

Physical Wellbeing for Tree Workers



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Safety notice: When starting any new exercise always ease into the stretch gently to find your comfort limit. Some mild “stretching strain” may be experienced, but if significant pain is felt then ease off and try a more gentle version of the exercise. If pain restricts you from doing these stretches at all then consult a health professional for alternative options.

1. Overview: The work of a Tree Worker

There are a number of potential safety hazards to be negotiated by Tree Workers. These include cuts/lacerations, tripping, falls, direct blows, environmental factors and much more.

The purpose of this document is to focus on one significant aspect of the hazards faced, those that relate specifically to the manual handling aspects of the work. The postures used, the pressures on the muscles and joints, the lifting and handling aspects of the work. These are described as musculoskeletal risk factors.

The good news

There is more and more evidence that sedentary work is bad for us.

The human body was designed to be active, not to sit for prolonged periods.

Even if there is a significant proportion of admin work or driving time associated with your role, the constant requirement to get outdoors and moving is valuable. For those of you with an increasing proportion of office work in your role, remember your body requires you to “move it or lose it”.

The challenge

The manual handling aspects of tree work pose significant risks to the worker when not conducted in a safety conscious manner.

Avoiding injury through being exposed to these risk factors requires:

- A. Thinking ahead
- B. Risk assessing all tasks all the time
- C. Being fit enough to conduct your work
- D. Knowing your limits and being true to those limits

A. Thinking ahead

- Have I got all the equipment I need to do the job safely and productively?
- Do I need additional assistance
- Do the environmental conditions allow me to do this work safely today?

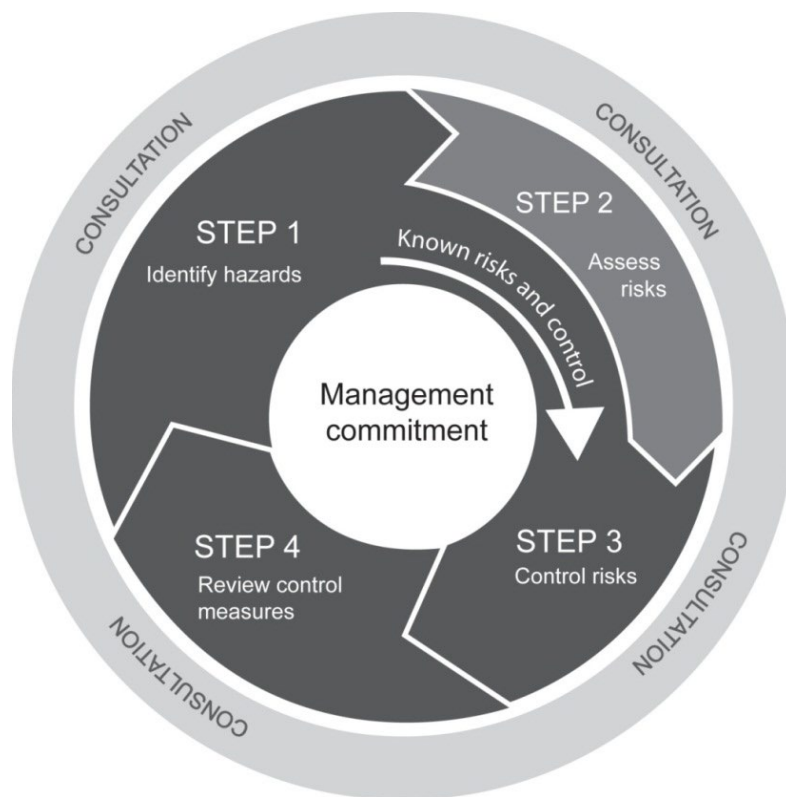


B. Risk assessing all tasks all the time

Risk assessments are not just things we do on paper every now and then to please the safety zealots – it's how we think and conduct our work ALL THE TIME

This involves...

