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A REVIEW OF THE WRONG POSTURE ON PRITHAVAMSHA (THORAX & LUMBER REGION)

Pankaj Singh MD Scholar[1]*, R. K. Gautam[2], Vishal Verma[3], Madhavi Goswami[4], Naresh Chaudhary[5] and Gyanendra Dutt Shukla[6]

[1,2,4,5]Deparment of *Rachana Sharir*,

[3]Deparment of *Shalya tantra*,

[6]Deparment of *Panchakarma*.

Uttarakhand Ayurveda University, Rishikul Campus, Haridwar.

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***Corresponding Author**
Pankaj Singh
MD Scholar Deparment of *Rachana Sharir* Uttarakhand Ayurveda University, Rishikul Campus, Haridwar.

ABSTRACT

Prolonged sitting in wrong posture is a part of sedentary lifestyle. Many occupations which require prolonged sitting & standing activities seems to cause spine disorders resulting in neck or back pain or pain radiating to arms. Performing certain movements after prolonged sitting could result in a low back and musculoskeletal injury. Prolonged sitting leads to change in thoracic curvature, lumber curvature and mis alignment of spine with tightness of the back muscle it can cause a decrease in range of motion and can lead to different musculoskeletal problems. Prolonged sitting can decrease spine height and increase the lumbar range in form of lordosis.

KEYSWORDS: *Pristhavamsha*, spine curvature, Wrong posture, Lumber lordosis, kyphosis.

KEYMESSAGE: A Posture is the position in which someone holds body when standing or sitting. Posture contains various structure such as muscles, ligaments, articulating surface of joints and their alignments with bones and venerable structure. So, it's important to maintain posture in upright position. This phenomenon explains the role of sedentary lifestyle especially wrong sitting posture on human spine with its health hazards on the basis of sitting jobs.

INTRODUCTION

Ayurveda, the Indian system of medicine is a term basically made up of two words viz. *Ayu* and *Veda*; *Ayu* stand for span of life and *Veda* means knowledge or discourse, thus *Ayurveda* means the knowledge of life.

Ancient *Acharyas* subdivided *Ayurveda* into eight parts by keeping easy accessibility to the subject in view, but with advent of science new subjects were added to the prior established parts. *Rachana Sharir* being one of these neo branches introduced to study *Ayurveda,* deals with the structure & configuration of human body & its applied or clinical aspect. Every concept of *Ayurveda* has its own importance. *Pristhvamsha,* a term used in *Ayurvedic* texts stands for vertebrae or vertebral column. *Acharya Shusutra* has depicted its position & numbers (as 30) in his *Samhita*[1] A few structures are also narrated to be present in its vicinity like *Mamsa Rajju, Snayu,* etc Ancient classics like *Gopath Brahman*& *Satpath Brahman*[2] have taken all the vertebrae as one bone called *Virya* having two transverse processes each which have different name & number in each region: cervical region (*Griva*) had 14 *Karukaras*, thoracic region (*Amuka*) with 32 *Prstikundalas*, lumbar region (*Udara*) had 20 *Kuntapas*.

Scanty and dispersed description of vertebrae are found in ancient and Ayurvedic literature which need compilation in one place owing to fact that neck & back pain are the major occupational health hazards of today's life.

AIMS AND OBJECTIVES

1. To find out the muscles of back and its position along with vertebral column
2. To assess the possible health hazards of wrong sitting postures' jobs.

MATERIAL AND METHODS

This study has been conducted into two parts

- **Conceptual study:-** In this part classical literature, modern literature, books, thesis, journals articles, internet materials were reviewed and analysed scientifically.
- **Cadaveric study:-** This section of study had been carried out with the help of dissection on human embalmed cadaver which is available in the campus of Rishi Kul Ayurvedic college of Haridwar. Total 4 body had been dissected out to assess the structural anatomy of back and relation of spine with muscles.

Conceptual study

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oa"k & jh< dh gM~Mh[4]

The term *Pristhavamsha* made up of two words *Pristha* and *Vamsha*.

