



WESTCOAST BRACE & LIMB

Cranial Remolding



Restoring Bodies, Rebuilding Lives
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Causes of Positional Plagiocephaly

During the first weeks of life, the infant's skull is very malleable. This makes it possible for its shape to be easily altered by external pressures. Some of the factors which can contribute to an irregular head shape are:

- Restriction in the womb
- Multiple births
- Premature birth
- Congenital muscular torticollis, or tightening of the muscles on one side of the infant's neck
- Excessive time spent in car seats, infant carriers, bouncy seats, etc.
- Infant sleeping position

It is not uncommon for infants to present with an irregular head shape at birth. However, if this persists, the child may have a condition known as positional plagiocephaly. If the asymmetric head shape has not improved by 3 months of age, intervention may be necessary.

Positional plagiocephaly can be effectively managed through non-invasive treatment methods: repositioning techniques and/or a cranial remolding orthosis. Repositioning techniques are suggested for infants younger than four months. A cranial remolding orthosis is recommended for infants who do not show improvement with consistent repositioning efforts.

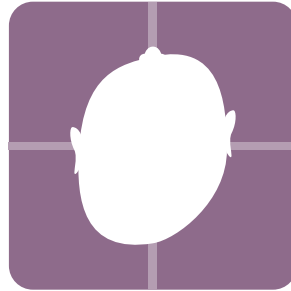
NOTE: It is important to differentiate an irregular head shape due to positional plagiocephaly from that resulting from craniosynostosis. *Craniosynostosis* is a condition in which there is premature fusion of the cranial bones and usually requires surgical intervention. A diagnosis of craniosynostosis is a contra-indication for a cranial remolding orthosis, except in post-operative cases.

Head Shapes

Plagiocephaly

Common Signs:

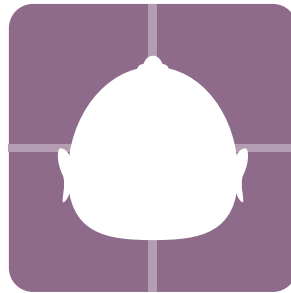
- Flattening on either side of the back of the head
- One side of the forehead is more prominent
- One eye may appear slightly smaller than the other
- One ear may be shifted forward in relationship to the other
- Facial asymmetry with one cheek fuller than the other



Brachycephaly

Common Signs:

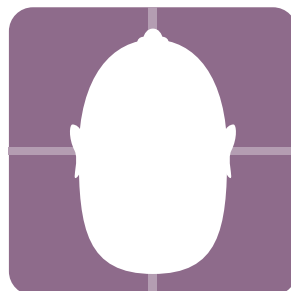
- Flattening across the back of the head
- From a side view, the head looks tall
- The head appears wide at ear level
- When viewed from the top, the head is short and wide



Scaphocephaly

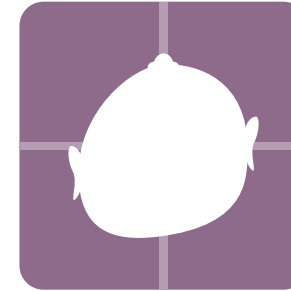
Common Signs:

- Fattening of both sides of the head
- When viewed from the top, the head is narrow and long
- Common in premature babies

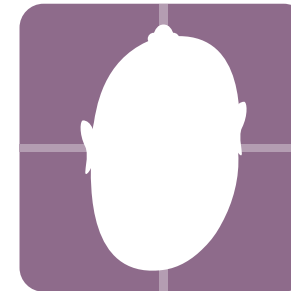


Combinations of these head shapes are also seen:

Asymmetric Brachycephaly



Asymmetric Scaphocephaly

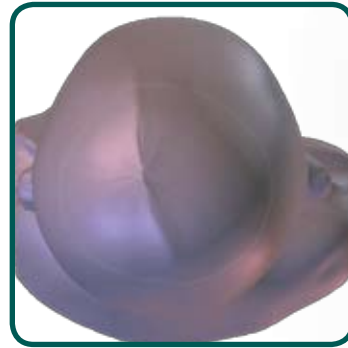
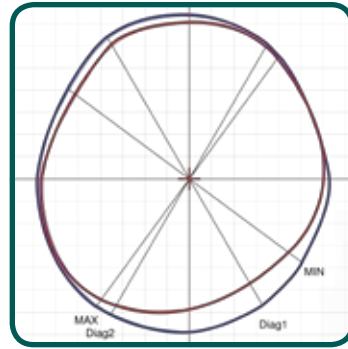


Treatment

The STAR™ cranial remolding orthosis is custom fabricated for each baby. It consists of a rigid thermoplastic outer shell with a soft liner. The liner allows for gradual adjustments to guide growth and promote symmetry of the skull.

The treatment lasts an average of 16 weeks and the cranial orthosis is worn 23 hours a day. The STAR™ cranial orthosis may be indicated for children between 4-18 months of age. The best results are achieved when treatment is initiated between 4 and 7 months.

