

## **Ergonomic Practices at SEI**

To promote healthy ergonomic practices, SEI offers guidelines, checklists and tips to keep you healthy and safe in the workplace!

Please follow these steps to maintain a healthy and safe workplace:

- Review the attached literature (also located on our server at s staff drive/Administrative/Human Resources/Ergonomics), which includes:
  1. **Workstation Checklist** - Tool to evaluate your workstation setup
  2. **Ideal Task Position** - Graphic that illustrates key elements of the ideal workstation
  3. **Laptops and Standing Desks** - Tips for setup and use
  4. **Body Mechanics and Self-Care** - Posture exercises and tips to prevent strain/pain/fatigue
- Please set up your workspace according to the **Workstation Checklist**, **Ideal Task Position** and **Laptops and Standing Desks** literature.
- Incorporate the suggestions in **Body Mechanics and Self-Care** into your daily routine while working for SEI.

## **BODY MECHANICS FOR SAFE COMPUTING**

### **POSTURE EXERCISES**

#### **On-Task Arcing:**

- **Sit Comfortably** - In your office chair, sit comfortably without leaning against the back support. Adjust the chair height so that your feet are parallel and flat on the floor, and your knees are lower than your hips.
- **Slouch Slightly** - Slowly tilt your pelvis and low back towards the back of the chair (slight slouch).
- **Pelvic Arc** - Slowly roll your pelvis and low back forward while lengthening through your abdomen and chest, and keeping your shoulders over your hips. This should be a comfortable movement with your shoulders, neck and back relaxed. As you rock forward, you should feel a lift through your spine as your vertebrae balance on top of each other. Stop when you start to lean slightly forward.
- **Practice** - Now practice rolling your pelvis backwards and forwards a few times until you find the point in your pelvic arc where you experience maximum lift with minimum muscular effort. This is your optimal On-Task workstation position. Depending on what task you are performing, this optimal point will slightly change.

#### **WHOLE BODY MOVEMENT:**

- **Draw a circle** - Moving only your hand and wrist, draw an imaginary circle on your desktop with your finger. Now draw the same size circle using your whole arm. Draw the same circle one more time, this time moving only from your hips and waist. Notice how much more relaxed your wrist and forearm are when you use more of your body to generate the movement.
- **Abdominal Toning** - Sitting in your On-Task position gently contract your abdominal muscles. The tightening of your abdominal girdle supports and protects your low back. In particular, when reaching for far away objects this position minimizes risk of injury and promotes whole body movement.
- **Stress Free Reaching** - When reaching in any direction, first shift your weight in that direction by rocking in your pelvis. Use your abdominal contraction for stability and support. Then, reach for the object with your arm keeping your

shoulders down and neck relaxed. Stand up if you can't reach the object easily.

- **Moving From Your Center** - At every task you perform, no matter how small, generate your movement from the center of your body.

On-Task Arcing and Whole Body Movement are the foundation for safe workstation ergonomics and will help prevent repetitive strain injury, muscle pain and fatigue. Good body mechanics also promote body awareness, circulation and mental alertness.

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### **HEALTHY WORK HABITS**

**Balanced Breathing** - Inhale gently into your abdomen as well as your chest. This may take some practice.

**Relaxed Joints** - Keep joints (especially wrists) unlocked and in a neutral position at all times.

**Soft Typing** - To minimize strain, use a light touch on keyboard and mouse.

**Rest Your Eyes** - To stretch and relax your eye muscles, periodically:

- look away from your screen at the farthest point possible
- blink hard for 5 seconds then open your eyes wide for 5 seconds
- warm your hands then cup your eyes with your palms for 5 seconds

