

Perk Up Your Posture

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EXCELSIOR ORTHOPEDICS: PHYSICAL AND OCCUPATIONAL THERAPY

Posture

Webster Medical Dictionary

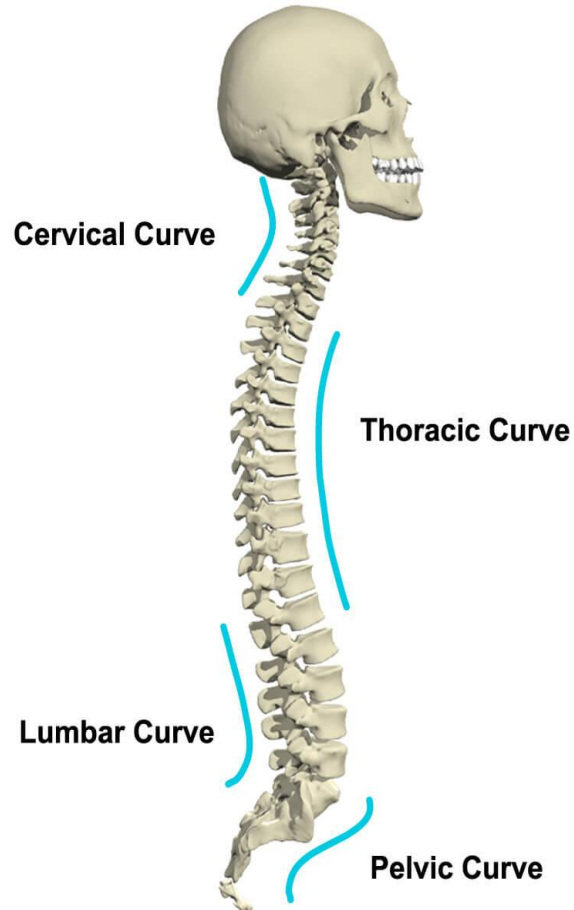
- Posture is defined as “the position or bearing of the body”
- Refers to the overall alignment of the various body parts to each other when the person is standing in a relaxed stance.

What is optimal posture?

American Academy of Orthopedic Surgeons (AAOS)

- “...that state of muscular and skeletal balance which protects the supporting structures of the body against injury or progressive deformity irrespective of the attitude (erect, lying, squatting, stooping) in which these structures are working or resting. Under such conditions the muscles will function most efficiently and the optimal positions are afforded for the thoracic and abdominal organs.”
 - Maximal biomechanical efficiency
 - Minimal stress on ligaments and strain on muscles

Your spine's curves



A healthy back has three natural curves:

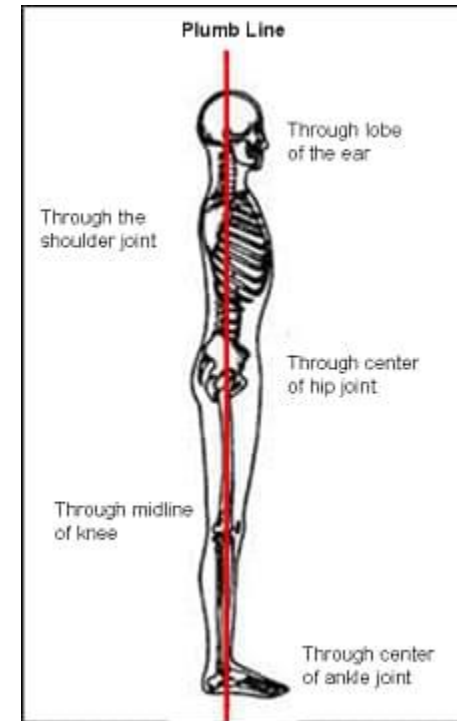
- An inward or forward curve at the neck (cervical curve)
- An outward or backward curve at the upper back (thoracic curve)
- An inward curve at the lower back (lumbar curve)

Good posture helps maintain these natural curves, while poor posture does the opposite — which can stress muscles, ligaments or bones.

Correct Posture

Line is...