Pristha means 'standing for forth prominently' or the back which is prominent part of an animal. *Vamsha* refers to bamboo cane or reed pipe.

So, in total, *Pristhavamsha* refer to back bone especially thorax and lumber region of body.

Definition of *pristhavamsha*

Pristha refers to back and *Vamsha* means a series of structure. So, it is basically referred to the thorax and lumber region the structure that present in back with the continuous series of vertebrae.

In our *ayurvedic* literature there is no exactly definition of *pristhvamsha* but widely used in *Paribhasha Sharir* of *Sharirstahn*a in the contexts of other terms such as *Kandara, Snayu, Maamsrajju, Marma* etc.

Synonymes

Prithavmsha, Kaseru, Pristhasthi.

Charak samhita[5]

According to *Acharya Charaka* total 360 bones are present in the human body, out of these in *Sharir Sthan* chapter six clearly mentions that *Shroniphalak* 2 in number, *trika*(sacrum) one and *Pristhaasthi*(thorax and lumber vertebrae) are 45 in number and *Greevaasthi*(cervical vertebrae) 15 in number. *Acharya charaka* has mentioned the *Greeva* and *Pristha* two category so we can say that *pristhvamsha* can be correlate with thorax and lumber vertebrae.

Shusruta samhita[6]

Acharya Sushruta clearly has mentioned that *Pristha* has 30 number of bones and *Greeva* has 9 bones in number and the term *Pristha* in *Sharir Sthan* with its relation with various

structures which are directly or indirectly related to *Pristha* Such as *Kandara , Maamsaraaju, Asthi, Sandi* and *Snayu, Marma* etc.

Terms related to pristhavamsha

- The *shatapath bramhan* gives the following account of the structure of the two sides. The two sides of the body are formed by 26 *Parsus* or *parisavas* (ribs). Theses ribs are joined at either end to the thoracic vertebrae (*kikasa*) in the back and *jatru* (costal cartilage) in the front. These ribs are attached to the *andaparisus* (which should mean globular end of the rib)[7]
- Human body, the mount Meru – i.e., the vertebral column is surrounded by seven islands, these are rivers, seas, mountains, fields; and lords of the fields too.[8]
- This hymn was chanted for praising Lord *Bramha* as the creator of *Purush* & establishing the body parts. This Mantra narrates "How many Gods made *Ura* (Chest), *Greeva* (Neck), *Stana* (Breast), *Fefdou* (lungs), *Skandha* (Shoulder) & *Prustha* (Back).[9]
- The *Shatapath bramhan* refers to three division of the vertebral column:

a) *Greeva* (Cervical)
b) *Amuka* (Thoracic)
c) *Udara* (Lumbar)

In the thoracic portion of the vertebral column there are 32 *Pristi Kundalas* or *Karukaras* (vertebra). The Lumbaric portion (*udara*) consisted of 20 *kuntapas.*[10]

Number of bones present in pristhavamsha according to different authors

Serial no.	Name of author	Region	No of bones
1.	*Charaka*	*Greeva*	15
		Pristha	45
2.	*Sushruta*	*Greeva*	9
		Pristha	30
3.	*Harar Chandra*	*Pristha*	34
4.	Modern	*Thorax*	12
		Lumber	5

Muscles of back[11]

Back muscles are divided into two specific groups:

- Extrinsic muscles that are associated with upper extremity and shoulder movement,
- Intrinsic muscles that deal with movement of the vertebral column. Several small muscles in the cervical area of the vertebral column are also important.

The extrinsic muscles: Superficial /extrinsic muscles connect the upper extremities to the trunk, and they form the V-shaped musculature associated with the middle and upper back. They include the Trapezius, latissimus dorsi, levator scapulae, and rhomboideus. Intermediate extrinsic muscles include the serratus posterior superior and inferior. Most of their function is involved with respiration.

