

General Principles

Module 1



Updated January 18

Estimated delivery of the four modules 2 – 2 ¹/₂ hours

Facilitator to display title slide. Welcome participants (if necessary), introduce yourself and other facilitators, ask the group to introduce themselves (if necessary).


Ensure that the attendance sheet has been completed by all learners. Go through domestics (if necessary): safety and facilities including refreshments breaks.

Mixture of practical demonstration and theory

Resource Kit – order from H&S Admin at Filton or Manchester

Learning outcomes

By the end of this training you will be able to:

- Know basic legislation and definitions
 - Recognise how injuries are caused and which parts of the body are affected by injuries
 - Know the importance of using the semi squat lift and how to adapt it
 - Know the importance of increased postural awareness in order to reduce injuries
- 

Facilitator to run through each objective on the slide. This provides an over view of the areas covered in the course

Before showing the next slide ask the group – **What is manual handling?**

Facilitator to document answers onto a flip chart

What is Manual Handling:

The transportation or supporting of a load (including lifting, putting down, pushing, pulling, carrying or moving) by hand or by bodily force

The term 'load' includes objects, people and animals.

Manual Handling Operations Regulations
1992 (as amended)



Facilitator to show the slide and read out the definition of manual handling:

The transportation or supporting of a load (including lifting, putting down, pushing, pulling, carrying or moving) by hand or by bodily force

Facilitator should expand on the term 'load' that can mean objects (like boxes or cages), people (donors) and animals.



Facilitator to show the slide and emphasise that Manual Handling is not just something we do at work – its how we use our bodies every day. We need to incorporate safe practices into everything we do so it becomes second nature.

Ask the group - **What positions can cause back problems?**

Suggested answers:

Picking up

Putting down

Leaning over

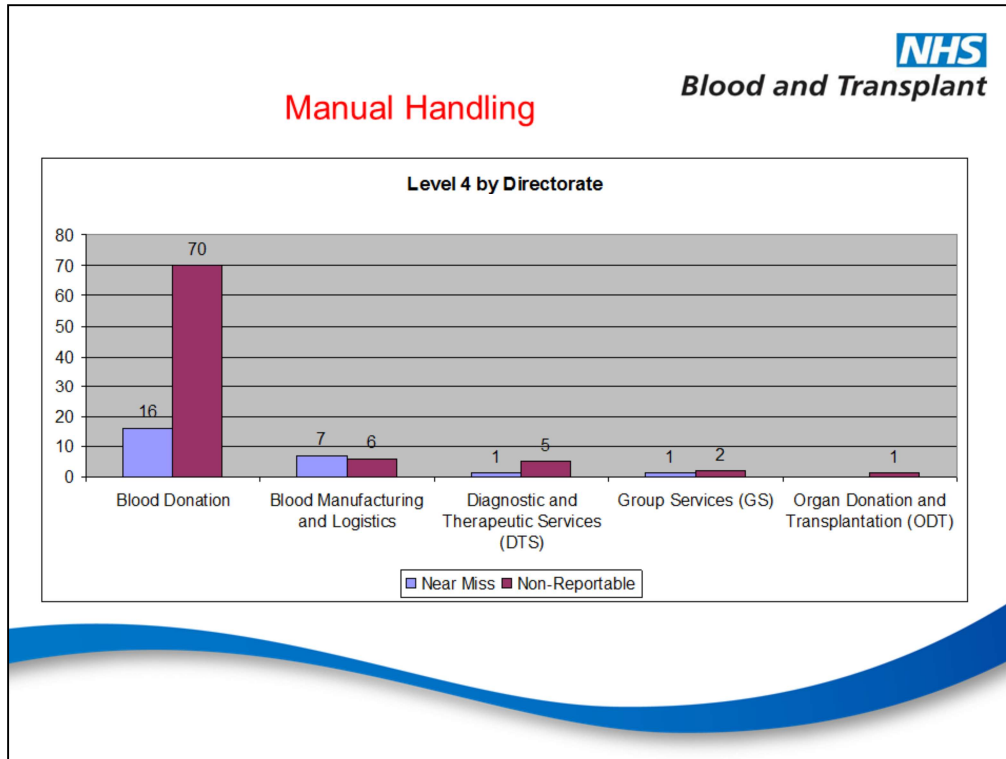
Twisting

Reaching

Sudden movements

Repeated movements

Slouching



Time frame – 01/04/17 to 23/08/17

Facilitator to show the slide. Explain that this graph shows all NHSBT Manual handling accidents and where they are in the business.