**One Minute Body Breaks** - Take a break each 30 minutes.

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### **HEALTH TIPS**

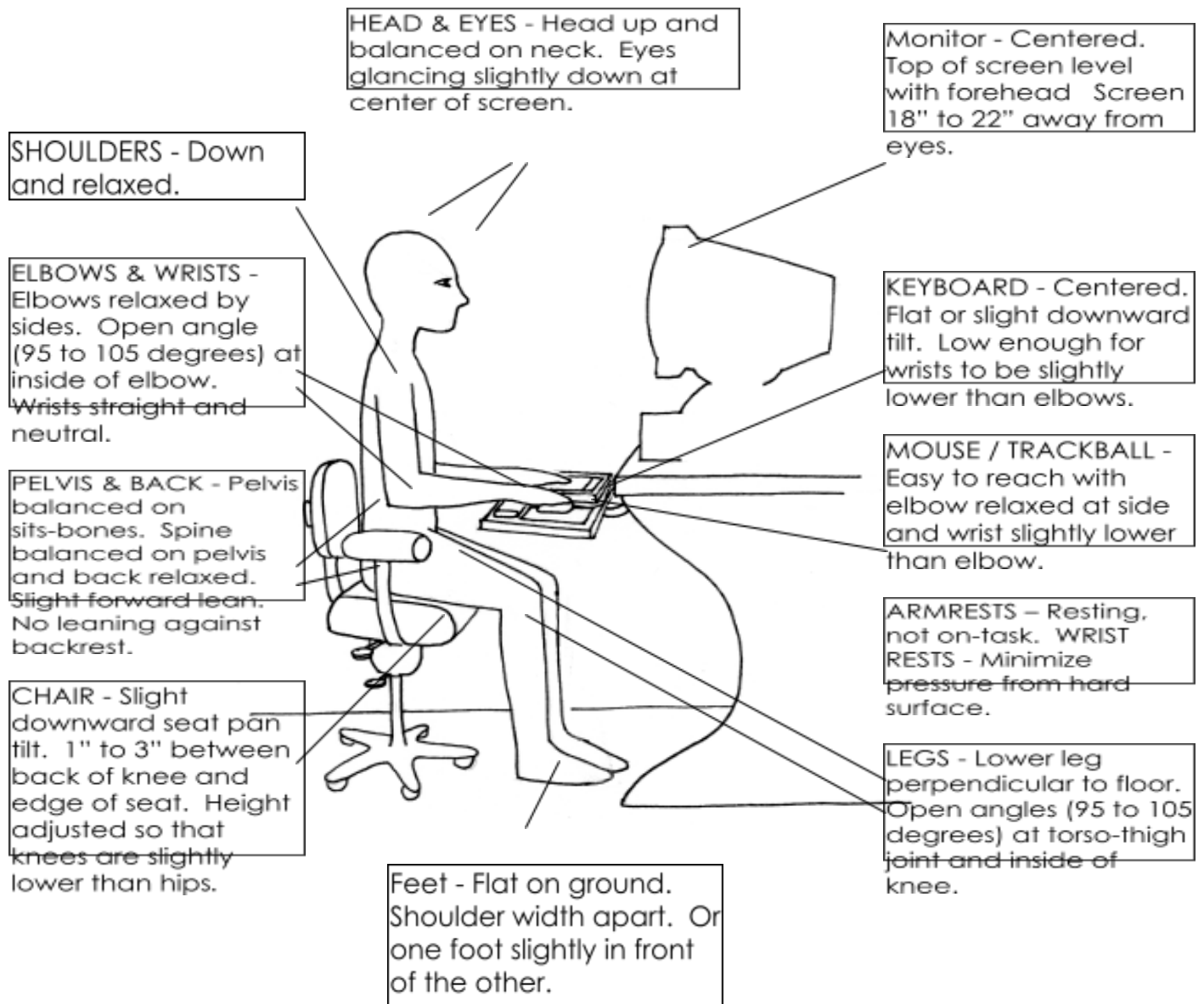
- Drink More Water - You should drink 6 to 10 glasses of water a day.
- Cut Down on Caffeine - Drink as little caffeine as possible.

- Sleep Well - Get a full night's sleep every night, not just weekends.
  - Exercise Regularly - Establish a routine of fun exercise.
  - Create Downtime - Do things that decrease your stress every week.
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### **ONE MINUTE BODY BREAK**

1. **Big Yawn** - Exaggerate yawn to stretch mouth and jaw.
2. **Compress Eyes** - Gently compress your eyes with your palms for 5 seconds.
3. **Joint Range of Motion** - Gently rotate each of your major joints (from your ankles to your wrists) through its range of motion.
4. **Pelvic Arcing** - See Posture Exercises.
5. **Stretch** - Gently stretch any area that feels tight or tired. Pay specific attention to your wrists and hands.
6. **Shake Out and Shrug** - Shake out your arms and hands. Shrug and drop your shoulders.
7. **Close Eyes, Breathe Deeply** - Breathe to your abdomen as well as your chest.
8. Return to work - Resume work refreshed and rejuvenated.

## IDEAL ON-TASK POSITION



## MOVEMENT TIPS

- Keep your pelvis balanced whenever you are on-task
- Use your whole body for all movements
- Take a 15 second stretch every 15 minutes. Take a One Minute body break every 30 minutes. Take a longer break with stretching every 60 minutes.

## LAPTOPS AND STANDING WORK STATIONS – ERGONOMIC SUGGESTIONS

### LAPTOPS

1. **If using laptop keyboard**, use an external monitor screen to minimize any strain to eyes and musculoskeletal system.
2. **If using external monitor screen**, use laptop keyboard and mouse.
3. **When using laptop away from work station**, elevate the laptop, so screen is at eye level.
4. **Enlarge font or have lap top screen close** enough that one can see easily without leaning neck and head forward.
5. **If you are resting your wrists in a flexed position** on the lap top while you are using the keyboard, you may want to protect your wrist joints by using a thin mouse pad under your wrists while tasking.
6. **Minimize glare** with adjustment of angle of lap top screen and checking that ambient or task lighting is equal to or less than the brightness of your screen.

### STANDING WORK STATIONS

1. **Alternate throughout the day** between standing and sitting workstation. Mark your comfortable height, so that adjustment of the table height is simple and time efficient. If you are sharing a work station with others, purchase a desk with memory buttons that can store different desk heights.
2. **Stand on an anti-fatigue mat**. This will support alertness and minimize any body discomfort or distraction.
3. **Place one foot slightly in front** of the other to reduce lumbar pressure.
4. Keep knees straight or very slightly bent, **never hyper-extended**.
5. **Slight body oscillation** as often as you can during time standing is important. The human body is meant to move, not be held in static positions.
6. When sitting on the tall chair/stools that accompany standing desk stations, make sure that the **foot bar on your chair/stool supports your feet** and thus, your legs comfortably.

