MD PHYSIOTHERAPY SERVICES

YOUR GUIDE TO
DESK LAYOUT CONSIDERATIONS

Contents

Introduction

Please take note of the following before starting with any of these exercises in this guide

1 The intention of this guide is to provide you with advice and exercises which can be done both at your desk and at home

1 This guide is based on the latest research in this field and contains the best advice available to the best of our knowledge

1 The exercises in this guide are general stretching and Mobility exercises that can be done both at your desk and at home. It is important however that if you have any current conditions that you seek medical advice before starting with any of the exercises in this pack.

1 **If consulting a health professional because of any other injuries, it is wise to take this guide with you to show them.**

1 It is important not to disregard medical advice given or delay in seeking advice because of something that you have read in this guide.

Desk Screen Equipment Users

A Desk Screen Equipment (DSE) user is an employee who habitually uses display screen equipment and is reliant upon it in order to carry out his/her work activities. If most, or all, of the following apply, the individual should be classified as a user:

₁ The individual is dependent upon the use of DSE (Desk Screen equipment) in order to do the job as there are no alternative means readily available.

₁ The individual has no discretion as to whether or not to use the equipment

₁ Significant training or particular skills are required

₁ DSE is normally used continuously for at least one hour every day

₁ The job requires fast transfer of information between the user and the screen

₁ The job activity requires high levels of attention and concentration from the user

EXAMPLES OF DSE USERS WOULD BE:

₁ Secretarial staff

₁ Finance staff

₁ Graphics designers

₁ Computing software support staff

₁ Web designers

What is a good working posture?

To understand the best way to set up a computer workstation, it is helpful to understand the concept of neutral body positioning. This is a comfortable working posture in which your joints are naturally aligned. Working with the body in a neutral position allows the body to function in its strongest, most balanced position and reduces stress and strain on the muscles, tendons, and skeletal system. This in turn reduces your risk of developing an injury (musculoskeletal disorder) and will increase your efficiency of movement. The following are important considerations when attempting to maintain neutral body postures while working at the computer workstation:

₁ **Hands**, **wrists**, and **forearms** are in-line and roughly parallel to the floor.

₁ **Head** is level or bent slightly forward, forward facing, and balanced. Generally it is in-line with the torso (ear in line with your shoulder).

₁ **Shoulders** are relaxed and upper arms hang normally at the side of the body.

₁ **Elbows** stay in close to the body and are bent between 90º and 120º.

₁ **Feet** are fully supported by floor or footrest.

₁ **Back** is fully supported with appropriate lumbar support when sitting vertical or leaning back slightly. Buttock should be at the back of the chair, and pelvic bones should be facing forwards.

₁ **Thighs** and **hips** are supported by a well-padded seat and generally parallel to the floor.

₁ **Knees** are about the same height as the hips with the feet slightly forward (knees should never be above the hips).

Regardless of how good your working posture is, working in the same posture or sitting still for prolonged periods is not healthy. You should change your working position frequently throughout the day in the following ways:

₁ Make small adjustments to your chair or backrest.

₁ Stretch your fingers, hands, arms, and torso.

₁ Stand up and walk around for a few minutes periodically.

Guidelines for making adjustments to your workstation

The following information can be used as a guideline for correctly adjusting a computer workstation.

CHAIRS

A chair that is well-designed and appropriately adjusted is an essential element of a safe and productive computer workstation. A good chair provides necessary support to the back, legs, buttocks, and arms, while reducing exposures to awkward postures, contact stress, and forceful exertions.

