

Occupational Neck & Cervical pain within office workers

Musculoskeletal disorders in general have become increasingly common worldwide during the past decades. It is a common cause of work-related disability among workers with substantial financial consequences due to workers' compensation and medical expenses (Andersson, 1999).

Following back pains, the second most common disorder that the patients complain about are the neck pains. Neck and shoulder pain is quite common among Office workers. Every one person out of three in the general population is suffering from neck pain once in the course of lifetime. Neck is a very flexible part of the body with great movement capabilities; however, this renders the neck also one of the most vulnerable parts of the body against blows and injuries

Neck pain is assumed to be multifactorial in origin, implying that several risk factors can contribute to its development. Most studies which are reported in the literature focus on only one or a few risk factors. Several literature reviews have specifically considered the work related physical risk factors in the development of neck pain (Kuorinka et al., 1995 and Ariens et al., 2000). However, due to differences in the study design of these reviews, their conclusions are not fully consistent, although there seems to be consensus that the main physical risk factors for the development of neck pain are static postures at work and repetitive movements of the neck (neck flexion), and repetitive or forceful movements of the arm, and prolonged sitting at work.

Theories of neck pain

Neck pain: is the sensation of discomfort in the neck area (MedTerms,2008)

Epidemiology of neck pain: Patient with neck pain represents the second largest population seeking manipulation or manual therapy (Muye et al., 2003).

Anatomical review: Neck is the most mobile portion of the spine and serves three major functions:

- 1- It supports and provides stability to the head.
- 2- It enables the head to move in all planes of motion.
- 3- It protects the structures that pass through it; especially the spinal cord, nerve roots and vertebral artery.

Movement of the neck: Incredibly, the cervical spine supports the full weight of the head, which is usually about 15 pounds. No other region of the spine has such freedom of movement. The cervical spine can move head in nearly every direction: 90° of forward motion, 90° of backward motion, 180° of side to side motion, and almost 120° of tilt to either shoulder. Unfortunately, this flexibility makes the neck very susceptible to pain and injury.

Causes of neck pain: Neck pain may originate from any of the pain sensitive structures in the neck include the vertebral bones, ligaments (anterior and posterior longitudinal ligaments) the nerve roots, the particular facets and capsules, muscles, and dura. Other structures of the neck region, visceral and somatic structures are encountered (Delisa et al., 1988).

Neck pain can result from a variety of causes, including:

- **Muscle strains.** Overuse, such as too many hours hunched over a steering wheel, often triggers muscle strains. Even such minor things as reading in bed or gritting your teeth can strain neck muscles.
- **Worn joints.** Just like all the other joints in your body, your neck joints tend to undergo wear and tear with age, which can cause osteoarthritis in your neck.
- **Nerve compression.** Herniated disks or bone spurs in the vertebrae of your neck can take up too much space and press on the nerves branching out from the spinal cord.
- **Injuries.** Rear-end auto collisions often result in whiplash injuries, which occur when the head is jerked backward and then forward, stretching the soft tissues of the neck beyond their limits.
- **Diseases.** Neck pain can sometimes be caused by diseases, such as rheumatoid arthritis, meningitis or cancer.

Symptoms of neck problems:

The individual with neck pain complains of aching discomfort in the base of the neck and upper back. Headaches, stiffness, torticollis, and noisy joints are common (Delisa et al., 1988)

Osteopathy treatment of Neck pain:

Neck pain is treated by numerous physical therapies. They range in complexity depending on the severity and underlying causes of the pain. Neck pain can also be eased via many self-help techniques such as stretching, strength building exercises.

- Osteopaths can use a wide range of gentle manipulations depending on your age, fitness and diagnosis to reduce muscular tension in the neck and improve movement in the joints of the neck and upper back. We may gently massage the soft tissues or rhythmically “rock” the joints to release tension and sometimes we may gently manipulate the neck to move the joints and you may hear a “click”
- Treatment is different in every individual and sometimes it might involve treating other areas in the back and shoulders as well as the neck.
- We may offer advice on your posture at work or in the car and give advice on exercise and stretching to help keep your neck and upper back muscles and joints relaxed.
- X-rays, scans and other tests are sometimes required to make a diagnosis and your osteopath may refer to your GP or a specialist for any additional investigations or treatment

Neck pain and work related factors:

Neck pain is common in people of all ages and is often caused by how we use our necks. Working all day bent over a computer, driving long distances, poor posture while standing or sitting, stress and tiredness are all factors that can cause the muscles in the neck and upper back to become tight and the joints to become stiff which can contribute to ongoing neck pain.

Sometimes a nerve in your neck can become irritated or “trapped” and cause pain in the arm going down into your shoulder or the hand, and may be accompanied by pins and needles and numbness.

Some headaches can be the result of tension or stiffness in the neck and upper back.

Osteoarthritis or age-related wear and tear in the neck can also cause muscular pain from the neck into the shoulder as well as some stiffness in moving the neck.

The categories of risk factors being evaluated are physical (cervical spine posture, range of movement, muscle endurance and exercise frequency), demographic (age, sex), work environment (sitting duration, frequency of breaks) and psychosocial (psychological distress and psychosocial work factors).

Factors contribute to neck pain:

Different groups of factors may contribute to neck pain, including physical and biomechanical factors, organizational and psychosocial factors, individual and personal factors. These may act uniquely or in combination. In this study the researcher interested in studying the following factors:

1. Physical factors:

Work environment:

- Poor workspace layout, making employees work in awkward positions, poor design of tools and machinery.
- Excessive heat increase overall fatigue, while excessive cold can make neck harder to grip.
- Poor lighting, making workers move into awkward positions to see what they are doing.
- High noise levels, causing the body to tense.

2. Type of work:

Whether academic, administrative or both. As the work load is different and the tasks and activities as well. Monotonous jobs or high pace of work; time pressure; lack of control over the tasks performed.

3. Individual factors:

- Age: play an important role in the development of different health problems.
- Sex: the physical capacity of workers varies (male and female).
- Knowledge: assessment of the workers’ information about the way of application of the work in a healthy way; lack of experience, training or familiarity with the job.
- Practices: static posture, prolonged sitting, poor posture, repetitive movements and sport practices all of these factors may act separately, but the risk is greater if several risk factors work together.

Prevention of work related neck pain:

It is important to ensure that all workers receive appropriate information, education and training on health and safety in the workplace, and know how to avoid specific hazards and risks.

By law, employers must provide healthy and safe work for everyone in their workplace. They are in the best position to make necessary changes to prevent injuries. But sometimes individual workers and/or their unions must argue for preventive ergonomic solutions. These include:

- working with individuals and unions to investigate jobs for standing problems;
- fully-adjustable work surfaces, equipment and work stations which:
 - have different heights depending on whether work is precise, light or heavy;
 - keep things within easy reach;
 - allow workers to face the task (to avoid awkward postures);
 - can be adjusted for pregnant workers' needs;
 - give space to move and sit comfortably (eg. room for knees);
 - have foot clearance so standing workers are in a balanced position; and
 - include something on which to rest one foot when standing.
- accessible fully-adjustable chairs and/or sit-stand stools (common practice outside North America);
- when providing protective foot gear, ensure the choices fit women;
- opportunities to sit and move about during the working day and to take breaks;
- enough seating for all workers in rest areas and lunch rooms;
- wooden, cork or rubber covered floors; and
- anti-fatigue mats (not foam or too spongy, with beveled edges for safety and cleaning).

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