Ask the group - **Is this any surprise to you? Why would they be occurring in each directorate?** Listen to answers and discuss the reasons why

Level 4 is either a - **Near Miss (NMI)** – An undesired incident, which could have resulted in harm to a person and/or property damage, but was avoided by good luck. Unsafe acts and unsafe conditions can also be reported as near misses. Or **Non-Reportable** – these are incidents which are outside of NHSBT control, or due to human error, or are a minor oversight which are easy to resolve and unlikely to come up again. All other near misses fall within this category.

Before putting up next slide ask the group – **What do you know about the laws that cover manual handling?**

Post answers onto flipchart.

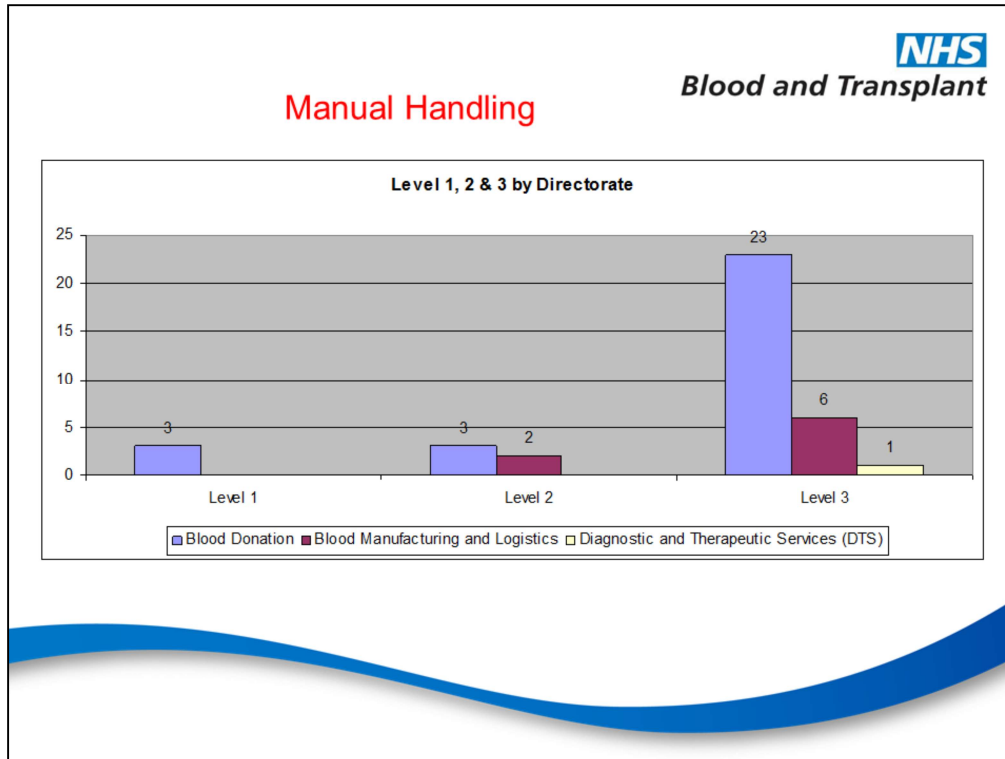
Answers will include the:

Health & safety At Work Act 1973

Management of Health & safety At Work 1992 and 1999

Manual Handling Operations Regulations 1992

Workplace Regulations 1992



Time frame – 01/04/17 to 23/08/17

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Level 1 – these are (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR) reportable events - an absence of more than 7 days or a specified injury

Level 2 - these are absences of 4 to 7 days which would have met the previous threshold for RIDDOR

Level 3 – these are incidents resulting in 1 – 3 days absence, or involving blood contact with a cut, which includes piercing, or mucous membrane, or was influenced by a significant system or management failure. RIDDOR reportable Dangerous Occurrences also fall within this category. Near misses where significant failure in controls may also be included in this category.

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Post answers onto flipchart.