- **The Intrinsic muscles:** Intrinsic muscles which stretch all the way from the pelvis to cranium, help to maintain body posture and move the vertebral column. They are divided into three groups:

1. Superficial layer,
2. Deep layer
3. Deepest layer

1. The superficial layer

A. Splenius muscles and a group of erector spinae muscles are included in this layer. The splenius muscles are located on lateral and posterior portions of the neck. They laterally flex, rotate and extend head and neck. Bodies have two kind of splenius muscles:

a. Splenius capitis muscles: These muscles originate from the nuchal ligament and spinous processes of the C7 and the upper three thoracic vertebrae. Insert into mastoid processes of the temporal bone.

b. Splenius cervicis muscles: These muscles originate from 3rd to 6th spinous processes of the thoracic vertebrae and insert onto the transverse processes of the upper three cervical vertebrae.

Action on splenius muscles:- Acting together, the splenii of the two sides draw the head directly backwards. Acting separately, they draw the head to one side, and rotate it slightly turning the face to the same side. Each is therefore synergistic with the contralateral sternocleidomastoid.

B. The erector spinae muscles lay on either side of the vertebral column, running from the lumbosacral area superiorly to various places along the ribs and up to the base of the skull. Their job is to extend the vertebral column and maintain the normal curvature (posture) of the vertebral column. The erector spinae muscles, originate from the posterior surface sacrum, sacroiliac ligaments, sacral and lumbar spinous processes, and iliac crest:

a) Iliocostal muscles: These muscles run superiorly where they insert onto the angle of the ribs and the transverse processes of the C4 to C6 vertebrae.

b) **Longissimus muscles:** These muscles travel superiorly to their insertions on the ribs, the transverse processes of the thoracic and cervical vertebrae and the mastoid process of the temporal bone.

c) **Spinalis muscles:** These muscles run superiorly to insert on the spinous processes of the upper thoracic vertebrae and to cranium.

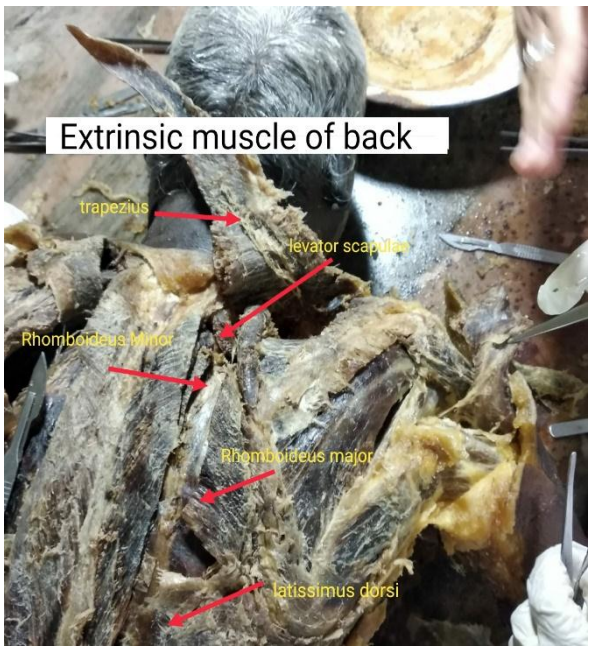
Action of erector spine:- Erecter spine as a group extend and laterally flexes the vertebral column when acting against gravity. It contracts eccentrically to control the movement as the column is flexed forwards or laterally with the aid of gravity.

2. **The deep layer:** Underneath the superficial layer intrinsic back muscle is another layer of muscle that helps to support the posture and assist the superficial layer muscles in moving the spine. The deep intrinsic muscles are smaller than the erector spinae muscles, and none of them transverse more than six vertebral segments. In this layer the transvers spinal group of muscle lies which is further divided into semi spinalis, multifidus, rotators and suboccipital muscles.

- **Semispinalis muscles**: This group is the most superficial of the deep intrinsic muscles. These muscles run from the midthoracic spine superiorly to the cervical spine. They have three divisions (thoracic, cervical and capitis) they originate from the transverse processes of the 4th cervical vertebra through the 10th, 11th or 12th thoracic vertebra. The fibres travel superiorly for about four to six segments each and attached on spinous processes and occipital bone.
- **Multifidus muscles**: These short triangular muscles originate in various places but always travel superiorly and medially for two to four segments and attach on the spinous processes.
- **Rotator muscles:** The rotator lie underneath the multifidus muscles means these are deepest among two muscles. Among these muscles the rotator are well developed in thoracic region. They originate from the transverse processes of the single vertebra and travel superiorly to insert into the spinous process of the vertebra one or two segments superior to it. The rotators help with rotation and proprioception.

