

Orthopedic Diseases

What causes neck pain and Cervical Spondylitis (CS)?

What are the manifestations of CS?

How is neck pain and CS medically managed?

How does yoga treat neck pain and CS?

Chronic Neck pain and Cervical Spondylitis (CS):

Neck pain and CS are very common disorders, normally seen in the elderly from the age of 55 onwards, but these days are seen in the younger age group from 25 to 45 years of age. There are several reasons for this. Before coming to the patho-physiology, let us understand the developmental concepts.

Both are essential mechanical disorders. Apart from very stiff muscles in the cervical region which can, over the years, cause a kinking of the cervical spine to the front, bad posture and lack of exercise to the cervical region are the key factors which are responsible in a majority of the patients. Lying in bed with several pillows propping up the neck into an unnatural position can affect the alignment of the cervical column, causing a forward inclination. Reclining on sofas with the spine hunched and the neck pushed forward is bad for cervical alignment. Hunching over the computer for many hours, occupational hazards such as those of a writer, an illustrator or a painter, all cause the spine to be bent forward all the time. Positioning the body to the same side during sleep, with the shoulder muscles and the neck compressed, also develops faulty alignment in the cervical spine.

In due course the spine is bent, the front surface of the bones and disc are excessively pressurized and damage occurs. The so-called executive chairs are ill-designed and push the neck out of alignment. No chair should reach extend over the level of the head. The level should be up to the shoulder blades so that the chest can stretch over the edge keeping the body upright.

In India, railway porters carry heavy loads on their heads but they do not suffer from cervical pain (as one would expect) from the heavy load they carry every day. Pain occurs only in the group of people who never exercise their bodies on a daily basis. People who have a physically active life style suffer very little from pain related troubles as all muscle groups are well used on a daily basis. This does not mean just house work or indulging in daily bouts of walking as these two activities use very limited muscle groups.

Essentially, the pathology consists of: (i) narrowing of the cervical vertebrae with disc space reduction; (ii) friction between two vertebral bodies created by this narrowing, with an osteophyte

(bony spur) forming (iii) loss of normal concavity in the cervical region, i.e., loss of

lordosis; (iv) symptoms of vascular insufficiency; (v) numbness and tingling sensation in the hands or feet due to the compression of the cervical nerve roots.

The problems of vascular insufficiency consist of vertigo, giddiness, occasional tinnitus (a ringing sensation in the inner ear), a sense of unsteadiness, etc. In a severe case, there is transient loss of consciousness. The vertebro-basilar vessels are important arteries coursing along the cervical column to the back of the brain. There are areas here that sub serve balance and posture. If the blood flow is affected, the corresponding function is also affected. As the anatomical arrangement is intricate, any movement in the neck affects the flow of blood in the arteries. This syndrome is known as Vertebro-basilar - insufficiency.

What causes chronic neck pain?

The most common reason as already mentioned above is due to poor posture. With the IT boom increasing numbers of young adults sit glued to the computers- desktops or laptops for hours at end without a break and most often in an extremely sloppy posture. Neither the employer nor the sufferer evinces interest in preventing pain which would actually increase productivity. Not understanding the reason for pain and under the impression that always means something serious, unnecessary investigations are carried out. In most cases (> 90 %), ultimately no pathology is found and the word RSI is used- repetitive stress injury.

When one sits for long hours, a perfect posture is mandatory. Please don't say that this is difficult. That's just an escapist approach. Whatever needs to be done to rectify the situation is necessary and we should be proactive. But as habits die hard, we find it difficult to sit perfectly erect for prolonged periods. Sitting perfectly erect can eliminate faulty posture as a causative factor for back and neck pain. But this alone will not suffice. Poor body flexibility contributes to pain in many parts of the body and hence a structured daily program of stretch exercises will benefit the body. These exercises can either be preventive or even curative for neck pain and CS. More importantly, children should be taught the need for right posture. Catch them young is still the best way to tackle many of these problems.

Yet another important reason is poor upper body strength in both males and females. When such a body is subjected to stress lack of muscle tone and strength provokes pain. The biceps, triceps, the shoulder blade area and the neck are areas most neglected and hence very weak. We never think of these parts leave alone recognizing the need for keeping them fit for any task. Matters are often so bad that we find it difficult to even sit erect!

To summarize the salient causative points:

Poor posture

Poor body flexibility

Poor upper body strength

Extended sitting hours

Manifestations of CS

The most common symptom is pain in the neck, worsening with exertion and relieved, (in the early stages), by rest. This pain often radiates down to the hand, with the fingers becoming numb due to compression of the nerves that innervate the upper extremity. The trapezius muscle area becomes tender and painful. A nodule can form in the muscle due to chronic pressure. The symptoms of cervical cord compression can sometimes be severe. The pain radiates down the right or left arm to the fingers, to the chest and shoulder blades depending on which side the nerve root is involved. It can become continuous, making movements painful and limited. Numbness in the affected arm is a common feature. These symptoms are shared by cervical disc prolapse too. Often patients ignore pain unless it is severe and continue to strain at work till the condition becomes very unbearable. This should be avoided. Giddiness which is due to transient reduction in blood flow to the brain is another common symptom especially in the elderly. This can happen in the younger age group (30-40 years) also.

If the cervical vertebrae become unstable, the danger of spinal cord compression is imminent and, in some cases, surgical fusion of the bones may be warranted. But this is not common.