Answers will include the:

Health & safety At Work Act 1973

Management of Health & safety At Work 1992 and 1999

Manual Handling Operations Regulations 1992

Workplace Regulations 1992

Manual Handling Operations Regulations 1992

- Carry out general risk assessment (MH&SW Regs)
- *Avoid significant* risks if possible
- Consider mechanical or automated process
- If task cannot be avoided or automated carry out risk assessment in accordance with the MHOR
- Record findings and produce SSW
- Provide training to employees



Facilitator to cover the regulations key points including:

Carry out general risk assessment (MH&SW Regs)

Avoid significant risks if possible

Consider mechanical or automated process

If task cannot be avoided or automated carry out risk assessment in accordance with the MHOR

Record findings and produce SSW available on the controlled documents section of the intranet – DAT's

Provide training to employees

Emphasise that it is only a requirement to avoid **significant (likely to cause injury) handling** operations. A reasonable amount of lifting activity will ensure that techniques are well practised and therefore not lost and fitness is maintained.

MHOR 1992 Duties of the Employees

Employees are legally required to:

- Take reasonable care of their own health and safety and that of their colleagues and clients
- Use available work and safety equipment, in accordance with the training and instruction provided
- Follow appropriate systems of work laid down by the employer in their manual handling policy
- Use proper channels to inform management of possible hazards or shortcomings in manual handling activities.



Facilitator to emphasise that employees must realise that they have duties too.

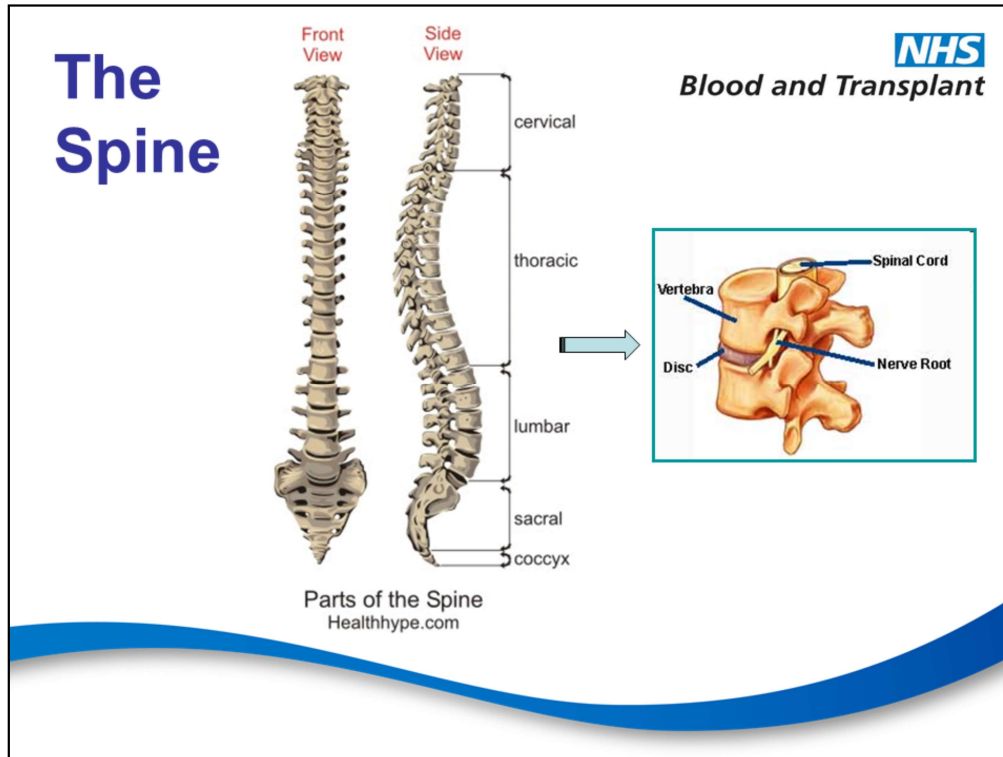
They should:

Take reasonable care of their own health and safety and that of their colleagues and clients

Use available work and safety equipment, in accordance with the training and instruction provided

Follow appropriate systems of work laid down by the employer in their manual handling policy

Use proper channels to inform management of possible hazards or shortcomings in manual handling activities.



Facilitator to ask – **Have you ever pulled a stomach muscle from lifting something heavy and/or incorrectly?** Explain that if you have nice, strong tummy muscles this can help to support your back.