Action:- Semispinalis thoracic and cervicis extend the thoracic and cervical region of the vertebral column and rotate them towards the opposite side. Semispinalis capitis extend the head and turn the face slightly towards the opposite side.

3. **The deepest layers:** Consist of interspinal and intertransverse muscles which are hard to find. The short muscles of back probably function as posture muscles. The short muscles that serve to stabilize adjoining vertebrae, controlling their movement during motion of the long erector spine muscle.



Health hazard's of wrong sitting posture

Good posture is the proper alignment of the body in standing or sitting position. Correct positioning involves training yourself to hold the body against gravity with the least strain and tension on supportive structures, such as muscles and ligaments. Proper posture keeps the bones and joints in optimal alignment and decreases wear and tear on supportive structures. A good sitting position depends on a person's height, the chair they are using and the activity they are doing while sitting.[12] When we have good posture, the muscles surrounding the spine are balanced and supporting the body equally.

Contributing factors to postural dysfunction

- Lack of education or awareness of correct posture
- Sedentary lifestyle
- Occupational demands
- Joint stiffness
- Decreased fitness
- Muscle weakness
- Muscle tightness

- Poor core stability
- Poor ergonomic work-stations

Risk factors that associate with wrong siiting posture

Excessive sitting behaviour is a risk factor for many adverse health outcomes. When you sit, you use less energy than you do when you stand or move. Research has linked sitting for long periods of time with several health concerns. They include obesity and a cluster of conditions, increased blood pressure, high blood sugar, excess body fat around the waist, and abnormal cholesterol levels that make up metabolic syndrome. Too much sitting overall and prolonged periods of sitting also seem to increase the risk of death from cardiovascular disease and cancer. The other factors that affected wrong sitting posture are mentioned below-Lower limbs and gluteal region, sitting for long periods in the wrong posture can lead to weakening and wasting away of the large leg and gluteal muscles. These large muscles are important for walking and for stabilizing you. If these muscles are weak, person is more likely to injure body posture with respect to muscles and body alignments.

Obesity: Sitting at a desk reduces a person's energy expenditure because the body's major muscle groups aren't being utilized and calorie burning is minimized. When person move, muscles release molecules like lipoprotein lipase, which helps process the fats and sugars you eat. When a person spends most of the day sitting, the release of these molecules is lessened and the rear end is at greater risk of widening. According to research, you are also at greater risk of metabolic syndrome, even you exercise one study found, unsurprising, that men who spent more time sitting than usual. Gained more weight around the middle, which is the most dangerous place to store fat. Over an extended period, this can lead to weight gain and in severe cases obesity.

Psychological impact:- We all know that physical activity is good for mental health. Being stuck at your desk also means you're probably not getting outside enough. This lack of sunshine can cause a person to become deficient in vitamin D and other minerals ultimately lead to depression. And risk of anxiety and depression is higher in people that sit more**.** Many kinds of researches demonstrate that sitting for longer than 8 hours a day at work not only carries a physical toll but may also increase the risk of mental health, such as anxiety and depression**.** Sitting for a longer duration of time can cause thinning of a particular region in the brain which is responsible for the formation of new memories. Which could then lead to

an increase in the feeling of social anxiety.[13] This might be because people who spend a lot of time sitting are missing the positive effects of physical activity and fitness.

Cancer:- Emerging studies suggest the dangers of sitting include increasing your chances of developing some types of cancer, including lung, uterine, and colon cancers. The reason behind this is not yet known. Research from the American cancer society has found that women who spend 6 hours or more of free time sitting per day have a 10% greater risk of getting cancer than women who spend less than 3 hours of free time sitting per day. They were also more likely to developed certain types of cancer such as multiple myeloma, ovarian cancer, and invasive breast cancer. Sitting time did not increase cancer risk for most men in the study. And Low physical activity occupations have an increased incidence of cancer.