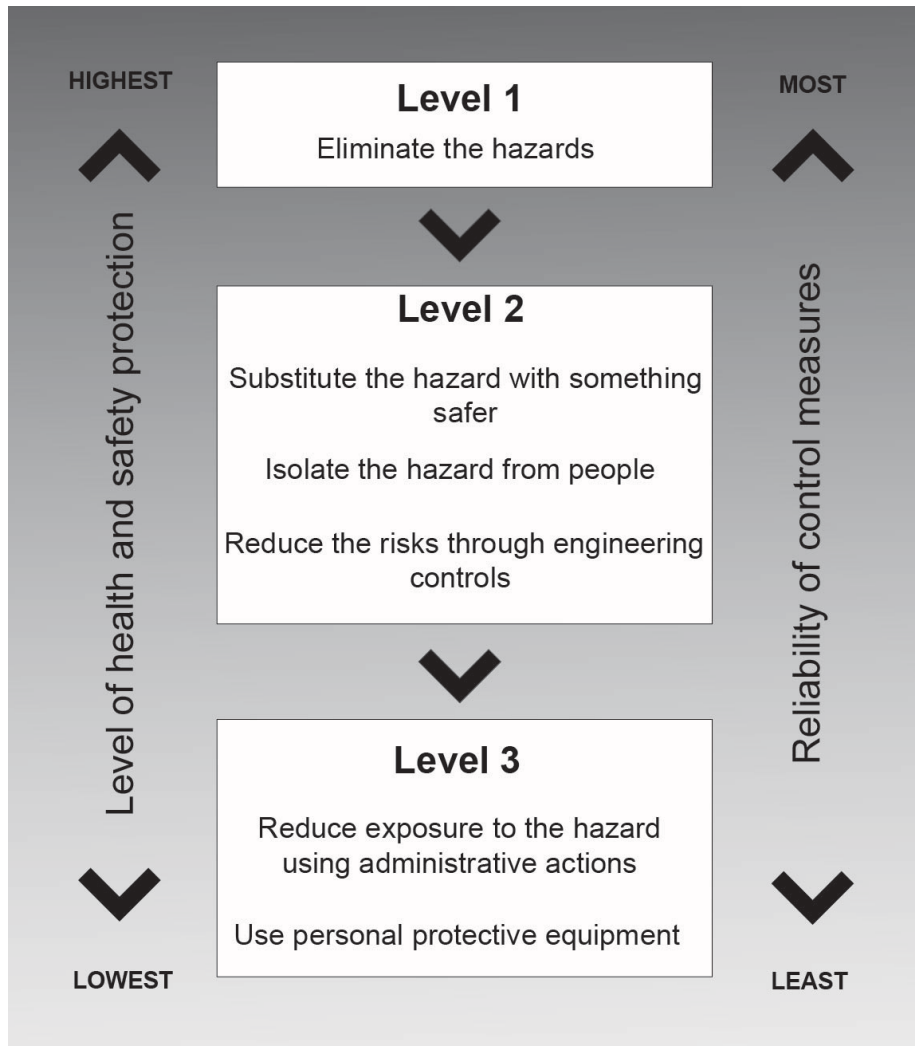
- Hazard Identification
- Risk Assessment
- Risk Control
- Evaluation/Review



Is the task safe to proceed? Yes or no?

If no, what risk controls may be required?

Aim to use higher order risk controls to the best of your ability. Note hierarchy of risk control below:



To ensure you have considered the hazards / risks and how best to control them use the references available (See end of document).

Being fit enough to conduct your work

- Stretching and exercising at the start of the working day to warm up

- Keeping up core strength and general fitness
- Eating a healthy diet and keeping adequately hydrated
- See section 3 for details on this

C. Knowing your limits and being true to those limits

- Owning the word “no” when it’s needed
- Asking for assistance when required
- Being aware of days when you are below par and planning accordingly

Tree work is often repetitive. So even when the loads you are handling are relatively light, there can be cumulative strain on the body. A proactive approach helps you stay ahead of the game and a step ahead of pain.

The next section reviews in more detail the specific risk factors involved in the work of the tree worker.