This [video](#) covers the essentials of setting up a work station (and a trip to the past, too!).

Chairgonomics™

## Workstation Ergonomics Checklist

### POSTURE

- |                             |                                                                                                                      |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------|
| Feet on ground              | <input type="checkbox"/> Feet parallel or one foot slightly in front of the other and flat on floor, calves vertical |
| Neutral spine alignment     | <input type="checkbox"/> No slouching, twisting or side leaning                                                      |
| Safe hands, arms and wrists | <input type="checkbox"/> Wrists straight, elbows relaxed near sides, hands and fingers soft                          |

### MOVEMENT

- |           |                                                                                                     |
|-----------|-----------------------------------------------------------------------------------------------------|
| Rocking   | <input type="checkbox"/> Moving by rocking on bottom of pelvis                                      |
| Wrist use | <input type="checkbox"/> Minimizing wrist movement (esp. side to side)                              |
| Reaching  | <input type="checkbox"/> Using whole body to reach instead of just arm                              |
| Breaks    | <input type="checkbox"/> Take a break at least every 30 minutes and practice one-minute body breaks |

### CHAIR

- |                  |                                                                                                           |
|------------------|-----------------------------------------------------------------------------------------------------------|
| Seat Pan         |                                                                                                           |
| Height           | <input type="checkbox"/> Knees lower than hips, open angles (95° to 105°) behind knee and in front of hip |
| Tilt             | <input type="checkbox"/> Slight downward or flat tilt                                                     |
| Depth            | <input type="checkbox"/> 1" to 3" between back of knee and seat                                           |
| Back             |                                                                                                           |
| Low back support | <input type="checkbox"/> Lumbar support filling low back curve                                            |
| Tilt             | <input type="checkbox"/> Seat back blocks slouching                                                       |

## KEYBOARD

- |           |                                                                                       |
|-----------|---------------------------------------------------------------------------------------|
| Height    | <input type="checkbox"/> Wrists slightly lower than elbows, elbows relaxed near sides |
| Centering | <input type="checkbox"/> B lines up with bellybutton                                  |
| Tilt      | <input type="checkbox"/> Tilt matches forearm tilt, ideally downward tilt             |
| Fit       | <input type="checkbox"/> Hands fit comfortably on keys                                |

## MOUSE / TRACKBALL

- |                                |                                                                         |
|--------------------------------|-------------------------------------------------------------------------|
| Height                         | <input type="checkbox"/> Wrist slightly lower than elbow                |
| Distance from neutral<br>elbow | <input type="checkbox"/> Elbow relaxed by side, hand in line with elbow |
| Fit                            | <input type="checkbox"/> Hand is slightly turned up, good palm support  |

## ARM SUPPORTS

- |             |                                                                                                                      |
|-------------|----------------------------------------------------------------------------------------------------------------------|
| Arm rests   | <input type="checkbox"/> For resting only, out of the way while typing                                               |
| Wrist rests | <input type="checkbox"/> For resting and posture reminder or to minimize pressure from hard desk or lap top surfaces |

## MONITOR

- |             |                                                                                                        |
|-------------|--------------------------------------------------------------------------------------------------------|
| Centering   | <input type="checkbox"/> Centered                                                                      |
| Height      | <input type="checkbox"/> Eyes should line up with your screen, approx. 2-3 inches below monitor casing |
| Distance    | <input type="checkbox"/> Approximately 18-24 inches away from eyes                                     |
| Tilt        | <input type="checkbox"/> Slight upward tilt                                                            |
| Glare       | <input type="checkbox"/> No glare at any time of day                                                   |
| Readability | <input type="checkbox"/> Easy to read without any lunging or straining                                 |

## PHONE

- |                      |                                                                                        |
|----------------------|----------------------------------------------------------------------------------------|
| Easy reaching        | <input type="checkbox"/> Close to dialing hand, no twisting                            |
| No shoulder crooking | <input type="checkbox"/> Holds receiver to ear with hand at all times, or uses headset |

## READING / WRITING SPACE

- |                         |                                                                                                     |
|-------------------------|-----------------------------------------------------------------------------------------------------|
| Height                  | <input type="checkbox"/> Documents at comfortable height for computer reference, writing or reading |
| Size                    | <input type="checkbox"/> Adequate centered space, no twisting                                       |
| Interface with computer | <input type="checkbox"/> Comfortable movement between R/W space and computer                        |

## ENVIRONMENT

- |             |                                                                                    |
|-------------|------------------------------------------------------------------------------------|
| Light       | <input type="checkbox"/> Screen brighter than or equal to ambient or task lighting |
| Noise       | <input type="checkbox"/> No loud, harsh or distracting noise                       |
| Temperature | <input type="checkbox"/> Comfortable temperature with some individual control      |
| Ventilation | <input type="checkbox"/> Circulating clean air                                     |