

Occupational Disease Casebook

Tenosynovitis of the hand or forearm



Occupational Safety and Health Branch
Labour Department



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- Occupational Disease Casebook -

Tenosynovitis of the hand or forearm

Introduction

The function of tendons is to join muscles with bones. Each tendon is surrounded by a sheath which provides protection and lubrication for the tendon to move freely inside. Repetitive or excessive movements of a tendon may cause friction between the tendon and its sheath, resulting in traumatic inflammation known as tenosynovitis.

The objectives of this booklet are to illustrate, through case studies, the causes of tenosynovitis of the hand or forearm, and to advise both employers and employees on some specific preventive measures.

Case 1: A clerk suffering from De Quervain's Tenosynovitis

Case Summary

Ms Li had been working as a clerk for more than five years. Her duties mainly included filing documents and putting them back on filing shelves.

A year ago, Ms Li felt pain at the base of her right thumb near the lateral part of the right wrist when handling documents. Sometimes, the affected area remained swollen and stiff even after she returned home at night. At first, she took some painkillers and applied analgesic ointment on her own, but the situation got worse. She felt pain and weakness in the affected area when grasping objects, even when holding a pen. She sought treatment at a clinic and was examined thoroughly by a doctor. She was diagnosed with De Quervain's Tenosynovitis.



Case Analysis

Ms Li contracted De Quervain's Tenosynovitis due to the following reasons:

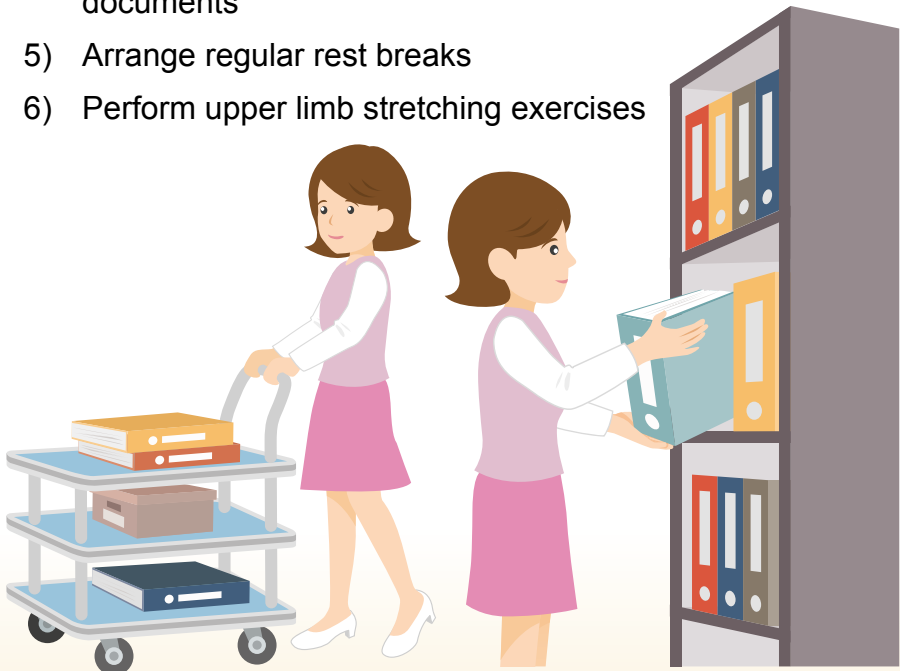
- 1) Frequent, prolonged and repetitive use of her right thumb and fingers to grasp documents firmly
- 2) When busy, she often held several files together with her right hand to place them on the shelf in one go. This requires an excessive grasping force and overstretching of her right thumb
- 3) The lateral part of her right wrist was excessively stretched when she placed documents on the higher shelves without using a suitable working platform
- 4) No regular rest breaks or intermittent job rotation
- 5) Lack of upper limb stretching exercises



Preventive Measures

The following measures can be adopted to prevent De Quervain's Tenosynovitis:

- 1) Avoid prolonged and repetitive movements of the hands and wrists. Arrange jobs appropriately by rotating document handling with other clerical work such as writing or photocopying
- 2) Avoid excessive exertion or over-extension of the thumbs and wrists. Use both hands to hold heavy or thick documents
- 3) Avoid excessive stretching of the lateral part of the wrists, and keep the hands in a good posture. For example, use a stable and appropriate working platform when placing documents on high shelves
- 4) Make use of mechanical aids such as a trolley to deliver documents
- 5) Arrange regular rest breaks
- 6) Perform upper limb stretching exercises



Case 2: A cook suffering from Tennis Elbow

Case Summary

Kwong had been working as a cook in a residential care home for the elderly for more than four years. He had to handle a large amount of food every day, such as cutting vegetables, chopping meat, blending food, opening cans of food and cooking. He was also required to clean the stoves and the cooking utensils. About a year ago, Kwong began to feel pain with redness and swelling over his right elbow and could not exert strength when picking up the kitchen knife. The symptoms worsened afterwards. He felt a dull pain even when at rest, resulting in frequent absence from work. He sought treatment at a clinic and was examined thoroughly by a doctor. He was diagnosed with Tennis Elbow.



