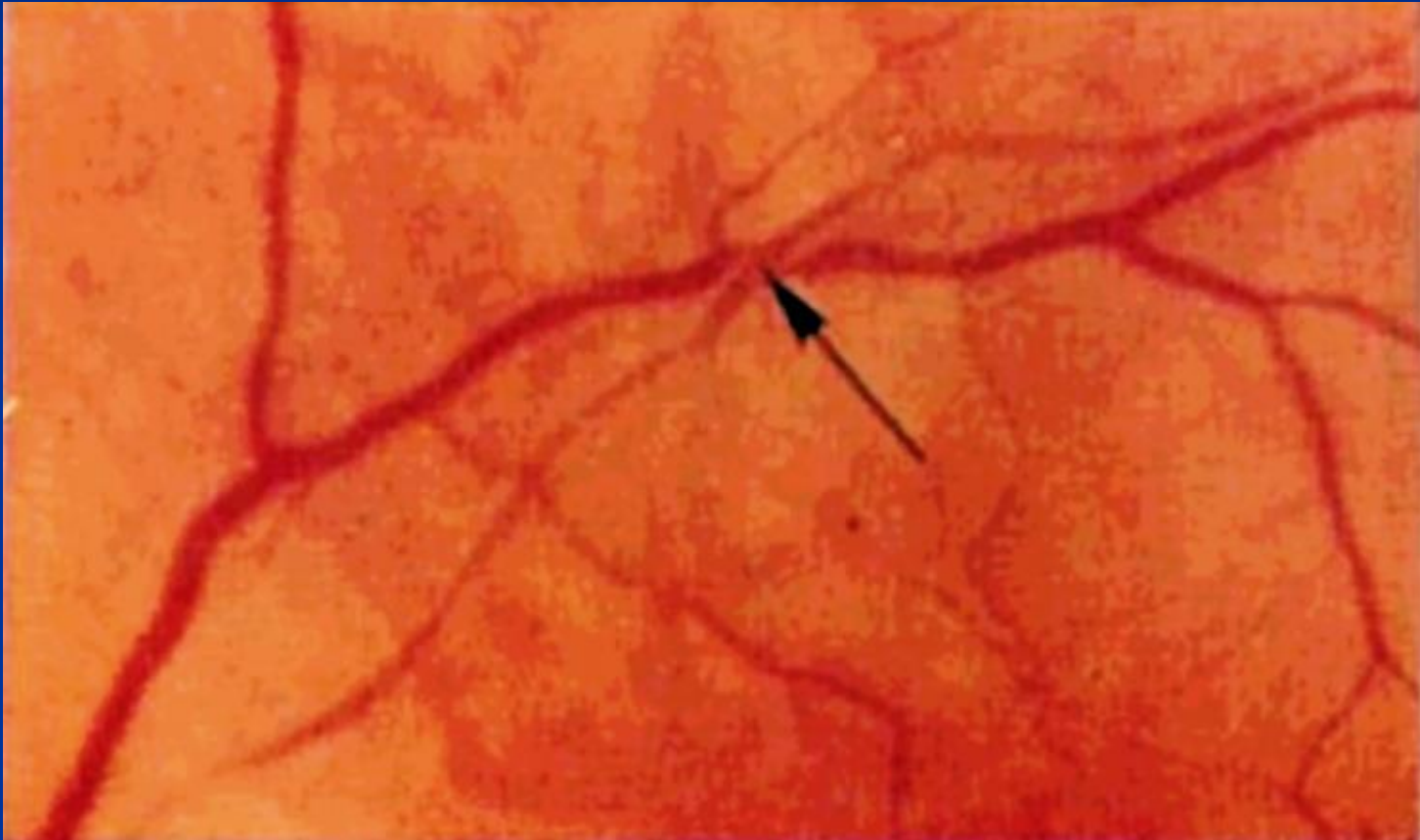


Petechia



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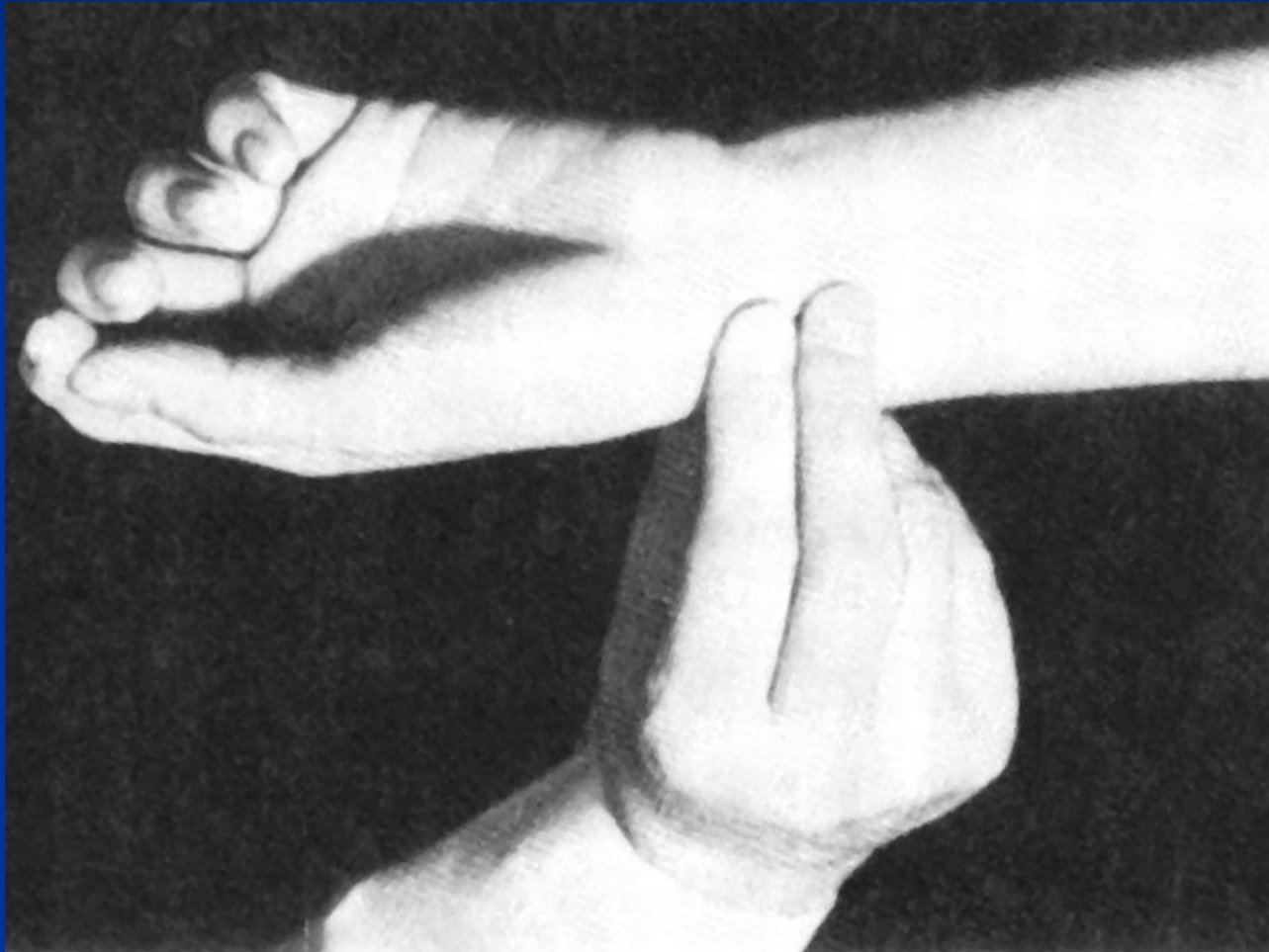
retinopathy /ret'inop'the/, a nonswelling eye disorder resulting from changes in the retinal blood vessels