Diabetes:- Diabetes means your blood sugar levels are higher than normal. The consequences of sitting for a period of time are that, there is little use of the body and thus, little energy burn, and the metabolic pathways regulating how we store blood sugars are less active and effective. Thus, we tend to have more sugars in our blood, store more glucose and overtimes this can contribute to increase risk for developing type 2 diabetes. Research suggests that people who spend more time sitting have a 112 percent higher risk of diabetes, high sugar levels in the blood can cause serious damage to your body, including the heart kidneys, eyes, feet, and nerve. Controlling blood sugar levels is important for avoiding the risk of serious health problem.

Heart disease:- Sitting for long periods has been linked to heart disease. Some experts say that people who are inactive and sit for long periods have a 147 percent higher risk of suffering a heart attack or stroke. Sitting can lead to negative effects throughout the body, including increasing your risk for heart disease. Lake of exercise is a known risk for coronary arty disease. This is in part because a sedentary lifestyle increases the risk for diabetes and high blood pressure. Getting regular physical activity can help reduce your risk of heart disease by helping you manage blood pressure and cholesterol, regulate your blood sugar levels, and maintain a healthy weight or lose weight exercise can strengthen your heart. There is also evidence that it can help improve your circulation and build a backup system of blood vessels that can take over if one of your arteries is blocked by disease or a clot. Sedentary behaviours increase the risk of cardiovascular disease mortality in men.[14]

Fatigue:- When you have poor posture, the body works harder to keep you upright, and you'll be left feeling tired. Upright is the normal position of the body, so your body is constantly trying to get it back to where it's supposed to be. So, to do this, the body requires more energy, which will lead you to feelings of fatigue.

Stiff Neck and Shoulders:- Sitting jobs requires the muscles to hold the neck, trunk or shoulders in positions for a longer period of time which reduces the blood circulation and increases the fatigue of the place Sitting at the desk every day can bring about a similar result. Poor posture forces you to overwork the muscles in your neck and back. Poor posture can cause neck pain by straining muscles and ligaments that support the neck resulting in injury over time. The head and shoulders forward posture is the most common example of poor posture that contributes to neck & shoulder pain. A forward head posture from wrong sitting posture protrudes the shoulders forward and weakens the back muscles. Neck and shoulder pain is usually the result of strain and sprains from overexertion or bad posture. Sometimes this pain will go away on its own. Stretching and strengthening exercises can also treat the pain. Sometimes neck and shoulder pain is due to a fracture in the bones of your shoulder.

Back and Spine disease:- When you sit with bad posture, you cause compression on the disc in your spine leading to premature degeneration. All of this results in chronic pain. Not moving for long periods of time also causes muscles and ligaments to lose strength. Muscle tension caused by poor posture can also cause lower back pain in form of muscular pain, as the muscles fatigue and become stiff. In addition, being seated for too long can disturb blood circulation in the back and legs and result in less oxygen reaching the back's nerve and muscle cells. Poor posture stresses your muscles, connective tissue and vertebrae, which can eventually contribute to spine stenosis and other problems.

Joint pain:- Poor posture is the number one cause of most joint pain. Posture is critical to the alignment of the joints in the body from your spine, to your shoulders, hip, knees, and even feet. When a person has overweight that causes compression on the disc result that disc manages himself and pressure on the vertebrae and lead to wear and tear on tissue that can be compressed the adjacent nerve which results in pain that could be in form back pain and lower back pain in form of sciatica. Poor posture forces you to overwork the muscles in your back and lower back. Your immune system's efforts to heal those muscles spur inflammation that over time can lead to arthritis in nearby joints. These somatic pains can become the symptoms of chronic diseases.

