

Serial Casting



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Casting is a treatment used to provide a sustained stretch to tight muscles. Serial casting is when a series of casts are placed on the limb over time (i.e. days to weeks) to gradually increase the stretch provided to muscles. The aim of serial casting is to increase the range of movement at a joint (for example to improve your child's ability to put their heel down during walking). This may enable your child to have improved functional use of their limb and also prevent contractures that may cause pain, deformities and difficulties maintaining skin hygiene.

The casts are applied by your therapist and usually removed after 4 to 7 days, and then a new cast is applied to increase the stretch on the muscle. This process will likely occur several times to gradually increase the muscle length. The number of casts varies, depending on the tightness of the muscles, and how your child tolerates and responds to casting.



How is serial casting done?

Serial casting generally involves, but is not limited to, the following steps:

1. A therapist will assess your child's function (eg walking or hand use) and measure the range of movement around their joints.
2. If your child is getting their leg cast they may be asked to lie on their tummy so the physiotherapist can hold their ankle in the desired position.
3. Soft layers are applied to the arm/leg to protect any bony prominences where pressure could occur.
4. Layers of Softcast™ are then wrapped around the arm/leg. These are the hard layers that will hold your child's joint in a position that stretches the tight muscles. This will take about 2 hours to dry completely.
5. Your therapist will advise you when and how to remove the casts.



When can the cast be removed?

Your therapist will remove the cast in a scheduled appointment, usually after 3-7 days. In the case of an emergency, the Softcast™ material used to make the cast can be removed at home. This can be done by unrolling the layers when the cast is dry (similar to unwinding a bandage).



Things to check when the cast is on

While the cast is on, your child should not be in any pain but may feel mild discomfort or a stretching sensation. It is important to check your child's hand/ fingers (for an arm cast) or toes (for a leg cast) several times, particularly in the first 24 hours after the cast is applied. You should be concerned if:

- You notice a change in your child's fingers or toes e.g. colour change to blue/purple or they are cold or swollen.
- Your child complains of pain, numbness, tingling or pins and needles
- Your child complains of persistent localized pain around bony prominences such as at the elbow, wrist or ankle.
- You notice a slow return of blood flow to fingers or toes (if you push on your child's finger or toe it should initially whiten, then return to normal colour within 2-3 seconds).



Some children, particularly preschoolers or those who can not speak, may not indicate pain well and instead you may just notice a change in their behaviour. If your child's behavior has changed following application of the cast (i.e. persistently upset, playing up, waking up at night distressed) it is possibly related to a pressure problem from the casts.

If any of the above concerns arise, elevate the arm on a pillow, above the level of the heart, for 20 minutes and monitor. During business hours (i.e. 8:30am to 5:00pm), if symptoms are not relieved immediately contact your therapist. If your therapist is unavailable, or it is after hours, immediately remove the cast at home. It is important to contact your therapist as soon as possible to arrange an appointment following this.

Important Things to Remember

- Your child's cast is NOT waterproof. So in the shower:
 - Wrap the cast in a towel (this absorbs any condensation).
 - Place a plastic bag/rubbish bag over the cast and towel, and seal the bag at the open end with tape.
 - This will mean the cast is 'splash proof' but still must not get wet.



- Avoid sand and bark chips, these can get into the cast and irritate the skin. Wear a sock to reduce sand and bark getting into the cast
- If the skin underneath the cast becomes itchy do not place anything (e.g. knitting needles or rulers) down the cast to itch the area. These items break the skin or get stuck and cause pressure. Try distracting your child or allow them to 'rub' their other arm or leg.
- If your child has a cast over their ankle, they will not fit into their normal shoe, so try a sandal with adjustable Velcro straps.
- If the cast wears through please contact your therapist immediately.

What happens when serial casting is finished?

Leg Cast

Your therapist will give you advice to help maintain the newly gained range of motion in your child's ankle; this may involve orthotics, splinting, exercise and physical activities.

Arm Cast

Upper Limb casting should be followed by a tailored splinting program. Without this, gains in movement may be lost. Your therapist will give you advice to help maintain the newly gained range of motion in your child's arm



This information sheet is for education purposes only. Please consult with your doctor or other health professional to make sure this information is right for your child.



Contact Us

Please contact your therapist if you have any questions or a concern regarding your child's cast.

