WHS G001 Computer Workstation Ergonomic Guideline

Contents

Section 1 - Overview
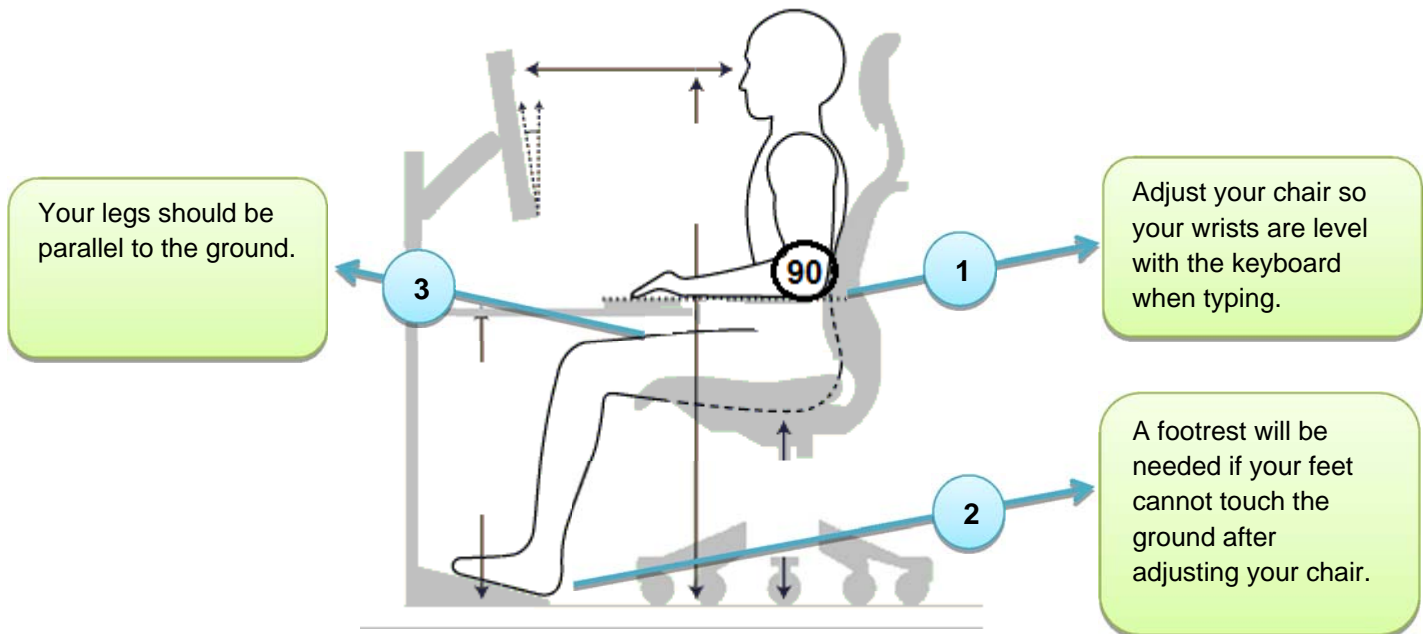
(1)   Use this guideline to assist with the setup of your computer workstation.

(2)   WHS F019 Computer Workstation Checklist is available to ensure implementation of this guideline when setting up your workstation. The Checklist may also be used at scheduled or ad hoc occasions, in the event of workstation related strains, and to ensure continuity of ergonomic health.

(3)   An online video guide called Ergonomics and Safety Video is also available to view via the University web site.