A chair that can be adjusted appropriately ensures a better fit for the user, provides adequate support in a variety of sitting postures, and allows variability of sitting positions throughout the work day.
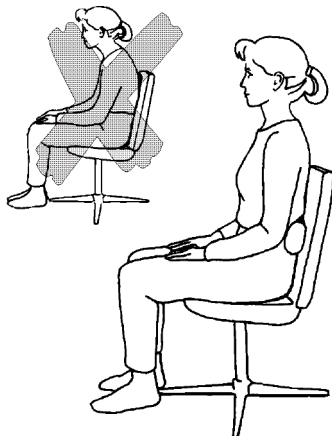
The chair should be adjusted so that the user's arms are at one's side, with elbows at 90º when typing on the keyboard. If the chair has an adjustable seat pan, inclining the seat slightly back will assist in holding you in the seat as well as giving you proper back support.

Armrests should be adjustable and neither too high nor too low.

FOOT REST

Footrests support the user's feet and can reduce the pressure on the back of thighs (caused by the thighs contacting the seat). A footrest should be used if the feet do not rest flat on the floor after the chair height has been adjusted. You should place the footrest on the floor, close to the chair, and adjust the height so that it relieves pressure from behind the legs when sitting. It is recommended to use a non-angled footrest with top surface measurements of 60 cm. x 30 cm. (24 in. x 12 in.)

DESK

Sufficient desk space should be available to allow the user to set up equipment in a convenient, comfortable arrangement. Accessories should be organized on the desk as follows:

1 **Frequently used** (primary work zone) items are close 0–30 cm (0–12 inches),

1 **Occasionally used** (secondary work zone) items are 30–50 cm (12–20 inches),

1 **Seldom used** (tertiary work zone) items are 50cm or more away. (20 inches)

There should be enough space for the thighs (legs) to move freely under the desk top.

If possible, a desk with cable management capabilities should be used. This will keep the cables and wires orderly, off the floor and out of the way. If not available, arrange cables in an orderly and safe fashion.

MONITOR

If the user's eyes are closer than 50cm (20 in) to the screen, this may cause visual fatigue. Most people prefer a viewing distance of approximately 60cm (24 in). The top line of the text on the screen should be eye level or slightly below eye level when sitting up straight.

This will keep the user from looking down more than 15º to 20º to see the centre of the screen.

Ideally the screen should be positioned perpendicular (at 90º) to the line of sight. In case of undesirable reflections, tilting the screen forward slightly usually solves the problem. However, if this is not sufficient, it may be necessary to change the position of the display monitor on the desk, or change the location of the desk.

KEY BOARDS

Most current keyboards are designed to prevent excessive bending of wrists while typing. Users should not bend their wrists more than 10º up or down, or more than 10º sideways. Wrists should be kept straight by moving the entire hand and forearm over when wanting to use the function keys or numeric keypad rather than just bending your wrist. The objective is to make sure that hands are in a neutral position or straight in line with forearms when using the keyboard. This means that forearms, wrists, and hands should be in line with each other.

Match the wrist support, if used, to the width, height, and slope of the front edge of the keyboard (keeping in mind that the goal is to keep wrist postures as straight as possible). Provide wrist/palm supports that are fairly soft and rounded to minimize pressure on the wrist. The support should be at least 1.5 inches (3.8 cm) deep. Wrists should not rest on a sharp edge, such as a desk edge, when typing as this may cause irritation and compression of the tendons that run over the wrist joint. Compression and irritation of these tendons can result in a condition called carpal tunnel syndrome.

If a mouse is used it should be placed very near to the keyboard in order to prevent the user stretching over to reach the mouse. Also, it is not advisable to apply too much force while typing on the keyboard. This would avoid unnecessary stress on the fingers and wrists.

DOCUMENT HOLDERS

Document holders make it easy for the user to transfer data from the printed material to the computer. The document holder should be at the same distance from the eyes as the screen, next to the screen, and at the same height as the screen. Appropriate placement of the holder may reduce or eliminate risk factors such as awkward head and neck postures, fatigue, headaches, and eye strain.