Varicose Vein and Dvt- We must have heard that prolong standing causes the varicose vein but prolong sitting also causes blood to pool in the legs, which increase vein pressure and may lead to varicose vein. Overtime, vein valves and interior walls of these veins can become weakened and lead to unsightly and painful, and often bulging varicose veins early symptoms include leg pain, heaviness and burning sensation.[15] Varicose veins aren't usually dangerous. In rare cases, they can lead to blood clots, which can cause serious problems likes thrombosis, etc. While a deep vein thrombosis is a blood clot that forms in the veins of your leg. Sitting for a longer duration of time can put a lot of pressure on your legs. DVT is a serious problem because if part of a blood clot in the leg vein breaks off and travels, it can cut off the blood flow to other parts of the body, including your lungs, which can cause a pulmonary embolism. This is a medical emergency that can lead to major complications or even death. Medical association shows that peoples with a varicose vein are five times more likely to developed deep vein thrombosis (DVT).

Hip and Hamsting muscles:- Sitting for a long period in the wrong posture spending much of your day in a seated position can leave your spine sore, stiff and in pain. That's because too much sitting, while it may be relaxing, puts stress on the muscles and disc of your back and lower back. This position results in tightness of your hip flexors such as the iliopsoas muscles and pressure and some ischemia (restricted blood flow) of your buttock muscles the gluteus maximus. This muscle is an important supporter of the spine.

Hamstring muscles act as a hip extensor muscle and knee flexor muscle. Hamstring muscles are the most common muscles to undergo tightness. Hamstring tightness can lead to back rotation of the pelvis, decreeing the curvature of lumber and causing back pain tight hamstring leads to postural changes and various back problems such as SI joints pain which will result in pelvic displacement from the original place. Blood vessels compression is caused by tight muscle which causes blood to move out of them which result in inefficiency of the muscles, changing their function.

Low nutritional diet:- Your spine and back need adequate nutrients to grow strong and straight. Low nutrition and lack of vitamins and calcium can affect the bones and muscles by not providing adequate strength and flexibility to hold themselves in a correct posture.

Postural deformities types

1. **Kyphosis:-** Kyphosis describes a curve in the spine, primarily in the thoracic spine or upper part of the back, of more than forty degrees. And the gold standard method for measuring the thoracic kyphosis is by radiograph Using the cobb method the curve is measured by drawing lines parallel to the upper border of the vertebrae body and the lower border of the lowest vertebrae and a perpendicular line to crossed is other is thoracic curvature.

There are three distinct forms of kyphosis

- **Congenital kyphosis:-** It is a condition present from birth. The deformity happens when a child's spinal column does not develop properly in the womb.in many cases, two or more of the vertebrae fuse together. It often unclears why certain children are affected in this way. people are born with and can only be corrected through surgery.

- **Scheuermann's kyphosis:** Scheuermann's kyphosis also known as Scheuermann disease or juvenile discogenic disease, is a condition of hyperkyphosis that involves the vertebral bodies and disc of the spine identified by anterior wedging of greater than or equal to 5 degrees in 3 or more adjacent vertebral bodies of the thoracic region. Most commonly, diagnosis is made in adolescents aged 12 to 17 years who present after their parent notices a postural deformity or hunchbacked appearance.[16]

- **Postural kyphosis:-** Postural Kyphosis usually happens during stretches of the ligaments and muscles holding the vertebrae (spinal bones) in place. That stretching pulls the vertebrae out of their normal position, causing a rounded shape in the spine. it is caused and can be corrected through changes in posture.

  This condition is most common in adolescents and young adults as they slouch when standing and sitting, causing the spine to curve forwards. Postural kyphosis is often accompanied by hyper lordosis of lumber.

Recently, as people are becoming more sedentary, changes in diet, weight and even posture have occurred. Most people spend the majority of their day sitting down and a lot of that time is spent looking at computer or phone screen. In these situations, Shoulders move inward to support arms holding phones and hands at keyboards while necks move forward for a better view of the screens. This is especially an issue with adolescents (Straker et al., 2007). Over

time, these shoulder and neck muscles become habituated to this forward-leaning posture, causing it to be a constant state of being.