Section 2 - Scope

(4)   This guideline, the Ergonomic and Safety Video and associated checklist may be utilised by all University Representatives and students at work and at home or any other environment.
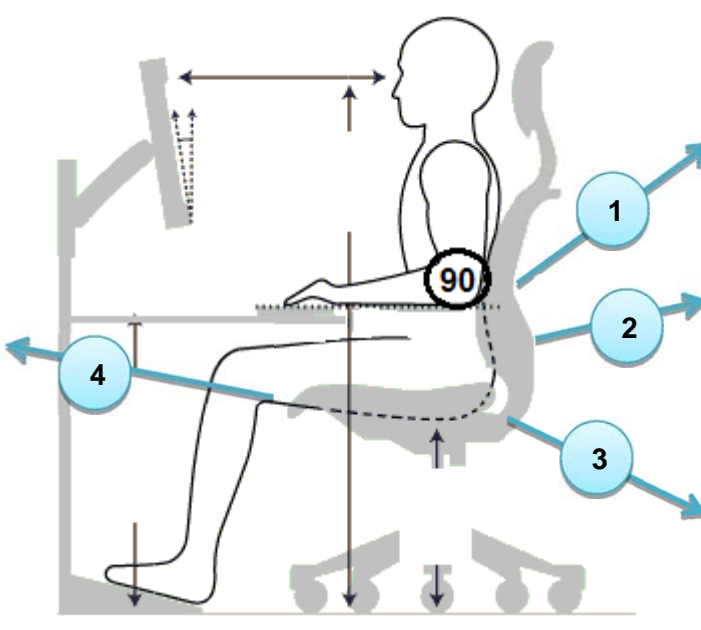
Section 3 - Guideline

Step 1: Adjust Your Chair to the Correct Height

Your legs should be parallel to the ground.

90

3

1   Adjust your chair so your wrists are level with the keyboard when typing.

2   A footrest will be needed if your feet cannot touch the ground after adjusting your chair.
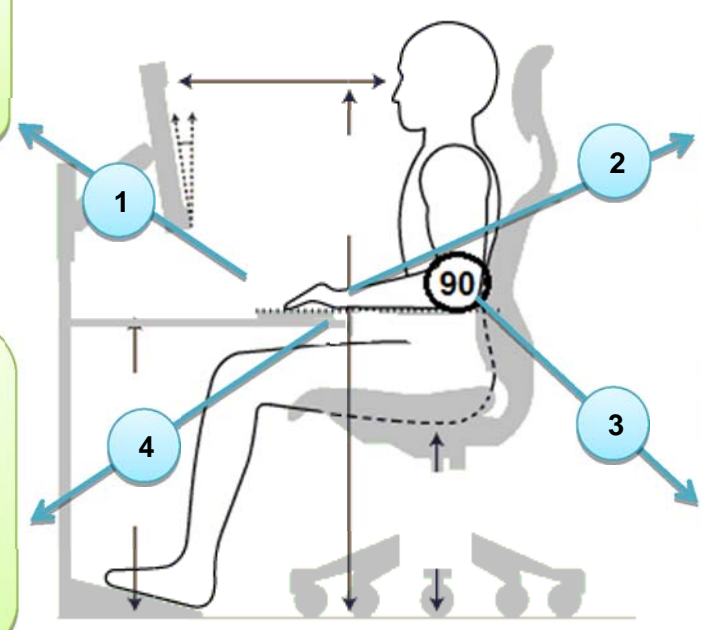
Step 2: Adjust the Settings on Your Chair

Adjust your back rest so that it is positioned in the curve of your lower back.

1

Check the angle of your back rest it should be 90-95 degrees.

2

Check the angle of your seat it should be 90-95 degrees.

3

Check the space between your chair and backs of your knees should be 2 to 3 finger spaces.

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Step 3: Keyboard and Mouse Positioning

The letter section of the keyboard must be centred in front of your body.

