



Neck pain and stiffness

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Introduction

Neck pain is a common medical condition that will affect most people at some point in their lives.^{1,2} Many patients describe neck pain as having a “stiff neck” or a “sore neck”.¹ Approximately ten per cent of adults have neck pain at any one time.² Neck pain is often categorised as “acute” (lasting less than six weeks), “subacute” (lasting 6 to 12 weeks), or “chronic” (lasting more than 12 weeks). While most episodes of acute neck pain resolve quickly, some people do go on to have longer-term pain.²

Causes of stiff neck

Neck pain may be caused by several factors, including muscle or ligament strains, arthritis, or a “pinched” nerve (when a nerve is irritated by something pressing on it).² The most common cause of a stiff neck is a muscle strain or soft tissue sprain,³ which may result from the physical stresses of everyday activities, such as:¹⁻⁴

- Sleeping with the neck at an awkward position or angle.
- Muscle tension in the neck from excessive stress or anxiety.
- Slouching with poor posture whether it's leaning over the computer monitor, reading in bed, hunching over a work bench or looking downward at a mobile phone for prolonged periods.
- Turning the head side to side repeatedly during an activity, such as swimming.
- Holding the neck in an abnormal position for a long period (e.g. when placing a phone between the neck and shoulder).
- Falling or sudden impact that pushes the head to the side. For example, from sports-related injuries or trauma as a result of a motor-vehicle accident involving whiplash.

Signs and symptoms

Neck pain is a symptom commonly associated with dull aching.¹ The pain often spreads from the neck towards the shoulders or upper back, and may cause headaches.^{1,4} A stiff neck is typically characterised by soreness and difficulty moving the neck, especially when trying to turn the head to the side.³ A stiff neck may vary in intensity, ranging anywhere from an annoying discomfort to extremely painful, sharp, and limiting.^{1,3} The pain in the neck may be worsened with movement of the neck or turning the head.¹ Typically, attempting to turn a stiff neck to a particular side or direction will eventually result in so much pain that the motion must be stopped. In order to look sideways or over the shoulder, an individual may need to turn the entire body instead of the stiff neck.³

Treatment

Treatment for neck pain depends on the cause and the severity. In most cases, a stiff neck is caused by a simple muscle strain or sprain that will heal on its own within a few days. However, several treatment options are available to reduce pain and help facilitate healing.³

General measures for neck pain include:^{2,3,5}

- Taking over-the-counter (OTC) pain medication
- Rest
- Applying cold or warmth to the painful area
- Light exercise as tolerated
- Modifying activities

Pain relief

OTC medication

An OTC medication, such as paracetamol or a nonsteroidal anti-inflammatory drug (NSAID) (e.g. ibuprofen or naproxen), may relieve mild to moderate neck stiffness and soreness.^{1-3,5}

Topical preparations

There is a high placebo response to topical analgesic products. This is probably because the act of massaging the formulation into the affected area will increase blood flow and stimulate the nerves, leading to a reduction in the sensation of pain.⁶ Clinical trials have shown topical NSAIDs to be more effective than placebo in relieving musculoskeletal pain.⁶ These preparations should not be applied to inflamed or damaged skin. Application should be discontinued immediately if any adverse reactions develop.⁷

Nonsteroidal anti-inflammatory preparations

Topical gels, creams and patches containing NSAIDs are widely used.^{1,6-8} They are applied directly to the skin⁸ and may be absorbed into the bloodstream. NSAIDs appear to become concentrated in the affected tissues.^{6,7} Precautions and adverse effects as for systemic agents should be noted.⁷ Examples include diclofenac (Voltaren[®] Emulgel, Voltaren[®] Patch),^{7,8} ibuprofen (Nurofen[®] Gel), ketoprofen (Fastum[®] Gel) and flurbiprofen (TransAct[®] patches).⁷

Counter-irritants and rubefacients

Counter-irritants and rubefacients cause vasodilatation, inducing a feeling of warmth over the area of application. Counter-irritants may produce mild skin irritation, and the term rubefacient refers to the reddening and warming of the skin.⁹ It is believed that mild superficial irritation or painful stimuli may assist in relieving more troublesome pain sensations, whether from superficial or deep sources.⁷ There are many proprietary formulations available, often incorporating a mixture of ingredients with different properties. Methyl salicylate is one of the most widely used and effective counter-irritants, e.g. Wintergreen ointment.^{6,7} Preparations including capsaicin, e.g. Deep Heat[®] and Sloan's Heat Rub[®], produce a feeling of warmth when applied to the skin. A small amount needs to be rubbed well into the affected area. Patients should always wash their hands after use, otherwise they may inadvertently transfer the substance to the eyes, causing burning and stinging.⁶

Muscle relaxants

Oral muscle relaxants include methocarbamol (Robaxin[®]), mephenesin combinations (Spasmend[®]) and orphenadrine citrate (Norflex[®]).^{9,10} Methocarbamol and mephenesin are centrally acting skeletal muscle relaxants and are used for symptomatic relief of painful muscle spasm. Orphenadrine is an antimuscarinic agent and is used to relieve pain due to skeletal muscle spasm. Benefits of these drugs should be weighed against their adverse effects, particularly in elderly patients.

Rest

Taking it easy for a day or two gives injured tissue a chance to begin to heal, which in turn will help relieve stiffness and possible muscle spasm.³

Ice

Cold therapy is usually preferred to heat during the first 24 to 48 hours of a painful flare-up/injury and usually has the

most benefit in terms of reducing pain and swelling.^{3,9} Ice and cold packs should not be applied directly to the skin. They should be enclosed and placed over a towel or cloth. The ice is removed after 20 minutes, then later reapplied for 20 minutes over a period of 60 to 90 minutes. This process can be repeated several times during the first 24 hours.⁹

Heat

Heat therapy may help to relieve tight muscles and neck pain. Apply moist heat for 10 to 15 minutes with a hot bath, shower or moist towel warmed in a microwave. A heating pad may also be applied to the skin.⁹ Be cautious not to overheat, as this can cause injury/burns.^{2,9} Patients are advised not to use a heating pad at bedtime to avoid prolonged exposure due to falling asleep with the pad still on their neck.⁹

Exercise

Exercises that strengthen and stretch the neck muscles may help restore and preserve the range of motion and help decrease pain from the muscle injury. It is best to perform stretching exercises when the muscles are warm, such as after the application of heat, or after a few minutes of cardiovascular warm-up exercises.²

Modifying activities

Avoiding aggravating activities, such as sitting for extended periods of time (particularly when also using a phone, computer or other electronic devices) may help. Using good posture and body mechanics when sitting, standing, lying down (make sure that the pillow is the right size to support the neck and shoulder), or doing any activity is important.⁵

When to refer the patient

People who experience the following warning signs should be seen by a medical professional immediately, as they are a cause for concern. They include:²⁻⁵

- Severe neck pain from an injury, such as a diving accident, motor vehicle accident, or fall
- Pain that persists for several days without relief
- Neck pain accompanied by fever, night sweats, or vomiting
- Numbness, tingling or pins and needles in the legs or arms
- Pain when swallowing
- Confusion or lethargy
- Difficulty breathing
- Pain that is triggered by exertion or worsens during exertion
- Difficulties with bowel or bladder control

Conclusion

Neck pain is a common complaint and rarely is a symptom of a more serious problem. For many, treatment involves a combination of taking pain medication, self-care measures, exercise and relaxation therapies. However, if there is no improvement after a few days or if other symptoms develop, then a healthcare provider should be seen for further evaluation.

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