- Through external auditory meatus (ear)
- Midway through shoulder
- Through lumbar bodies
- Slightly anterior to midline of knee
- Slightly anterior to lateral malleolus



Benefits of good posture

Keeps bones and joint in the correct alignment that makes your muscles to work properly

Decreases the stress on the ligaments holding the joints of the spine together

Helps decrease the abnormal wearing of joint surfaces that could result in arthritis

Prevents fatigue because muscles are being used more efficiently, allowing the body to use less energy

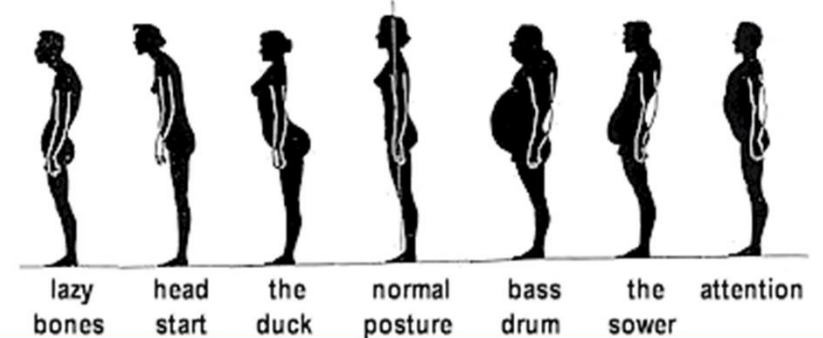
Prevents strains and related problems

Prevents backache and muscular pain

Contributes to a good appearance

The Benefits of **GOOD POSTURE**

HOW TALL DO YOU STAND?



Less Fatigue
More Energy
Better Digestion
Improved Circulation
Less Wear and Tear on Joints
Better Appearance of Good Health



Poor Posture

American Academy of Orthopedic Surgeons

“...faulty relationship of the various parts of the body which produces increased strain on the supporting structures and in which there is less efficient balance of the body over its base of support.”

- Increased strain on body and less efficient
- Cause of various physiological and anatomical impairments

Types of poor posture



**Sway
Back**



**Lumbar
Lordosis**



**Thoracic
Kyphosis**



**Forward
Head**



**Good
Posture**

Forward Head Posture

- The effects of a forward head posture range from neck pain, stiffness, and headache to an association with higher mortality rates for elderly men and women.
- A small 2019 study of healthy college students found that a forward head posture decreases the lower thorax (mid-spine) mobility, leading to decreased respiratory function.
- The more you lean forward, the more head weight and strain you exert on your spine. The effect can be dramatic.
- A 2014 study calculated the force in pounds of flexing the neck forward to different degrees.
 - In a neutral posture, your head weighs 10 to 12 pounds.
 - When your forward posture :
 - At 15 degrees out of alignment, the force on your spine increases to 27 pounds.
 - At 45 degrees forward, it increases to 49 pounds
 - At 60 degrees forward, it increases to 60 pounds



Thoracic Kyphosis

- Kyphosis is a more extreme form of forward head posture. The degree to which you're hunched over determines the amount of pain and dysfunction you'll experience from this misalignment.
- When you're severely hunched over, it's harder to walk, and you have an increased of falls and injuries.
- Older women with hyperkyphosis have a 70 percent increased risk of fracture.
- Affects mobility and mortality in older people. In our aging population, kyphosis is estimated to affect 20 to 40% of older men and women, and the angle of kyphosis continues to increase as you age



Lordosis

- Defined as an excessive inward curve of the spine.
- It primarily affects the lumbar spine, but can occur in the neck (cervical). When found in the lumbar spine, the patient may appear swayback, with the buttocks more prominent, and in general an exaggerated posture. Lumbar lordosis can be painful, too, sometimes affecting movement.
 - Lordosis of the Lower Back
 - Lordosis of the neck

Lordosis of the spine



Swayback

Represents fault posture that differs from correct posture by the following :

- anterior pelvic shift
- thoracic kyphosis extended to the upper part of the lumbar spine (longer thoracic kyphosis is observed)

This could arise from faulty habitual postures and weakened muscles

When your spine is in the swayback position, it may cause back pain that affects your ability to move.

Increases your risk of developing back and hip injuries and other musculoskeletal injuries, such as disc degeneration.

