

## Walking Aids: using and measuring

Walking aids can assist with balance, reduce fatigue or pain and facilitate a safe walking pattern. Various sizes and styles are available and selection should be made based on the person's abilities, needs, environment and body shape. It is important that walking aids are purchased or adjusted to the correct height and size. It is best to seek advice and training from a health professional before making a selection.



## Crutches

Underarm (axilla) crutches are commonly used following an acute, short-term injury and may be recommended for those who are only able to bear weight on one leg. Forearm (or elbow) crutches may not be quite as stable with a full load and are commonly recommended in situations of long-term use for those who can bear weight on both legs, but who require the additional support.

When using crutches, weight should be taken through the hands via the hand pads. For underarm crutches, the top pad of the crutch should be pressed against the side of the chest wall (approximately 5cm under the armpit). It is important that the crutches are not positioned high against the armpit as this can cause damage to nerves and blood vessels located close to the skin and can also affect posture, balance and stability. Crutches should be positioned slightly to the side and forward of the body for a stable base of support.

To set the correct height of underarm crutches, place the top axilla pad approximately 5cm (2–3 finger widths) under the armpit and extend the crutch to a point on the ground approximately 15cm out from the side of the foot. In this position the handgrip should then be adjusted to sit approximately at the height of the wrist crease. This should allow for around 15–30 degrees of bend at the elbow.

For elbow crutches, measure the handle height as with underarm crutches. To set the height of the forearm cuff, measure from a clenched fist to 2.5cm below the elbow crease. The forearm cuff should not impede upon elbow movement but should stop the crutch from slipping off the arm.

There are many different ways to use crutches depending on balance and the ability to place weight on one or both legs. If the affected leg can hold some body weight, then it is recommended that the crutches and the affected leg be placed forward together approximately one step length (sharing the load between them) followed by the unaffected leg.

Another option is to use a four point walking pattern, which is slower but may assist with safety for general weakness.

This involves putting one crutch forward, then the opposite leg, and then the next crutch forward, followed by the final leg and continue with this pattern.

If balance is poor and no weight can be taken on the affected leg, then it is suggested that both crutches be put forward first, followed by a hop forwards of the unaffected leg, stopping just behind the crutches and keeping the affected leg clear of the ground. If balance is good then the hop can swing past the level of the crutches, which will increase speed and fluency.

To climb up stairs and steps, lift the unaffected leg up to the step first while taking weight on the crutches, and then bring the crutches and the affected leg onto the step second. To go down, lower the affected leg and the crutches down the step first followed by the unaffected leg second.

## **Walking Sticks, Quad Sticks and Tripods**

Walking sticks provide a basic level of support and are designed to assist with balance and/or decrease weight on an affected leg.

A range of handle styles are available including t-shaped, crook, swan neck, offset, and contoured handles (or arthritic handles), which are designed to provide additional support under the palm. Sticks can be made from wood, steel or aluminium and may be available in a fixed or adjustable length. Wooden walking sticks should not be stored in direct sunlight or in a damp environment to avoid swelling and cracking.

Three and four-point sticks (also known as tripods and quad sticks) provide a wider base of support than the more common single point walking stick, however, they can also create a potential tripping hazard due to their increased side width and it is important to discuss this choice with a health professional.

To measure the height of walking sticks, quad sticks and tripods, the base of the stick should be placed approximately 15cm from the outside of the foot and the handle height should be set at the wrist crease height. The elbow should be bent slightly (generally between 15 and 30 degrees) when holding the stick and standing upright.

Walking sticks are usually used on the unaffected or strongest side of the body but this may depend on individual preference and abilities. The stick should be placed forward at the same time as the affected leg and then the unaffected leg follows.

If using two sticks at the same time, a four-point gait may be used by bringing one stick forward, then the opposite leg, then the other stick, followed by the other opposite leg.

Three or four point sticks with an offset base should be positioned so that the straight side of the base is nearest to the body. All points of the stick should maintain contact with the ground when the stick is placed down.

To negotiate going up steps and stairs, lift the unaffected leg up first, then the stick and the affected leg onto the same step. To travel down, the stick and the affected leg should be lowered first, then the unaffected leg down to the same step.

## **Walking Frames**

### **Three or four-wheeled walking frames**

Three or four-wheeled walkers provide more support than walking sticks and are designed for users who can walk reasonably well but who would benefit from extra support over longer distances. Three-wheeled walkers are easy to manoeuvre but

are less stable than four-wheeled models (which have a larger base of support) and are therefore rarely recommended. Wheeled walking frames are generally designed for both indoor and outdoor use and feature either bicycle-style hand brakes or push down brakes.

Bicycle-style hand brakes feature levers that can be squeezed upwards to brake temporarily, or pushed down to lock into place. Push down brakes work by pushing down through the handles which then pushes a spring-loaded rubber stopper, (located between the twin castor rear wheels), down onto the ground. When weight is removed from the handles the brakes will spring off. It is important to practice operating the brakes before selecting a walker.

When adjusting the height of a walking frame it is important to wear everyday shoes and stand in a natural position with hands resting comfortably to the sides of the body. In this position, the walking frame handgrips should sit approximately at wrist crease height. Four-wheeled walkers often come with a seat that is fixed in height so it is important to check that this is appropriate before making a purchase. When sitting on the seat in a comfortable position, feet should be resting flat on the ground.

