

Neck Pain: A Common Musculoskeletal Complaint

Key Messages

- ※ Most often neck pain is the result of excessive wear and tear caused by activities that involve repetitive or prolonged neck flexion (such as looking down at smartphones and computers) or poor posture putting excessive pressure on the neck (such as slouching or sleeping in an awkward position with the neck twisted).
- ※ Neck pain is one of the leading causes of disability in the world. The Population Health Survey 2014/15 of the Department of Health reported about one in ten (9.8%) of persons aged 15 and above having neck pain in the 30 days preceding the survey.
- ※ The key to maintain a ‘healthy neck’ is having good habits and maintaining the neck in its proper position —
 - ✓ Avoid working with head down or to one side for long periods
 - ✓ Adjust computer workstation properly
 - ✓ Do not cradle the phone between neck and shoulder
 - ✓ Raise smartphone or tablet up to eye level
 - ✓ Sleep in good position and do not read in bed
 - ✓ Avoid carrying heavy bags or items on one shoulder for a long period
 - ✓ Protect the neck when playing sports
 - ✓ Stay upright with head against the headrest when driving a car

Neck Pain : A Common Musculoskeletal Complaint

Neck pain is a common musculoskeletal complaint, but its impact on individuals, communities and healthcare systems is often under-appreciated.¹ In fact, our neck is one of the most flexible regions of the spine that supports the weight of the head (an adult head weighs about 10–12 pounds or 4.5–5.4 kilograms in the neutral position²). It consists of vertebrae, joints, intervertebral discs, tendons, ligaments, muscle, blood vessels and nerves. A pain in the neck usually signals strains, injuries of or other problems with any these innervated structures.

Epidemiology of Neck Pain

Epidemiological studies reported that the estimated point, one-month, and one-year prevalence rates of any neck pain in the general population ranged from 3.3% (Thailand) to 22.7% (Canada), 11.5% (Netherlands) to 50.5% (United Kingdom), and 17.1% (Finland) to 73.0% (Sweden), respectively. Prevalence of neck pain was higher among females and in middle age.³ Obese individuals and certain occupation groups (including office and computer workers, manual labourers, healthcare workers and occupational drivers) were also more likely than others to experience neck pain.^{1,4}

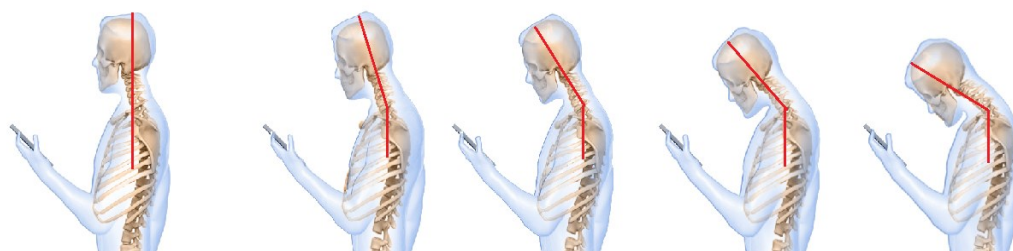
Neck pain is one of the leading causes of disability in the world. The Global Burden of Disease Studies reported that the total global disability-adjusted life-years (DALYs, i.e. years lost due to ill-health, disability or early death) attributed to neck pain in the past decade had increased 21.4% (22.3% for males; 20.8% for females) to 28.6 million (12.2 million for males; 16.4 million for females) in 2017.⁵

Causes of Neck Pain

While neck pain can happen for many reasons, most often it is the result of excessive wear and tear caused by activities that involve repetitive or prolonged neck flexion (such as looking down at smartphones and other electronic screen products) or poor posture putting excessive pressure on the neck (such as slouching or sleeping in an awkward position with the neck twisted). A study used a cervical spine model to estimate the forces experienced by the cervical spine in incremental flexion (forward head position) and found that tilting the head forward at 15 degrees would put 27 pounds on the neck. At a 60-degree flex, the stress on the neck could increase to 60 pounds (Figure 1).²

