

Endurance abilities

- The ability to perform repeated submaximal locomotor activity, medium and mild in intensity without reducing its effectiveness. (Čelikovský, 1990)
- Ability to resist fatigue (Dovalil, 1991)
- Complex assumptions may operate for as long as desired intensity or maximum intensity at a specified time. (Dovalil, 2002)

Disaggregated EA - structural aspect

Local

static dynamic

Global

static dynamic

Disaggregated EA - time and energy point of view

- **speed: up to 20 to 30 seconds (ATP - CP system)**
- **short: within 2-3 min (LA system)**
- **medium: 8-10 min (O₂ system)**
- **long-term:**
 - **And 10 to 35 minutes (glycogen) II 35 - 90 minutes (glycogen + fats)**
 - **III 90-6 h (fats)**
 - **IV over 6 hours (proteins)**

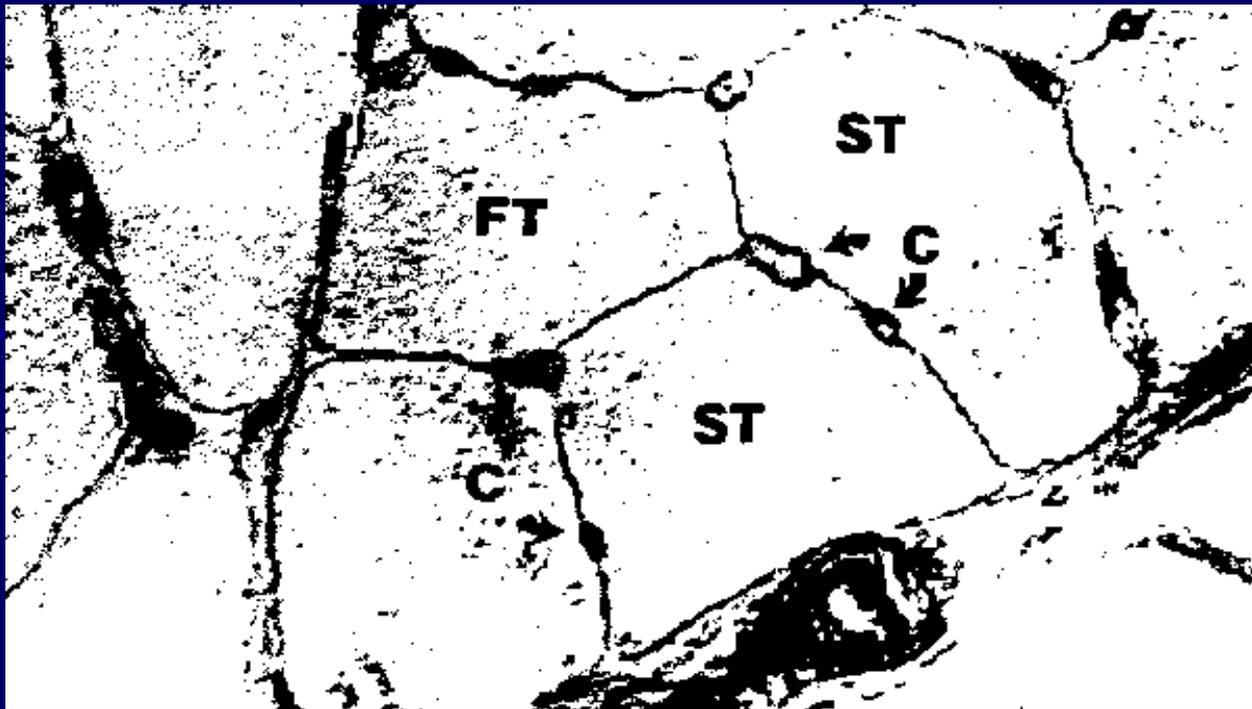
Biological substrate EA

1. Genetic compliance (ratio of muscle fibers)

2. cardiopulmonary system

- Respiratory system (tidal volumes)
- Circulatory system (heart volume min.)
- Vascular supply of the muscle





