



contrariwise stands:

- 2. The principle of body angles and force development :
- The **more open** a body angle, the **more** power and speed can be generated!



















# Physical and biomechanical principles in rowing: Horizontal acceleration

- 5. The principle of minimizing the horizontal acceleration of body tissue masses:
  - Parts of the body mass in rowing are:
    - Trunk, legs, arms, head

#### typical fault images:

• to earlier/later upper body-movement = erecting/ post-pulse oscillation

- too early and ineffective\_leg drive= e.g. "shooting the seat"
- already bent arms with "catch" = Loss s/F/V



### Physical and biomechanical principles in rowing: Tension / Relaxation

- 6. The principle of rhythmic alternation of tension and relaxation:
- it is necessary and important to use actively the opportunities of regeneration during a stroke cycle!

#### typical faults if not:

- bad technique during high stroke frequency
- lack of flexibility without looseness
- unnecessary and premature exhaustion
- bad adaptability in crew boats

## Physical and biomechanical principles in rowing: water resistance

#### 7. The principle of keeping down the water resistance:

- the water resistance of the boat depends on the wetted surface, texture and condition of the boats surface and on the speed / (stroke frequency) fluctuations of the boat!
  - typical fault patterns:
  - cantilevered and large movements
  - incorrect or badly trimmed boats (water position)
  - dirty boat, wrong treated shell of the boat
  - bad tactics = low basic-speed, too many spurts