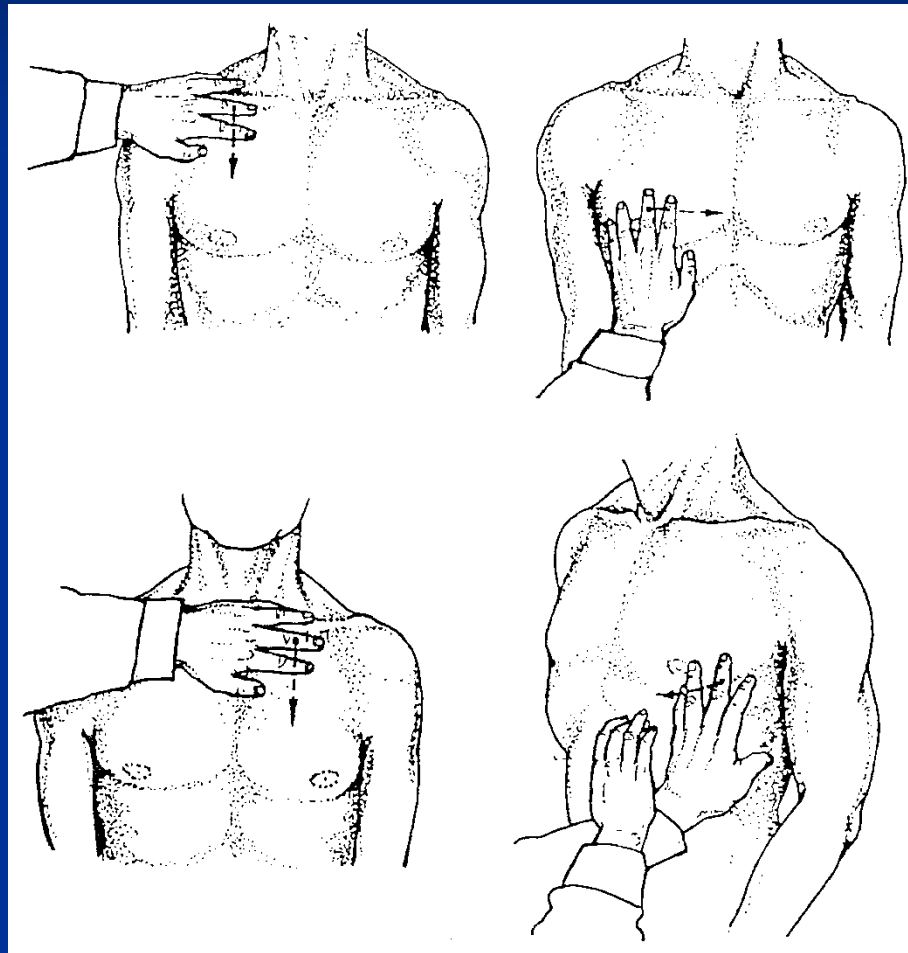
Pulse on slip arteries examination by sudden death