Facilitator should explain that the spine has three main functions: to provide a support structure for the body; to give the body flexibility and stability and to protect the spinal cord and nerves. The spine has three main areas: cervical at the top, then the thoracic or chest area which connects to all the ribs to give those important internal organs their protection, and the lumbar area which is the strongest but most vulnerable area.

Demonstrate using the models.

Facilitator should ask – **What are discs for?** Explain that they are shock absorbers for the spine and they prevent the bony parts of the spine from rubbing together and wearing out.

Discs are strong flexible structures sandwiched between each pair of vertebrae

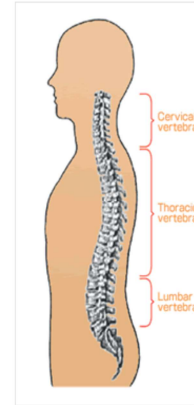
Vertebrae are interlocking bones, stacked one on top of the other, with the largest at the base

The spinal cord runs along the back of the discs, in a tunnel created by a hole in each vertebrae

Nerves branch off the spinal cord through a gap between successive vertebrae

Spine

- Load evenly distributed
- Reduces compression on the spine
- Neutral position
- Muscles balanced
- Reduces tension on tissues
- Face direction of travel (no twisting).



Demonstrate or use spine model (available in resource pack) to illustrate.

“Load” can mean an object or here a donor.

Anatomy and Biomechanics



Facilitator to demonstrate the parts of the body that can be injured through manual handling

Lower back or lumbar region – most common

Neck or cervical region

Arms, wrists and shoulders

Knees

Hands and fingers

Stomach muscles

Emphasise cumulative injuries, severity of injuries

****Case Study****

The injured person sustained a soft tissue injury to their back during the session set up. This occurred as they pushed a full tea urn from the front of a table to the middle of the table, a distance of approximately 30cm. They were subsequently absent from work for 18 days.

The investigation has identified that the individual was trained to general manual handling techniques and is also a risk assessor on the team. A risk assessment is in place covering the use of the urn. This identifies the significant risks which include scalding and manual handling risk to users which is addressed through manual handling training. The specific risk of injury from moving urns if they are full of water is not stated in the risk assessment. It was identified that it is common practice on this team that the urn is filled at the front of the table to reduce reaching across the table with jugs of water. Some staff then move it to

the middle of the table whilst others leave in situ. A decision as to its location is left to individuals based on the session environment.

Was this incident avoidable?

What could have been done differently?

What do you think caused the incident (immediate and root cause)

Immediate – the individual making the choice to move the urn despite having risk assessment and manual handling training that should prevent that choice being made (ignoring their training because they felt that nothing would happen to them)

Root – no clear instruction on a standard position for the urn

Causes of Back Pain



Facilitator to explain that all of these factors that can cause back pain can be avoided or reduced by sensible lifting and handling.

Explain that muscles work in two ways – by contracting or relaxing and usually work in pairs. For example, if you bend your arm your bicep muscle contracts, bringing your arm up. When you want to put your arm back down again it is the triceps' (under the arm) that contracts, pulling the arm down.

Emphasise that even when standing still, some muscles are contracted just to keep us upright. When muscles are contracted, they squeeze the blood vessels inside them, preventing normal blood flow and the removal of the waste products such as lactic acid – this in turn creates a burning sensation in the muscles (remember “go for the burn”?). The muscles can then become overstrained and subsequently injured.

Twisting and Bending

Heavy loads or forces

Working in a stooped/twisted position

Sudden or unexpected movements

Static or fixed posture

Individual susceptibility

Biomechanics Demonstration



Facilitator to use the model explain when a person is positioned fully bending forward without even carrying anything, 2 thirds of body weight and the load you are carrying is placed on the spine.

Explain that the loads should be lighter, or repetitions less, or both, the further away from the body the load is held. Whether you are trying to keep your clothes clean or reduce the effect of spillages, you need to consider whether the task has been approached in the correct way.

Important: Emphasis that the largest manual handling risk to effect us is the load and unload on a blood donation session and yet the way we sit and stand can also have a big impact on us.

Explain that these small risks can stack up to make us all more likely to suffer injury. This is particularly the case if the risk stacks exceed our individual capability. The key is to reduce these risk stacks as far as possible, to reduce fatigue and risk of injury. This helps us to conserve our energy for manual handling tasks that can not be avoided such as the load/unload.

At the same time it is possible to improve strength through exercise and fitness.

