

# Exercises for Ankylosing Spondylitis



**Ankylosing spondylitis is an inflammatory disease that, over time, can cause some of the small bones in the spine or vertebrae to fuse. Hence, the spine loses its flexibility and leads to a bent forward posture.<sup>1</sup>**

Ankylosing Spondylitis (AS) can cause chronic pain and stiffness in the lower back, the hip area, or both. Over time, these symptoms may spread to other areas of the spine and can affect the spinal joints of the neck.<sup>2</sup>

Besides following the treatment plan, lifestyle changes with proper nutrition can aid to manage this disease. Physical therapy and exercise will help to relieve pain, maintain flexibility, reduce stiffness and improving posture, as well as strength.<sup>3</sup> It is suggested to aim for a combination of exercise. There are 4 main types of exercises recommended:<sup>4</sup>

- Balance or posture-focus
- Range of Motion or Stretching
- Strengthening
- Aerobic or Cardiovascular

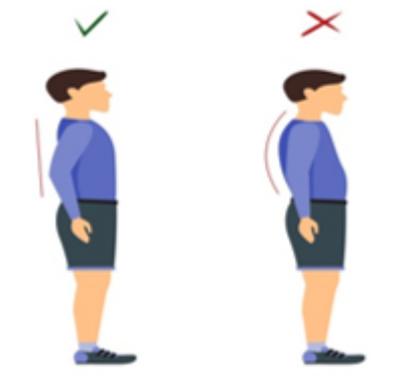
## **Balance Exercises**

Practicing good posture techniques helps one avoid slouching forward and improve stability when still and moving.

**How much: 3 to 5 times per week for best results.<sup>4, 5</sup>**

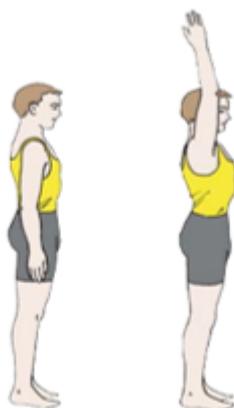
**Examples:** <sup>6, 7, 8</sup>

- **Standing Posture**



- Stand against the wall with the back, heels, bottom, and shoulders touching the wall as much as possible
- Push, but do not tilt, the head back into the wall
- Hold for 5 seconds, then relax and repeat 10 times

### • **Standing Stretch**



- Stand against the wall with the back, heels, bottom, and shoulders touching it as much as possible
- Stretch up as possible without lifting your heels
- Raise the right arm forward and upward while keeping your elbow straight
- Lower and repeat with opposite arm

### **Strengthening Exercises**

Strong core and back muscles exercise help support the spine, improves movement and posture and also helps to reduce the pain

**How much: 2 to 4 times per week for best results**

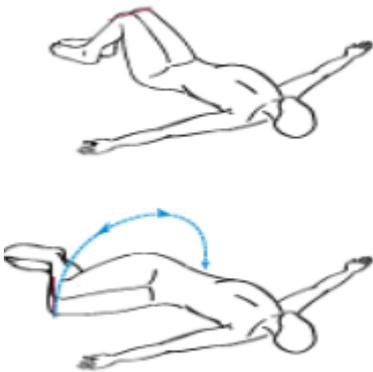
**Examples:** <sup>6, 7, 8</sup>

### • **Bridge**



- Lie on your back, knees bent up and feet flat on the floor
- Arms resting by side, palms down
- Squeeze the bottom muscles and lift the bottom up slowly
- Lift the hip area and hold for 5 seconds
- Lower down gently

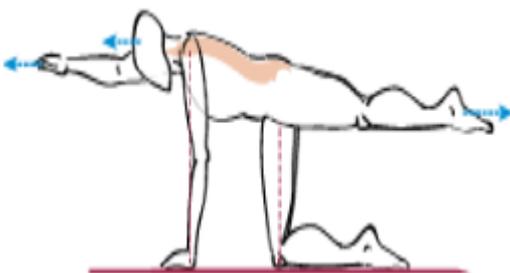
• **Knee Rolling**



- Lie on the back with the arms out to your side at shoulder height, palms facing up
- Bend the knees and roll them slowly to one side
- Move them across to the other side
- Hold for 5 seconds and then return the knees
- Repeat 5 times on each side

• **Superman**

- Get on your hands and knees



- Make sure your hands are below your shoulders and your knees are under your hips

- Raise your right arm forward and your left leg backward until they are parallel to the floor as depicted in picture
- Raise face down on a belly
- Bring your right hand and left knee back to the initial position and switch to the left arm forward and right leg back
- Hold 3-5 seconds and relax
- Repeat 10 times with the alternating arm and leg

• **Sway back stretch**



- Kneel down on all fours
- Keeping the elbows straight throughout, tuck the head between the arms
- Pull your abs in, hunch your back up and flex the spine
- Lift your head and hollow your back as much as possible
- Release to the starting position
- Repeat the same for 10 times

**Range of Motion (ROM) Exercises**

Range of motion exercises improve flexibility and reduce stiffness, swelling, and pain, as well as minimise the risk of fusion.