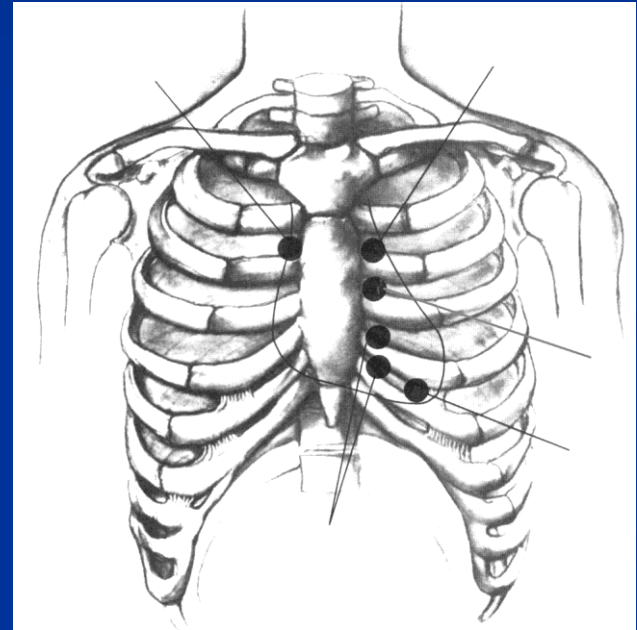
Pulse on radial arterials examination



Percussion of the cardiac area



Auscultation of the heart



■ Cardiovascular examination video

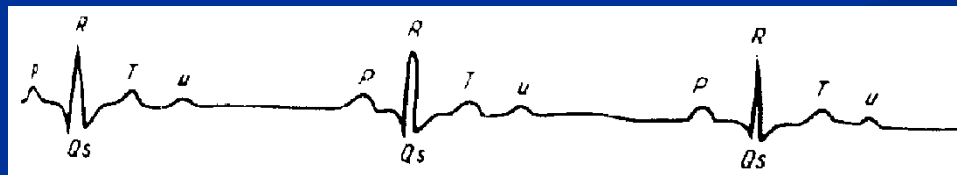
Main syndromes in cardiology

- 1. Chest pain (Angina pectoris)
- 2. Cardiac arrest
- 3. Acute coronary syndrome. Myocardial infarction
- 3. Cardiac failure, a state in which the heart cannot pump enough blood to meet the needs of the body.
- 4. Arrhythmia's
- 5. Valvular disease

