



## A guide for Parents & Carers

This guide provides important information about your baby's Serkel. Please read it carefully and contact us if you have any questions.

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Children's Bracing and Orthotic Specialists

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## Introduction

The Serkel is a patented Cranial Remodelling Helmet used to treat babies between 4 and 12 months of age for asymmetrical head shapes, such as positional plagiocephaly and brachycephaly.

The Serkel has been designed and developed in Melbourne by an international team of clinicians, designers, software engineers and parents.

It is custom-made for your baby utilizing state-of-the-art 3D scanning, computer design and 3D printing technology.

The Serkel is a major advance in cranial remodelling helmets, with early results suggesting an improvement over traditional helmet therapy.

## How does it work?

The Serkel works by artificially relieving pressure over the flat spot on your baby's head.



The Serkel is designed to allow growth in the areas that are flattened and restrict growth over the “high spots” of the head.

The Serkel does not squeeze the head, it uses directed growth to improve the shape. For that reason, if there is no growth, there will be no change in the shape, so treatment can be a bit of a waiting game.

The Serkel has a breathable liner and multiple perforations, designed to minimise weight and heat retention.

It should not cause any problems for sleeping or moving about during activities. Most babies do not mind wearing the Serkel.

## Putting the Serkel on

1. Place your fingers inside the overlap closure of your baby's Serkel and pull the edges apart.



2. Slide it over your baby's head and once roughly in position, release the edges slowly.



3. Position the Serkel so that the ears are in the spaces provided and the front of the Serkel is just above/on the eyebrows.



4. Secure the tab closure firmly enough so that the Serkel does not move.



5. Once you have secured the tab, double check the Serkel position from the front and sides to make sure it is in the correct position. Sometimes it might take a couple of tries to get it to sit correctly, especially if your baby is wriggling around.



### Taking the Serkel off

To remove the Serkel, you basically do the opposite of what you did to put the Serkel on. Undo the strap, place your fingers on the edges of the side opening, pull the edges apart and lift the Serkel off.



## Introduction to wearing the Serkel

The Serkel should be introduced over four days with the following regime as a guide:

**Day one (day of fitting)** 2 hours on, one hour off. When your baby has a sleep, remove their Serkel and start again on waking.

**Day two** 3 hours on, 1 hour off, remove for sleeps.

**Day three** Four hours on, one hour off, continue Serkel use through daytime sleeps. Do not use the Serkel overnight.

**Day four** Full time (23/24 hours) including night-time

This allows your baby to become totally at ease with their Serkel before using it overnight.

If you reach day 4 and your baby won't go to sleep, or has woken up and cannot be settled, remove their Serkel and try again the next day. It is not uncommon for some people to repeat 'day 3' a couple of times.

These timelines are only a guide. Your baby may take longer to get used to their Serkel. We do not recommend rushing the introduction of their Serkel. It is important that when you remove the Serkel you also check your baby's skin for any excessive pressure areas.

## Increase in Body Temperature

Even though the Serkel is well ventilated it will make your baby a little warmer. It is important to make sure your baby is not overheating.

Dressing down a layer (maybe leave off a singlet) and monitor sweatiness on the neck and arms. If they are getting sweaty in these areas, they are probably too hot.

If your baby looks like they are getting too hot, remove their Serkel and remove a layer of clothing or change to a cooler item of clothing. Re-apply the Serkel once they have cooled down back to normal.

All babies get a sweaty head under the helmet, even in winter.

## Cleaning your Serkel

The best time for an hour off is at bath time. It is vitally important to keep the helmet clean, as skin rashes can develop. Your baby's hair must also be cleaned each day.

Take the Serkel off before your baby has their bath. We recommend cleaning the liner with a damp cloth or baby wipe. You can dry the liner with the hair dryer on cool mode or leave off until the inside is no longer damp.

**Do not put your Serkel on top or in front of a heater to dry.**

## Potential Problems

### Helmet shift/ lifting/ tilting

To allow your baby's head to grow in the correct areas, we build space into the Serkel. As a result, your baby's Serkel will move around a little on their head, especially in the first few weeks of use.

A small amount of movement is acceptable (see picture below), and you may find yourself repositioning the Serkel a few times a day. The Serkel **will not** hurt the ears or allow them to grow incorrectly.

If the ears are being squashed significantly or the helmet drops consistently over the eyes, an adjustment at our clinic is needed.



Sometimes it is very difficult to stop the Serkel shifting and occasionally multiple attempts at rectifying the problem are necessary.

For interstate clients, we can sometimes refer you to a local clinician who may be able to help with these adjustments. Please be prepared to come back to see us if a major adjustment is needed.

## Skin rashes

The Serkel has excellent ventilation for reduction in heat and sweating.

