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Rheumatic diseases in GP Practice

Symptoms

Pain

- location, radiation, nature, intensity, dependence (on body position, movements, time of day) – assesment using VAS scale.

Stiffness

- location, time of day, duration (correlates with the severity of the inflammatory process); RA > 60 min, polymyalgia rheumatic > 30 min, osteoarthritis - a few minutes, spondyloarthritis - various duration.

Eyes and mouth dryness

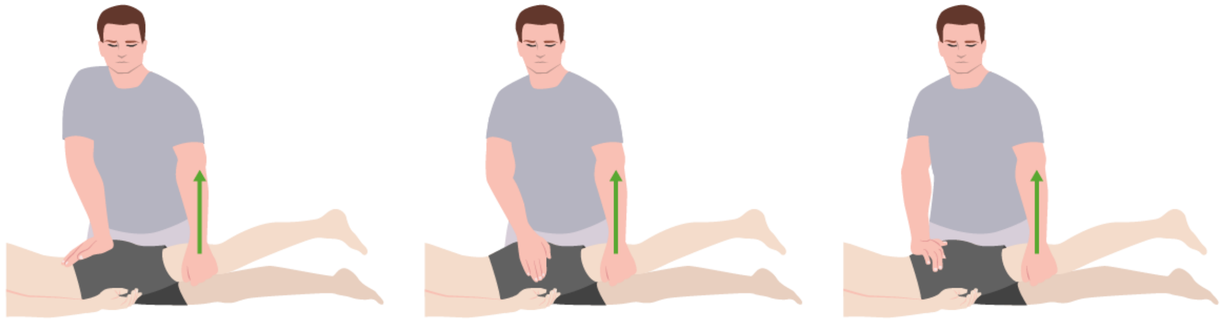
Skin induration

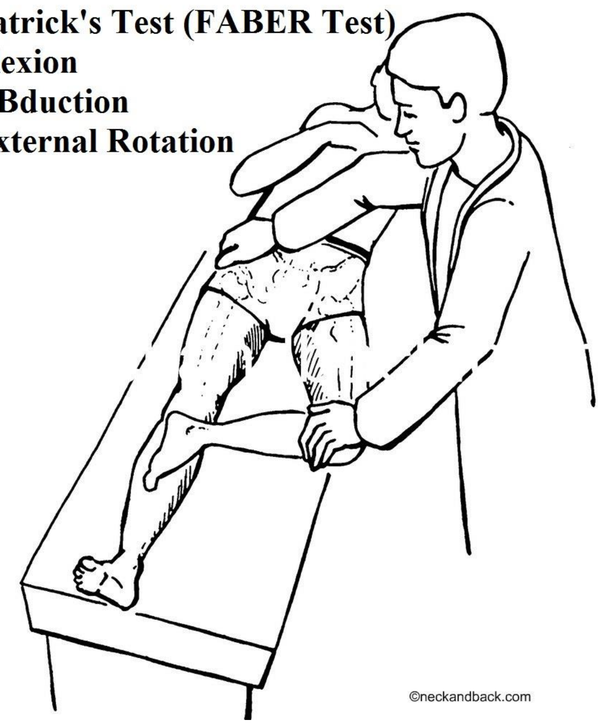
Physical examination

Spine joints:

- sacroiliac joints: Patrick test (pressure on the thigh area of a bent limb causes pain in the sacroiliac joint), Mennell sign (if the Patrick test is positive - during the examination of the sacroiliac joint, the examiner stabilizes the sacrum then performs passive hyperextension of the hip joint),

Mennell sign





Physical examination

Spine joints:

- mobility of the thoracic spine - mark point C7 and the point 30 cm below - then the patient bends; 5-12cm,

- mobility of the lumbar spine - mark the point L4/5 and the point 10 cm above - then the patient bends; ~4,5cm.

