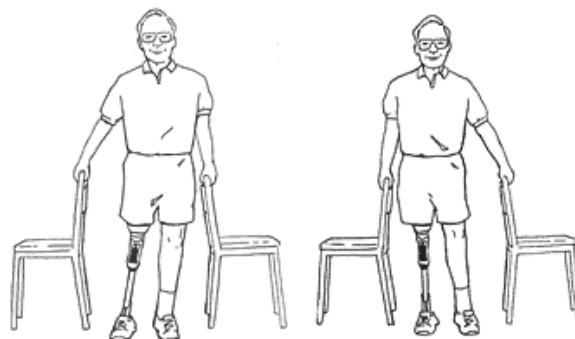


Lower Limb Amputation – Advanced Exercises

Side to Side Balance

1. Stand between 2 chairs or between parallel bars, facing a full length mirror.
2. Place feet about 2 to 4 inches (5 to 10 centimetres) apart.
3. Shift your body weight from right to left.



Feel how the pressure changes on the residual limb with the prosthetic socket when you put weight on it. Get familiar with how you use your muscles in your legs.

Forward and Backward Balance

1. Stand between 2 chairs or between parallel bars, facing a full length mirror.
2. Place feet about 2 to 4 inches (5 to 10 centimetres) apart.
3. Shift your body weight forwards and backwards.

Begin with small movements. Progress slowly to larger movements.

Feel how the pressure changes on the residual limb with the prosthetic socket when you put weight on it, and how you use your muscles.

If you shift your weight too far backwards over your heels, raise both arms in front of you and bend at the hips.

If you shift your weight too far forwards over your toes, swing your arms out behind you and arch your back.



'Residual Limb' means what is left of the limb or the remain part if the limb

Single Limb Balance

1. Stand between 2 chairs or between parallel bars, facing a full length mirror.
2. Place a small stool in front of the non-prosthetic leg.
3. Put both hands on the back of the chairs (or parallel bars).
4. Step onto the stool as slowly as possible while supporting yourself on your prosthetic leg.
5. Repeat this several times until you feel comfortable with it.
6. Now take your hand off the chair on your non-prosthetic side.
7. Tighten your hip muscles on your prosthetic side to control your hip.
8. Slowly step up onto the stool with the non-prosthetic leg. Allow your full body weight to go down into the socket.



Imagine controlling how your prosthetic foot moves.

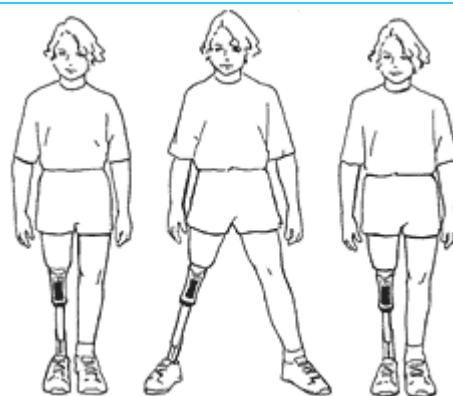
Once you can do this balance exercise slowly, take both hands off the chairs and continue stepping up in a slow and controlled way.

Side Stepping

1. Stand facing a long counter or a parallel bar.
2. Place both hands on the counter for support.
3. Starting with your non-prosthetic leg, step sideways.
4. Now step sideways towards your non-prosthetic leg with your prosthetic leg.

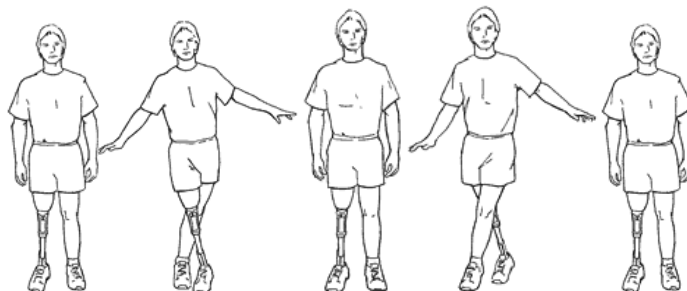
Concentrate on keeping your hips even with each other.

