

Elderly

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Elderly

- Is the result of aging - the late stages of ontogenesis
- It is the consequence and manifestation of **genetic involutional processes** modified by other factors (diseases, lifestyle, living conditions). Age is also the result of **external factors** - diet, moderate activity, physical exercise.
- The length of human life depends on 65% of genetic factors and 35% of external factors.

Classification of age

- Biological
 - Involutional changes (atrophy, decreased functional ability, regulatory change and adaptation mechanisms).
- Sociological
 - It is given changing roles, lifestyle and economic situation.
- Calendar
 - Definition of a certain specified age. The period from 60 to 74 years can be considered as starting of senium, the period from 75 to 89 as real senium and 90 years and more for longevity. Recently is the most commonly used classification of senium as young seniors (65-74 years), old seniors (75-84 years) and very old seniors (85 years).

Complications in elderly

- Degenerative diseases of the musculoskeletal system,
- Osteoporosis,
- Arthritis,
- Weakness of sight,
- Weakness of hearing,
- Hypertension and other cardiovascular diseases
- Diabetes mellitus type II

Falls in elderly

- Falls are a major problem for elderly people especially women.
- About 30% of elderly people falls each year

Causes of falls

- Reduced visual acuity
- Reduced hearing
- Vestibular dysfunction
- Proprioceptive dysfunction
- Cervical degeneration
- Dementia
- Musculoskeletal disorders
- Foot disorders
- Postural hypotension
- Use of medications

Extrinsic risk factors

- Lighting
- Flooring
- Stairs
- Kitchens
- Bathrooms
- Yards
- Institutions
- footwears

Complications of falls

- One out of four people who fall suffers serious injury.
- Fractures 5% (femoral neck fracture)
- Soft tissues injury 5% (strain, partial rupture, rupture)
- 6th leading cause of death
- Subdural hematoma
- Fear of fall – loss of independence

Physical activity in elderly

- One of the many factors that affect the length of life, particularly its active part is the physical activity.
- The positive influence of the movement shows the following parameters:
 - Increase the proportion of lean body mass to fat mass
 - Increasing the functional capacity of the cardiovascular system
 - The improvement of some metabolic parameters
 - Reduction of blood glucose
 - Reduction of total cholesterol - HDL-cholesterol increase
 - Increased strength of bones
 - The production of endorphins in the brain tissue during physical activity leading to improved well-being

selecting the appropriate physical activity

- When selecting the appropriate physical activity is necessary to respect all the changes caused by aging:
 - Biological changes - loss of muscle mass, especially of the lower extremities.
 - Health disorders - diseases in old age (degenerative diseases of the musculoskeletal system, osteoporosis, arthritis, weakness of sight, hearing, hypertension, diabetes mellitus type II ...).

Prescription of physical activity

- Physical load is appropriate to carry out daily at least 30 minutes moderate intensity. For men after the fifth decenium suitable combination of anaerobic (muscle strengthening the body) and aerobic (50-60% maximum) load. It is appropriate to respect the principle of regularity and adequacy of the age and condition.

Recommended physical activity

- hiking
- swimming and exercising in water
- movement games (in terms of their psychological influence)
- ride on bicycle ergometer, with better skills on the bike, which increases aerobic capacity
- psychomotor exercises, awareness of your body experiences, feelings and experiences during exercise with various colorful aids, exercises to develop coordination skills (overbaly, beer mats, scarves, bars, yogurt cups, parachute ...)
- simple dance steps accompanied by singing, rhymes, ...
- Corrective exercises

Not recommended Physical activity

- abrupt changes in the basic positions and movements
- fast pace
- isometric exercises, often with retention of breath
- jumps, long jumps
- hyperextension of the neck associated with rotation, position head down
- challenging sports games and competitions, requiring speed and dexterity
- intensive coordination exercise
- spinal exercises in suspected slipped disc