



- **Definition of rheumatoid arthritis:** it is a chronic systemic inflammation of unknown etiology (but there is genetic predisposition and environmental initiating factors).
- **Characteristic manifestations:**
  - Involvement of **small joints** mainly (although large joints can be affected as well).
  - The lesions are **symmetrical** (occurring in small joints of both hands).
  - As it is a progressive chronic disease, the lesions will eventually lead to **deformities**.
- **Treatment:**
  - Many long-term medications are given to the patient due to chronicity of the disease → **polypharmacy**.
  - Usually treatment starts by **non-inverted pyramid** (because of its low-cost and less side effects) giving NSAIDS and then shifting to non-biologic DMARDS (methotrexate is the gold standard choice).
  - **TNF-targeted biological therapy in DMARD-Naïve patients: these can cause complications:**
    - ✓ Serious infections.
    - ✓ Opportunistic infections (ex. TB).
    - ✓ Malignancies.
    - ✓ Demyelination.
    - ✓ Production of autoantibodies.
  - **Therapy is a team work** requiring physiotherapists, nurses, psychologists and in 10-20% of patients orthopedic surgeons are needed.
  - **The aim of therapy is:**
    - ✓ Relief the patient from pain, inflammation and deformities.
    - ✓ To make the patient independent and let him live as normal as possible.
    - ✓ To minimize the burden on families and societies.
- **Radiograph:** erosions in metacarpo-phalangeal joints are characteristic for rheumatoid arthritis but not diagnostic (why?) → because they can be seen in other diseases/conditions.
- **Diagnosis:** based on clinical examination and lab investigations. In lab investigations you look for:
  - **Rheumatoid factor:** which is present in 80% of patients with rheumatoid arthritis. 20% of patients with rheumatoid arthritis can be seronegative for both rheumatoid factor and anti-CCP.
  - **ESR:** elevated.
  - **C-reactive protein:** elevated.
  - **Complement components:** elevated.
- **Criteria for diagnosis of rheumatoid arthritis (VERY IMPORTANT):**
  1. Morning stiffness > 1 hr.
  2. Soft tissue swelling of ≥ 3 joint areas.
  3. Swelling of proximal interphalangeal, metacarpophalangeal or wrist joints.
  4. Symmetrical swelling.
  5. Rheumatoid nodules (mainly occurring over the elbow but they must not be mistaken for xanthomas, lipomas, rheumatic nodules or any other conditions).
  6. Presence of rheumatoid factor (RF).
  7. Radiological erosions.

**Note: criteria 1 through 4 must be present for at least 6 weeks. The diagnosis of rheumatoid arthritis requires ≥ 4 criteria.**





- **Predictors of a poor prognosis (poor outcome of the disease):**
  - Multiple joints involved within 6-12 months of the onset of disease.
  - Systemic disease and presence of subcutaneous nodules.
  - Early onset of bony erosions detected by plain radiographs.
- **Handgrip strength test:** The subject holds the dynamometer in the hand to be tested, with the arm at right angles and the elbow by the side of the body. The handle of the dynamometer is adjusted if required - the base should rest on first metacarpal (heel of palm), while the handle should rest on middle of four fingers. When ready the subject squeezes the dynamometer with maximum isometric effort, which is maintained for about 5 seconds. No other body movement is allowed. The subject should be strongly encouraged to give a maximum effort. **Normal ranges:**
  - **Males:** > 250 mmHg.
  - **Females:** > 180 mmHg.



- **Criteria for clinical remission:**
  - Morning stiffness  $\leq$  15 min.
  - No soft tissue swelling in joint.
  - No fatigue.
  - No joint pain (by history).
  - No joint pain (on motion).
  - ESR:
    - ✓ Females: < 30 mm/hr
    - ✓ Males: < 20 mm/hr.