HOW TO FIX SWAYBACK



Effects and Causes of Poor Posture

EFFECTS

Bad posture can lead to many kinds of physical problems, from back pain to pain in your temporomandibular joint, to lack of balance, and foot pronation

CAUSES

Obesity

Pregnancy

Use High-heeled shoes

Muscle weakness

Decreased flexibility/localized stiffness

Pain

Fatigue

Occupational Stresses

Test for Postural Faults: The wall test

Stand with your head, shoulder blades and buttocks touching a wall

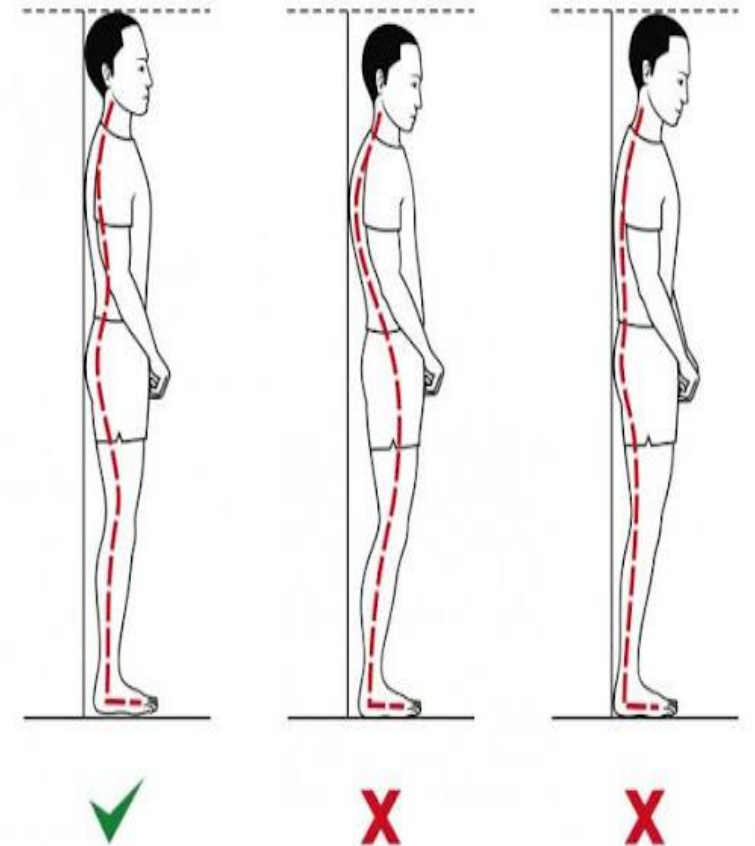
Have your heels about 2 to 4 inches (about 5 to 10 centimeters) away from the wall.

Slide your hand behind the curve in your lower back, with your palm flat against the wall.

Ideally, you'll feel about one hand's thickness of space between your back and the wall.

If there's too much space, tighten your abdominal muscles to flatten the curve in your back.

If there's too little space, arch your back so that your hand fits comfortably behind you. Walk away from the wall while maintaining this posture



Test for Postural Faults

The mirror test (anterior view): Standing facing a full length mirror and check to see if:

- Your shoulders are level
- Your head is straight; no chin deviations
- The spaces between your arms and sides are equally spaced
- Your iliac crest and hips are level
- Knee caps face straight ahead
- A 5 degree foot flare is shown



How to correct your posture

A first step in correcting your posture is to become aware of everyday habits that may be affecting how you stand, sit, or lie down. In other words, pay attention and be mindful of what you are doing in your daily activities.

Sometimes the “cure” is simple:

- Change the configuration of your work station.
- Change your chair and the way you sit.
- Change the position in which you look at your cell phone.
- Buy a new mattress

Other general fixes include:

- Instead of high heels, opt for flats, wedges, or other more supportive footwear.
- Breathe more deeply.
- Practice walking properly

Avoid a sedentary lifestyle

Science tells us that continuous work from seated OR standing posture may be detrimental to your health.

Yes, like sitting, **prolonged STANDING is a sedentary behavior** that should be avoided.

Exercising the body throughout the day by stretching, walking, and taking the stairs is the best way to interrupt this unhealthy behavior!

Scientific research supports simply adding **periodic stretching breaks and brisk walks** to your everyday routine prevents the adverse affects related to prolonged sitting.

When seated, keep these tips in mind:

Adjust the height of your chair so that your feet rest flat on the floor or on a footrest.