Attention! The head must be bent to the chest

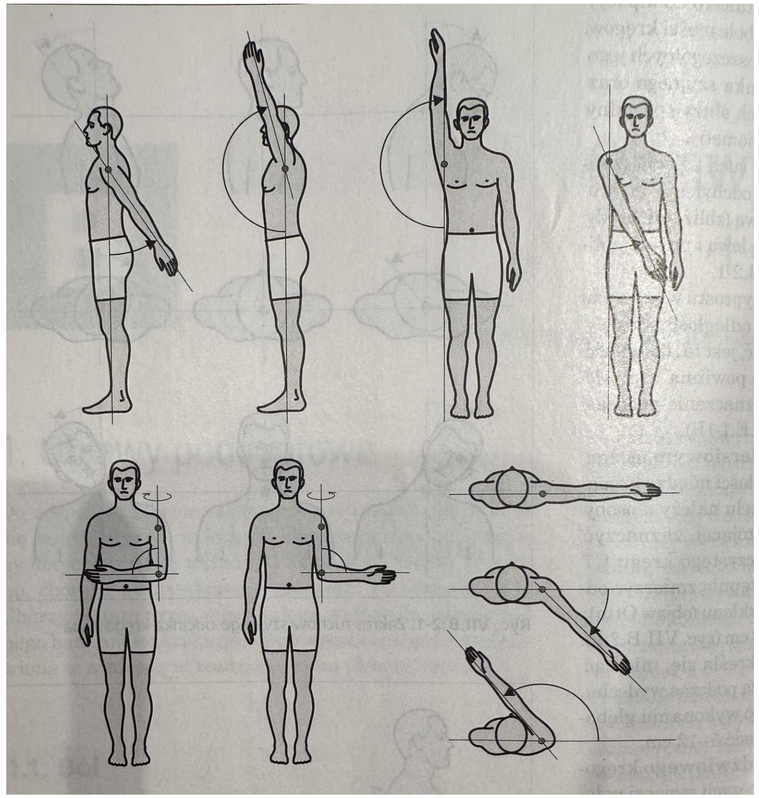
Physical examination

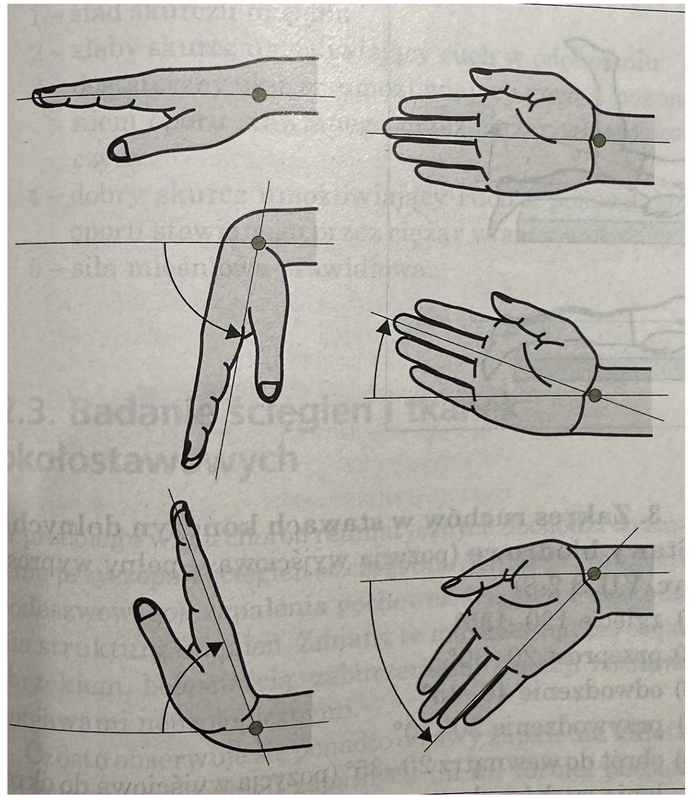
Peripheral joints:

•color, tension and warmth of the skin around the joints,
•determination of deformities (valgus, varus, subluxation, hyperextension, ulnarization, radialization), swelling or widening of the outline of the joints,
•examination of joint pain (diffuse, localized),
•detection of possible crepitus during movement,
•determining the range of joint mobility,
•detection of nodules around the joints, periarticular cysts and free foreign bodies in the joint cavities.

Physical examination

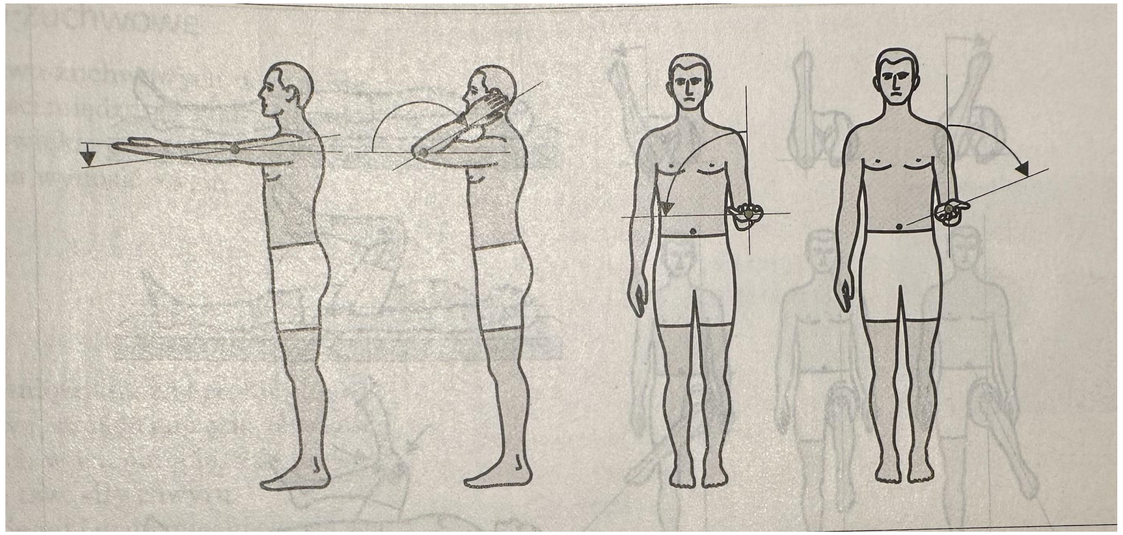
Peripheral joints:

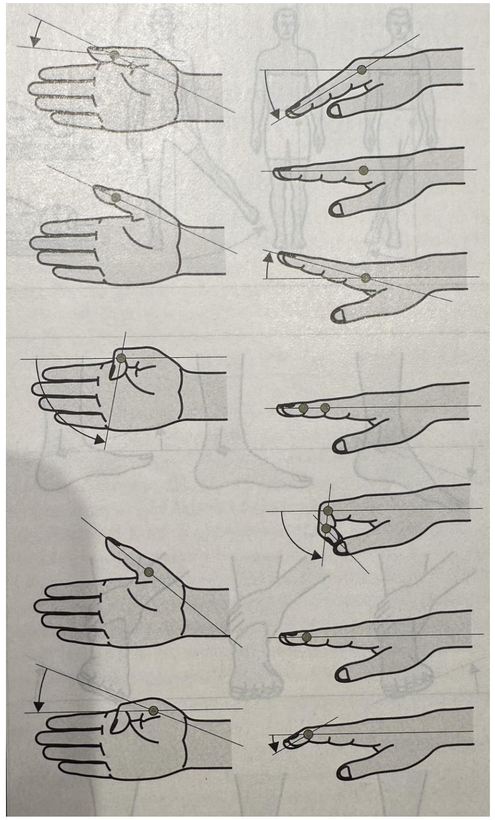




Physical examination

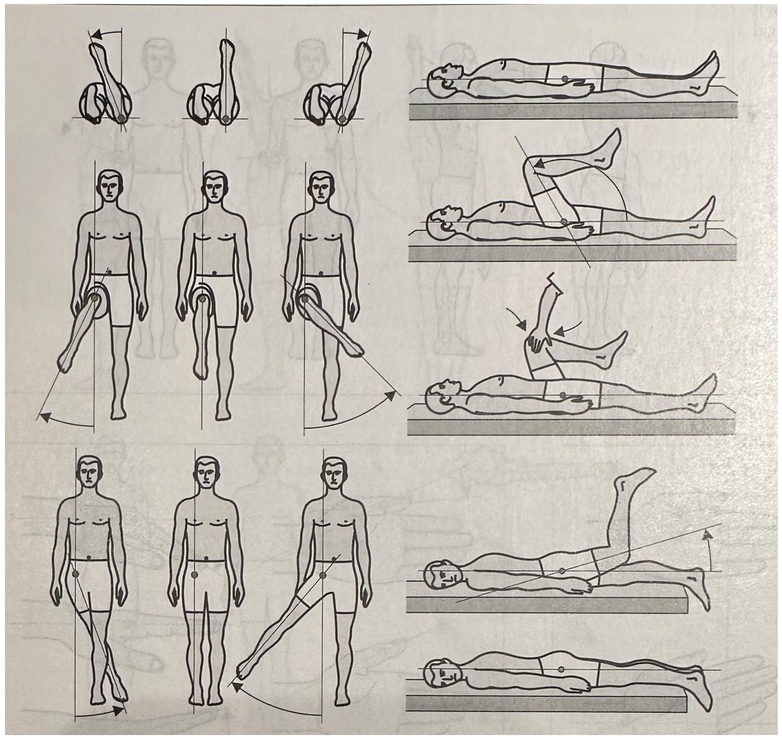
Peripheral joints:

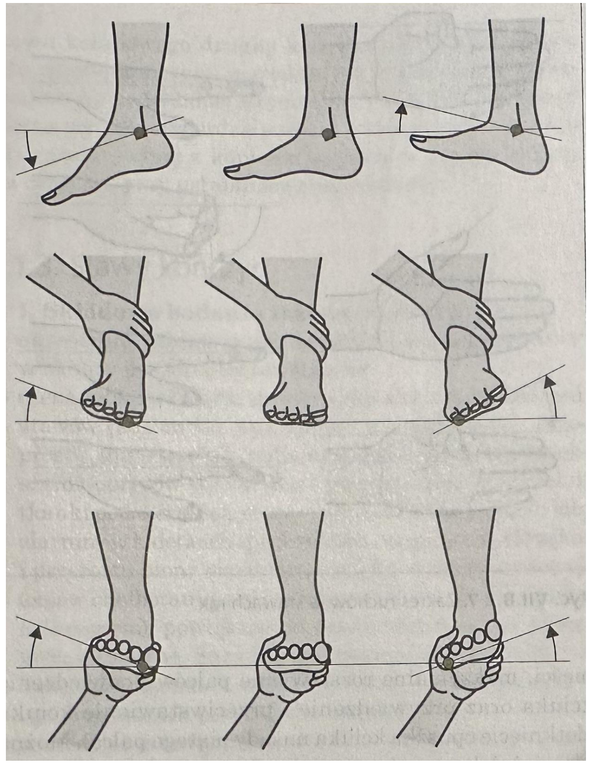




Physical examination

Peripheral joints:





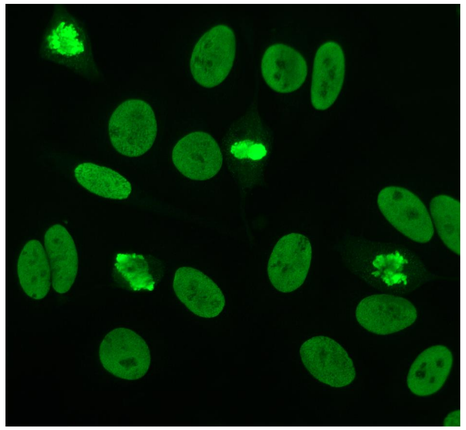
Physical examination

Soft tissue examination:

•muscle examination: atrophy, tactile pain, degree of tension or nodular changes within them,

•tendons and periarticular tissues: swelling, pain, impaired motor function and neurological symptoms.