When using wheeled walkers it is important to stay within the base of support, with the frame held at a comfortable position in front of the body. This position should allow a 15 to 30 degree bend at the elbow and facilitate standing in an upright position. When turning corners it is important not to spin directly on the spot, but to walk in a wider turning circle.

Many walkers have optional accessories such as baskets or bags, trays and oxygen bottle holders. It is important not to overload a walking frame with too much additional weight because this may affect its balance. Most styles of walkers fold for storage or transportation. Gutter frames are available for users needing forearm support.

### **Two-wheeled (Rollator) walking frames**

Two-wheeled walkers (also know as Rollator frames) are generally recommended for users who can stand with light support but require additional support when walking. They are most suited to indoor use and shorter distances. They feature two wheels or castors at the front, and rubber stoppers (also known as ferrules) or glides (also known as skis) at the rear. Some models have wheels that swivel which can provide better manoeuvrability but may be less stable. Stoppers offer greater stability than glides; however, glides are easier to push over some floor surfaces. Most frames fold for storage or transportation, and some are available with bags or trays.

When using two-wheeled frames it is important to stand upright, holding the frame with both hands and using a natural walking pattern. Slide the frame forwards a small distance, step forward with one leg whilst placing body weight through the frame, and then bring the other leg past the first. Height is adjusted to the correct position as per the process identified within three and four wheeled walking frames.

### **Static (pick-up) walking frames**

Static (also known as pick-up) walking frames have four rubber stoppers (no wheels). They are generally recommended for users who require even more assistance and support when standing and walking and are designed for short distances.

When using the frames, stand upright holding the frame with both hands. Lift the frame forwards a small distance and put it down with all four tips firmly on the ground. Step forward with one leg whilst placing body weight through the frame and then bring the other leg alongside.

Avoid stepping too far forward to prevent over-balancing. A sufficient level of strength and balance is required to use the walkers safely.

Most static frames fold for storage or transportation and the height is measured using a similar process to the other walking frames.

## Other tips

- Consider the environments where the device will be used. Remove indoor and outdoor obstacles such as floor mats, power cords, and water hoses. Check that the mobility aid will fit through doorways and has sufficient unobstructed manoeuvrability and circulation space. Take extra care in wet areas and on uneven ground. Is a ramp required if steps are too hard to manage?
- When standing up from a seated position, remember to push up from the arms or seat of the chair before grasping the walking aid. Ensure lockable brakes are engaged properly when standing up and sitting down.
- Check rubber tips, and brake cables regularly for signs of wear and rust and make sure all handle height adjustment fastenings are secured tightly.
- Consider the overall weight of the device. Aluminium is lighter than steel. Check if it is easy to fold the device, and if the frame can be lifted or will fit into the boot of a car or that it can be used safely when using public transport.
- Consider the load capacity (weight limit) of the device. Is it appropriate?

## Contacting the Independent Living Centre

For further information or to make an appointment to visit the display please contact the Independent Living Centre. The Independent Living Centre offers free advice on equipment and techniques to help you with everyday tasks.

Independent Living Centre  
11 Blacks Road  
Gilles Plains SA 5086

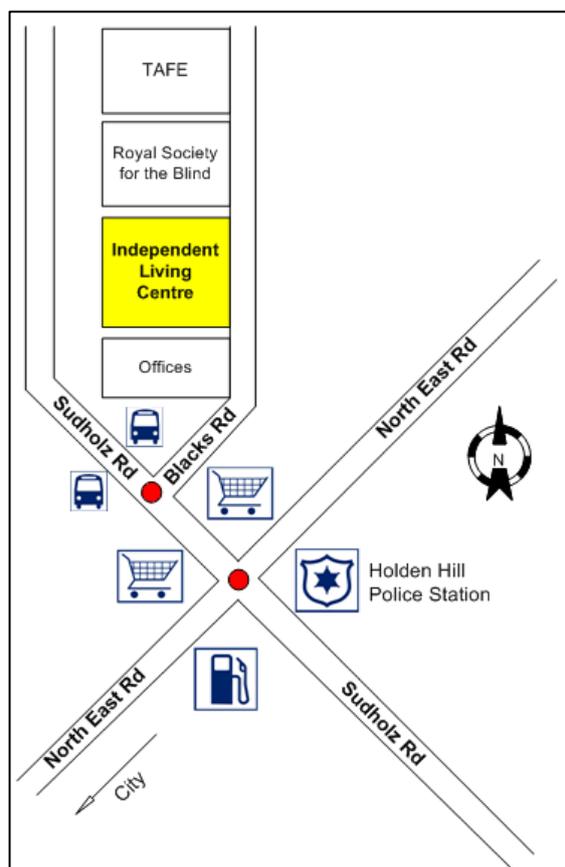
Phone: 1300 885 886 (SA & NT callers only) or 8266 5260

Email: [ilcsa@dcsi.sa.gov.au](mailto:ilcsa@dcsi.sa.gov.au)

Website: [www.sa.gov.au/disability/ilc](http://www.sa.gov.au/disability/ilc)

Accessible off street parking is available.

Bus services run nearby. Call 8210 1000 for timetable information.



Copies of this publication are available from the Disability Information Service  
Tel: 1300 786 117 Email: [disabilityinfo@dcsi.sa.gov.au](mailto:disabilityinfo@dcsi.sa.gov.au) Website: [www.sa.gov.au/disability](http://www.sa.gov.au/disability) Version: July 2013



Licensed under Creative Commons <http://creativecommons.org/licenses/by-nc/3.0>  
Attribute to: *The Dept for Communities and Social Inclusion, Government of South Australia*