The Upper-crossed syndrome refers to the crossing pattern of certain muscles in the upper body. This crossing pattern is a combination of overactive muscles and underactive muscles. Imagine a side view of a person with an 'X' drawn with the center at the shoulders, as shown in figure 1. The first line of this theoretical cross starts at the upper trapezius muscles and goes across to the pectoral muscles. The other line starts at the cervical flexors and goes to the rhomboid and lower trapezius muscles. The pectoral muscles and the upper trapezius muscles are tight and short, both on the same line. The second line contains the longer and weaker muscles: the lower trapezius and the cervical flexors. This muscle imbalance is the true cause of postural kyphosis and a forward-tilting neck.

2. Lordosis

Hyperlordosis

Hyper means excessive and lordosis means inward condition. So hyperlordosis refers to excessive inwards curvature of lumber region. It often occurs as a result of poor posture or lack of exercise. A person with hyper lordosis may experience the following symptoms: Lower back pain**,** People with hyper lordosis may experience mild to severe lower back pain, which may worsen with movement. Human spines are naturally curved, but too much curve can cause problems. Hyperlordosis is when the inward curve of the spine in your lower back is exaggerated. This condition is also called swayback or saddleback. Hyperlordosis can occur in all ages, but it's rare in children. It's a reversible condition.

Hypolordosis

Hypolordosis of the lumbar spine affects the lower back. Like cervical hypolordosis, this condition also refers to the loss of a healthy curvature, but in the lower back instead. This leads to a condition known as 'flatback syndrome': a front-to-back disruption to the balance of the lumbar spine. The lumbar curvature starts at the first vertebra of the lumbar spine and extends to the top of the sacrum. As is the case with cervical hypolordosis, lumbar hypolordosis can lead to several problems as it introduces adverse spinal tension, making the spinal discs and vertebrae vulnerable to degenerative effects and injury. The lumbar curvature is more gradual than other arcs of the spine, but treatment to restore its healthy lordosis would follow along the same lines as with cervical hypo lordosis.

3. Scoliosis

Scoliosis is an abnormal lateral curvature of the spine. It is most often diagnosed in childhood or early adolescence. There are several ways to differentiate between the various forms of scoliosis, but the most common classification method is based on etiologic, or the underlying cause for the condition. AANS suggests there are three categories into which the different forms of scoliosis fit: Idiopathic**,** congenital**, and** neuromuscular**.**

- Idiopathic scoliosis is one of three different types of scoliosis that cause the spine to develop an abnormal curve.it is the most common type of scoliosis.it tends to run in families and affect girls eight times as often as it affects boys.
- Congenital scoliosis is a sideways curvature of the spine that is caused by a defect that was present at birth. It occurs in only 1 of 10,000 new-borns and is much less common than the other types of scoliosis that began in adolescence.[17] As these abnormalities are present at birth, congenital scoliosis is usually detected at a younger age than idiopathic scoliosis.
- Neuromuscular scoliosis (NMS) is a type of scoliosis that occurs in children who have a medical condition that impairs their ability to control the muscles that support the spine. A few of the more common conditions associated with NMS include muscular dystrophy, cerebral palsy, and spina bifida. and it is the second most types of scoliosis Injuries and infections to the spine can also contribute to the cause of scoliosis

CONCLUSION OF WRONG SITTING POSTURES JOBS

- Posture describes how your spine is aligned with your head, shoulders, and hips. There's no perfect posture, just as there are no perfect bodies. Good posture refers to having a natural curve of spine, where your muscle groups, joints, and ligaments are aligned in a way that reduces stress on them, keeps your body flexible, reduces fatigue, and helps maintain your balance. Kyphosis, lordosis is common in older individuals, but when it occurs in young adults due to their bad sitting habits that all comes under postural defects and some metabolic disorders such as diabetes obesity, etc. So, nowadays in the sedentary lifestyle, we must know the role of posture and its related health hazards.
- Sometimes posture is not always by sitting in a wrong way but the way someone walks or the way hold things can be the reason for bad posture. For instance, if someone always walks with head down or slump shoulders, this can cause posture to pull out from proper

alignment. Sometimes, carrying weight on only one side of the body can contribute to imbalanced or poor posture.

- So, there are More public awareness programs are needed on the effects of sitting and physical activity on health. However, it's clear that less sitting and more moving overall contribute to better health.

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