To summarize the principle points of disease manifestation:

Neck pain

Radiation of pain into hands

Numbness in the affected part

Giddiness

Medical management of chronic neck pain and CS:

Medical science accepts chronic neck pain and CS as a normal degenerative aging change. Painkillers or muscle relaxants are prescribed. In order to prevent the symptoms of vascular insufficiency, anti-platelet drugs are given to maintain cerebral blood flow. This makes the platelets less sticky, the blood becomes more fluid and this helps better flow. However the essential change is of a mechanical nature. If the cervical spine could be realigned and the inter-vertebral spaces widened, a normal state of blood flow would be restored. Physiotherapy can, at best, only offer marginal relief; sometimes the condition may even be aggravated. It is better avoided. Investigations like an X-ray, MRI or a CT scan may be needed to assess the severity of the condition.

In situations where the geriatric patient suffers acute giddiness, it is useful to restrict the movement of the neck with a soft collar. But this is better avoided when possible. Sudden neck movements can also cause the spur to impinge on the cervical nerves and blood vessels and reduce the blood flow to the brain. This creates a situation where the patient - sometimes becomes afraid of moving the neck. In the long run, of course, a collar is to be avoided as it stiffens the neck muscles and pushes the neck out of alignment. For health, the muscles and bones have to be aligned and stretched rather than made stiff.

Cervical traction, where the skull is lifted up, has its value in a few cases. But, in due

course, the weight of the skull makes it settle down on the cervical column and the symptoms recur. Though, obviously, the osteophytes cannot be removed, one can adjust and realign the spine so that compression of the vertebral arteries and cervical nerves does not occur.

Those whose job involves prolonged sitting (IT for instance) must have an orientation course on the ergonomics of posture. Unfortunately the so called ergo furniture are not

really correct in their design leading to more problems and search for more chairs and tables to work in an optimum manner. The entire back must have its own intrinsic capacity to sit erect for long hours without a back rest. But in today's scenario this capacity is all but lost and hence we need to relearn how to use our back.

Yogic management:

All patients with CS have stiff neck and trapezius muscles and are unable to stretch the neck backward. This is an inherent problem and not a muscle spasm. As the anterior (front) surfaces of the vertebrae are compressed causing pain, spinal extension (stretching the spine backward) relieves the problem, though the movement might initially cause - vertebro-basilar insufficiency in some cases. Vertebro-basilar insufficiency is prevented because of the resultant elasticity of the cervical muscles and vertebral arteries.

It is essential to make flexible the trapezius, cervical and shoulder muscles. Patients with cervical Spondylitis cannot stretch the dorsal spine. Once this can be accomplished, CS ceases to be a problem as extension movements reduce pressure on the cervical nerves. Again, by regularly practicing back bends, this disorder can be averted. Improving alignment of the neck muscles and vertebrae is very important to prevent asymmetrical pressure on the nerves of the neck and other vital structures.

There are various asanas which prevent and give relief to this problem — Spinal twists, arm extensions, Sarvangasana, Halasana and back bends are significant. Standing poses help align the cervical and dorsal vertebrae. Inverted poses like head stand and shoulder stand strengthen the cervical muscles and shoulder area. But the technique used in these cases is quite different from the normal.

All the yoga poses are to be learnt from a medically qualified person and not from a yoga teacher as they are not trained in clinical medicine. The manner of yoga practice is not the usual and hence modifications are used to help the patient perform the poses scientifically. In most cases, with proper attention on posture and regularity in practicing the poses, good recovery occurs in 4- 8 weeks. It is important that the patient continues to keep up the yoga practice to prevent the pain from recurring. Many fail in this regard and suffer pain again till they realize the need for making a lifestyle change in incorporating yoga as a daily routine. A maintenance dose of a minimum number of exercises is needed to prevent recurrence.

These needs only a few minutes of time on a daily basis and is not asking for too much of our time. Imagine the cutting down of health care costs.

To Summarize:

Enhancing flexibility in the affected part

Realignment of muscles and bones

Availability of a variety of yoga poses

Learn yoga poses under the monitoring of a physician

If you have doubts or queries after reading this article, please contact your physician.

Tips for a healthy back (includes the entire back)

4. Sit very erect always
5. Avoid prolonged sitting if your job involves being seated always
6. Stop smoking and avoid alcohol
7. Exercise daily – include both flexibility and strength training in this routine
8. Use a thin pillow of a soft material- avoid the so called special pillows meant for such ailments.

Can back pain be prevented?

It certainly can be, if one takes the following measures

9. Include a session of yoga in your daily routine
10. Avoid slouching and develop awareness of your body habits and posture
11. Keep your weight under control
12. Use firm non sagging mattresses.
13. Include proper lifting techniques.

Who is most likely to develop spinal pain?

14. Those who maintain a sit for several hours without movement- the duration of sitting is variable – all human beings have different thresholds for this.
15. Those who stand long hours without a break.
16. Extremely slender persons- as their spinal muscles are weak and lack postural-strength retaining capacity.
17. Obese persons-as their body is too immobile and awkward to be carried about.
18. Couch potatoes in sloppy postures.

How is spinal pain diagnosed?

19. Clinical examination
20. Radiological procedures- X-ray. MR and a CT scan. Not all are need for each patient.
21. Blood test to rule out infections and other pathologies.
22. Lifestyle of the patient is most important.