Kinematics

An area of study that is concerned with the time and space factors in the motion of a system

Kinetics

An area of study that is concerned with the forces that act on a system

*Kreighbaum and Barthels, 1996

Measurements in Biomechanics

Two main categories:

1) Events
   - ➔ start/stop
   - ➔ min/max

2) Totals

Measurements in Biomechanics

1) Events: Start/Stop

- → movement
- → contact

Measurements in Biomechanics

1) Events: Min/Max

- → displacement (range of motion)
- → angle (range of motion)
- → speed
- → force

Measurements in Biomechanics

2) Total

- displacement
- force

Measurements in Biomechanics

Two main temporal methods:

1) Over a period of time
   - ➔ cumulative
   - ➔ a series of data

2) At a single moment

Measurements in Biomechanics

How can the information be used:

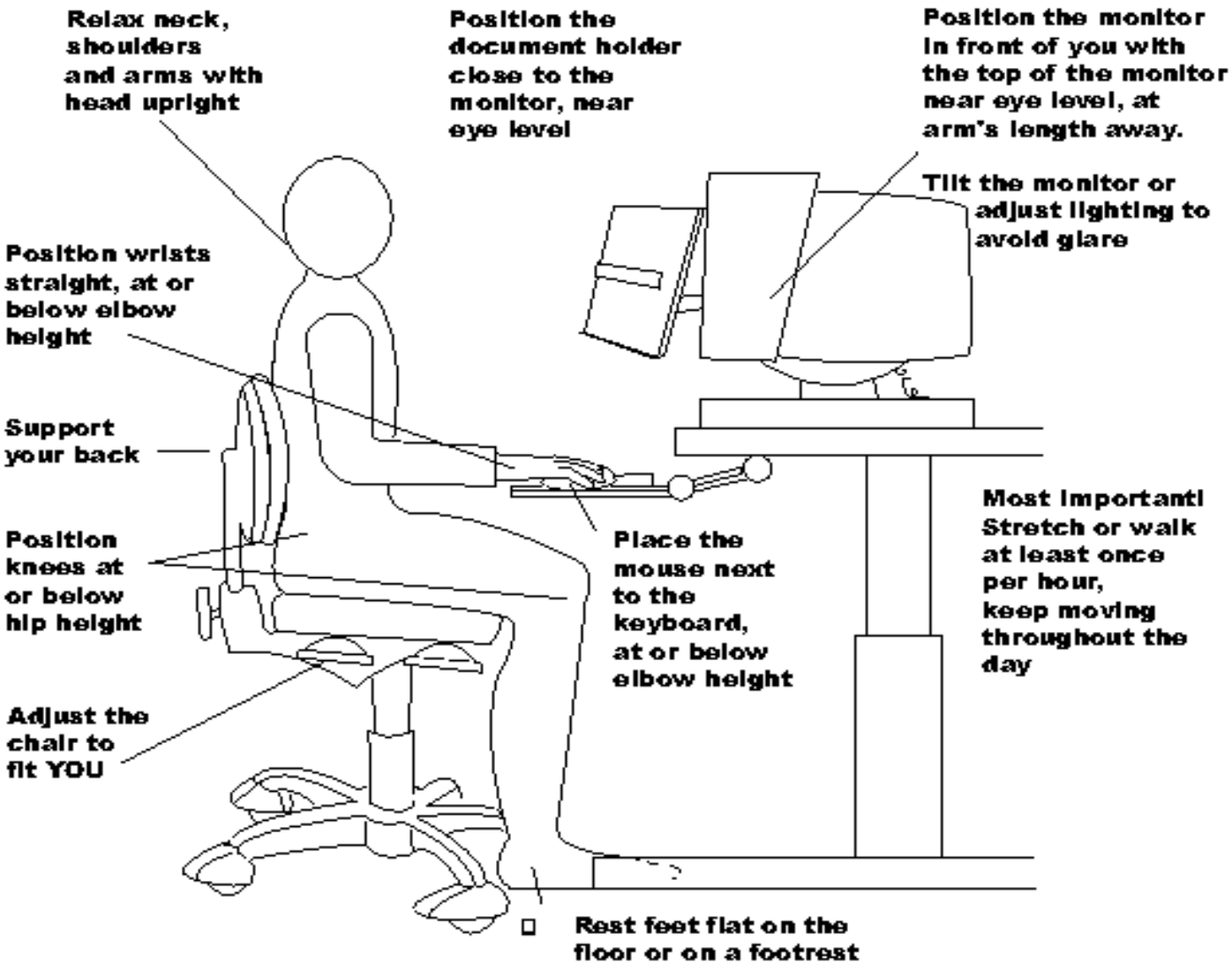
1) The event itself
2) Another measure at the event

Measurements in Biomechanics

How can the information be used:

1) General Information
2) Compare Strategies

Ten Tips for Computer Users



http://hr.umich.edu/mhealthy/programs/ergonomics/ergotutorial/10tips.html

Measurements in Biomechanics

Example of Tools

1) Goniometers
2) Foot Switches
3) Motion Capture
4) Force Plates
5) Load Cells