TELEPHONE

Telephones can be integral to some user's job settings. They may be required to receive information on the telephone and relay it on to the computer and vice versa. Always try to place the telephone in the primary or secondary work zone (i.e. close to the user), depending on usage patterns. This will minimize repeated reaching, reducing the possibility of injury. Keep the telephone cord out of working areas so it does not create a tripping hazard. It is sometimes beneficial to use a hands-free head set if you are required to spend a lot of time on the phone. This will prevent the phone receiver being cradled between the user's ear and shoulder while they are typing or writing down relevant information. Speaker phone options may also be appropriate, provided the volume of this feature does not annoy your co-workers, and privacy is not compromised.

OTHER SUGGESTIONS

1 The user should look away from the screen from time to time to help reduce the eye strain.

1 The user should try to keep the body and fingers relaxed.

1 Make sure your head is in a neutral position, which can be done by organising your work station appropriately as described above

1 The user should attempt to change tasks frequently as this will help in preventing muscle stiffness and fatigue. Use your joints in their mid 1/3 of range i.e. slightly bent, avoiding postures that require joints to be used at their end range i.e. fully straightened, for long periods of time.

1 If the screen work is prolonged then the user should take frequent short recovery breaks. A recovery break involves a change of task and preferably a change of position e.g. walking to the printer. As a general rule, a five or ten minute recovery break every hour is a good idea. Short frequent recovery breaks are more beneficial than longer less frequent breaks.

1 The user should occasionally stretch muscles in the hands, arms, shoulders, neck and back. These stretches can be performed once per hour or atleast as often as regularly scheduled breaks.

What exercises should I do?

If sitting for long periods of time during the day, it is important to perform regular stretching and mobility exercises to allow the muscles some time to rest from the static postures. It is important that you are aware that the exercises included below are general stretching and mobilty exercises that can be done both at your desk and at home. It is also important that if you have any medical conditions, that you consult with your doctor or allied health professional before starting with this exercise programme.

Exercises

Some simple stretches and exercises are shown below. If you have any medical conditions please consult your GP before starting this exercise programme

INSTRUCTIONS

1. Keep all exercises in your **pain free** limits.

2. If you experience pain during any of the exercises, decrease the intensity of the exercises by:

1 decreasing the **number of sets**

1 decreasing the **number of repetitions**

1 decreasing the **range of movement**

1 decreasing the **resistance**

3. Do all exercises **slowly** and **breathe** normally.

4. Progress gradually according to your own level of comfort.

5. Following exercise, stiffness or fatigue may result but should not last longer than 24 hrs. The symptoms of your injury should not be aggravated.
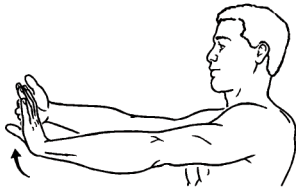
Exercises (continued)

STRETCHING EXERCISES

₁Repeat each of these stretches **3 times** (on both sides).

₁Hold each stretch for at least **30 seconds**.

₁Hold a steady stretch, **do not bounce**.

FLEXOR STRETCH
Keeping elbow straight, and palm facing the floor, grasp your left hand under your fingers and slowly bend wrist up until a stretch is felt. Repeat on the opposite side. This can also be performed by standing with palms positioned flat on the desk and leaning forwards until a stretch is felt.
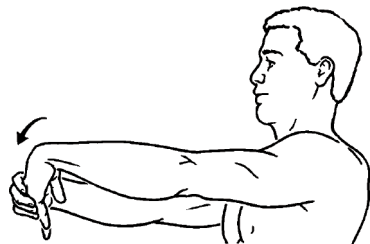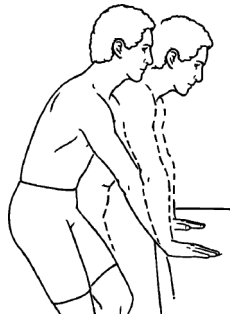
EXTENSOR STRETCH
Keeping elbow straight and palm facing the floor, grasp your left hand over the top of your fingers, and slowly bend wrist downwards until a stretch is felt. Repeat on opposite hand.
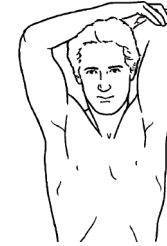
UNDER ARM STRETCH
Take one arm up and behind your head, so that your hand is against your upper back. Gently push down on the raised elbow with your other hand. You should feel a stretch in the back of your upper arm. Repeat on opposite side.

