

PAEDIATRIC SiH™

FITTING PHILOSOPHY

Contact lenses with high positive power will not flex so easily as a thinner lens, and the fit therefore becomes more critical. The Paediatric SiH™ lens should be stable so that the optic zone lies over the pupil for most of the time. As babies spend a lot of time supine, the effect of gravity will be different from that in an adult patient. A judgement must be made as to how difficult the lens may be to insert and remove from the patients eye. Experience shows that insertion is usually more difficult than removal. The key to ease of insertion is to keep the overall diameter (OD) reasonably small, however if it is too small the lens will be unstable, if it is too large the lens will be difficult to insert and remove.

INITIAL REQUIREMENTS

The following forms a useful guide to obtaining an accurate first time fit:

- K-readings
- Horizontal Visible Iris Diameter (HVID)
- Post-Operative Refraction

INITIAL LENS SELECTION

Experience has shown that the SiH material has a slightly more slippery surface than conventional hydrogel materials, hence when switching patients from hydrogels to the SiH material, we recommend that the fit is tightened by steepening the BCOR by 0.2mm.

- BCOR: Add 0.20mm to the mean K-readings for the initial BCOR
- OD: Add 1.00mm to the HVID
- Power: Convert the spectacle refraction to a contact lens power or insert a lens and perform an over-refraction.

If the above measurements are difficult to establish the following table can also provide a useful guide:

Age	Typical BCOR ¹	Typical OD ²	Typical Power
0-2 months	7.00mm	11.50mm	+43.00DS
2-4 months	7.30mm	12.00mm	+38.00DS
4-8 months	7.50mm	12.50mm	+34.00DS
8-12 months	7.70mm	13.00mm	+30.00DS

Notes:

¹The change in BCOR reflects a flattening of the cornea with age.

²The increase in OD reflects a small increase of HVID with age along with growth of the eyelids and palpebral aperture.

ASSESSING THE FIT

Characteristics of a steep fit

A central bubble persisting for more than 5 to 10 minutes indicates a steep central fit, necessitating an increase of BCOR. It is usually difficult to attempt to massage a bubble away and a loose fit will always be safer than a tight fit.

Characteristics of a tight fit

A tight fitting lens will be difficult to displace and will often exhibit the normal signs (reduced movement, peri-limbal redness, irritation) - but this is difficult to judge in an infant. Confusingly, a tight fitting lens may move off the cornea (which is more typically a sign of a loose lens in an adult eye) and stay displaced. Tight lids and the high central thickness and small diameter of the lens may be factors which contribute to a tight fitting lens moving off in this manner.

If the lens appears tight, flatten the BCOR by 0.4mm to 0.6mm and consider decreasing the OD.

Characteristics of a flat fit

A loose fitting lens will not centre well in the push-up test. The lens will displace easily and may even lie under the upper or lower lid. If the lens is slightly loose, increase the OD by 1mm or reduce the BCOR by 0.3mm to 0.5mm, or both.

ASSESSING THE POWER

.....

Perform retinoscopy and calculate the over-refraction. It is typical to aim to focus young infants at around 30cm. As the infant grows, the ideal is probably to focus them at a greater distance than this.

It has been found that several dioptres of corneal astigmatism can be corrected using a spherical lens, where the contact lens power is above +24.00DS. It is useful to measure the residual astigmatism using retinoscopy, after several hours of wear, to consider whether any correction is needed. Astigmatic correction will rarely be required (however it may become so as the child grows and the CL power reduces, then a toric lens may be used, or spectacle over-refraction).

FIRST FOLLOW UP VISIT

.....

If the parents report that the lenses are usually centred then this is a sign of a good fit. Ask the parents whether the lenses have been difficult to insert and remove - our advice is to attempt to do this while the baby is asleep. Attempt lens removal in clinic, if the parents are experiencing difficulty, as this may give useful information as to whether reducing the OD or flattening the BCOR is necessary.

Frequent checks of power and fit are required in the first few months of life due to the high growth rate of the patient.

Fitting guide supplied by:
Jon Whittle BSc(hon) MSc PhD, Lead Optometrist
Sheffield Children's Teaching Hospital/Royal Hallamsire Hospital, Sheffield

TECHNICAL SUPPORT

.....

We have a team of optometrists and contact lens practitioners specialising in different areas and are available to provide help and support. If you have any professional or technical enquiries please contact our customer service team.

FOR FURTHER DETAILS
CALL **0800 585115**
(FREEPHONE) OR EMAIL
ORDERS@ULTRAVISION.CO.UK

