HOW TO TAKE CARE OF YOUR BACK

STANDING POSTURES

- Making sure to take care of your back and having normal spinal alignment can help prevent certain muscles from getting tight and others from getting weak\(^1,2\).
  - Normal/Neutral Spinal Alignment includes\(^3\):
    - Neck is slightly concave posteriorly
    - Mid-Back is slightly convex posteriorly
    - Low-Back is slightly concave posteriorly
- This will make an S-curve to the spine. For further clarification, see picture ➔
- Normal spinal alignment will allow for greater activation of your \textit{core musculature}\(^4\). This is important because, weak or poor core muscle activation is a sign of overall weakness. This not only makes people more susceptible to back pain but also, injuries to other areas such as the shoulder, elbow, wrist, hip, knees and ankles.
- When standing with a neutral spine, the back musculature is able to maintain a neutral posture. The back muscles, as compared to more chest and abdominal muscles, fatigue more quickly in a neutral spine\(^5\). Thus, most people stand in a more \textit{forward flexed position} due to fatigue of the back musculature. This forward flexed position over time gives way to \textit{muscles imbalances}\(^1\).
- People with any history of back pain most often show a decrease in the concavity of the low back, thus a decrease in the S-curve. This can lead to recurrences of back pain if not corrected.
- Back packs can affect standing posture in students/faculty:
  - Carrying a back pack on one shoulder has been shown to increase the incidence of back pain\(^6\).
  - Back pack weight and the amount of time carrying are factors to consider in the occurrence of back pain\(^7\).
    - \textit{No one} should every carry over 25 lbs in their back pack\(^8\).

SITTING POSTURES

- Neutral postures in SITTING as well as standing allows you to activate your core musculature more effectively\(^4\).
- Using a lumbar roll in sitting has been proven to keep the normal spinal alignment and decrease incidence of back pain.
- Proper Alignment in Desk Sitting:
  - Chair should be low enough so that both feet are flat on the floor with knees slightly lower than hips.
  - If chair is too high, place a box underneath your feet.
  - Keep your head up and avoid leaning forward.
    - Computer screen should be level with the eyes and be directly in front of you; not off to one side.
  - Keep your chair close to the desk to help maintain upright position.
  - Try not to cross your legs, if you do, cross them at the ankles.
  - Arms should rest comfortably at your side.
  - Wrists should be straight, not up or down excessively.
  - See the picture above for further clarification.

HOW TO MAKE A LUMBAR ROLL:

1. Roll up a towel long ways.
2. Place tape around towel about 5 inches from either end.
3. Place middle of towel in the small of your back.
4. Drape both ends up and over the back of the chair so that the towel supports either side you spine in the chair.
5. The towel should make a “U” shape for support.

SLEEPING POSTURES

- Use pillows to support your body and maintain neutral alignment of the spine, even while sleeping.
- Back Sleeper
- This position is the **best choice** for sleep quality\(^{17}\).
- Your pillow should raise your neck to support the concavity of the back of the neck as in standing.
- You can place a pillow under the knees to take pressure off the back, but this should only be for temporary relief and not for long term benefit\(^{15,16}\).

### Side Sleeper
- This position more negatively affects sleep quality from sleeping on your back, but there are a few things that can be done:\(^{17}\)
  - Your pillow under your head should be the width from your shoulder to your ear.
  - Use a pillow between your knees and bend the knees to support the low back\(^{15,16}\).
  - A body pillow is a great choice for aligning the hips, back and shoulders\(^{15,16}\).

### Stomach Sleeper
- This position more negatively affects sleep quality\(^{17}\).
- Do not use a pillow in this posturing.
- Ideally this is **not a good position** for the spine for long periods of time.

### Lifting Postures
- Lift with your *legs*, not your back. Think of the spine as one unit. Keep its neutral alignment when lifting object or bending down\(^{18,19,20}\).
  - A) Don’t
  - B) Do
- **Avoid** twisting and lifting, this increases the likelihood of injury\(^{18,19,20}\).
- Keep the spine in its neutral alignment even with reaching to pick something light up off the floor\(^{18,19,20}\).
- Push heavy objects around instead of pulling\(^1\).

### BASIC EXERCISES

#### CAT/CAMEL
- Repeat 5-10 times.
- Hold for 5-10 seconds.
- Breath in on up.
- Breath out on down.

#### PRONE PRESS-UP
- Press up, hold 10 seconds.
- Repeat 5 -10 times.
- Make sure pelvis stays on the mat/bed so that bend comes from spine.
- Push up on elbows if coming up on hands is too much.

#### BIRDCAGE
- Repeat 15-20 times on each side.
- Hold 5 seconds.
- Make sure to keep chin tucked for proper spinal alignment.

#### BRIDGING
- Push up through heels.
- Repeat 15-20 times.
- Should be able to perform 40-50 at a time or hold for 2 min.

#### PRONE PLANK AND SIDE PLANK
- Make sure that shoulder, hips, knees and ankles are in a straight line.
- Prone: Start by holding for 10 second bouts. Goal: 2 min
- Side: Start by crunching side 15-20 times. Goal: 1.5 min

#### SPINAL DECOMPRESSION
- Place legs up on a couch while laying on the floor.
- Relax and concentrate on slow rhythmical breathing.
- Perform for 5-10 min.