

## Sitting and Standing to Work

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### 1. Sitting

#### Advantages

- ✓ requires less energy
- ✓ provides a rest to postural muscles
- ✓ reduces muscular fatigue
- ✓ reduces stress on the lower extremities

#### Disadvantages

- prolonged sitting with little change in position leads to muscular fatigue and can increase pressure on blood vessels behind the thigh
  - sitting poorly for long periods of time can cause muscle spasms, muscle pain, herniated discs and sciatic pain
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### 2. Standing

#### Advantages

- ✓ standing is a natural human posture with no particular health risks
- ✓ broader reach for tasks

#### Disadvantages

Prolonged standing requires considerable muscular effort that is particularly unhealthy especially when standing in one position. Prolonged standing can result in:

- static muscle work → sore feet, low back pain, neck /shoulder stiffness
  - reduced blood flow → muscle fatigue/pain in the legs, back and neck
  - pooling of blood in feet/legs → inflammation of the veins; varicose veins
  - immobilized joints → degenerative damage to tendons and ligaments (spine, hips, knees & feet)
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**3. Sitting vs. Standing** - sitting with standing used as a rest from sitting, is the best combination for preventing injury.

“The well being and efficiency of workers improves and fatigue reduces when workers are able to sit and **sit well** during work. During standing, static muscular effort is required to keep joints in fixed positions. When sitting, much of this muscular effort is reduced and/or eliminated because the chair can provide these supportive forces and therefore less of the body now needs to be stabilized by muscles.”  
(EK Gillin)

#### 4. Sitting Well

- ✓ back is supported
  - ✓ 3 curves of the spine are supported
  - ✓ feet are fully on the floor or foot rest - thighs should be parallel to the floor
  - ✓ seat is deep enough to fully support the thighs without constricting the space behind the knees
  - ✓ arms are supported by armrests - this reduces weight on the spine and neck
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#### 5. Standing Well

- ✓ change standing positions frequently so that standing in one position is of reasonably short duration
  - ✓ avoid extreme bending, stretching and twisting
  - ✓ take rest periods to relax, stretch and/or exercise (relax when muscles are tired; move around when muscles are stiff; walk when you have been in one position for a while)
  - ✓ use anti-fatigue mats (use caution as these mats can also lead to tripping/falling)
  - ✓ use stools and footrests to vary body positions
  - ✓ wear comfortable shoes that provide support and cushion the foot
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#### 6. Safe work habits for sitting or standing

- face your work
- keep your body close to your work
- adjust your work if possible according to your elbow height
  - 1) precision work – slightly above elbow height
  - 2) light work – slightly below elbow height
  - 3) heavy work or work with downward forces - approx 1 foot below elbow height
- organize your work so that the most frequent operations are done within easy reach
  - 1) most frequent tasks - close to your body
  - 2) occasional tasks - within arm's length
  - 3) tasks that must be conducted farther away than the length of your arm should be infrequent and avoided if possible

#### References:

Canadian Centre for Occupational Health and Safety  
Occupational Health and Safety Agency for Healthcare in British Columbia  
E.K. Gillin and Associates Inc