2. Key musculoskeletal risk factors

Activity	Potential strain on body	Minimising the potential strain
Sustained awkward postures using machines and saws	Minor load bearing strain on the muscles and joints of the spine	Having good core strength. Having good body awareness Changing position regularly
Ascending/descending from heights using pulley systems	Major load bearing strain on the shoulder and arms. Moderate load bearing strain on back and legs	Having good core strength. Using good technique Equipment is easy to use and promotes energy efficiency
Repetitive use of hands setting up and manipulating pulley systems	Moderate strain on wrist, thumb and finger muscles	Using good technique Task variation – allowing you to break from this work as required Equipment is easy to use
Vibration through the hands and arms using grinders/saws	Major strain on shoulders, arms, wrists and fingers Moderate strain on neck and back	Having good core strength. Having good body awareness Equipment is easy to use and promotes energy efficiency Task variation – allowing you to break from this work as required
Lifting and handling logs and other equipment	Moderate strain on shoulders, arms, wrists and fingers Moderate strain on neck and back	Having good core strength. Having good body awareness Using good technique Using equipment well when required
Handling vehicles off road including backing vehicles through congested areas	Moderate strain on neck and upper back	Having good body awareness Task variation – allowing you to break from this work as required

In summary

To help reduce these risk factors above, the tree worker needs:

1. Good core stability
2. Good flexibility
3. Good body awareness (ie: knowing your limits, listening to your body and responding to strains before they become pains)

The final one is a lifelong ongoing challenge. The first two require regular exercise.

The next section provides you with an opportunity to self-rate these three factors.

3. Reducing your risk of overuse injury

Some simple self-tests can provide you with an indication of your likelihood of developing an overuse injury. This can help provide motivation and focus in your exercise routines aimed at keeping you fit and well.

Testing your core strength

Question	Option A – 1 point	Option B – 2 points	Option C – 3 points	My score
Standing tolerance For how long can you comfortably stand before you need to sit or lie down?	More than one hour	30 to 60 minutes	Less than 30 minutes	
Unsupported sitting tolerance For how long can you comfortably sit upright on a chair without a back rest before you need to change position?	More than one hour	30 to 60 minutes	Less than 30 minutes	
Practical activity A – Abdominal stabilisers Lie on your back with your knees bent and feet flat on the floor. Place a flat hand under the small of your back. Using your abdominal muscles, apply gentle pressure down against this hand. Try to maintain this pressure while lifting one foot a few inches off the ground. Aim to breathe easily as you do this. How easily can you do this task without releasing the pressure on the hand under your back?	Very easily, even if I extend my legs further. My breathing pattern is smooth throughout and I can easily talk while performing the task	Moderately easily, though breathing and talking as I do this is challenging	I cannot achieve this without holding my breath	
Practical activity B – Wall pushes	Very easily. My body remains	Moderately easily, though breathing and	I cannot achieve this without	

Stand facing a wall with your feet a distance from it that is approximately one-third to one-half of your height. Place your hands against the wall at around chest height. Perform small, well-controlled pushups against the wall, always keeping your body straight from head to toe. Aim to breathe easily as you do this. How easily can you perform this task without losing an upright posture?	stable. My breathing pattern is smooth throughout and I can easily talk while performing the task	talking as I do this is challenging	experiencing discomfort and/or losing the stable spinal position (bending in the middle)	
			My total score	

Interpreting your results

Scores for *Part A – Rating your core strength* range from 4 to 12. See how your score rates:

- Green: 4 to 6: Very good – keep it up
- Yellow: 7 to 9: Average – room for improvement
- Red: 10 to 12: Poor – improvement needed

Improving your core strength

Abdominal stabilisers



This exercise switches on your core stabilising muscles around the abdominal area and your pelvic floor muscles. Lie down on your back with your knees bent and feet flat on the floor. Place a flat hand under the small of your back. Tighten your pelvic floor muscles (as though preventing yourself from urinating). Tighten your deep abdominal muscles by drawing your navel down slightly towards your spine, applying a slight pressure against the hand under the small of your back. Aim to maintain this pressure as you slowly raise one leg a few inches off the floor and then lower the leg again. Ensure you keep breathing steadily while you do this. Repeat this process 10 times for each leg. Note the longer you extend your leg the harder this is. As your strength progresses, find a level that works for you.