Keep your knees at or below the level of your hips. Don't cross your legs. Your ankles should be in front of your knees. Keep a small gap between the back of your knees and the front of your seat.

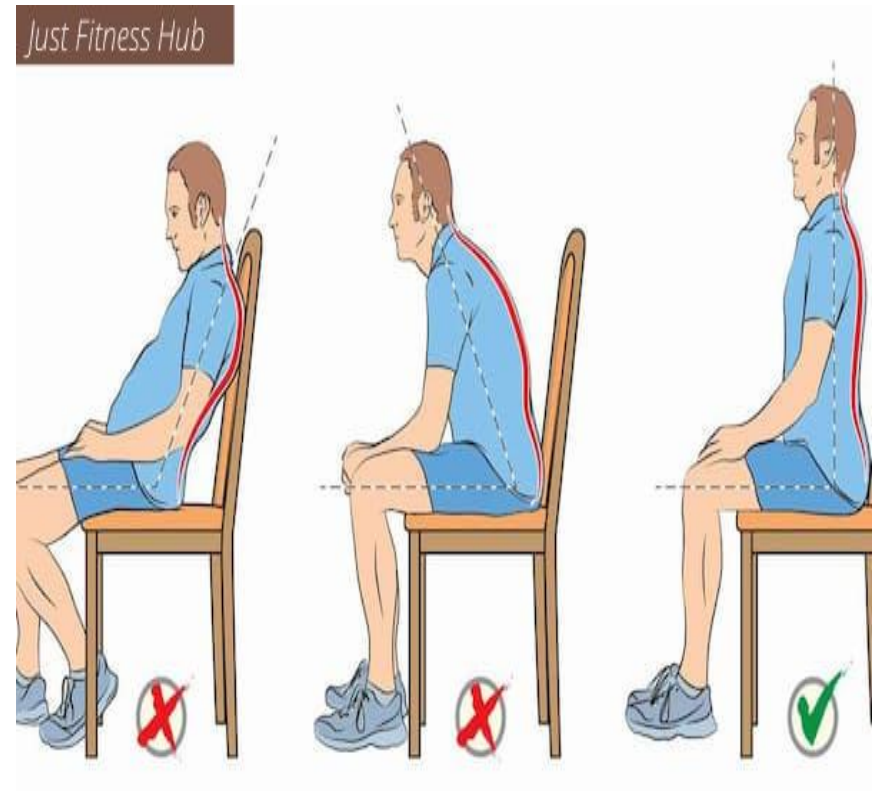
Adjust your chair to support your back or place a rolled towel or small pillow behind your lower back.

Make sure the top of your monitor is at or slightly below eye level.

Keep your head and neck balanced and in line with your torso.

Relax your shoulders. Keep your forearms parallel to the ground.

Try not to sit in the same position for long periods.



Sitting Set up:

Try these adjustments to improve comfort during seated work:

1. Foot support: Adjust seat height.

- Feet plant firmly on the ground (or on a foot rest).
- Knees bend 90° / knees and hips are approximately level.
- Move hips back against the back rest.

2. Work surface should be at **resting elbow height** (you may need a keyboard tray/foot rest).

3. Seat cushion: Slide seat pan if necessary.

- Seat supports your bottom and most of the thigh while sitting against the back rest.
- Leave 2-3 fingers width gap between edge of seat and the back of your calves.

4. Arm support: Adjust arm rest accordingly.

- Bring arm rests in under shoulders to have your arms close to your torso.
- Move arm rests to support the weight of your forearms without raising shoulders.

5. Monitor(s)

- The center of the monitor should be below eye level.
- Keep dual monitors close together to reduce side to side turning.