Principles of levers – short lever arms

Reduces compressive force on discs

More control of load

Apply effort in the direction of force

Team approach

Understanding of commands

Avoid 123 – Use Ready, Steady, Move

Childs play



Facilitator to show this slide and explain that the full squat lift position can be difficult for people to do.

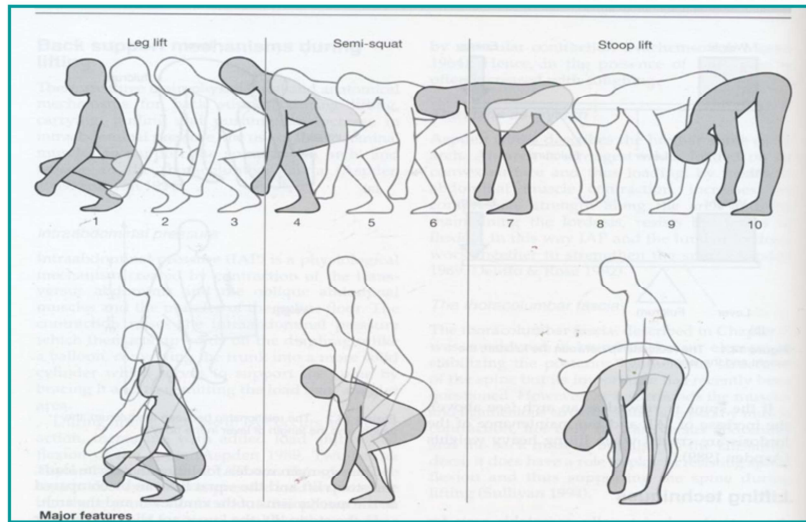
Facilitator should explain that when a toddler goes to pick up something from the floor, they **instinctively** squat down.

So when will they start to bend over to pick things up – when they are about 3 or 4 and this is **learned** behaviour.

What lift is best?

NHS

Blood and Transplant



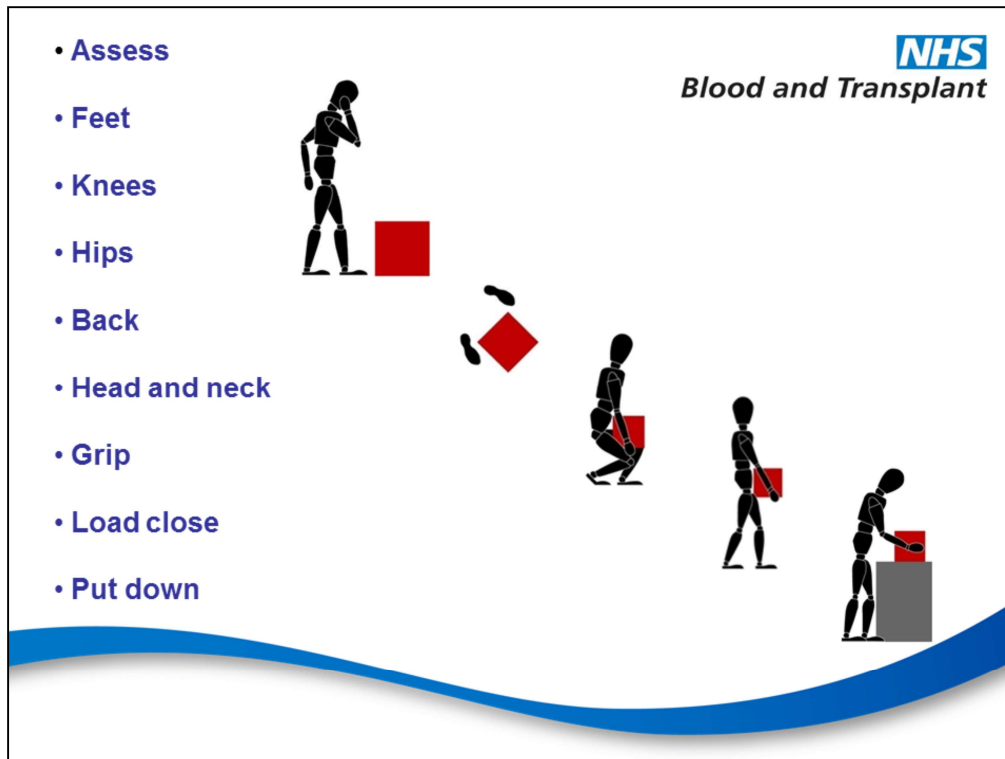
This slide show diagrams of lifting techniques so a semi squat lift is more practical to perform when lifting. Explain that we need to avoid doing any stooping lift.