Try not to lean over your prosthetic leg as to step sideways with your non-prosthetic leg.



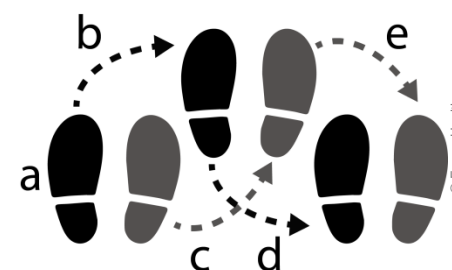
Braiding

1. Stand facing a long counter or a parallel bar.
2. Place both hands on the counter for support.
3. a) Place your feet about shoulder width apart.



a **b** **c** **d** **e**

- b) Cross your prosthetic leg in front of your other leg.
- c) Step out with your non-prosthetic leg so your feet are back in the original position.
- d) Now cross your prosthetic leg behind your other leg.
- e) Step out with you non-prosthetic leg.



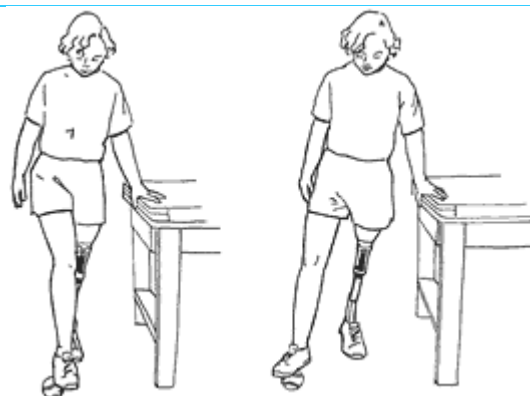
Repeat stepping sideways, alternating between crossing in front and crossing behind.

Use your arms and upper body to help with your balance.

As you get more comfortable, increase your speed.

Ball Rolling

1. Stand beside a table (counter, or parallel bar) with your prosthetic leg closet to the table.
2. Place a tennis ball on the floor.
3. Supporting yourself on your prosthetic leg, put your foot on top of the ball.
4. Roll the ball forwards, backwards, side to side, and in circles. Keep your foot flat on the ball.

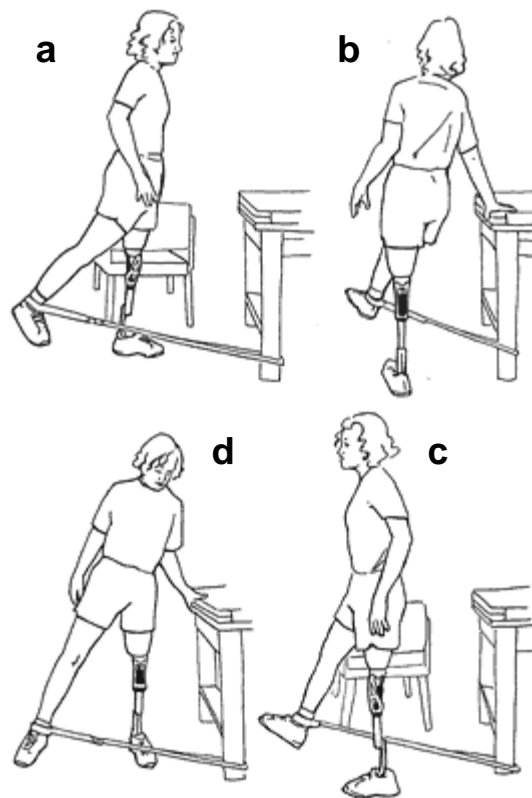


Feel your hip muscles on the prosthetic side as your weight shifts and your foot moves over the ball.

As you gain your balance and strength, let go of the table and use your arms for balance.

