

What else should I know?

- Do not leave the plastic splint near any heat source – it may lose its shape and no longer fit properly.
- Be consistent. Your child will adjust to the splint more quickly if worn regularly.
- Do the stretching and play activities, as recommended. The splint does not replace these.
- More information about brachial plexus injuries, stretching exercises, and play activities are located in your information package. It also includes more pictures and a splint use log.

Questions?

Please contact us with any questions or concerns. We look forward to working with your family!

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SUP-ER Splint For Treatment of Brachial Plexus Palsy in Infants

A Guide for Parents

Helpful information about your child's SUP-ER splint:

- Why your doctor has recommended it
- What it is
- How it can help
- How and when to use it

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Why can't my child move their arm?

During your child's birth, the nerves in the neck and shoulder area were injured, creating what is called a 'palsy'. Nerves form the electrical wiring system that carries messages from the brain to the rest of our body. This group of nerves in the neck is called the brachial plexus.



Figure 1. Location of the brachial plexus

Nerves of the brachial plexus supply messages to the arm for feeling and muscle movement. The nerves start at the spinal cord in the neck and control movement of the hand, wrist, elbow, and shoulder.

Your child's ability to move their arm will gradually get better as the nerves heal and again send messages to the muscles. Hand movements usually improve first. Some children recover quickly, while others need more time for the palsy to disappear.



Why does my child need a splint?

If recovery of your child's arm movements is slow (longer than 3 months), an imbalance of muscle strength and flexibility can develop. Over time, this imbalance can permanently affect growth and movement of the shoulder joint, having a lifelong influence on how a child uses his/her arm.

The SUP-ER splint is designed to help maintain flexibility of the arm muscles. In combination with the recommended stretching and play activities, the splint helps the muscles stay long and elastic while the nerves are healing. A bit like holding a yoga pose, but with help from the splint.

Using the splint early in your child's recovery will help prevent the muscles from getting tight. With your persistence, the splint becomes part of your child's 'daily routine'.

Together we will work to make your child's arm as strong and flexible as possible!



What is a SUP-ER Splint?

Just like your child, the splint is one of a kind! It is comfortable, easy to use, removable, and can be adjusted for growth. The splint is made of a lightweight plastic material shaped on your child's arm, and a special strapping system.

You may have noticed that your child's injured arm rests in a 'thumb-down' position (Figure 2), while the other arm rests 'thumb-up'.



Figure 2. Arm position

The SUP-ER splint helps support a 'thumb-up' position by maintaining the length of your child's arm and shoulder muscles.

Can I clean the splint?

Yes! A clean splint helps keep skin healthy.

- Wipe the arm splint everyday with a damp soapy cloth.
- Hand wash the waistband and strapping, as needed. Hang to dry.

How do I put the splint on?

Part 1

1. With the palm facing up, apply the plastic splint (as labelled) to the inside of arm/hand (see Figure 1 of attached photo sheet).
2. With the palm still facing up, apply the white elastic strapping. Start with the end pointing into the palm (Figure 2), looping around the hand and through the thumbholes, twice.
 - Continue to wrap the strapping up over the arm splint (Figure 3).
 - Overlap by half the strap width.
 - Apply gentle even tension.

Goal: The elastic strapping helps reinforce the palm up position.

Part 2

1. Apply the waistband, pulling the Velcro strap up between the legs, just like a diaper (Figures 4 & 5).
2. Gently turn the shoulder outward (thumb pointing out). Attach the Velcro straps (as labelled) at top of the arm and elbow, securing to back of waistband (Figure 6).

Note: Always position the shoulder with your hands. **Do not** use the strapping to pull the shoulder into position.

Goal: The strapping supports the outward shoulder position.



When is the splint worn?

- **22 hours per day** to start.
 - We will review your child's progress monthly. Reducing the time required in the splint will depend on your child's overall development, and arm strength and flexibility.
- **Remove the entire splint twice per day, for one hour** each in morning and evening.
 - Use these breaks for bathing, stretching exercises and play time.
- **Remove the strapping for Part 2** when your child is eating or traveling in a car seat.

What do I need to check?

- **Check finger color** on a regular basis (especially as you are getting used to using the splint).
 - Fingers that are dark purple or white mean there is poor blood flow to the hand, and the strapping may be too tight.
 - Remove the splint immediately; allow color to recover, and then reapply, checking strap tension.
- **Check the skin** for redness or irritation, whenever the splint is off.
 - Redness that disappears within 20-30 minutes is acceptable.
 - Contact your therapist if there is any persistent redness or irritation.

How long will my child need a splint?

We recommend use of the SUP-ER splint for some portion of the day and/or night (as guided), for the first year of your child's life.

What if the splint needs to be fixed?

- Use the kit provided for minor repairs (Velcro, moleskin, and strapping).
- Please contact your therapist immediately if you have any concerns.