Some babies are still affected, and this can sometimes cause a spotty, weepy skin irritation. If this starts to happen, remove the helmet to allow the skin to dry out, wash the hair and hand wash the liner in mild soapy water, allow the liner to fully dry before placing back inside the Serkel. We can assist with liner placement if you contact our clinic.

Babies with pre-existing eczema can be prone to skin irritation when wearing their Serkel. We recommend using the cream you would normally use to help with this irritation.

We see most skin rashes during Spring and Summer.



## Pressure marks

Pressure marks (see images above) are normal. You may find that when you remove the helmet some pressure marks remain on the skin - this is normal. The helmet applies pressure to the “high spot” of the head. Without this mild pressure, the helmet will not work.

Infrequently, they may appear as angry red marks or welts. This sometimes occurs during a growth spurt, or if the helmet is shifting too far into an incorrect position. If the skin is broken, remove the helmet and call Orthokids. Sometimes we just leave the helmet off until the skin looks better, at other times we will need to adjust the helmet.

If you are concerned that a pressure area is too red, you can send through an email with a picture for us to check and/or book a review appointment.

## Eyebrow droop

The Serkel firmly contacts the high spot on your baby’s forehead. During normal movement it can tend to push the eyebrows down.

If this happens, simply release the tension on the skin by undoing the Velcro strap and lifting the helmet off the forehead. The skin will bounce back. It takes a second to fix and it causes no long-term changes to the skin around the eyebrow.



## Review Appointments

Reviews of the Serkel and your baby's head are undertaken every 3-5 weeks. At these appointments, we scan the head to check for growth and discuss any changes with you. We assess the fit of the Serkel to ensure there is still adequate room for growth. We will also review internal liners and replace them if deemed clinically necessary.

We understand that some people travel a long way to get a Serkel from us and are happy to stretch out the time between those review appointments in some circumstances. If any issues arise, they can be easily fixed, however, to do so we need to see your baby at our clinic. We understand this can be inconvenient for families if they must travel, but these appointments are necessary for a well-fitting Serkel.

If you are concerned about an issue with your baby's Serkel, a review can be organised as soon as possible. Sometimes it is possible for you to send us through some pictures and we can let you know via email if the concern warrants a visit or if it's nothing to worry about.

## Wearing Time/ Expectations

For best results, we recommend the Serkel is worn 23 out of 24 hours a day for a period of eight to 24 weeks (average time is 16 weeks). The length of time for treatment depends on the severity of your baby's misshapen head, their age and the amount of growth that occurs. Generally, the older the baby, the longer the treatment takes.

If the Serkel is taken off for extended periods of time (before you have been discharged from treatment) there is a high chance that the head shape may stay the same or in some cases worsen. Extended periods of time without wearing the Serkel will alter the fit of the Serkel.

For this reason, the more time your baby is in their Serkel, the better the results.

## Results

Head shape improvement is unpredictable. We are currently tracking the results of the Serkel, and in most cases, the results have been very good.

The medical literature states that, 'In a small percentage of cases, the head shape will not improve during helmet therapy'. We have never experienced this with a Serkel, but there is a statistical possibility that it will happen. There is no way to predict which head will improve, and which head will not improve.

In some cases, we see slow improvement. Again, this is unpredictable and can be frustrating for both clinician and parents. We tend to see changes in head shape when there is overall head growth. If there is no head growth or minimal head growth, there will be no change in head shape. Age of your baby and head circumference can influence head growth and related changes.

Results are also linked to wearing time. To achieve the best result, we recommend 23 hours wear per day. If you decide to reduce this time, your results will be compromised.

The Serkel directs head growth into specific 'flat spot' areas. If you do not wear your Serkel for 23 hours a day, the growth will not be directed into these 'flat spot' areas.

## Completion of treatment

During treatment, your baby will reach a point where growth slows down and the benefits of the Serkel will be reduced. Most of the time this is at a point where the improvement is satisfactory and there is no benefit in continuing treatment. At this stage, your clinician will discuss expectations and options to cease or continue with treatment.

A small percentage of babies will outgrow the Serkel, and a second Serkel may be required to achieve a satisfactory level of correction. This usually happens when the circumference of the head can no longer be adequately contained within the Serkel and the fit is compromised. A second Serkel is more likely in severe cases where a significant correction in head shape is required. There is an additional cost associated with a second Serkel.

## Follow Up / Research Study

Orthokids is currently undertaking research into the effects of helmet therapy on baby head shape. We are collecting data from babies with and without helmets, to compare changes and parent satisfaction.

If you would like more information, please discuss with your Orthotist.



If you are having any problems, please remove the Serkel and contact us

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