Laboratory tests



- Blood count
- CRP
- ESR
- RF
- anti-CCP
- ANA (titer, type of illumination in immunofluorescence??)
- Complement components (C3, C4)
- ANCA
- APLA
- Other (ferritin, IL-6, fibrynogen etc.)

Imaging tests

- X-ray
- CT
- MRI
- Ultrasound
- Scintigraphy

Back pain syndromes

Pain or discomfort, such as a feeling of muscle tension or stiffness in the back.

It may affect the cervical spine (neck pain, ~15%), thoracic or lumbar spine (low back pain, ~80%), and radiate along one or both upper limbs, to the trunk (intercostal nerves), or along one or both limbs.

According to its duration, back pain is divided into acute (<4 weeks), subacute (from 4 weeks to 3 months) and chronic (>3 months).

Back pain syndromes

Non-specific pain: 90% of cases, the cause cannot be detected by imaging tests; narrowing of the intervertebral space, dehydration of the intervertebral disc, bulging of the intervertebral disc, spondylolisthesis, osteophytes, etc.

Specific pain: 10% of cases; may come from:
•intervertebral discs,
•intervertebral and sacroiliac joints,
•spinal nerves and their roots, as a result of their compression (hernia of the nucleus pulposus, spinal canal stenosis),
•the muscles and fascia of the back,
•the ligamentous-fascial-capsular apparatus of the pelvis.

Back pain syndromes – additional examinations

Red flags - compression of nerves, vertebral fracture, tumor, spine infection.

The differential diagnosis should include, among others, infectious arthritis, cancer, osteoporotic fracture.

The presence of red flags may indicate specific spine pain and the need for further diagnostics.

Back pain syndromes – treatment

Non-specific spine pain – patient education, physical activity, physiotherapy, pharmacological treatment:

•painkillers - non-steroidal anti-inflammatory drugs (NSAIDs); in case of contraindications, you can use paracetamol; tramadol and other opioids to patients with severe pain in whom other drugs are ineffective or contraindicated,

•specific treatment – non-benzodiazepine drugs that reduce skeletal muscle tension (e.g. methocarbamol, baclofen, tizanidine, pridinol) – can be added if NSAIDS are ineffective.

Specific spine pain – treatment of the underlying disease.

Osteoarthritis

Biological and mechanical factors destabilize the interrelated processes of degradation and formation of articular cartilage and the subcartilage layer of bone and ultimately involve all joint tissues.

Forms: primary (more frequent, cause unknown) and secondary (caused by local structural damage and abnormalities in the structure of the joint or systemic diseases).

Osteoarthritis

Osteoarthritis - symptoms

Joint pain - greatest intensity of pain during the first movements after a period of immobility (the so-called starting pain) and a gradual reduction during subsequent movements; nocturnal pain may suggest bone marrow involvement; pain during movement often comes from the periarticular soft tissues.

Restriction of mobility in the joint, with secondary atrophy of the surrounding muscles.

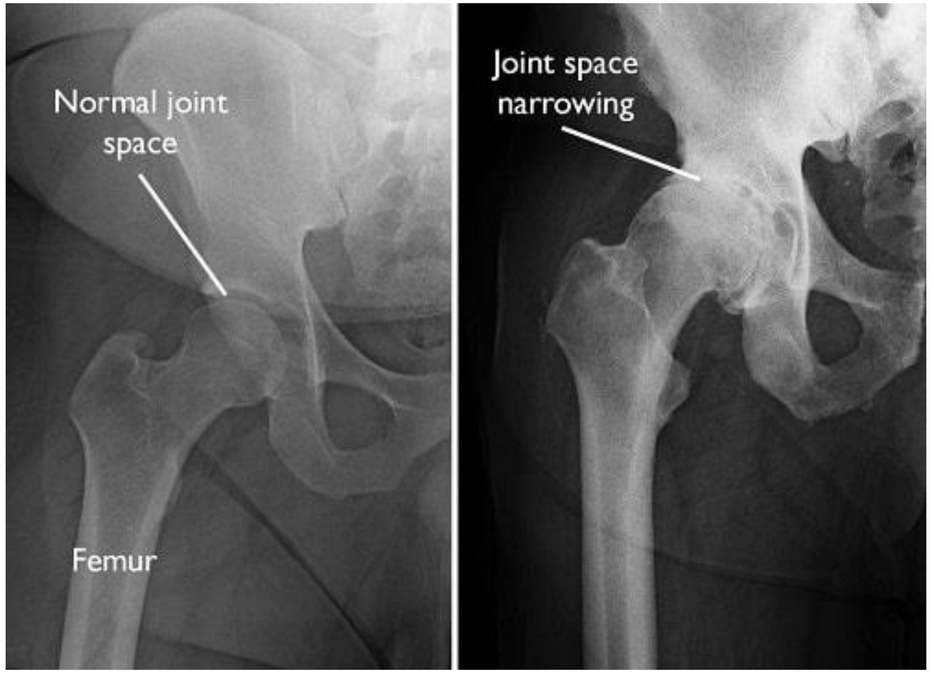
Rarer symptoms - dilatation and distortion of the joint contours, pain during joint palpation, crackling during movements, exudate.