Figure 1: Head flexion (at varying degrees) and the weight on the cervical spine (in pounds)

Neutral (0 degree)	15 degrees	30 degrees	45 degrees	60 degrees
10-12 pounds	27 pounds	40 pounds	49 pounds	60 pounds



(Modified from Hansraj 2014)

As smartphones and other handheld electronic screen products are gaining in popularity, ‘text neck’ has become a growing health concern, particularly among youngsters who frequently bend their necks reading and sending texts or gaming for prolonged periods of time.^{6, 7} Neck pain may also be the result of an injury, such as sports injuries from wrestling or rugby, following a fall or whiplash from a car accident. In some instances, it can be a sign of degenerative diseases, such as cervical spondylosis, osteoarthritis or rheumatoid arthritis. Much less common causes of neck pain include tumours, infections (such as meningitis or osteomyelitis) or congenital abnormalities of the vertebrae.⁴

Local Situation

The Population Health Survey 2014/15 of the Department of Health interviewed over 12 000 non-institutionalised Hong Kong residents aged 15 and above. Among other questions, respondents were asked whether they had neck pain in the

30 days preceding the survey. Results showed that 9.8% of respondents reported having neck pain in the 30 days preceding the survey. As shown in Table 1, females (11.8%) and people aged 65 and above (14.5%) were more likely to report of having such health problem.⁸

Another telephone survey of over 4 600 Hong Kong residents aged 15 and above between October 2007 and September 2009 observed that the 12-month prevalence of neck pain was 64.6% (which was higher than the 53.6% reported in a similar study in 2006). Of those with neck pain, the most common cited cause was poor sleeping posture (25.6%), followed by work (22.3%). Because of neck pain, 13.7% of sufferers reported that they had to reduce their social activities whilst 18.9% had to limit their work.⁹

Table 1: Prevalence rate of people aged 15 and above reported having neck pain in the 30 days preceding the survey by sex and age group

Age group	Male	Female	Total
15-24	2.3%	3.4%	2.9%
25-34	5.5%	7.6%	6.6%
35-44	6.3%	11.7%	9.2%
45-54	8.8%	14.2%	11.7%
55-64	8.6%	14.2%	11.4%
65 and above	11.9%	16.8%	14.5%
15 and above	7.5%	11.8%	9.8%





Source: Population Health Survey 2014/15, Department of Health.

Preventing Neck Pain

As neck pain is very often associated with poor posture, the key to maintain a 'healthy neck' is having good habits and maintaining the neck in its proper position. Here are general advices that help prevent and control neck pain¹⁰ --

- ✓ **Avoid working with head down or to one side for long periods.** Take frequent breaks when working long hours at a desk or computer. Do some gentle neck exercises (Figure 2) to relax the muscles and ligaments from time to time.
- ✓ **Adjust computer workstation properly.** Adjust desk and chair to a suitable height and keep the first line on screen at eye-level. Sit against the backrest and maintain knees below the hip level with feet flat on the ground. Use a footrest in attaining a correct position if necessary.
- ✓ **Do not cradle the phone between neck and shoulder.** Use headsets or a speaker phone.
- ✓ **Raise smartphone or tablet up to eye level,** instead of tilting the head down, to minimise the pressure on the neck.
- ✓ **Sleep in good position.** Choose a proper pillow that supports the neck's neutral curve. Avoid using too many pillows or sleeping on your stomach as this position puts great pressure on the neck. Avoid napping on chairs or falling asleep with head lying on the arm of a couch. Do not read in bed.
- ✓ **Avoid carrying heavy bags or items on one shoulder for a long period.**
- ✓ **Protect the neck when playing sports.** Warm up before start playing. Learn proper techniques and use protective gear.
- ✓ **Stay upright with head against the headrest when driving a car.** Adjust the seat to avoid overstretching of neck and upper limbs forward. Ensure adequate back support from the seat.