POSTERIOR CUFF STRETCH
Take one arm across your chest, taking care to keep your shoulders level. Use the other hand to pull your arm across your body. You should feel a stretch along the back of your shoulder. Repeat on opposite side.
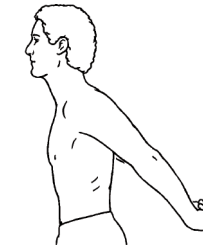
ANTERIOR CUFF STRETCH
Grasp your hands together behind your back, keeping your arms straight as you raise them. Be careful not to drop your head forwards or shrug your shoulders as you perform the stretch.
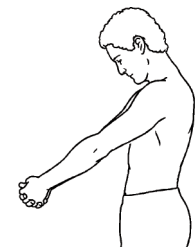

UPPER BACK STRETCH
Grasp your hands together in front of you, and as you straighten them away from you, allow your upper back to arch and chin to move towards your chest. You should feel a stretch between your shoulder blades.

Exercise images licensed from Visual Health Information

Exercises (continued)

NECK STRETCHES
Sitting on the end of a chair, with your right hand touching your left ear, gently bring your right ear towards your shoulder and hold for 30 seconds. Now rotate your head to 45°, place your right hand over your head so that your nose is facing into your elbow. Gently lower your chin towards your collar bone and hold for 30 seconds. Now facing forwards with both hands touching the back of your head, gently bring your chin towards your chest. Repeat the above routine on the opposite side.
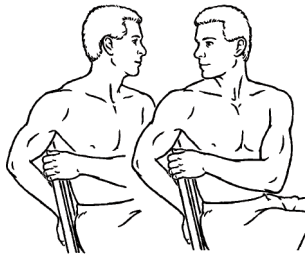
SPINAL ROTATION
In a seated position, place your left hand next to your right hip, hold onto the side of your chair and rotate your upper body around so that you are looking over your right shoulder. Repeat the same on the opposite side.
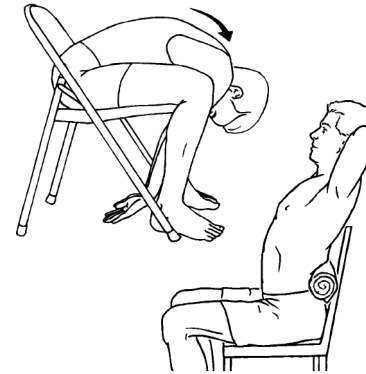
BACK FLEXION/EXTENSION
Seated in your chair in a good posture, bend all the way forwards from your hips until your chest is touching your legs or you feel a stretch in your lower back. Hold for 30 seconds and return to start position. Now sitting right back into your chair, arch your back backwards into the back support until you feel a stretch in your upper back. Hold for 30 seconds and return to start position.
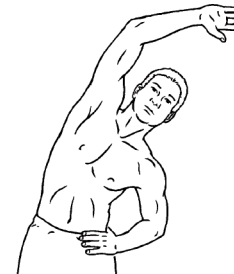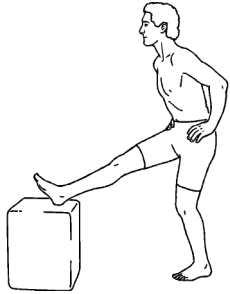
SIDE STRETCH
Sitting in an upright posture, drop your left shoulder, reaching left hand towards the floor. Return to the start position. Repeat on the opposite side.
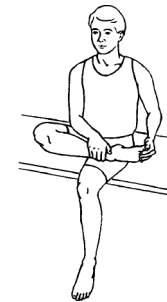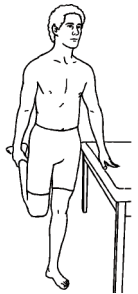
BUTTOCKS STRETCH
Sitting in an upright position with knees bent and feet on floor. Place your right ankle on your left knee, lean forwards at your hips, and press down on your right knee. You should feel a stretch in your right buttocks. Repeat on the opposite side.