Bridging



This exercise helps strengthen your core stabilising muscles around your abdomen, back and buttocks. Lie down on your back with your knees bent and feet flat on the floor. Place your arms comfortably by your side. Engage your buttock muscles and slowly lift the buttocks off the ground to a height where the hips are as close to straight as your strength and flexibility allows. Hold this “bridging” position for a count of three before slowly lowering the buttocks again. Repeat these 20 times, which should take around 90 seconds. You should feel this exercise working muscles in the buttocks, back and abdomen.

Back stabilising in kneeling



This exercise helps strengthen your core stabilising muscles around your back, hips, shoulder blades and abdominal area. In four point kneeling, tense your abdominal muscles and back muscles to stabilise your spine. Imagine your back is a solid surface with a glass of water on it that you don't want to spill. Maintain stability as you lift your arm up off the ground, and then return it back down. Repeat for the opposite side. When you feel confident to progress, try lifting the opposite leg up as you lift the arm. Do this for 10 lifts each way, which should take around 2 mins.

Note that core strength is also improved through general activity, in particular walking, jogging and swimming.

Sitting and balancing on gym balls is another way to improve core strength



Testing your flexibility

Question	Option A – 1 point	Option B – 2 points	Option C – 3 points	My score
Rate your flexibility For your current age, how would you rate your flexibility overall, particularly that of your hamstrings?	Very good for my age	Moderate for my age – I could be better	Poor for my age – I could be a lot better	
Stretching routines For how many minutes do you stretch per day on average?	More than 10 minutes	Two to 10 minutes	Less than two minutes	
Practical activity C – Upper back and neck rotation Sit tall in your chair. Turn your upper body to the left as far as comfortable. Keep contact with the seat as you do so. Repeat for the right side. How far can you comfortably turn your neck and upper back while in a sitting position?	As far as I would expect for this stage of my life; easily enough to check a blind spot in a vehicle	Not quite as far as I would like and think I should for my age. I struggle to check the blind spots in a vehicle	Well short of what I should be able to do for my age. I rely on mirrors as I cannot turn to see blind spots in a vehicle	
Practical activity D – Forward, backward and sideways bending Stand upright on a non-slip surface and stretch forwards, backwards, to the left and right. For your current age, how would you rate your flexibility?	As far as I would expect for this stage of my life	Not quite as far as I would like and think I should for my age	Well short of what I should be able to do for my age	

Interpreting your results

Scores for *Part B – Rating your flexibility* range from 4 to 12. See how your score rates:

- Green: 4 to 6: Very good – keep it up
- Yellow: 7 to 9: Average – room for improvement
- Red: 10 to 12: Poor – improvement needed

Improving your flexibility

Regular stretches, particularly at the start and the end of the working day. Below are some helpful examples:

Easy back stretches

Lying back rotations



This exercise increases the flexibility of the joints of the lower back. Gently twist your back by allowing your legs to roll together towards the right side, then towards the left. Start gently and gradually increase the range of the stretch. The stretch should be felt in the lower back area. Repeat this exercise 10-15 times each way.

Slump stretch



This exercise helps stretch the Sciatic nerve and soft tissue in the spine and legs. With your knees bent, reach for your toes, then bring your legs as straight as you can comfortably have them. Then bend your forehead down towards your knees as far as comfortable. This stretch can be felt anywhere from the calves right up to the back of the head, commonly in the hamstrings. Hold this position for twenty seconds. Repeat this twice.

Knees to chest stretch



This stretch increases lower back flexibility. Lie on your back with your knees bent and your feet flat on the floor. Stretch your right leg up as far as comfortable and hold it in your hands as shown for 20 secs. Repeat this for the left side. If comfortable, progress to holding both knees in both hands as shown. The stretch should be felt in the lower back. Hold this for 20 secs. Repeat twice each way.