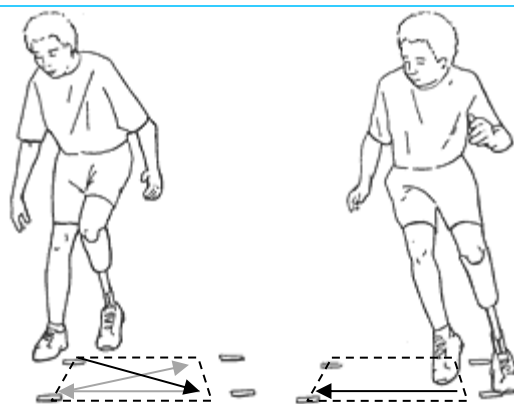
Kicks – Resisted Elastic

1. Secure one end of rubber tubing or a resistance band around the leg of a sturdy table, post, or parallel bar.
2. Place the other end around the ankle of your non-prosthetic leg.
3. Hold on to a chair (or the parallel bar) while doing these exercises:
 - a) Face the table and kick your leg back.
 - b) Face sideways with your non-prosthetic leg closest to the table. Kick your leg across in front of your prosthetic leg.
 - c) Face away from the table and kick your leg forwards.
 - d) Face sideways with your prosthetic leg closest to the table. Kick your leg out to the side away from your prosthetic leg.



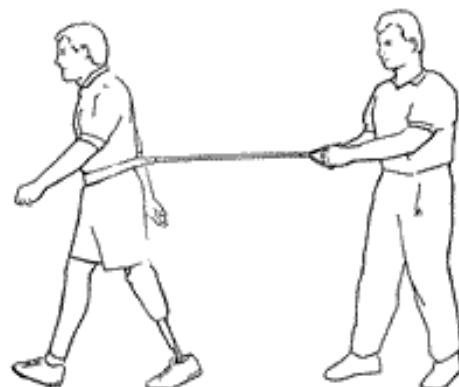
Toe Box Jumps

1. Place 4 pieces of tape on the floor, 2 feet apart to form a square.
2. Stand with both feet together at one tape mark.
3. Jump diagonally to the opposite corner. Land on the toe of your prosthetic foot. Use your non-prosthetic leg for balance.
4. As you land on the toe of your prosthetic foot, quickly push off, using your thigh muscles.
5. Jump to the next corner, again landing on the toe of your prosthetic leg. Use your other leg for balance.
6. As you land, quickly push off towards to opposite corner to the last tape mark.



Resisted Walking

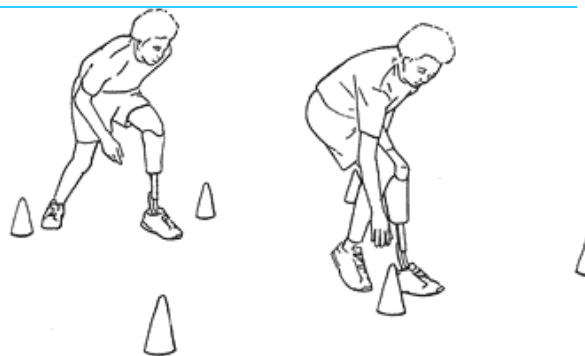
1. Place a belt around your waist.
2. Loop a length of rubber tubing or a resistance band through the belt.
3. Ask someone (like your therapist) to hold the rubber tubing.
4. Walk on a flat surface away from the other person while that person gives some resistance on the tubing.



As you walk, feel your muscles working in the socket. Feel your body passing over the prosthetic foot. Feel the spring effect of your prosthetic limb as it leaves the floor and begins to move forward.

Agility

1. Line up 4 to 6 cones in 2 rows. Place the cones about 6 feet apart.
2. Quickly move from one cone to the next. Squat down to touch each cone as you zigzag through them.



The key to this exercise is to keep the speed by staying on the toe of the prosthetic foot and using the thigh and/or hip muscle to rapidly extend your prosthetic leg as you turn or come up from the squatting position.