Osteoarthritis – additional examinations

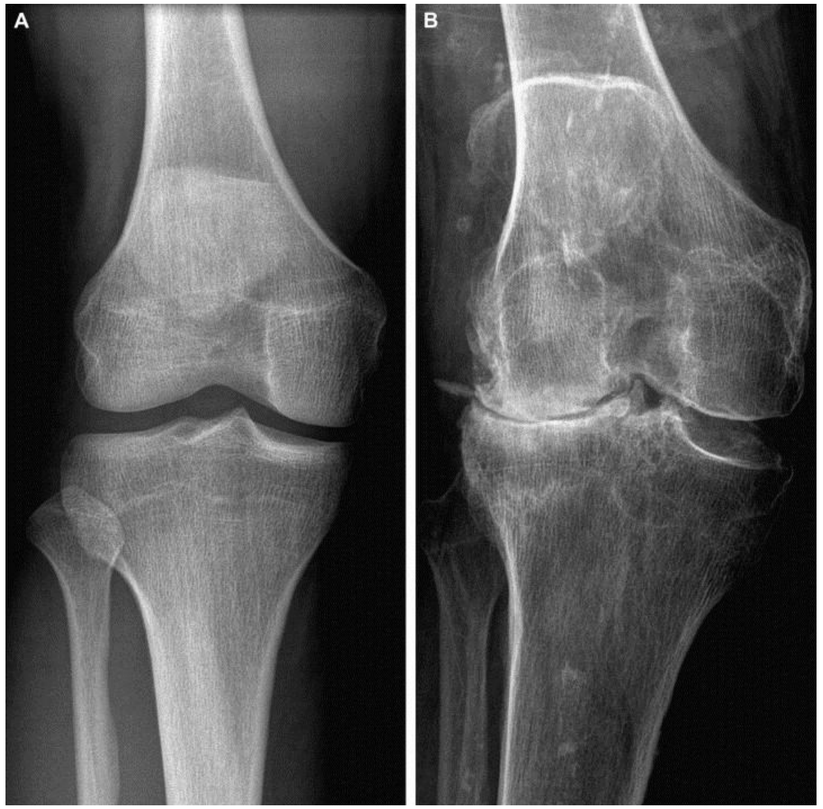
X-ray:

- typical changes are the narrowing of the joint cavity caused by the destruction of cartilage,
- degenerative cysts (geodes) in the epiphyses due to the destruction of bone tissue,
- thickening of subchondral bone tissue (sclerotization),
- osteophytes (bone growths) at the cartilage-bone border.

Osteoarthritis – additional examinations



Osteoarthritis – additional examinations



Osteoarthritis – additional examinations

Osteoarthritis – additional examinations

Non-pharmacological treatment:

•education,
•changing eating habits to reduce body weight in obese or overweight patients,
•adequate physical activity,
•kinesiotherapy (to maintain the range of joint motion and muscle strength; the intensity of the pain may also decrease); physiotherapy.
•orthopedic equipment (e.g. a canes, crutches, limb axis correctors, knee braces (including elastic bands), external kneecap medialization, orthosis securing the thumb metacarpophalangeal joint).

Rheumatoid arthritis - symptoms

Characteristic symptoms: symmetrical pain and oedema in the joints of the hands and feet, less often large joints; morning stiffness of varying duration, usually> 1 hour.

General symptoms: low-grade fever, muscle pain, fatigue, anorexia, weight loss.

Arthritis usually symmetrical; the wrist joints, the joints of the hands and feet affected early in the course of the disease. The proximal interphalangeal, metacarpophalangeal and metatarsophalangeal joints are the most commonly involved.

An atypical onset is possible - inflammation of one joint or in the form of palindromic form of disease.

In the early stage of the disease, the following findings are noted: a slight increase in warmth (without skin reddening!), joint painfulness during palpation joint and periarticular tissue oedema, joint effusion.

Rheumatoid arthritis

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Rheumatoid arthritis - symptoms

Extra-articular abnormalities:
•rheumatoid nodules - subcutaneous, painless, on the extension area, mainly on the forearms, also in places exposed to pressure, in internal organs,
•circulatory system – pericarditis, lesions in the myocardium and valves (rheumatoid nodules, cardiomyopathy), pulmonary hypertension, atherosclerosis and thromboembolic events (cardiovascular events are the most common cause of death in RA patients),
•respiratory system - pleurisy (exudate, often no symptoms), rheumatoid nodules in the lungs (fibrosis, calcification or infection), obliterating bronchiolitis and pulmonary fibrosis,

Rheumatoid arthritis - symptoms

When to suspect RA?

<u>medical history</u>

•recent onset (<1 year) joint symptoms
•symptoms from the metacarpophalangeal joints
•duration of morning stiffness ≥60 min
•greatest severity of symptoms early in the morning
•RA in a 1st degree relative

<u>physical examination</u>

•difficulties in clenching the hand into a fist
•positive compression test of the metacarpophalangeal joints.

<u>≥3 of the 7 criteria</u>

Rheumatoid arthritis – additional examinations

Laboratory tests: ESR> 30 mm after 1 h, increased concentration of fibrinogen and CRP, normocytic and hypochromic anemia, leucocytosis, thrombocythemia (in a very active form of the disease) or thrombocytopenia (as a drug complication); rheumatoid factor (RF) IgM in blood in ~ 75% of patients, anti-CCP.