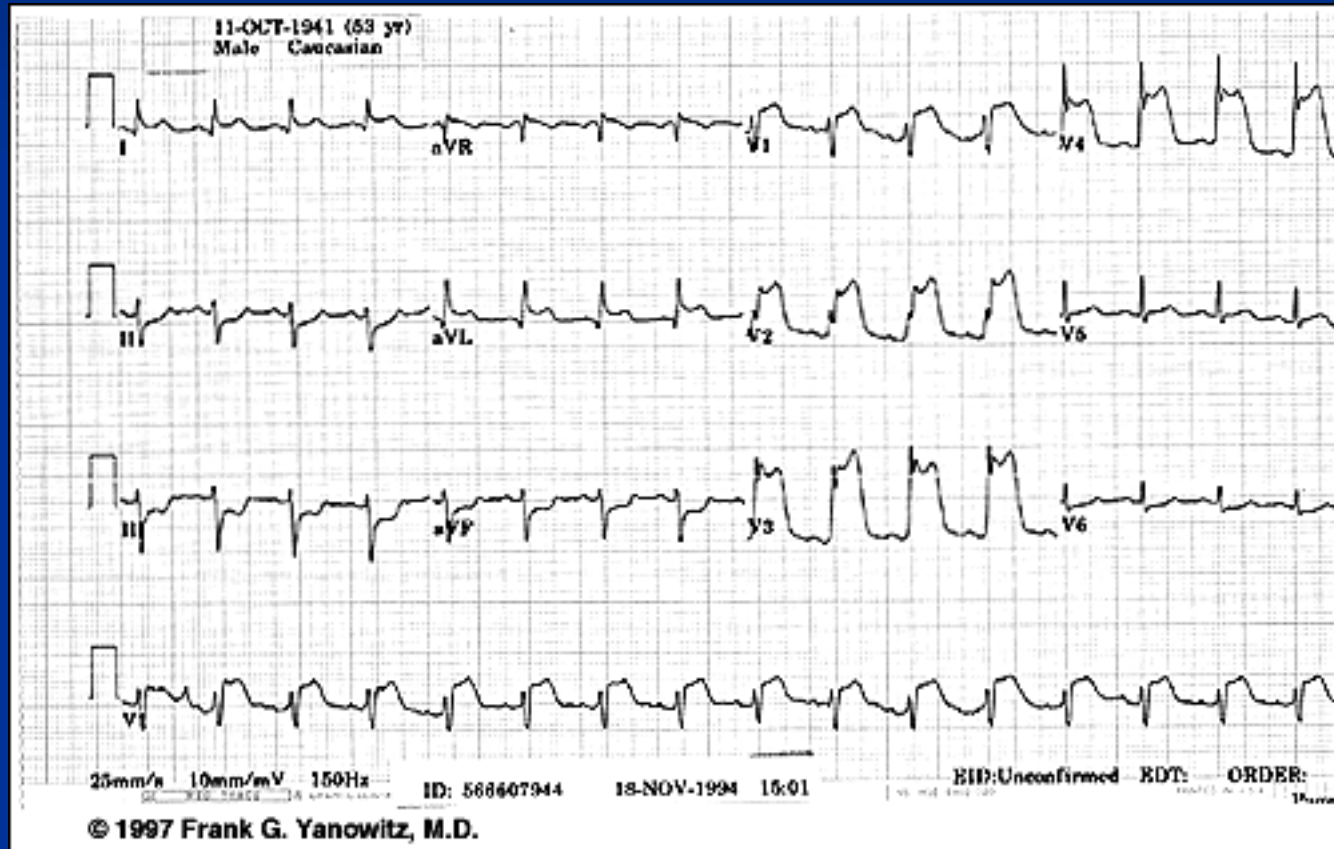
Instrumental methods of examination

- Clinical electrocardiography
- Clinical echocardiography (ultrasound diagnostic)
- X-ray diagnostics (radiography)
- Exercise tolerance test
- 24-hour ECG tape
- Angiogram/angioplasty
- Coronary artery bypass graft