Combination of leg lift (left) and stoop lift (right) to make the best practice semi- squat (middle)

Two person lifts

Plan route

Assisted lift



Facilitator to now explain that when lifting, no matter what lift you are using, there are some general principles to check before, during and after lifting. 2 person lift, planning route, assisted lift.

Include:

Steady Base

Test the weight

Plan the lift

Keep the load close

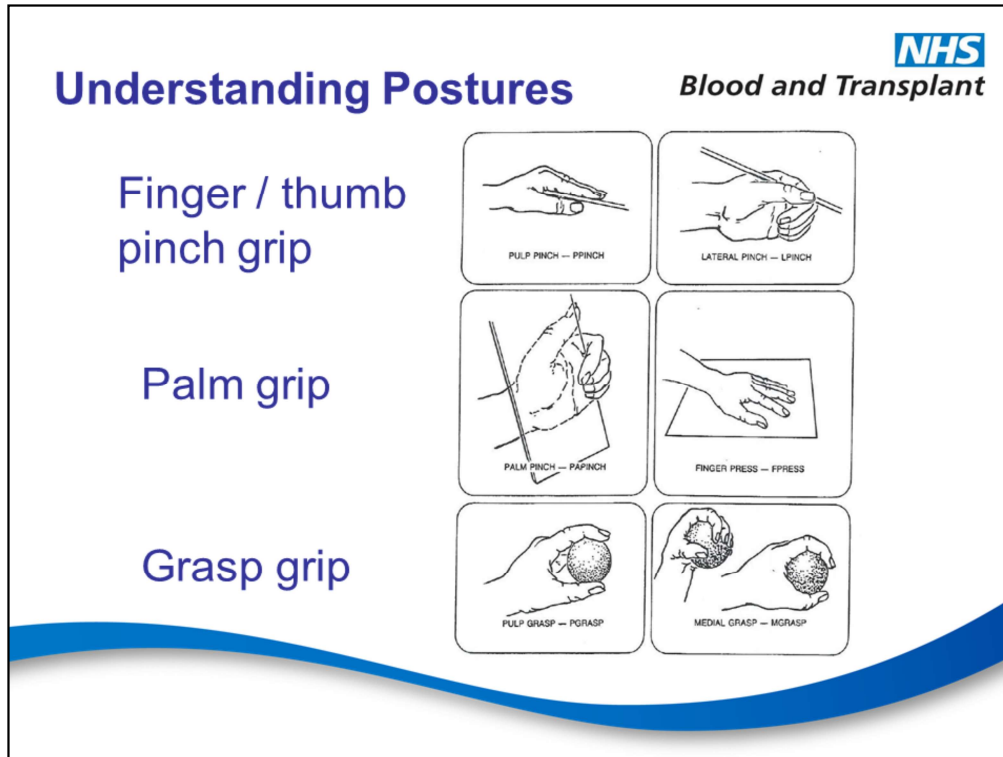
Grip on the load

Do not twist

See notes on previous page

Give a demonstration of the correct way to lift using all prompts from the slide.

Spend any time now discussing any particular manual handling tasks you think appropriate: team lifting, from shelves, using moving aids



Facilitator to explain that the posture for the grip is very important in manual handling. Facilitator should ask staff to try finger / thumb pinch grip, palm grip and then a grasp grip to realise how 'hold' changes (including 'position' and strength).

Ask the group to think about grips used at work?

- Pinch grip used for HB test and venepuncture
- Palm grip for holding tubs / paperwork

Sitting/Standing

- Any sustained posture over time is fatiguing
- Generally sitting is generally less fatiguing
- Unsupported sitting positions encourage poor posture and should be avoided
- Standing should be alternated with sitting whenever possible

Facilitator to explain that sitting is generally less fatiguing than standing, since only the weight of the upper torso must be supported. However any sustained posture over time will eventually become fatiguing !

Sitting in a poorly designed chair or in an unsupported sitting position can be extremely uncomfortable and encourages poor posture which may lead to low back pain. It can also be worse than standing, staff need to be aware of their posture and the impact they have on it.