X-ray of the joints - X-ray abnormalities depend on the period of the disease (osteoporosis, joint cavity narrowing, geodes, erosions, nodules).

Ultrasound – synovial hyperemia, exudation, synovial hyperplasia, erosions of the articular surfaces.

Rheumatoid arthritis – additional examinations

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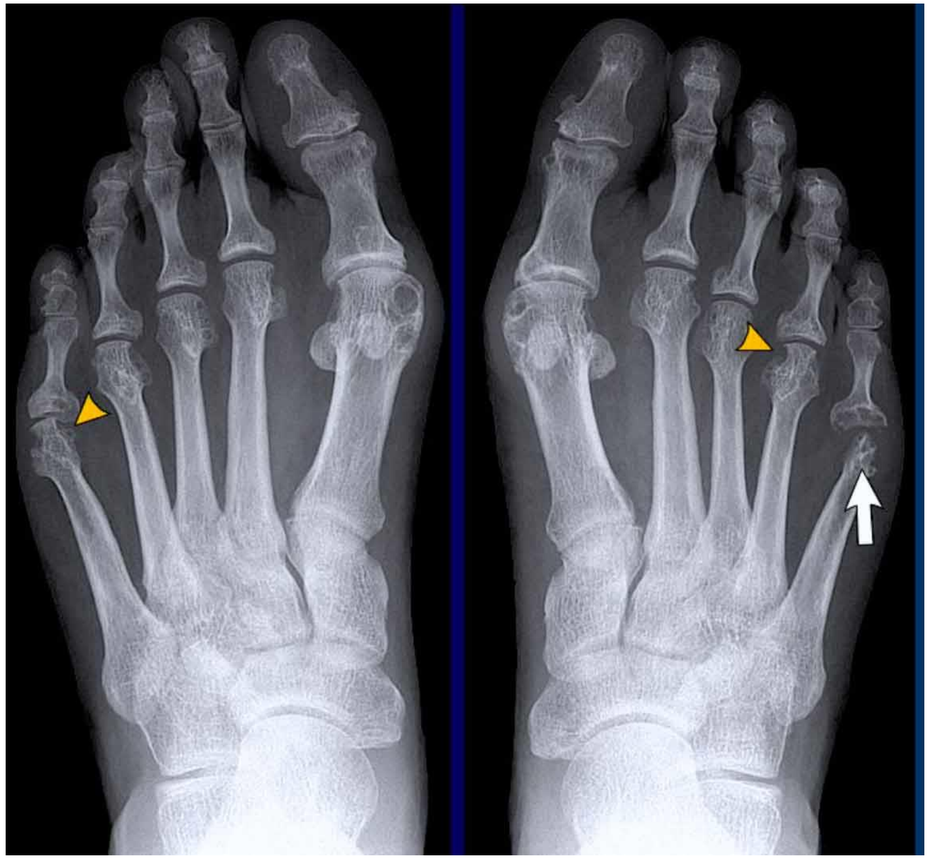

Rheumatoid arthritis – treatment

- Education.

- Pharmacological treatment - quick control of inflammation, i.e. achieving remission of the disease or low disease activity (NSAIDs, GCS, DMARDS).

- Rehabilitation - kinesiotherapy, physiotherapy.

- Orthopedic treatment - orthoses and orthopedic operations.

Rheumatoid arthritis – additional examinations

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Gout

Arthritis caused by the crystallization of sodium urate in the synovial fluid, phagocytosis of the crystals and the formation of their deposits in the joint tissues.

Acute symptoms: sudden, severe pain and swelling in the joint, erythema, skin is tight, shiny, the epidermis peels quickly, swelling is found in the subcutaneous tissue.

Symptoms most often affect the first metatarsophalangeal joint and appear early in the morning; they may also concern ankle and knee joints, and less frequently joints of the upper limbs.

If left untreated, the seizure usually lasts 7-14 days and is self-limiting.

Gout

Gout

Gout

Gout – additional examinations

Laboratory tests: increased serum uric acid (it may also be normal during a seizure), often increased urinary uric acid excretion, hyperlipidaemia, increased of glucose and serum creatinine;

X-ray - when there is the formation of crystal deposits in periarticular tissues, cartilage and bones, joint cavity narrowing, sharply outlined bone erosions, sometimes osteolysis.

Ultrasound - double contour or snow storm symptom.

Gout – additional examinations

Gout – additional examinations

Gout – additional examinations

Gout – treatment

Colchicine, NSAIDs, oral GCS (30-35mg prednisone for 3-5 days) or intra-articular GCS. Severe, polyarticular gout - consider combination therapy (colchicine with NSAIDs or GCS); ice packs can be used;

Treatment that reduces the serum concentration of uric acid ~ 2 weeks after the attack, during a gout attack (may cause its exacerbation); if used chronically should be continued.

Indications according to the ACR (2020):

- 1) recurrent seizures (> 2/year); also consider for less frequent seizures (<2 / year) and after the first attack in patients with chronic kidney disease ≥ stage 3, with serum uric acid> 535 μmol/l (9 mg/dl) or with urolithiasis;
- 2) ≥1 gouty nodule;
- 3) tissue damage caused by gout identified on imaging.

Gout – additional examinations

Treatment goal: to achieve and maintain a serum uric acid concentration of <360 µmol/L (6 mg/dL) for life.
In patients with tophi, chronic arthropathy, or frequent seizures, initially aiming at <300 µmol/L (5 mg/dL) for faster dissolution of sodium urate crystals.