Normal ECG



Abnormal ECG myocardial infarction

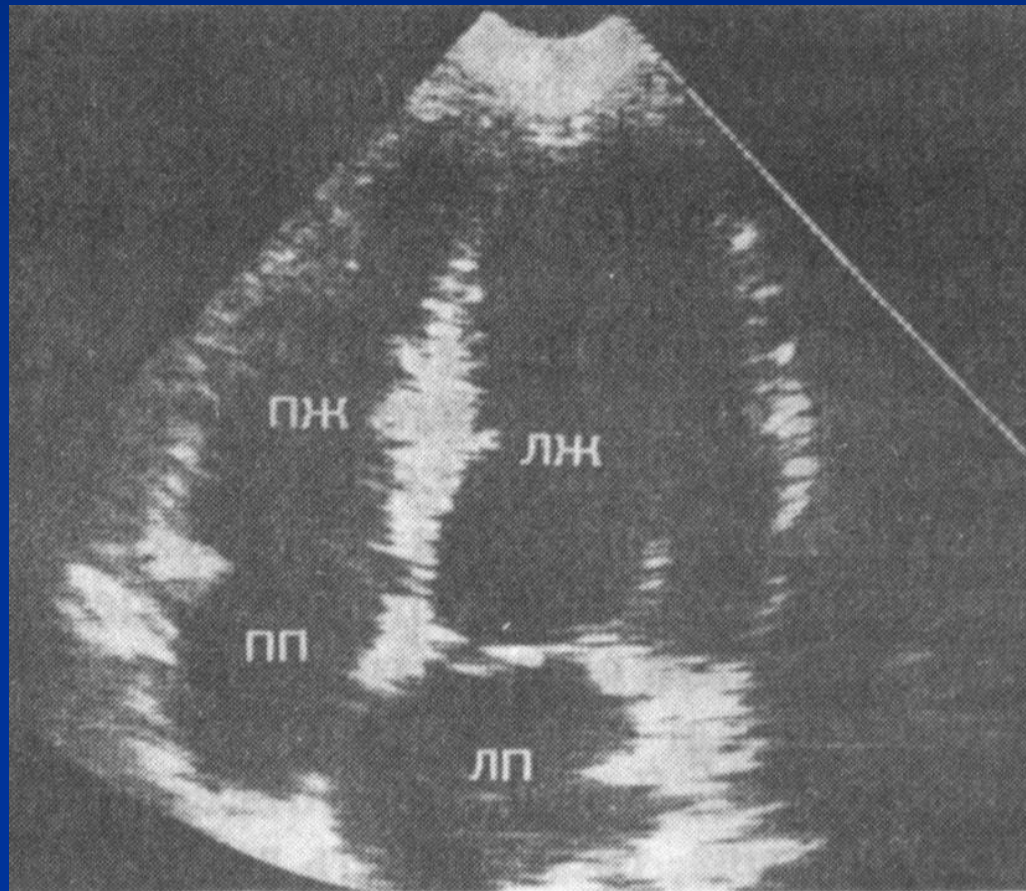


Abnormal ECG

Supraventricular paroxysmal tachycardia



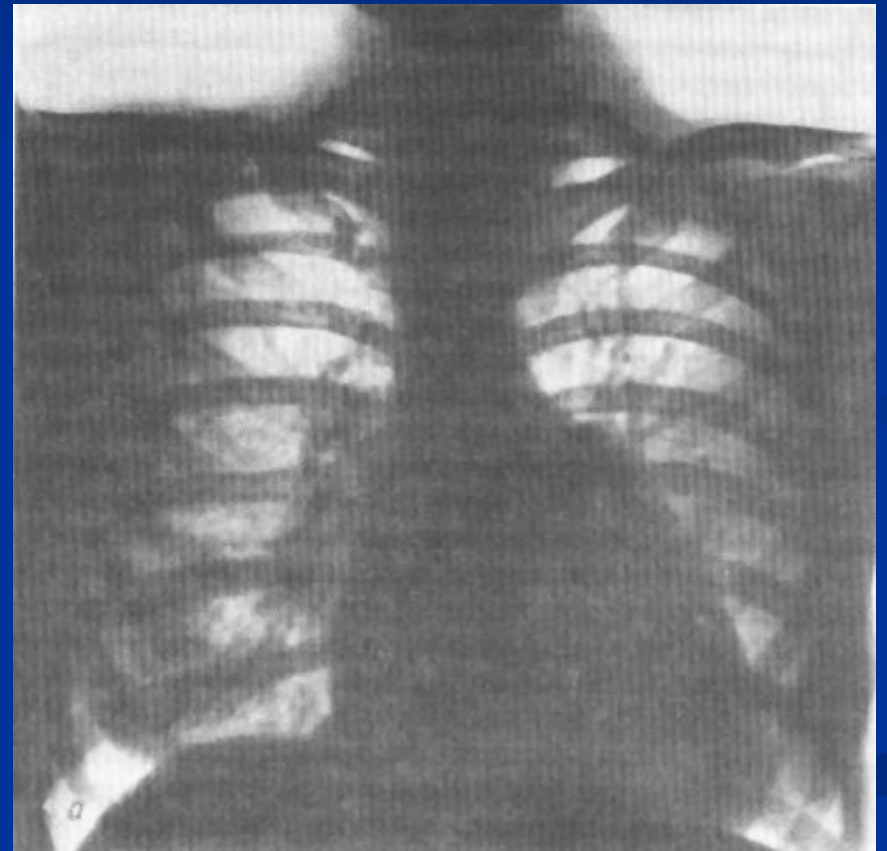
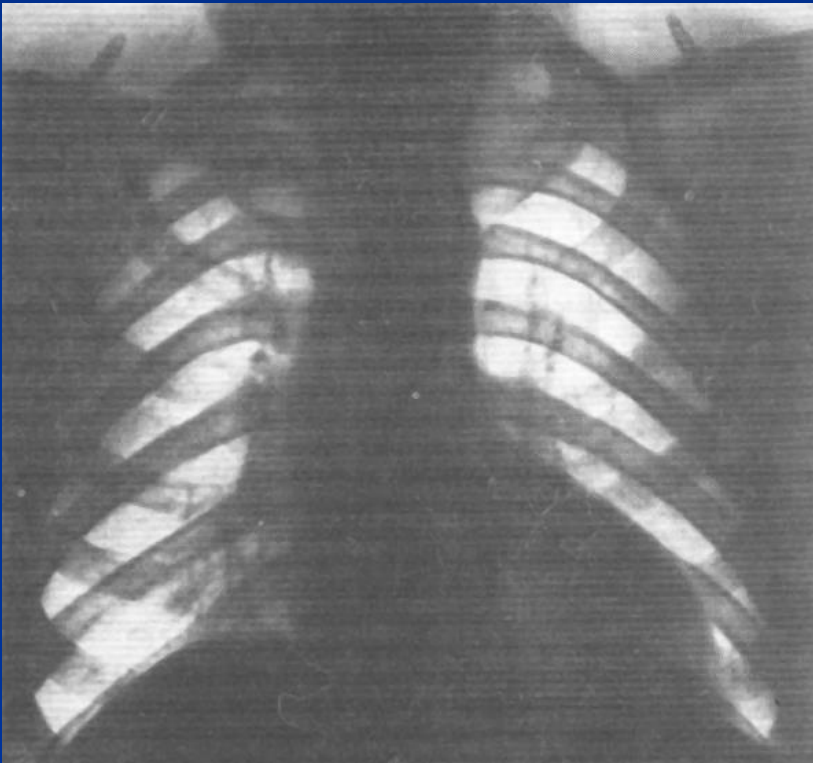
Ultrasound diagnostic