Cat stretch



This stretch increases lower back flexibility. Start in a kneeling position on all fours, and then stretch back bringing your buttocks towards your heels. When you have stretched as far as comfortable (lower back stretch predominantly) hold this position for 20 secs. Repeat this twice.

Neck stretches



This exercise helps loosen up the muscles along the side of your neck. Stand upright and reach your right hand over to the back of your head behind the left ear. Tuck your chin in slightly as though to give yourself a double chin. Gently tilt your head forwards and to the right until a mild stretch is felt on the left side of your neck. As soon as your neck is feeling a mild stretch, hold that position for 20 seconds allowing the neck muscles to gently stretch and adapt to the position. Repeat this stretch for the opposite side. Do 2 stretches each way.

Tuck and tilt stretch



This exercise helps loosen up the muscles deep along the side of your neck. Reach your right hand over to the back of your head behind the left ear. Meanwhile with your left hand, tuck your chin in slightly, giving yourself a double chin. Gently tilt your head forwards and to the right until a mild stretch is felt deep on the left side of your neck. As soon as your neck is feeling a mild stretch, hold that position for 20 seconds allowing the neck muscles to gently stretch and adapt to the position. Repeat this stretch for the opposite side. Do 2 each way.

Testing your body awareness

Question	Option A – 1 point	Option B – 2 point	Option C – 3 points	My score
<p>Incidence of injury How frequently do you experience minor or major discomfort due to the way you have performed a task?</p>	Hardly ever (i.e. a few times a year)	A moderate amount (i.e. monthly)	Fairly frequently (i.e. weekly)	
<p>Keeping loads close to the body How frequently do you reach beyond 30 centimetres to handle an object that is awkward, heavy or both?</p>	Hardly ever, but when I do, I modify the task accordingly or ask for assistance	A moderate amount, and only sometimes do I think to modify the task or ask for assistance	Fairly frequently, and I usually get the task done without modifying it or asking for assistance	
<p>Using the legs, not the back, for leverage How frequently do you bend to handle an object without using your legs for leverage as well as you could have?</p>	Hardly ever. I remain grounded and use lunge positions to ensure my leg muscles are taking the load, not my back	A moderate amount, and only sometimes do I stop to change position and ensure my leg muscles are taking the load, not my back	Fairly frequently. I'm not in the habit of ensuring my leg muscles are taking the load, not my back	
<p>Practical activity E – Standing on one leg Stand on a firm, non-slip surface, preferably with bare feet. Try to stand on one foot for at least 30 seconds without losing balance. Try this with your eyes closed only if the eyes-open version is easy and you feel confident. For how long can you stand on either leg with your eyes open or shut?</p>	I can stand on either leg for more than 30 seconds with my eyes shut	I can stand on either leg for more than 30 seconds with my eyes open but not shut	I cannot stand on either leg for 30 seconds with my eyes open	

Interpreting your results

Scores for the *Part C – Rating your body awareness* range from 4 to 12. See how your score rates:

- Green: 4 to 6: Very good – keep it up
- Yellow: 7 to 9: Average – room for improvement
- Red: 10 to 12: Poor – improvement needed

Improving body awareness

Most exercise tends to help improve and “refresh” your sense of body awareness to a degree, but some exercises are better for this than others. Exercise that is less regimented and repetitive, and more varied or expressive can be particularly helpful. Examples include:

- Yoga
- Martial arts
- Tai Chi
- Dance (especially salsa or belly dancing)
- Feldenkrais Method Group classes (includes pelvic and body awareness exercises)

4. References and further reading:

Code of practice: Amenity tree industry:

https://www.safework.nsw.gov.au/_data/assets/pdf_file/0009/52866/Amenity-Tree-Industry-Code-of-Practice.pdf

Code of Practice: How to manage work health and safety risks 2011:

<http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/manage-whs-risks-cop>

Code of practice: Hazardous manual tasks 2011:

<http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/hazardous-manual-tasks-cop>

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