At Westcoast Brace & Limb, we use the STARscanner™ system to provide parents and the referring physician with an objective assessment of the infant's head shape. The STARscanner™ uses an eye-safe laser to digitally scan the baby's head in less than two seconds. After the scan is obtained, a report is generated containing the measurements needed to quantify the cranial asymmetry.



NOTE: There is no radiation in the scanning process.



The STARscanner™ allows us to obtain a mold of the baby's head without using a plaster cast. Once the scan is acquired, CAD/CAM technology is used to convert the image into a three dimensional model of the baby's head. The model then is used for fabrication of the cranial orthosis.

The Process

Initial Evaluation

A thorough evaluation of the infant's head shape is completed during the first visit at Westcoast Brace & Limb. After obtaining the baby's history from the parents, measurements are taken. The baby is then scanned and a series of six clinical photographs are taken. These photographs are repeated at the end of the treatment for comparison.

Fitting/Delivery Appointment

The baby returns within 10 days for delivery of the orthosis. During this visit, time is spent optimizing the fit of the orthosis and the parents receive thorough wear/care instructions.

Follow-Up Visits

When choosing to proceed with treatment, it is important to consider that follow-up visits are essential to treatment success. Visits are scheduled weekly or bi-weekly, depending on the baby's age and growth rate.

Measurements are taken at every follow-up visit. These measurements help monitor head growth and document progress. Modifications to the cranial orthosis are made to accommodate the changes that are occurring and to ensure that there is always space for growth in the desired areas.

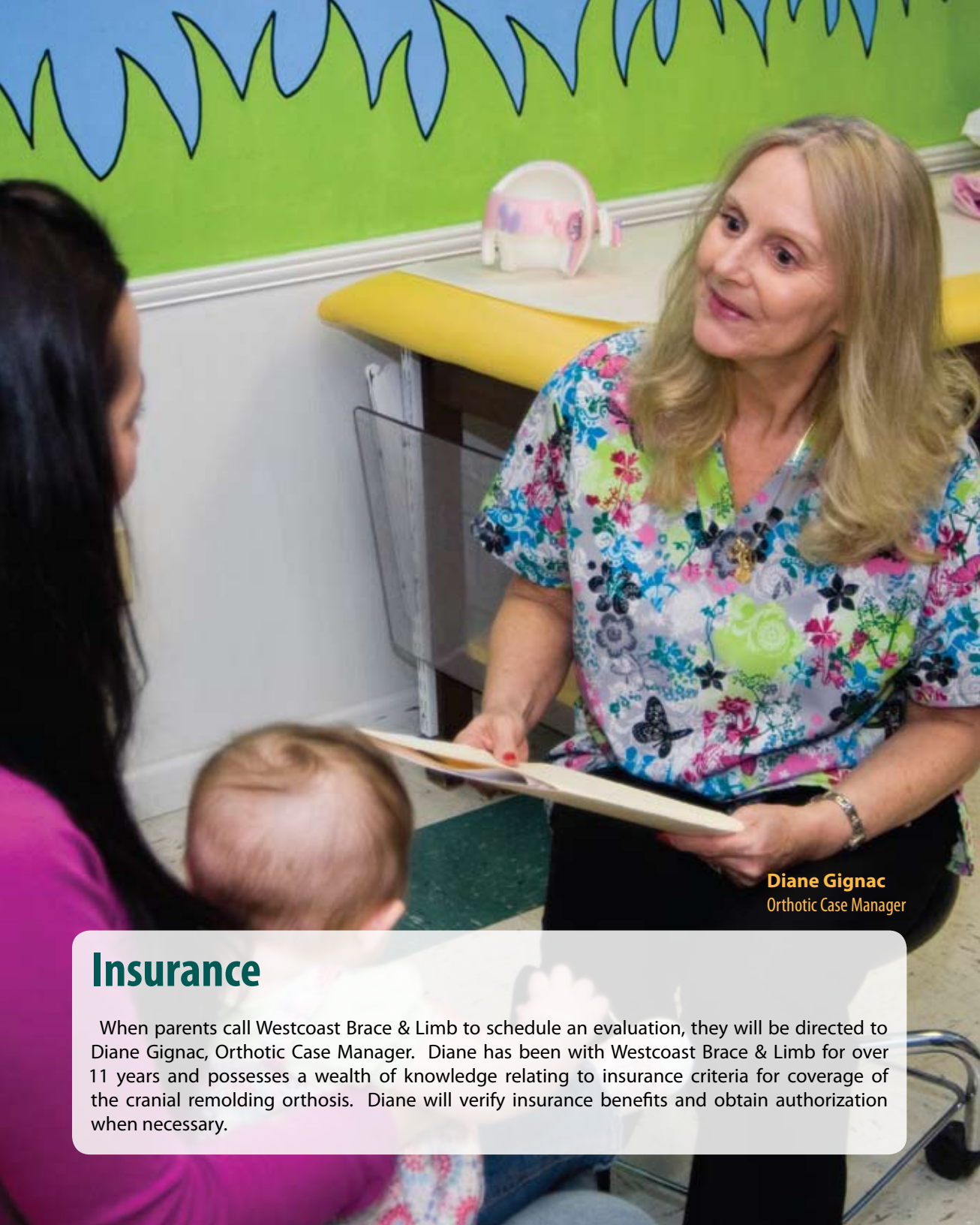
Final Follow-Up Visit

Once it is determined that the desired correction of the head shape has been achieved, the baby returns for the final visit. On that day, new clinical photographs are obtained and the baby's head is scanned again. The parents receive a copy of the pre and post treatment photographs and scan reports.