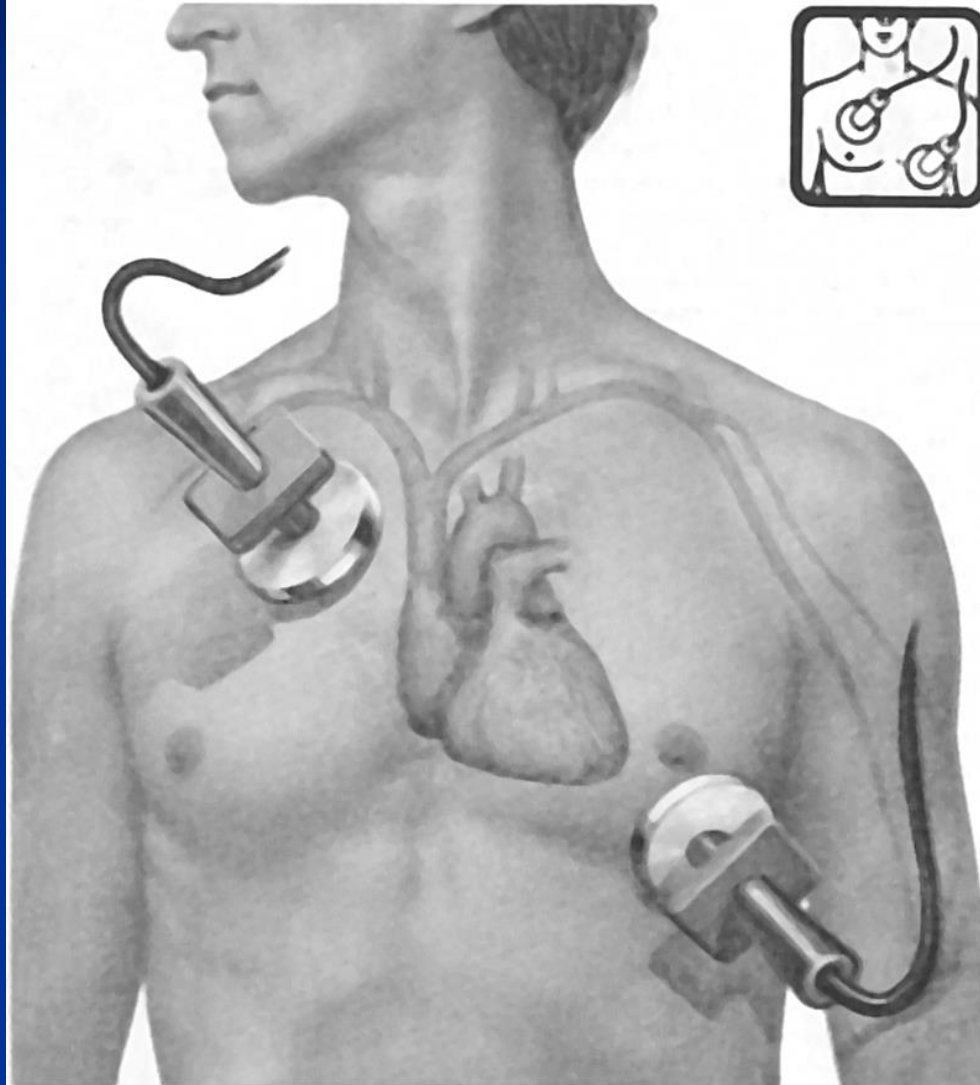
Normal radiography



X-ray diagnostics abnormal heart radiography



Defibrillation



Cardio-pulmonary resuscitation