Do not reduce uricemia <180 µmol / l (3 mg/dl) as this may increase the risk of Parkinson's disease and Alzheimer's disease!

Prophylactic treatment: In order to avoid an exacerbation of gout due to LAV, apply simultaneously (or continue) prophylactic anti-inflammatory treatment (colchicine 0.5–1 mg/day or low-dose NSAID, or GCS) for 3-6 months.

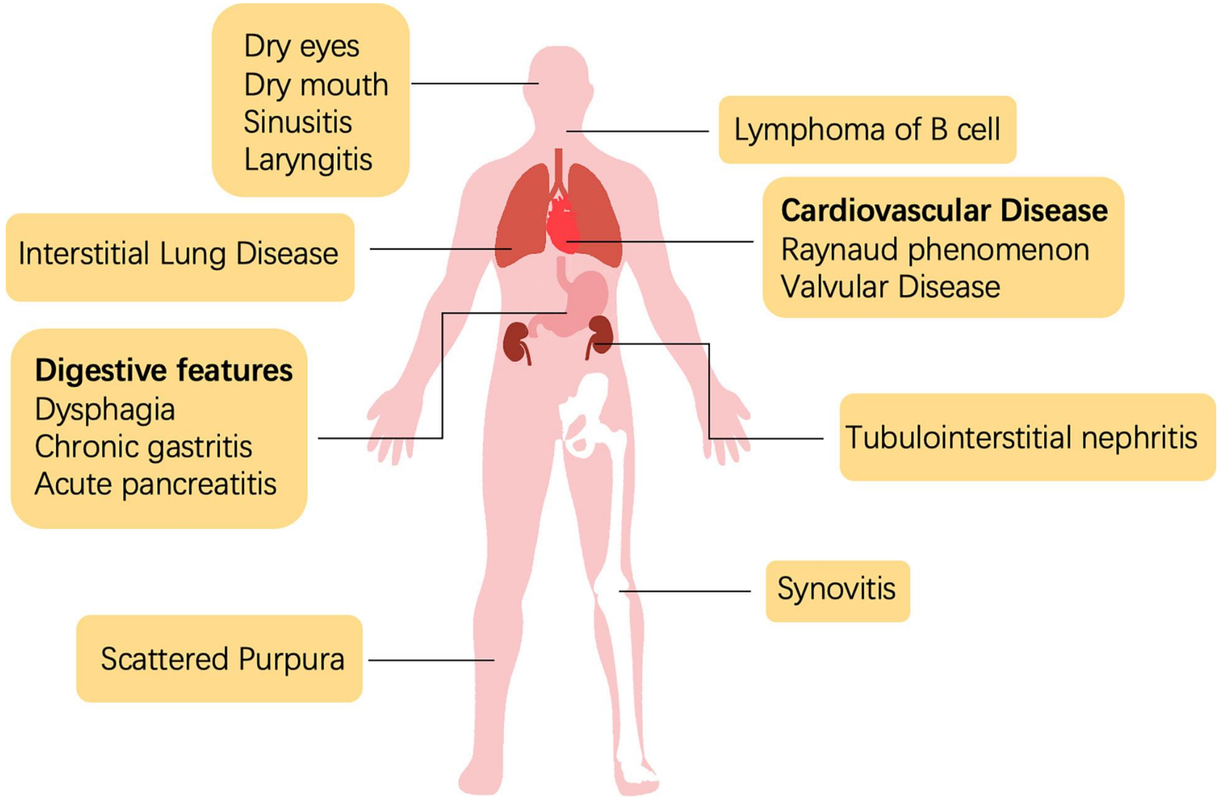
Sjögren syndrome

Chronic inflammatory autoimmune disease of unknown etiology with presence of lymphocyte infiltration and impaired function of lymphocytes, as well as inflammatory changes in many organs.

Primary syndrome (40% of cases) and a secondary syndrome (in the course of other diseases, usually RA).

More than 90% of patients are women. Peak incidence ~ 50 years of age.

Sjögren syndrome



Sjögren syndrome – symptoms

Symptoms related to damage in the glands:

•lacrimal - bilateral dryness of the cornea and conjunctiva (keratoconjunctivitis sicca) felt as the presence of "sand" under the eyelids, burning, scratching; hypersensitivity to light, wind, cigarette smoke; conjunctival hyperemia;

•salivary - a feeling of dry mouth, difficulty in chewing and swallowing food, speech difficulties, loss of taste, rapidly progressing tooth decay, difficulties in using dentures; enlargement of the parotid and submandibular salivary glands, inflammatory changes in the oral mucosa;

Sjögren syndrome – symptoms

•extra-glandular symptoms: systemic symptoms such as fatigue, low-grade fever, joint and muscle pain, sometimes RA-like arthritis, mild myopathy symptoms (may be preceded by dryness syndrome); Raynaud's phenomenon (~ 40%); lymphadenopathy (20%),

•lung lesions (usually oligosymptomatic or asymptomatic; rarely lymphocytic pneumonia, nodular lesions or lymphoma),

•kidneys (mainly interstitial inflammation, less often tubular acidosis, sometimes urolithiasis and impaired renal function);

•pancreatitis, liver enlargement; primary sclerosing cholangitis;

•inflammation of small skin vessels in the form of purpura, urticaria, ulceration,

•peripheral neuropathies; dry and itchy skin.