Treatment Outcomes





Diane Gignac
Orthotic Case Manager

Insurance

When parents call Westcoast Brace & Limb to schedule an evaluation, they will be directed to Diane Gignac, Orthotic Case Manager. Diane has been with Westcoast Brace & Limb for over 11 years and possesses a wealth of knowledge relating to insurance criteria for coverage of the cranial remolding orthosis. Diane will verify insurance benefits and obtain authorization when necessary.



Katie Metz
(Daughter in STAR™ cranial orthosis)

Patient Testimonial

"My husband and I started noticing our daughter Gwyneth developing a flat spot on her head when she was 3 months old. When she went in for her 4 month well visit her doctor sent us to a specialist, where we were told that Gwyneth had plagiocephaly and that we should try repositioning her during sleep for a month. With no success on repositioning we were then referred to Westcoast Brace and Limb. The orthotist measured and scanned our daughter's head and talked to us about a cranial orthosis. Initially my husband and I were worried about putting our baby in a helmet, but after doing extensive research and speaking with the staff at Westcoast Brace & Limb, the decision was much easier to make. Her head looks wonderful now!"

FAQs

What is the best age to start treatment?

The rapid cranial growth experienced by infants between 4 and 7 months makes them excellent candidates for orthotic treatment.

Will a plaster cast of the baby's head have to be taken for fabrication of the cranial orthosis?

No. Since we use the STARscanner™, we only need to obtain a scan of the baby's head in order to fabricate the cranial orthosis.

How long will it take for a cranial orthosis to be made?

The baby will receive his/her cranial orthosis 10 days after the scan is obtained.

For how long will the baby need to wear the cranial orthosis?

This will depend on the age of the infant and the severity of the cranial asymmetry. On average, treatment lasts between four to six months.

Is a prescription required for a cranial orthosis?

Yes. A prescription from either a pediatrician or a specialist is needed before treatment can be initiated.

Will the baby need more than one cranial orthosis during the treatment?

No. It is very unlikely that an infant will outgrow their cranial orthosis before treatment completion if there is proper compliance with the wearing schedule.

How many follow-up visits are needed during the treatment process?

This will depend on how long the infant will need to wear the cranial orthosis. The average treatment time is between four to six months and follow-up visits are done weekly or bi-weekly, depending on the baby's age.

Why are frequent follow-up visits needed?

Follow-up visits are needed to maintain optimal fit of the cranial orthosis as the head grows.

My baby just received the cranial orthosis. Why is he/she perspiring excessively and what can I do about it?

When babies first receive their cranial orthosis, their perspiration levels increase dramatically for the first five days. This will change once they begin wearing the cranial orthosis full time and their body has a chance to acclimate to it. You can alleviate this problem by dressing your baby in light clothing and keeping him/her in a cool environment. Also, when you notice that the baby's head is wet, you may remove the cranial orthosis, dry its inside surface and the baby's head with a clean washcloth, and immediately re-apply the orthosis.

I noticed a very significant red spot on my baby's head upon removing the cranial orthosis. What should I do?

Keep the cranial orthosis off and contact your orthotist immediately if any of the following are true:

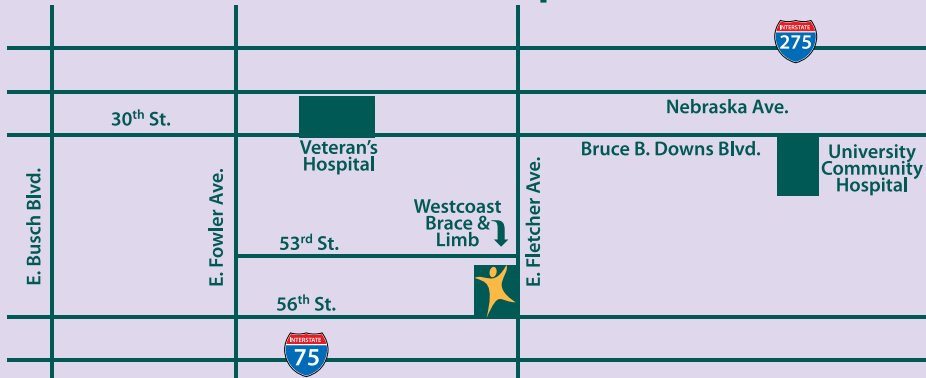
- The redness persists for more than an hour
- You notice that there is swelling
- A rash is present
- The skin integrity is affected

Will my insurance cover the cranial orthosis?

This will depend on your specific policy. Please contact our office and speak with our orthotic case manager, who will be able to verify your benefits.



North Tampa



Mon. - Fri. 8:30 a.m. - 5 p.m.

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