Exercises (continued)

HAMSTRING STRETCH
In a standing position, place one foot on a step or slightly out in front of the other. Keep the front leg straight, bend back leg slightly, and lean forwards from the hip. Make sure you feel the stretch in the back of your leg, not your back. Repeat on opposite side.

QUADRICEPS STRETCH
Standing, holding on to the side of your desk to balance, bring your right foot up towards your buttock with your hand, bending at the knee. Make sure that your back is straight and that your knee is in line with your hip. You should feel a stretch along the front of your thigh. Repeat the same on the opposite leg.

MOBILITY & STABILITY EXERCISES

[1]Perform as instructed within each exercise.

[1]Make sure that you work in a pain free range of motion with each exercise and gradually try to increase this range.
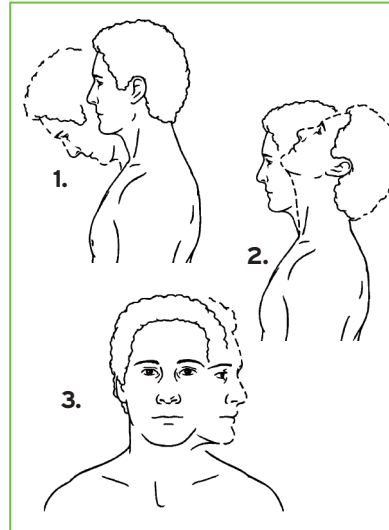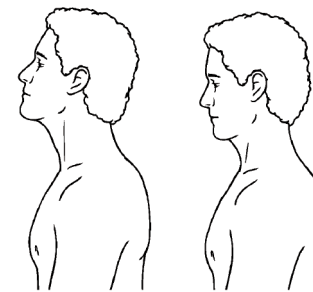
NECK MOBILITY
Sitting in an upright position in your chair, move your head in the following positions:

1. Forwards - chin to chest

2. Backwards - back of head to back
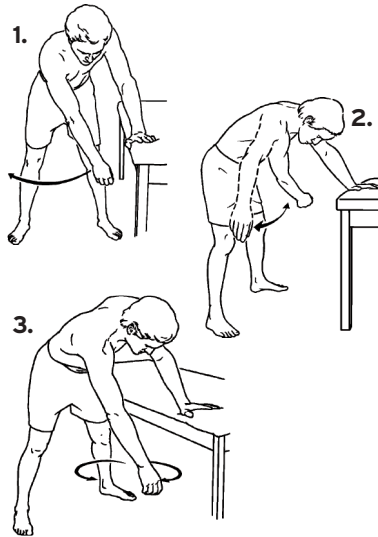
3. Side rotation - chin to collar bone

Make sure that after each movement you return to the neutral (start) position. Do not try to combine these movements. Repeat each movement 10 times

NECK RETRACTION
Sitting upright, pull head straight back keeping jaw and eyes level. Hold for 10 seconds and repeat 5-10 times

# Exercises (continued)

SHOULDER MOBILITY

Sitting at the edge of your chair, lean slightly forwards from your hips so that your arm can hang freely next to your side. Allow your arm to swing freely in the following directions:

1. Forwards/Backwards
2. Side to side
3. Clockwise/Anti-clockwise

Make sure that you move your shoulder in a pain free range of movement and gradually increase this range as you can.
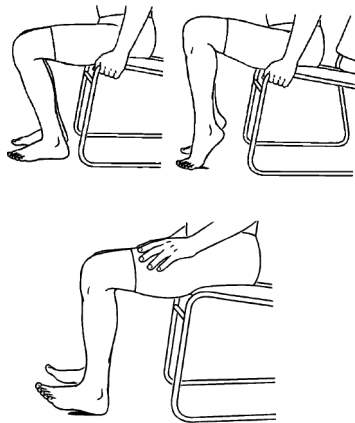
ANKLE MOVEMENTS