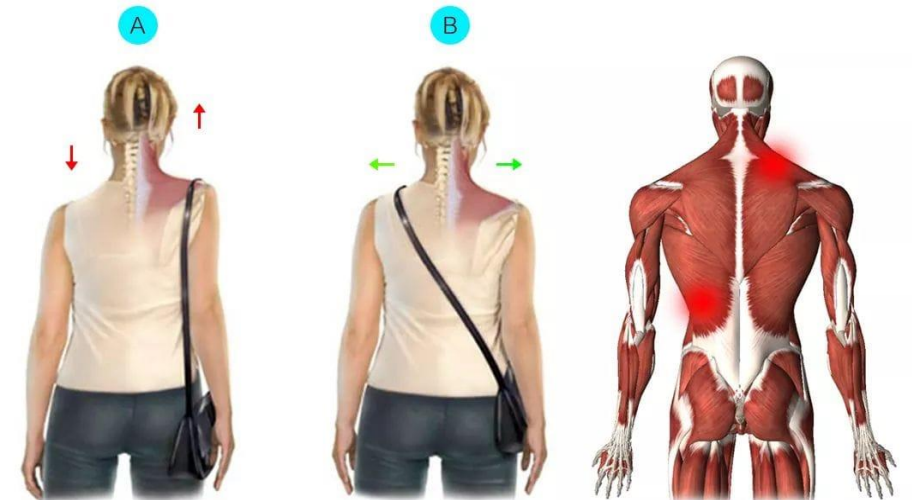
Carrying a bag correctly

Carrying a shoulder bag over a single arm can harm your posture — and not just because the weight of the bag bears down through the strap into your shoulder muscles.

An empty bag will also cause you to contract your shoulder muscles and elevate your shoulder to keep the bag from sliding down your arm (A). Done regularly, this can create posture problems.

If you use a bag with a shoulder strap, place the strap over your opposite shoulder (B).

NECK, SHOULDER & BACK PAIN
as a result of carrying your handbag on one shoulder
@HEALTHY_STREET



How do you carry your handbag?

Pain pattern if you carry your handbag on the right shoulder

Exercise

Over time, the habit of less activity in general, and much more unbalanced motion by sitting, creates muscle imbalance

Performing posture exercise as a daily life habit helps the body to move in ways it would not otherwise move, strengthening the body's ability to move in balance.

Always consult your doctor before participating in any exercise program. All posture exercises should be performed pain free.

If you experience pain or discomfort, stop the exercises and consult your physician.

People with back or spinal problems are advised to see a specialist before trying these exercises!

Chin Tucks

Scapular retractions with depression

Neck stretches

Childs pose

Cat-Cow

Sidelying Thoracic Rotation

Glute Sets

Seated Hamstring stretch

Standing Chin Tuck

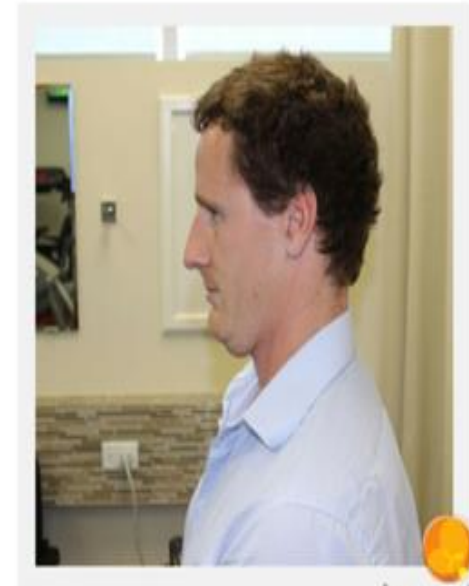
Strengthen the deep cervical flexors, lower cervical extensors, and other muscles that keep the head pulled back in good posture with the ears above the shoulders.

Stretch the scalene muscles along the front sides of the neck and suboccipital muscles at the base of the skull.

To do this:

- Stand up against a wall and face straight ahead.
- Gently pull your head back towards the wall.
- Keeping your face level, without looking up and down, jut your neck forward. Then bring it straight back as if it were on railroad tracks.
- Hold for 3-5 seconds
- You should feel like a turtle pulling his head back into its shell.
- Repeat 10 times.