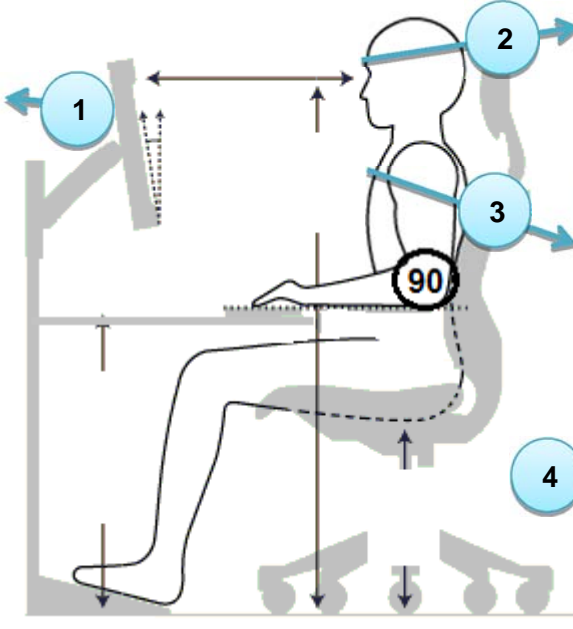**1**

Position your mouse to prevent over reaching. The mouse should be as close to the keyboard as possible.

2

Check the angle of your elbows when using the keyboard and mouse. They should be at 90 degrees and under your shoulders.

3

Check the angle of your wrists when using the keyboard and mouse. They should be straight, not bending in any direction or resting on the desk.

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Step 4: Monitor Adjustment and Positioning

The monitor must be centred in front of your body

The top of the monitor should be at approximately eye level or slightly above.
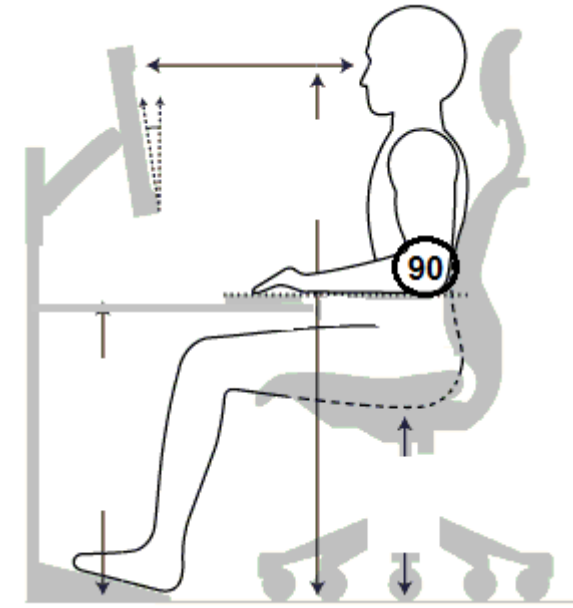
Note: If you are using more than one monitor you should position your primary monitor as per described and any other monitors should be arranged so they can be easily viewed without having to bend your neck

The monitor should be approximately one arm's length away. Adjust for personal comfort. You should be able to read text without having to lean forwards.

Your monitor should be positioned at right angles to light sources to prevent glare and avoid placing it directly in front or facing a window

Step 5: Under Desk Space

Ensure there is enough space under your desk to move your legs freely and ensure there are no obstructions preventing you moving as close to your desk as possible. Ensure all cables are secured to prevent tangles and falls.

Equipment and Ergonomic Accessories

Chairs

(5)   Chairs should be fully adjustable to accommodate different sized workers (with seat height, back rest height and back rest tilt adjustments) and should not tip or slip – a five-point base is the most stable. Castors should be used on carpet and glides or braked castors on hard surfaces. Arm rests are not recommended as they can prevent you getting as close to your desk as possible.

Seating Alternatives: Kneeling, Sit-Stand and Saddle Chairs

(6)   There are a number of different types of alternative office seating available on the market including kneeling, sit-stand and saddle chairs.

These types of seating are not necessarily better or worse than conventional ergonomic office seating, however they may not provide optimum support in a workplace where many hours are spent in sitting. Kneeling chairs will also cut off circulation to the lower legs if used for long periods and are not recommended for individuals who have knee problems.

There are no current guidelines or design standards available for alternative chairs; however it is recommended that these chairs are not used for constant sitting, and conventional chairs are recommended in the office environment. Should an individual at UNE wish to use an alternative office chair, they should first seek the advice of their General Practitioner (GP), physiotherapist or chiropractor.