Sitting slightly forwards in your chair with your back in an upright position, your knees bent to 90º and feet flat on the floor. Now rock onto your toes, and then back onto your heels. Repeat 10 times in each direction. For strength, this can be progressed to a standing position.
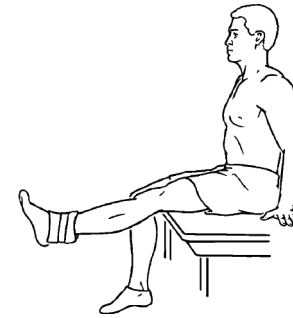
SEATED LEG EXTENSION

Sitting slightly forwards on your chair, with your back in an upright position, your knees bent to 90º and feet flat on the floor. Now raise your leg straight out in front of you bringing your foot so that it is in a straight line with your knee. Repeat 10-15 on each side.
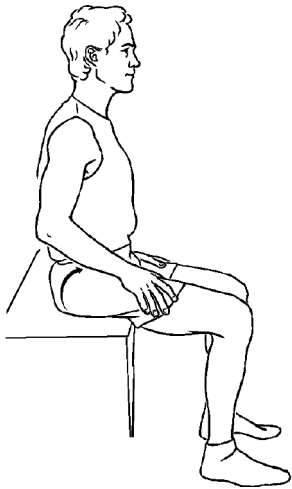
SIT TO STAND

Sitting in a good posture in your chair, with your feet flat on the floor, lean slightly forwards from your hips and rise to a standing position without using your hands, and return to a seated position. Repeat this 10-15 times

Exercises (continued)

NEUTRAL AND TA/PELVIC FLOOR STABILITY EXERCISES

This can be done in either a standing or seated position.

Seated: Sitting slightly forwards in your chair, ensure that your back is straight and head facing forwards. Place your hands on your hip bones, making sure that they are facing forwards i.e. not pointing towards the floor or the ceiling. Now bring your belly button in towards your spine without changing your pelvic position. You should be able to continue to breathe normally while holding this stomach contraction. Hold for 10 seconds and repeat 10 times.
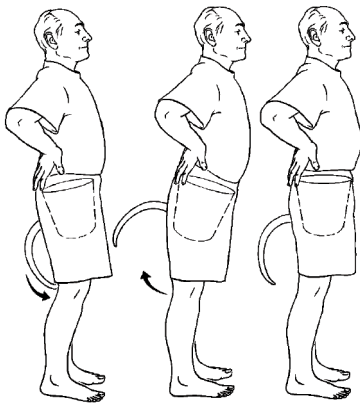
Standing: Again with hip bones facing forwards, bring your belly button in towards your spine without changing your pelvic position and maintaining normal breathing throughout. Hold for 10 seconds and repeat 10 times.
The movement for this exercise should be subtle and no one should be able to see what you are doing. You should be able to maintain a normal conversation while pulling your belly button in. This should be performed regularly throughout your day.
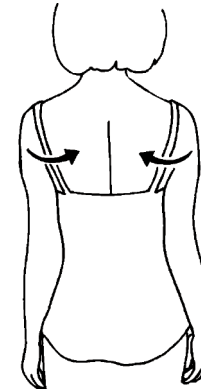
SHOULDER STABILITY

Sitting slightly forwards in your seat, both feet flat on the floor, your shoulders back, your stomach in, your posture good. Keeping your shoulders level and down, retract them by bringing your shoulder blades slightly down your back and in towards each other. Hold this for 10 seconds and then relax the retraction. Repeat 10 times. Again this should be performed regularly throughout your day.

Contact us

This guide is designed to assist you in the self-management of your injury/ condition.

We are here to assist your recovery in the shortest but safest possible time. If you have any uncertainties or queries regarding the information, please do not hesitate to contact us on:

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