Capillaries (C)-muscle oxygen supply and energ. substrates

The average number of capillaries to 1000 μm^2 muscle cross-sectional

- For an untrained person 0.84

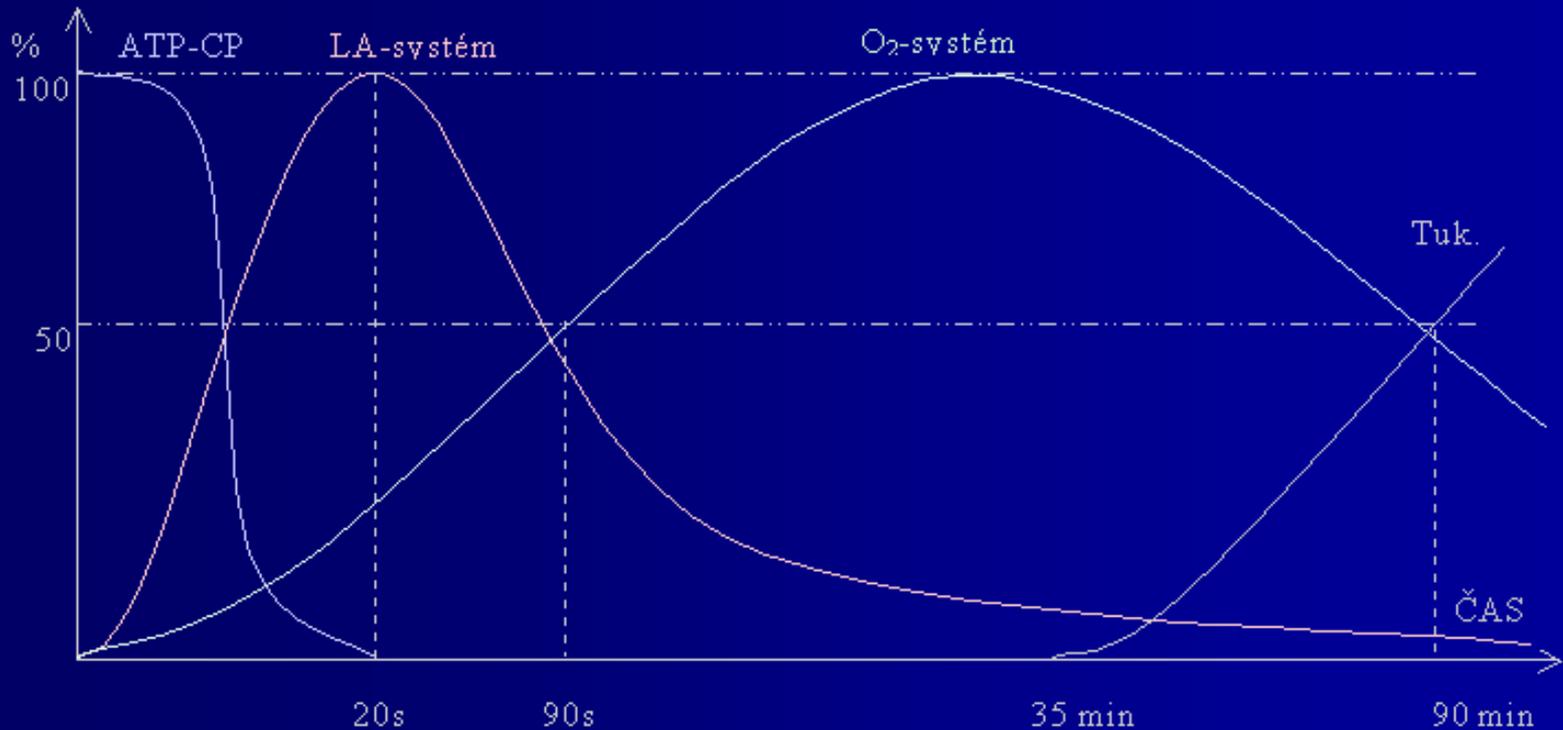
trained on average 0.94

endurance trained at 1.25.

(Wilmore & Costill, 1988)

3. Energetic systems

- 1) Kreatinphosphate system (ATP - CP) - the stock 2-20 contractions
- 2) Anaerobic glycolysis (LA - systém) - production of ATP and lactate
- 3) Aerobic glycolysis (O₂ systém) - ATP formation, CO₂ and H₂O



Diagnostics of EA

- UNIFITTEST: 12 min run, and endurance shuttle run, walk 2 km
- Holistic motor test (Jacík)
- Dwell in the chin, in seven reclining, lying in humiliate
- Chin, pushups, sit-sed.
- FUNCTIONAL exercise testing (step-tests, spiroergometry)

Methods development of ES

- The intensity of activities
- Duration of load
- Number of repetitions in one series
- Length intervals in the series
- Number of series
- Duration intervals between sets
- Nature activities intervals

Methods development of ES

1. Methods for continuous load

- Continuous method
- Alternate method
- fartlek
- control method

2. Methods intermittent load

- Extensive interval methods
- Intense interval method