**How Much: Daily for all joints that are stiff or that have the potential for becoming stiff.**

**Examples:** 6, 7, 8

• **Looking Up**



- Sit up tall straight on the edge of a seat with feet touching to the floor as depicted in figure
- Turn on inner core muscles, place head in neutral position
- Bend head down to look at belly button
- Move chin to chest and hold at the end position for 10 seconds. Return head to start position,

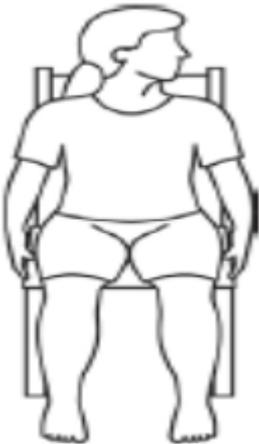
through the same movement line.

- **Looking Down**



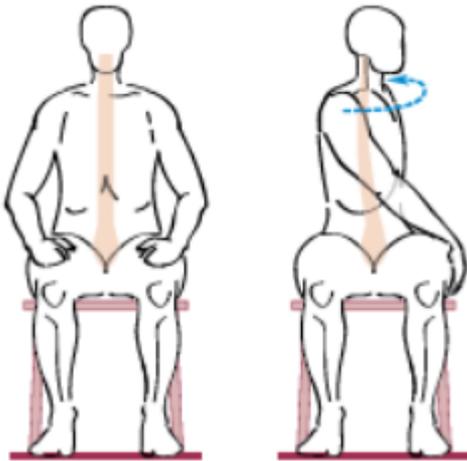
- Sit up, with feet touching to the floor as depicted in figure
- Turn on inner core muscles, place head in neutral position
- Keep the back straight and shoulders still (hold onto the sides of the seat to help)
- Lift head up to look backwards on the ceiling
- Keep inner core muscles and shoulder blades set to bring head back to neutral position

- **Rotation - Turning**



- Sit up on a seat.
- Place head in neutral position
- While keeping the back straight and shoulders still, gradually turn the head to the one side left as far as it can naturally go
- Hold the stretch for 5 seconds before bringing it back to neutral position
- This same stretch is then repeated to the right

- **Body Rotation**



- Sit on a chair with your legs uncrossed, back straight and looking ahead
- Place both hands on right side of the chair or your thigh
- Rotate your upper body to the right side with the head in line with the shoulders without changing the position of legs
- Hold 3-5 seconds and return to start position
- Repeat same stretch to the left side
- Repeat the exercise 10 times

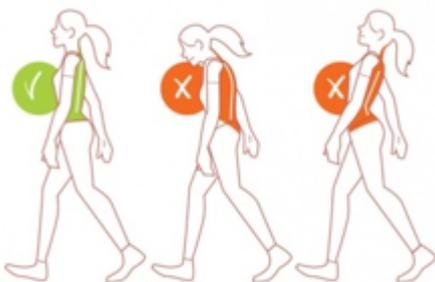
## Cardiovascular Exercises

These exercises improve lung and heart function, as well as breathing function, endurance, and boosting the mood. It also reduces the pain and fatigue.

**How much: 3 to 5 times per week for a total of 75 to 150 minutes per week.**

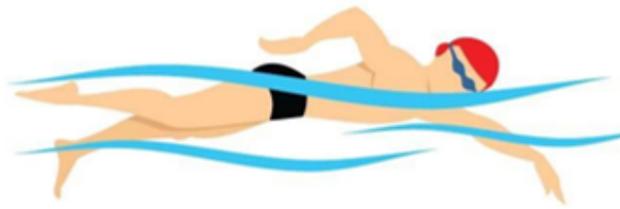
**Examples:** <sup>6, 7, 8</sup>

### • Walking



- Pay attention to how you walk.
- Aim to keep your spine as straight as possible, with your shoulders straight and your head held high.

### • Swimming



- Swimming can be a great way to increase flexibility in the spine without jerking it
- It also helps to increase flexibility in the neck, shoulders, and hips
- One may find it easier to perform cardio exercises while in the pool

## Tips:<sup>7</sup>

- People with ankylosing spondylitis must pay special attention to posture and avoid stooping or slouching when standing or sitting
- You may find yourself stiffer, if you stay in one position for too long
- Change position frequently
- Ideally, one should move every 20 minutes even if it is just a stretch
- For those who are sitting in front of a computer for a long time, just get up and walk around for a few minutes
  
- Avoid doing exercise if one is having following condition
  - Any surgical operations on your spine or joint replacement surgery
  - Any medical condition or disorder, particularly related to your heart or lungs
  - Aged over 65 years or have had ankylosing spondylitis for more than 10 years

## References

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