Case Analysis

Kwong contracted Tennis Elbow due to the following reasons:

- 1) Frequent repetitive stretching and bending of his wrists, such as when cutting, chopping and stir-frying food
- 2) Frequent and excessive exertion of forearm muscles, such as spading large amounts of food, carrying big pots filled with soup, lifting and moving large sacks of rice, and cleaning large stoves and cooking utensils
- 3) No regular rest breaks
- 4) Lack of upper limb stretching exercises



Preventive Measures

The following measures can be adopted to prevent Tennis Elbow:

- 1) Avoid prolonged repetitive movements and exertion of forearm muscles
 - Use suitable mechanical aids, such as meat mincer, blender and tin opener
 - Improve workplace design and working posture. Working platforms and stoves should be of appropriate height, so that the elbows are near the waist level when doing work like cutting or stir-frying
 - If the working platforms and stoves are too high or the cook is short, a stable step stool of appropriate height can be used for the cook to stand on to work
- 2) Avoid over-exertion of wrists and forearms
 - Keep knives sharp to minimise the efforts required to cut and chop food
 - Use lighter cooking utensils
 - When lifting or moving heavy loads of food, seek assistance from co-workers or use assistive aids such as a trolley
- 3) Arrange regular rest breaks
- 4) Perform upper limb stretching exercises



Case 3: A cleaner suffering from Tennis Elbow and Golfer's Elbow

Case Summary

Jane had been working as a school cleaner for six years. She was mainly responsible for general school cleaning, such as cleaning classrooms, mopping the floor, collecting trash and cleaning windows. Half a year ago, she had difficulty lifting up her right hand while brushing her teeth, and noticed hotness, swelling, pain and weakness over both sides of her right elbow when working. She sought treatment at a clinic and was examined thoroughly by a doctor. She was diagnosed with Tennis Elbow and Golfer's Elbow.



Case Analysis

Jane contracted Tennis Elbow and Golfer's Elbow due to the following reasons:

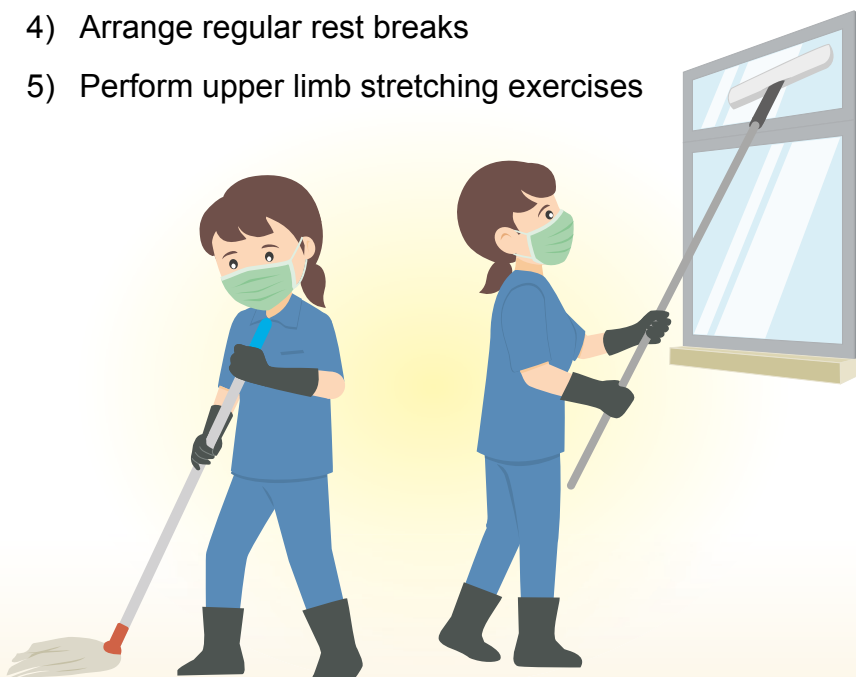
- 1) Excessive exertion of the forearm, straining the muscles and tendons
- 2) Frequent use of improper postures without appropriate mechanical aids when lifting heavy objects, such as moving large numbers of chairs in the auditorium and collecting garbage from classrooms.
- 3) Excessive stretching of the upper limbs when cleaning windows and blackboards or mopping floors, etc., thus overstretching the muscles and tendons
- 4) No regular rest breaks
- 5) Lack of upper limb stretching exercises



Preventive Measures

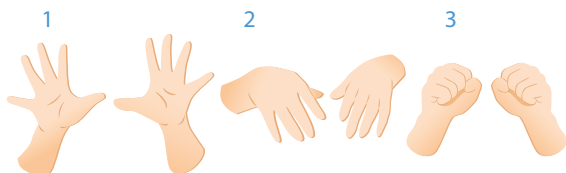
The following measures can be adopted to prevent Tennis Elbow and Golfer's Elbow:

- 1) Avoid over-exertion of the forearms, and make use of body strength and bigger joints such as shoulder joints to work. For example, use the strength of the shoulder and thigh to drive the arm when mopping the floor
- 2) When lifting heavy loads, work with co-workers or use appropriate mechanical aids, such as using a mobile frame for moving chairs to avoid excessive force on the wrists and forearms and reduce the load on the upper limbs
- 3) Use appropriate assistive aids such as a long handle tool or working platforms when cleaning windows to avoid overstretching the muscles and tendons. Working with alternate hands from time to time can relieve muscle strain
- 4) Arrange regular rest breaks
- 5) Perform upper limb stretching exercises



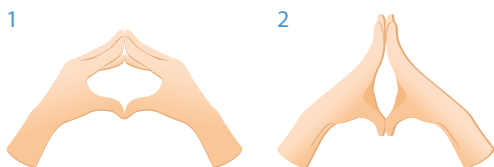
Workplace Stretching Exercise

Stretching exercises can relax tense muscles. The following upper limb stretching exercises can help prevent tenosynovitis of the hand or forearm.



Exercise 1

- 1 Spread out and stretch fingers as much as possible for 5 to 10 seconds.
- 2 Slowly relax the hands.
- 3 Clench fists tightly for 5 to 10 seconds. Repeat this exercise 10 times.



Exercise 2

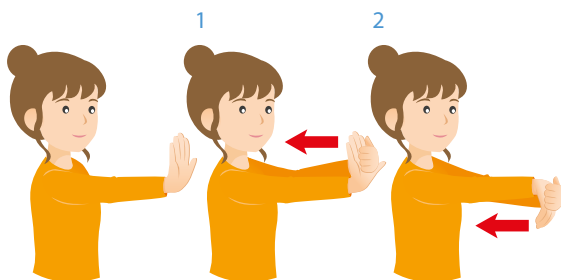
- 1 Align the finger tips of both hands so that they face each other
- 2 Stretch the webs between the thumbs and index fingers by pressing the fingers against each other as closely as possible. Hold for 5 seconds, then relax.

Repeat this exercise 5 times.



Exercise 3

- 1 Rotate the thumb in one direction 10 times.
- 2 Then in the opposite direction 10 times. Repeat this exercise on the other hand.

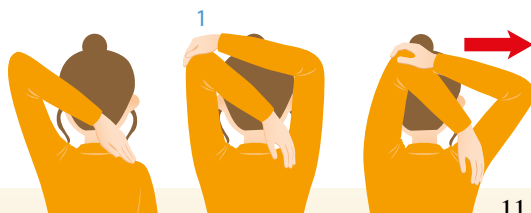


Exercise 4

- 1 Hold out the right arm, wrist up, with the back of the hand facing you. Gently use the left hand to pull the right hand backwards. Hold for 5 seconds, then relax.
- 2 Keep the right arm extended, wrist down, with the palm facing you. Gently use the left hand to pull the right hand backwards. Hold for 5 seconds, then relax.

Repeat on the opposite side.

Repeat this exercise 5 times.



Exercise 5

- 1 Bend the left arm behind the head. Gently use the right hand to pull the left elbow to the right. Hold for 5 seconds, then relax.

Repeat with the right arm.

Repeat this exercise 5 times.

Conclusion

Although this booklet has only presented three cases from different industries, the causes of these cases and the respective preventive measures are also useful to employers and employees of other trades / industries for their reference to reduce the risk of employees contracting “Tenosynovitis of the hand or forearm”.

Enquiries

If you wish to enquire about this booklet or other occupational safety and health (OSH) matters, please contact the Occupational Safety and Health Branch of the Labour Department:

Tel.: 2852 4041 or
2559 2297 (auto-recording service available outside
office hours)

Fax: 2581 2049

Email: enquiry@labour.gov.hk

Information on the services offered by the Labour Department and on major labour legislation is also available on our website at www.labour.gov.hk.

For details on the services offered by the Occupational Safety and Health Council, please call 2739 9000 or browse the website at www.oshc.org.hk.

Occupational Health Clinics of the Labour Department

Any worker who may have contracted work-related illnesses can call or visit the Occupational Health Clinics for appointment booking. Doctor's referral is not required.

Kwun Tong Occupational Health Clinic Tel: 2343 7133

Fanling Occupational Health Clinic Tel: 3543 5701

Complaints

If you have any complaint about unsafe operations or environments at workplaces, please call the Labour Department's OSH complaint hotline at 2542 2172 or fill in and submit an online OSH complaint form on our website. All complaints will be treated in the strictest confidence.



Online OSH complaint Form

This booklet is issued free of charge and can be obtained from offices of the Occupational Health Service of the Labour Department. It can also be downloaded from the Labour Department's website at www.labour.gov.hk. For enquiries about the addresses and telephone numbers of the offices, please visit the Labour Department's website or call 2852 4041.

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