Whether a worker sits or stands, certain muscles will be fatigued.

Energy is required to maintain a standing posture.

Some tasks require standing to enable an individual to move around more as greater area in their reach.

If standing is required it should be alternated with sitting whenever possible. This will reduce fatiguing by alternating the muscles being used to maintain posture. (Query)

It is generally recommended that task rotation is implemented.

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Healthy Sitting

- Maintain an “S” shaped spine
- Wherever possible ensure that your back is supported
- Feet flat on the floor
- Avoid Twisting
- Stand up and Stretch where possible
- Do not remain in a ‘static’ sitting position for a long period of time
- Adopt good posture whilst carrying out driving tasks

Use separate keyboard and mouse

Adjust your chair back so that your back is supported

Adjust your chair height so that your feet are flat on floor

Screen at eye level with correct use of riser

Explain that it is important that the spine is kept in its natural neutral position – S shaped, models for demonstration. The Facilitator should stress that it is particularly important that the small of the back is supported. Feet should be flat on the floor, and position should avoid any repeated twisting. Sitting in one position could also put stress on the body as all the weight of the body will sit on the base of the spine – it is important to get up and stretch the back and not remain in the same position. This could mean as a health screener getting up where possible to seek the donor from the waiting area. Driving is an activity where it is all too easy to adopt poor posture. You must ensure that seat and where possible steering wheel are adjusted correctly before commencing journey. Go through the slide in relation to Display Screen Equipment. Explain that if using the computer that to get the best possible posture when you are using the laptop screen risers will be issued as well as a separate mouse and keyboard.

Ask the group – **What issues are there with using a laptop?**

Suggested answers:

- Cannot easily have ideal setup (can be improved with the use of the correct equipment)
- Chair height (adjust the chair to get the correct position as above and that they also use the riser, mouse and keyboard)
- Small screen
- Touchpad limits movement
- If the laptop is used correctly in this way the risk of injury reduces considerably.

Any movement that pushes the joint away from neutral can be harmful after a repeated or extended period. Ask the question - **When could this occur?**

Using the laptop, when writing, reaching out, etc. (Reaching and then lifting from arms length can also put unnecessary strain on shoulders as well as arms and hands i.e. when stretching for boxes in the roll cage.)

Facilitator to state that staff should avoid making and holding awkward movements with your wrists and shoulders.

Healthy Standing

- Maintain an “S” shaped spine
- Avoid working in a stooped posture
- Avoid repeatedly bending and twisting



Good



Bad

Facilitator to repeat that even when standing the S shape should be maintained – e.g. of this is for pack labelling either stand at table which is at the correct height so that you do not need to stoop or as an interim control use the recommended upturned box on top of bed to get the working surface at a good height (at or above 90cm).

Facilitator should stress that table risers are available through the Equipment Manual to rise tables to the correct height, these need to be available and used on teams as required. If they are lost / get broken it is the individual / team's responsibility to raise with their supervisor / manager so action can be taken to address and put in a short term control measures until they are available. Location of necessary equipment must be available so that bending, twisting and reaching are avoided repeatedly.

Standing is required whilst staff are working inside the pod area. Staff should frequently rotate out of the pod into other tasks which allows them to sit. This should also have a positive effect on the psychosocial risk factors at job enrichment / enlargement reduces dissatisfaction.

If staff feel unwell due to standing in the pod they must ask the DCS if they can rotate out of the pod into a position where they can sit down.

At present all tasks (except pod) must have a chair available so that when opportunities arise for 'short breaks' these facilities are readily available.

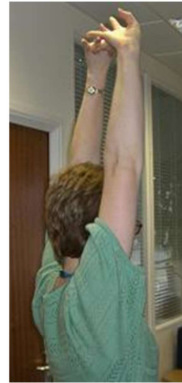
Where stooping is required for short periods of time e.g. arm cleansing, it is better to bend the knees slightly than it is to stand in a stooped posture. By bending the knees the spine can remain in the S shaped neutral position.

Simple Exercises

Upper and Lower Back



Wrists, Hands and Arms



Facilitator to explain that your muscles become tense when you sit for prolonged periods to complete tasks.

Relieving muscle tension a few times a day by performing stretches and exercises is a healthy practice.