Chin Tuck

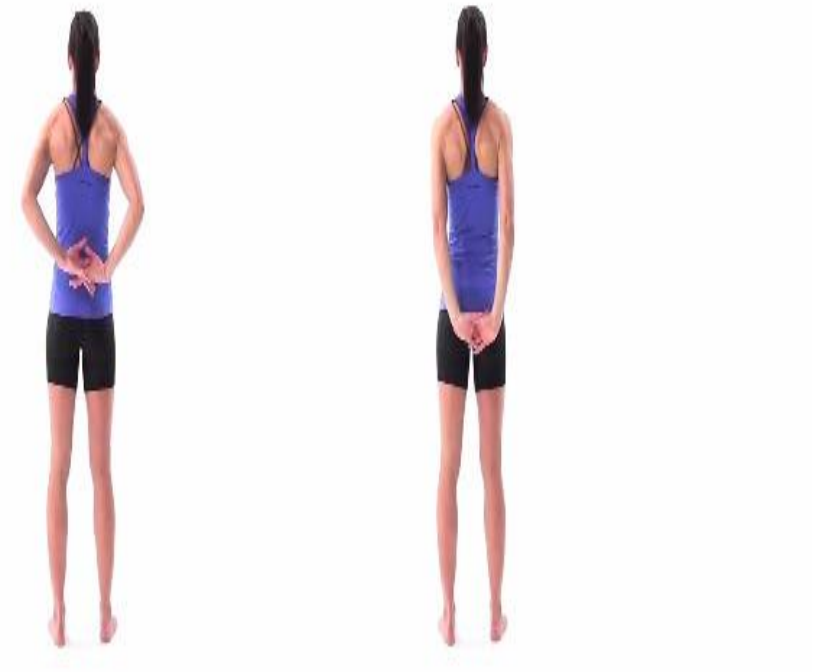


Scapular retractions and depression

This exercise allows you to open and stretch your chest. This is especially useful if you spend most of your day sitting, which tends to make your chest move inward. Strengthening your chest also helps you stand up straighter.

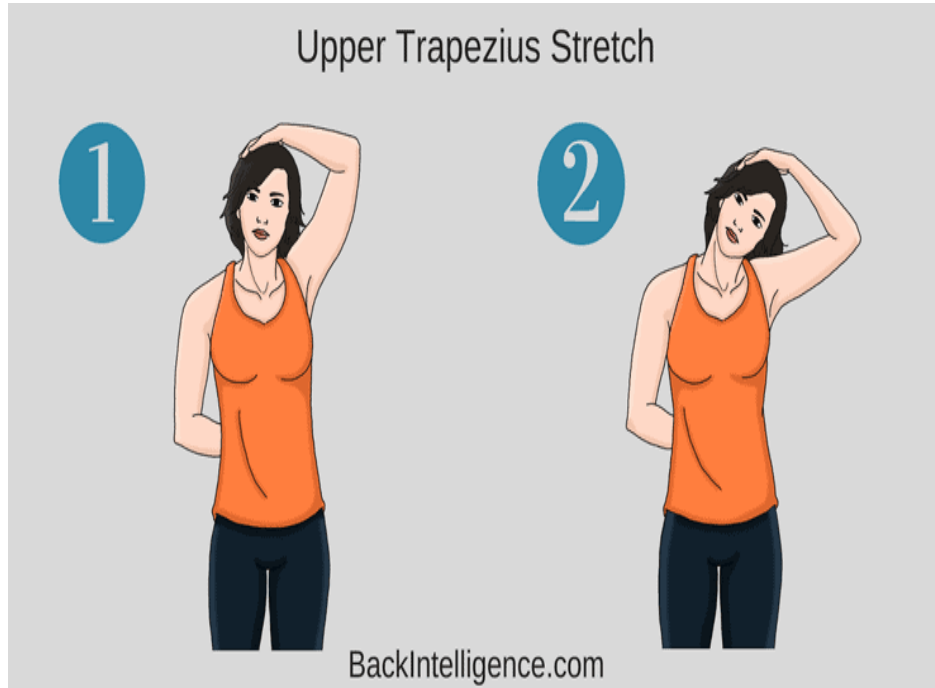
To do this:

- Stand with your feet about hip-width apart.
- Bring your arms behind you and interlace your fingers with your palms pressing together. Grasp a towel if your hands don't reach each other.
- Keep your head, neck, and spine in one line as you gaze straight ahead.
- Squeeze your shoulder blades together and downward toward the middle of your back.
- Breathe deeply as you hold this pose for 5 breaths.
- Release and relax for a few breaths.
- Repeat at least 10 times.