Seating Alternatives: Fitness balls

(7)   The fitness ball is not recommended for use as office seating due to:

   a.   Loss of upright posture because there is not full seat and back support.

   b.   Upright posture not being maintained during tasks that require reaching or moving around. Users are also unable to swivel or navigate around the workstation.

   c.   The sitting surface of the fitness ball does not provide adequate support for the buttocks and thighs.

   d.   Getting on and off or reaching from the ball may be a falling hazard.

(8)   The fitness ball may be used to provide postural breaks and do stretches or exercises during breaks from work.

Foot Rests

(9)   A foot rest may be required to ensure that workstation users maintain optimal ergonomic posture. The surface should be positioned at an angle, it should be a non-slip surface, adjustable, and large enough for both feet to sit on the foot rest and change position.

Keyboards

(10) The keyboard should be placed directly in front of the body to avoid twisting the neck and torso.

(11) The keyboard should be positioned in front of the computer monitor with the letters G & H approximately in line with your navel. This is particularly good positioning when doing a lot of keyboard work.

(12) The keyboard should be positioned according to the distance the forearms extend from the neutral position of the elbows by the side of the body.

(13) Arms should be parallel to the floor when placed gently on the keyboard. The seated elbow height should be a little higher than the height of the keyboard. Raise or lower the office chair to achieve this position.

(14) The slope of the keyboard should be as close to the flat position as possible. This is largely determined by what feels comfortable; however there should be a good straight alignment across the forearms, wrists and hands.

(15) Utilising a keyboard without a numeric pad can reduce the keyboard width and allow the mouse to be operated closer to the user.

Mouse

(16) The mouse should fit the user's hand and not cause unnecessary pressure on the wrist and forearm muscles. Ensure the mouse is not too large so that the wrist is in a neutral position during use.

(17) Mouse operation can be moved from left-handed to right-handed use to minimise strain on the one hand. Ensure that button on the right side of the mouse is always used for primary functions by clicking on start (bottom left side of screen), selecting mouse and changing button configuration to switch primary and secondary buttons. The mouse may also be customised in this area including double click speed, pointer speed and scrolling.

(18) Hold the mouse gently when moving it over the mouse pad or desk.

(19) Take the hand off the mouse at frequent intervals.

(20) Use keyboard shortcuts where possible.

Document Reference	Form Reference	Version	Effective Date	Review Date	Page Number	Date Printed
WHS G001	WHS F019	1.0	04/08/2016	04/08/2016	6	

(21) If the task is primarily a mouse activity, move the mouse towards the middle of the desk and push the keyboard back.

(22) Position the mouse directly to the right or left hand side of the keyboard. Line the top of the mouse pad with the top edge of the keyboard as a visual cue to correct placement and always aim to keep the mouse on the mouse pad.

Mouse Alternatives

(23) Alternatives to the standard mouse are designed to change hand and arm postures and increase efficiency. They include a wide range of operations, including rollers, pens, balls, pads and glide points. The main difference between a mouse and these devices is that the hand and arm remain stationary while the wrist is at an angle and the fingers or thumb stretch. For long periods of use this way may cause finger, thumb or wrist discomfort. Lifting the hand off the keys while operating the pointing devices is preferable.

Wrist Rests/ Gel Pads

(24) Wrist rests are not recommended for use in the office environment. Gel wrist rests can cause wrist anchoring. When you rest on your wrists while typing/mousing, you can compress the blood vessels, tendons, and nerves that travel through your wrist. Resting your wrist for too long can potentially cause inflamed tendons and nerve entrapment. Anchoring your wrist can increase the risks of a musculoskeletal disorder like carpal tunnel syndrome. Wrist rests are designed to provide support during pauses, when not typing (such as when reading from the screen).

Desk Alternatives: Sit/Stand Work Platforms or Desks

(25) Sit/Stand work platforms and desks allow users to alternate between sitting and standing throughout the working day.