It is not mandatory to do these exercises, but they should be encouraged as 'preventative' measures and you should not carry these out if you have a medical condition, received medical advice to the contrary or are not confident in them as injury would be worse.

To help encourage staff to perform these exercises, everyone to try these now against information / photos in slides.

There are 5 exercises in total (2 shown on this slide plus shoulder rolls, then 2 on the next slide):

Wrists, Hands and Arms

Straighten your arms in front with your fingers interlaced and palms stretched outwards.

Upper and Lower Back

Straighten your arms overhead with your fingers interlaced and palms upwards. Lean slowly side to side.

Shoulder Rolls

Circle your shoulders forward several times, then backwards.

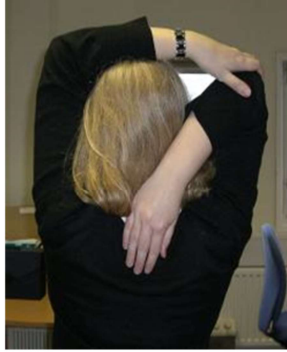
This exercise should be explained after Shoulder Stretch (3rd 'exercise' slide).

It is recommended that you hold each stretch for around 10 seconds and remember to exercise both sides of your body. Repeat each routine several times.

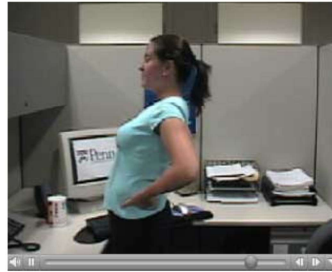
Simple Exercises

NHS
Blood and Transplant

Upper and Lower Back



Shoulder Stretch



Facilitator to continue to explain the exercises:

Shoulder Stretch

Stretch your arms above your head, then cradle each elbow with a hand.

Gently pull your elbows behind your head.

Back Arching

Stand up.

Gently arch your back as you support your lower back with your hands.

Manual Handling Yearly Observation



Blood and Transplant

Name

Team

Equipment observed lifting

Manual Handling Trainer

Activity	Y/N	Comments: Good practice and improvements
Assess load		
Prepare route		
Position feet		
Stable base		
Bend knees		
Back straight		
Head back, chin in, neck neutral		
Good grip		
Load close		
Load put down safely		

Manual Handling Trainer Signature

Date

The person being observed needs to know they are being observed.

To sum up : Your Role

NHS
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Facilitator to state that if there is a problem they must report this otherwise we can't help to manage / address the issue.

All individuals should:

Report any aches and pains to your Manager / Supervisor at an early stage

Maintaining your own good physical wellbeing –healthy eating and good lifestyle which involves regular exercise. Evidence indicates that these can reduce the risk

Ensure you set up your work station area / equipment based on good practice

Follow correct work techniques.

Look after ourselves and others

Adopt good posture (as poor posture can lead to strains, aches and pains).

Spread weight evenly on both feet when standing or walking.

Eat a balanced, varied diet and make sure you have you 5 a day and cut down on fatty foods, sweets, salt and alcohol.

Lack of exercise can cause back pain and encourage poor posture. This doesn't mean you have to enrol in a gym, there are simple activities we can all do – walking, swimming, running. Always start slow and get advice as necessary

Simple exercise may help reduce the risk of back pain and can also help relieve it although you should get medical advice before doing this as every case is different. General advice for back pain is to keep as active as possible.

Check your posture regularly – make sure you are self aware and disciplined. When standing make sure your weight is evenly distributed and when sitting sit back in your chair so that your lower back is supported and with you weight evenly distributed over your hips and thighs. Avoid bending or reaching forward when you could walk to where you need to.

General tiredness, tension and weakness can lead you more susceptible to injury – so make sure you look after yourself.

Work technique is influenced by the work method but mostly by individual characteristics which include experience and benefits from their method. Control is achieved by ensuring adequate procedural details supported by training, monitoring and supervision. Failure to adequately supervise can lead to the continuation and proliferation of risks, as actions are not taken to address posture issues when they initially develop. If Supervisors observe poor technique, they need to raise and take action to ‘improve’ and reduce the risk.

Learning outcomes

By the end of this training you will be able to:

- Know basic legislation and definitions
- Recognise how injuries are caused and which parts of the body are affected by injuries
- Know the importance of using the semi squat lift and how to adapt it
- Know the importance of increased postural awareness in order to reduce injuries

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