Figure 2: Mobility and Stretching Neck Exercises¹¹

Mobility Exercise	Stretching Exercise		
<i>Guidance: Practise each movement slowly</i>	<i>Guidance: Practise 2-4 times for each movement. Hold for about 10-30 seconds each time, you will feel a slight pull in the part of your body being stretched</i>		
Looking at Alternate Sides	Neck Stretch	Looking Up and Down	
			
Look forward, turn your neck to the right slowly, then back to starting position, and turn your neck to the left. Repeat 4 times.	Look forward, stretch your neck towards the right slowly. Return to starting position and stretch your neck toward the left.	Drawn your chin toward the neck, and lower your head. Return to starting position	Put both hands behind the neck, and keep your head in the midpoint and slightly lean backward. Return to starting position.
<i>(Note: Remember not to turn your neck too many times)</i>	<i>(Note: Avoid drawing the neck downward too hard)</i>		<i>(Note: Remember not to lean the head backward too much)</i>

Most mild neck pains are temporary and the pain can usually be treated with adequate rest, application of ice pack or warm compress and pain relievers. However, persistent pain needs medical diagnosis and appropriate treatment. If the pain persists or is severe, when it radiates down the arms or is accompanied by headaches, dizziness, numbness or tingling etc, consult a doctor immediately.

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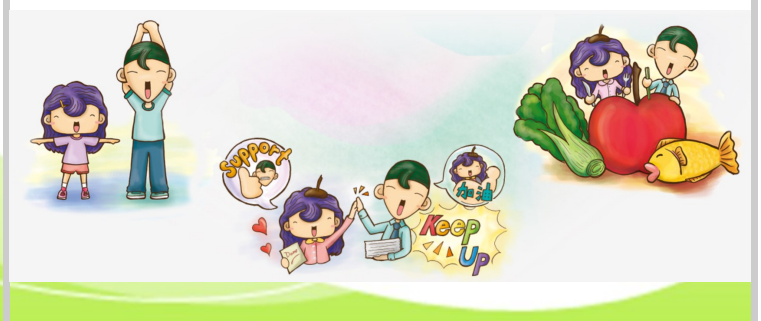
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Work and health are closely related. A healthy workplace not only protects the physical well-being and life of employees, it also enhances productivity and competitiveness, and helps to establish a positive image for the organisation.

The Department of Health, Labour Department and the Occupational Safety and Health Council launch the “Joyful@Healthy Workplace” programme, with a series of organised activities to assist employers and employees to create a joyful and healthy working environment. The programme focuses on three areas, “Physical Activity”, “Mental Well-being” and “Healthy Eating”. All members of the public and organisations are welcome to join.

For more information about the “Joyful@Healthy Workplace” programme, workplace healthy tips or viewing the promotion videos including demonstrations on mobility and stretching exercises in the workplace, please visit <http://www.joyfulhealthyworkplace.hk/en/index.php>.





The Leisure and Cultural Services Department (LCSD) will hold the Sport For All Day 2019 on 4 August 2019 (Sunday). The slogan will remain as “Stay Active, Healthy and Happy!” to encourage people of all ages and abilities to engage in regular sports and physical activities and promote the benefits of exercise for the body and mind.

With wushu as the focal sport this year, the Sport For All Day will offer various related sports participation sessions for the public. On the day, a series of free sports and recreation programmes will be offered at designated LCSD venues across the 18 districts, while most of the LCSD leisure facilities will be open for free use by the public.

For details of Sport For All Day 2019, please visit the designated website at www.lcsd.gov.hk/en/sfad.

Non-Communicable Diseases (NCD) WATCH is dedicated to promote public's awareness of and disseminate health information about non-communicable diseases and related issues, and the importance of their prevention and control. It is also an indication of our commitments in responsive risk communication and to address the growing non-communicable disease threats to the health of our community. The Editorial Board welcomes your views and comments. Please send all comments and/or questions to so_dp3@dh.gov.hk.

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