(26) Sitting or standing for prolonged periods is not desirable. Ensure prolonged sitting or standing is broken up by periodic movement throughout the day, preferably 1-2 minutes every 20 to 30 minutes. Frequent micro breaks improves your level of comfort, work performance, and reduces the risks of musculoskeletal injuries.

(27) The desktop set up for monitors on stand up desks should be the same as for normal desks. The user needs to have the keyboard height slightly lower than the user's elbows to avoid static muscle pressure. Users need to adopt an upright position with shoulders relaxed and their back in natural curves. It is advisable that users move their feet regularly to ensure good blood circulation.

(28) If a Varipro desk (or similar option) is being used remember to read the instructions on how to adjust the item. There are multiple set up positions depending on the height of the user.

(29) If using an electric mechanism for lowering and raising the desk it is advisable to create a marker so that continual measurement is not needed to achieve optimum adjustment.

(30) If desk has a wind up mechanism care should be taken that user is not put at risk by bending while winding up the desk. A seated or squatting position is preferable during the wind up process.

(31) Where a stand up desk is used, consideration should be given to the use of a mat to ensure lower joint comfort while standing.

(32) If you do not have a stand up desk it is still possible to arrange to spend part of your day standing (e.g. when making phone calls). If you have voice activated software on your computer if is recommended that you walk around or stand while recording.

Laptops

(33) Laptops are not designed to be used for long periods. If you are using your laptop for long periods (more than two hours):

    a.   Place your laptop on an adjustable stand, so you can view the screen at eye level or attach to external monitor.

    b.   Attach an external keyboard and mouse.

Monitor Risers

(34) Monitor risers may be sourced to ensure the monitor/s are at the appropriate height for each user. If the monitor do not have an inbuilt height adjustment feature, a secondary monitor stand may be required.

Phone

(35) If you are using your phone frequently you should consider using a headset such as those pictured below to prevent awkward neck postures. Especially if you write notes or use your computer while talking on the phone.

(36) Your phone should also be positioned on your non-dominant side within easy reach.

Document Holders

(37) If you are reading from documents while typing you should use a document stand and locate the stand either directly under the monitor or off to the side on an angle. Some document stands may feature a curved surface to prevent glare. Other frequently used items should be within easy reach.

Equipment Layout

(38) The correct positioning of your equipment on your desk will help prevent injuries. Your monitor and letter section of your keyboard should be centred in front of your body, your mouse should be located to prevent overreaching and your chair should be centred as well.
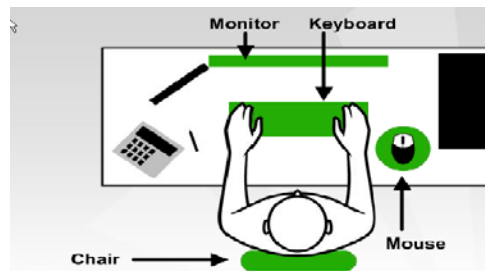
Lighting and Eye Strain

(39) The eye problems experienced by computer operators are sharp and dull pains, dry or watering eyes, burning sensations, tightness, tiredness, headaches, and other forms of discomfort, which can all be called "eyestrain".

(40) Consideration should be given to workstation set up along with the lighting at the workstation.

(41) Indirect or reflected glare is caused by light deflecting off surfaces and in to your eyes. Objects and walls in glossy dark colours or shiny metal surfaces, even as small as your watch face, can cause this.

(42) Light reflected off the computer monitor is also unlikely to cause eyestrain, however it may make you assume an inappropriate posture in order to see the screen.

(43) Direct glare is caused by overhead lights and lamps shining directly into your eyes. Direct glare can also be a problem when a computer is positioned directly in front of a window.

(44) Wearers of bifocal glasses may find that they are tilt their head backward in order to see the screen. This places strain on the neck and shoulders and should be avoided. An Optometrist should be consulted for the best options available to bifocal wearers.

