

# Ergonomics Guidance for Mobile Devices

## LAPTOPS

### Concerns:

Laptops provide a convenient, portable platform for users, but are not ergonomically-appropriate for long-term use. The joined keyboard and monitor compromise relaxed, neutral postures and often result in the following musculoskeletal stressors:

- “Turtle” posture (hunched back, protruding neck/head) from cramming the body into the space of the joined input devices and the small monitor.
- Bent wrists from typing on the compact-size keyboard.
- Awkward hand/finger movements from using the touchpad.
- Contact stress from resting the hands on the edge of the laptop.
- Smaller screen is more difficult to read, causing forward leaning.



“Turtle” posture.

### Possible Solutions:

- Complete the web-based computer workstation ergonomics training (EHS 3400 – available through STARS) to learn about proper ergonomic setup and work practices.

#### Setup

- Make the laptop like a desktop: 1) use an office chair; 2) use separate input devices to allow the shoulders to relax and the hands to be at elbow level; and 3) place laptop on a riser (or use a separate monitor) to allow the screen top to be at/slightly below eye level.
- Avoid resting the laptop on your lap for extended periods of time.
- Do not lie down when using the laptop - seated/standing postures are recommended.
- To avoid glare, position the laptop screen to be perpendicular to windows; close shades and blinds to avoid bright outside light; and avoid working under bright sources of light.

#### Work Practices

- Interrupt continuous computer use by taking microbreaks (at least every 30 min for 1-2 min) and alternating tasks.

#### Handling

- When choosing a laptop bag, consider the weight of laptop, power cord, external devices, folders, etc. Rolling carrying cases are recommended for loads over 10 lbs. Laptop backpacks should have wide, padded shoulder straps and a waist belt to distribute some of the load to the hips.



Recommended laptop setup using a laptop riser, external keyboard and mouse.



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## MOBILE PHONES/TABLETS

### Concerns:

Emerging mobile phone and tablet technology has created convenient access to email, Internet, and text messaging. However, this technology comes with a new set of possible musculoskeletal stressors:

- Repetitive, awkward finger movements (especially with the thumbs).
- Static, awkward postures of the neck and shoulders to read the small phone and tablet screens.
- Awkward neck, shoulder and wrist postures from long-duration phone calls.
- Excessive gripping of the devices.

GENERAL SAFETY REMINDER: Avoid distracted mobile phone use when walking, driving, or biking.



Awkward mobile phone postures.

### Possible Solutions:

NOTE: SMARTPHONES AND TABLETS SHOULD NOT BE USED FOR EXTENDED COMPUTER WORK - USE A DESKTOP/LAPTOP COMPUTER AND ENSURE A PROPER ERGONOMIC SETUP.

#### Phone Setup

- Use hands free devices to eliminate awkward, static postures during long phone calls.

#### Tablet Setup

- For extensive text entry (e.g. emails, meeting notes), use a separate keyboard and prop the tablet on a stand to improve the viewing angle.
- Sync the tablet with a compatible computer monitor or television to improve neck posture and increase screen size. Place the tablet keyboard in a position that allows the shoulders to relax and the elbows to rest at the sides.

#### Work Practices

- Limit duration and frequency of calls, texts, and emails. Take frequent microbreaks from phones/tablets.
- Alternate fingers when using buttons/touchscreens.
- Reduce keystrokes with text shortcuts (search "text shortcuts" on your web browser), or where feasible, use speech-recognition applications.
- Maintain neutral wrist posture and alternate hands when holding devices. For tablets, consider cases with hand straps to reduce gripping.
- Focus on neck posture - avoid excessive looking down when reading emails or texts.



Awkward tablet posture.



Tablet stand with keyboard