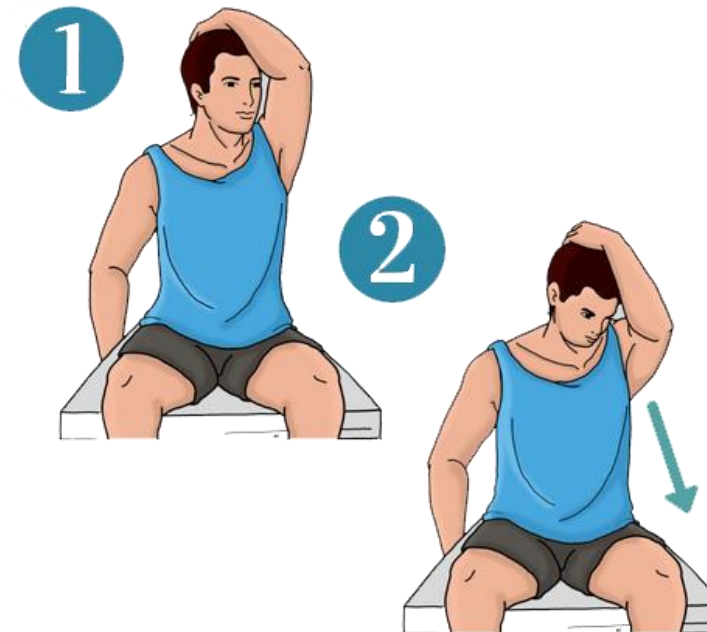


Upper Trapezuis / Levator Scap Stretches

UPPER TRAP



LEVATOR SCAP



Child pose

This resting pose stretches and lengthens your spine, glutes, and hamstrings. The child's pose helps to release tension in your lower back and neck.

To do this:

- Sit on your shinbones with your knees together, your big toes touching, and your heels splayed out to the side.
- Fold forward at your hips and walk your hands out in front of you.
- Sink your hips back down toward your feet. If your thighs won't go all the way down, place a pillow or folded blanket under them for support.
- Gently place your forehead on the floor or turn your head to one side.
- Keep your arms extended or rest them along your body.
- Breathe deeply into the back of your rib cage and waist.
- Relax in this pose for up to 5 minutes while continuing to breathe deeply.



Cat-Cow

Practicing cat cow stretches and massages your spine. It also helps to relieve tension in your torso, shoulders, and neck while promoting blood circulation

To do this:

- Come onto your hands and knees with your weight balanced evenly between all four points.
- Inhale to look up, dropping your abdomen down toward the ground as you extend your spine.
- Exhale and arch your spine toward the ceiling and tuck your chin into your chest.
- Continue this movement for at least 1 minute.



Sidelying Thoracic Rotation

This exercise relieves tightness and pain in your back while increasing stability and mobility.

To do this:

- Come onto all fours and sink your hips back down to your heels and rest on your shins.
- Place your left hand behind your head with your elbow extended to the side.
- Keep your right hand under your shoulder or bring it to center and rest on your forearm.
- Exhale as you rotate your left elbow up toward the ceiling and stretch the front of your torso.
- Take one long inhale and exhale in this position.
- Release back down to the original position.
- Repeat this movement 5 to 10 times.
- Repeat on the opposite side.



Glute Sets

This exercise helps to strengthen and activate your glutes while relieving lower back pain. It also improves the functioning and alignment of your hips and pelvis, leading to better posture.

To do this:

- Lie on your back with your knees bent and your feet about hip-distance apart.
- Keep your feet about a foot away from your hips.
- Rest your arms alongside your body with your palms facing down.
- Exhale as you bring your feet closer to your hips.
- Hold this position for 10 seconds and then move them further away from your hips.
- Continue this movement for 1 minute.
- Do this exercise a few times per day.



Seated hamstring stretch

Tight hamstrings can lead to lower back pain, bad posture, imbalances of muscles, and knee pain. If your hamstrings aren't flexible enough they will be more susceptible to injury.

Once your hamstrings are tight, other muscle groups will follow resulting in stiff joints and posture problems.

To do this:

- Sit on the edge of a chair.
- Place a straightened knee in front of you.
 - You can comfortably bend the other knee.
- Bend forward by hinging at the hips.
- Keep your toes pointed forward.
- Hold for 5-10 seconds



Medbridge

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Thank you!

...ANY QUESTIONS?