Rest Breaks, Stretches and Exercises

Rest Breaks

(45) It is very important to take rest breaks when working. Taking breaks will help in preventing injuries.

(46) There are a number of different types of breaks that allow for recovery or at least add variety to the workload. They include:

    a.   Varying your work; performing different activities during the day.

    b.   Structured breaks; lunch and morning tea breaks.

    c.   Unstructured breaks; talking with a colleague or getting a drink of water.

    d.   Work pauses; you should take regular pause breaks if you are performing a repetitive task.

Micro Breaks

(47) Micro-breaks are rest pauses and exercises that can be done while you are at your computer workstation. These can be done to prevent your body from becoming fatigued during your working day. A good way to apply these Micro-break exercises is to follow the "30/30/30" rule, which is:

    a.   Every 30 minutes, take a 30-second break, and look at an object 30 metres away.

Apps for Computer Workstation Rest Breaks

(48) There are many apps available via internet download that feature reminders to have a rest break. Depending on the way you set the rules within the app, these reminders can be simple prompts or restrictions to your computer to ensure rests are taken.

(49) Some of these available apps are:

    a.   Time Out Free (for Mac users).

    b.   WorkPace (free one month trial)

    c.   Workrave

(50) UNE IT Service Desk is available to assist with installation and removal of these applications on/from your computer. They are however, unsupported applications and IT Service Desk is not available to assist or advise on the functionality. If the application does not suit your need, please remove it from use.

Stretches

(51) Holding sustained postures and/or performing repetitive tasks for prolonged periods can lead to musculoskeletal injuries. Performing stretches and exercises can promote blood flow to the body area which will reduce a build-up in toxins that can lead to injury.

Perform the following exercises a few times a day!

Make sure you relax and perform them gently!

Consult your medical practitioner if you need to!

| Document Reference	Form Reference	Version	Effective Date	Review Date	Page Number	Date Printed
WHS G001	WHS F019	1.0	04/08/2016	04/08/2016	11	

STOP! if you feel discomfort!

Exercise 1
Bend your wrist and fingers with your other hand, bending your elbow slightly at the same time, until you feel the stretch over the back of your forearm. Hold the position for 30 seconds
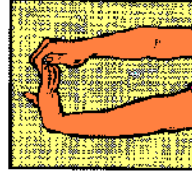
Exercise 2
Stretch your arm out in front of you with your elbow straight, palm facing away from you (fingers pointing up or down). With your other hand pull your fingers backward until your feel the stretch over the front of your forearm. Hold the position for 30 seconds

Exercise 3
Tuck your chin down onto your chest and gently turn your head from side to side, keeping your chin on your chest. Do this ten times.
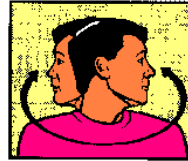
Exercise 4
Turn your head slowly from side to side ten times.

Exercise 5
Interlock fingers, palms up. Stretch arms above the head until they are straight. Do not arch the back.

Exercise 6
Roll the shoulders - raise them, pull them back, then drop them and relax. Repeat in the opposite direction.

Exercise 7
Drop left shoulder, reaching left hand towards the floor. Return to starting position. Repeat on right side.

Exercise 8
Grasp shin, lift leg off the floor. Send forward curling the back, with nose towards the knee.

Section 4 - Definitions

(52) Effective Date means - takes effect on the day on which it is published or on such later day as may be specified in the procedure.

(53) University Representative means a University employee (casual, fixed term and permanent) contractor, agent, appointee, UNE Council member, adjunct, visiting academic and any other person engaged by the University to undertake some activity for or on behalf of the University. It includes corporations and other bodies falling into one or more of these categories

(54) Student means an Admitted Student or an Enrolled Student, at the relevant time.

    a. Admitted student means a student who has been admitted to a UNE course of study and who is entitled to enrol in a unit of study or who has completed all of the units in the UNE course of study.

    b. Enrolled student means a student who is enrolled in a unit of study at UNE.