Sjögren syndrome – symptoms

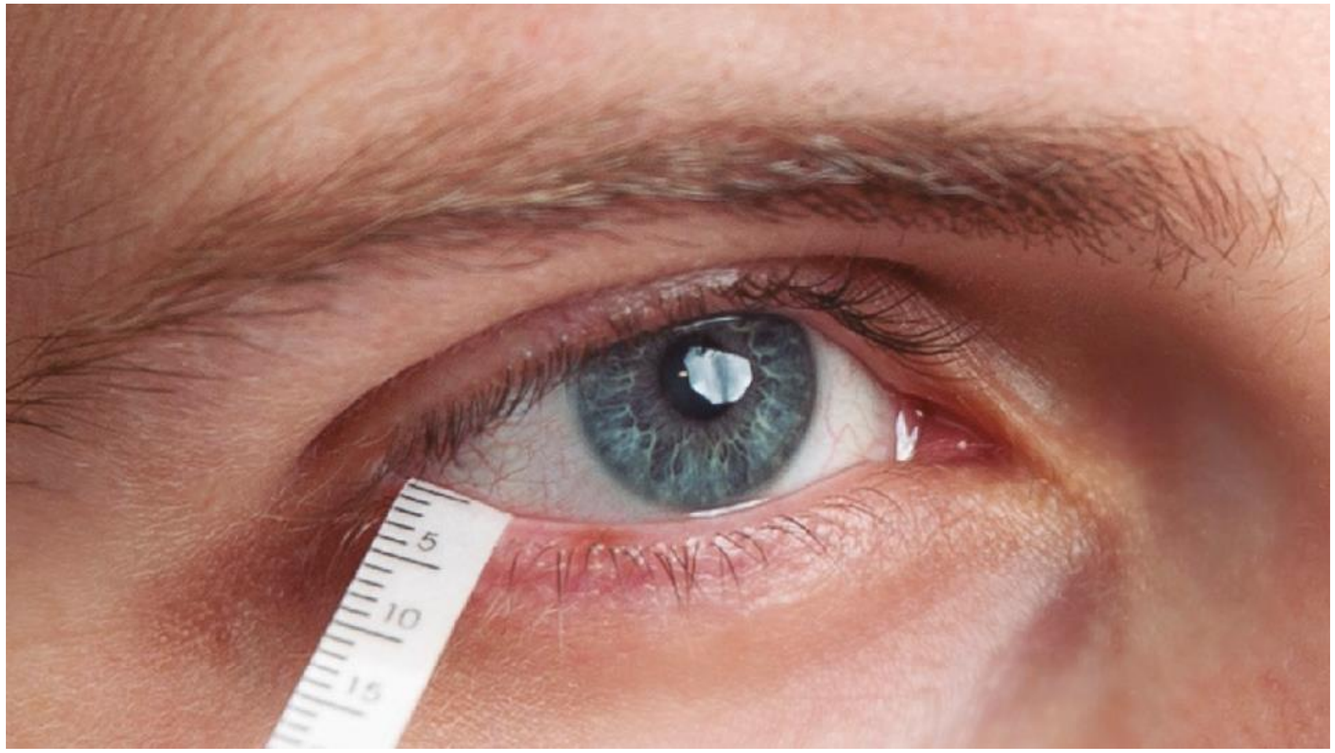
Sjögren syndrome – additional examinations

•Blood tests: hypergammaglobulinemia (in 80%), monoclonal gammapathy (4–22%), rheumatoid factor (60%); anemia (25%), leukopenia (10%).

•Ultrasound (most useful) - allows to assess the size and structure of the parotid and submandibular glands, detect cysts in the salivary glands, or enlargement of lymph nodes.

•Ophthalmological examinations: Schirmer's test to assess tear secretion - a strip of sterile 5 × 30 mm filter paper with a rounded edge at one end is folded and placed under the lower eyelid so that it does not touch the cornea; correctly, the length of the tissue section moistened with tears after 5 min> 5 mm.

Sjögren syndrome – additional examinations



Sjögren syndrome – treatment

Dryness syndrome

•dry eye syndrome - use: "artificial tears" containing lubricants and agents increasing viscosity in a liquid or gel, at night in an ointment; topical NSAIDs or GCs can be used ≤2–4 weeks; if ineffective consider topical application of cyclosporin A drops, or serum drops,

•oral cavity - start with non-pharmacological stimulation (sugar-free acidic candies, lozenges, xylitol, sugar-free chewing gums); muscarinic receptor antagonists (e.g. pilocarpine 5 mg every 6 h), acetylcysteine or bromhexine; severe dysfunction, treatment that stimulates the salivary glands is ineffective - saliva substitution is recommended; avoiding alcohol and smoking, and good oral hygiene,

Sjögren syndrome – treatment

•Musculoskeletal pain: Paracetamol or NSAIDs for ≤10 days,

•Systemic disease: treatment depends on the organs involved and the severity of the lesions; acute salivary gland inflammation → NSAID for several days; inflammation of> 5 joints and diffuse annular erythema → hydroxychloroquine (eye examination before starting treatment) and GCS,

•Secondary Sjögren's syndrome: treating the underlying disease.

Thank you!