



## **ORTHOKERATOLOGY**

### **(CORNEAL REFRACTIVE THERAPY)**

### **What is Orthokeratology?**

Orthokeratology, or Ortho-K, is the correction of myopia by the overnight wear of specially designed rigid contact lenses that change the shape of the cornea. Some degrees of astigmatism can also be treated by Ortho-K.

Ortho-K has been made possible by new technologies for measuring the shape of the cornea by scanning up to 15,000 points to an accuracy of 2 one-thousandths of a millimetre, and by computer-controlled lathes that can very precisely manufacture the lenses required.

Plastic materials with a very high level of oxygen permeability enable the lenses to be worn safely overnight on a regular basis, making Ortho-K a viable and reversible alternative to laser refractive eye surgery.

### **Why do Ortho-K?**

Orthokeratology provides freedom from both spectacles and contact lenses during the day. This is often ideal for workers in air-conditioned, dry, dirty or dusty environments and sportspeople who find conventional spectacles or contact lenses uncomfortable and/or inconvenient. Some patients are only able to wear conventional contact lenses for limited periods due to having dry eyes or their environment.

The reversibility of Ortho-K is also an attractive feature for many patients. There are also those who need to achieve a certain level of uncorrected vision for their occupation, for example those in the transport or aviation industries or the police force.

Importantly for younger myopes, Orthokeratology has been shown to significantly slow the progression of myopia (short-sightedness).

## Is everyone suitable and what are the Risks?

Not everyone is suitable for Orthokeratology, which works best for myopia up to four dioptres and less than two dioptres of astigmatism. Total correction is not always possible for higher prescriptions.

There is a small risk involved when any contact lens is worn. Contact lenses for Orthokeratology do not pose a greater risk than other rigid gas permeable contact lenses.

The two most common side effects of rigid contact lens wear are corneal oedema and corneal staining. These two side effects can be anticipated to occur in some wearers of contact lenses for Ortho-K. Other side effects that have the potential to occur with any contact lens wear include pain, redness, tearing, irritation, discharge, abrasion of the eye or distortion of vision. These conditions are usually temporary if the contact lenses are removed promptly and professional care is obtained.

In rare instances, there may occur permanent corneal scarring, decreased vision, eye infections, corneal ulcers, iritis, or neovascularization. These side effects should be minimised or completely eliminated if the proper schedule of care is followed. Contact lenses should be removed if any abnormal signs are present and should never be worn in the presence of noxious substances. It is important to return for all follow-up visits that are scheduled by us.

## What is involved in Orthokeratology treatment?

Orthokeratology involves a team effort from the patient and/or in some cases the patient's consenting guardian, and from us.

Our program involves both professional and dispensing services spanning 12 months, which ensures a high success rate.

The full fee for the Orthokeratology program is **\$1,945** (assuming standard, non-complex lenses). This includes the retaining contact lenses that are worn at night time when sleeping.

### **Initial Consultation and Assessment**

We charge our normal initial consultation fee (currently **\$99.30 plus \$54.60** for widefield retinal imaging) for your first consultation with us, for which you will be eligible to receive a rebate from Medicare. This involves establishing your baseline prescription as well as thorough internal and external examinations of the eyes to assess the health of structures such as the cornea (the clear tissue at the front of the eye) and retina.

At the initial visit we also take a topographical map of the cornea, which is a very accurate and detailed way of measuring the cornea's shape and is essential for Orthokeratology. The fee for performing topography is

an additional **\$49.70**, for which there is no rebate from Medicare and usually none from private health insurance. Following these procedures, we can then discuss your suitability for Orthokeratology and provide alternatives if you are not suitable for this treatment.

### **Fitting – Determination of Initial Lenses**

If the decision is made to pursue Orthokeratology treatment after the initial consultation, to determine which lenses should be ordered we may perform a diagnostic fitting with trial lenses. Or for some lens designs we use specialised software to determine these initial lenses.

### **Lens Delivery Visit**

When you collect your lenses we provide training in how to insert and remove, and how to clean and care for them. Lenses will only be delivered once you have demonstrated you are able to put them in and out. After this you will take the lenses home to be worn overnight for the first time.

### **Diagnostic Evaluation**

A diagnostic evaluation is performed the morning after the first night of wearing of the Orthokeratology lenses. In particular, another topographical map is taken of the cornea to establish what changes in shape have been brought about by the corneal lenses. If necessary, adjustments are made to the lenses and the prescription for the treatment lenses is finalised. Adjustments may be made either at this first day visit or at any of the further visits that follow.

### **Treatment Programs and Follow Up**

Routine follow-ups are performed one week, one month, three months and six months after delivery of the final lenses. There may be more frequent visits at any time where the contact lenses require adjustments.

### **Orthokeratology Consulting Fees**

The fee for the consultations required by the Orthokeratology program is **\$1,305**. This covers all visits after the initial consultation, including any unforeseen visits relating to the treatment.

### **Corneal Retaining Lenses**

A pair of corneal retaining lenses is provided at the start of the treatment program, the fee for which is usually **\$640** for a pair of standard lenses; where more complex designs are required higher fees up to \$1,100 per pair may apply. This fee also covers any re-fitting or changes/exchanges to the lenses. For each lens we will provide one free replacement for any breakages in the first month (from the date of our supplier's invoice); after then and within the first six months of treatment we will provide any additional lenses at a discounted price of **\$220** per standard lens (standard torics \$245, more for complex lenses) to cover losses, breakage, or should you wish to have a spare pair.

Most private health insurers provide a rebate for Orthokeratology under optical extras, with the amounts rebated varying from fund to fund and with your level of cover.

## How long does it take Ortho-K to Work?

In some simpler cases and for lower levels of myopia, Ortho-K can provide good vision almost from the first day after overnight lens wear. In some cases, however, vision in the first two to four weeks may not be completely satisfactory for all day-to-day activities.

After the first month, excellent vision and comfort are normally maintained if the Ortho-K lenses are worn regularly overnight. Occasionally the initial set of lenses may need to be altered to achieve the desired correction.

As most of the changes in vision occur over the first few weeks, relatively frequent examinations and sometimes lens changes are required during this period. Stabilisation follows at a slower pace over the following weeks and months. The program length to achieve full correction usually varies between one and two months depending on factors such as the initial refractive error or prescription.

Final wearing times depend on many variables, but the aim of treatment is good unaided vision for all or most waking hours, with lenses being worn overnight or for only part of each day. Some patients may only need to wear their lenses every second night. Other patients, typically those with higher prescriptions, may notice some decrease in vision due to regression towards the end of the day.

## What if Orthokeratology is unsuccessful?

Even should the results of your initial consultation suggest that Ortho-K is likely to be successful for you, we cannot guarantee that this will be the case. Ultimately success can only be determined over time and measured against your own expectations and criteria. You are the final judge of whether or not Ortho-K has achieved what you want.

If successful Ortho-K treatment has not been achieved within six months of the initial visit we will no longer pursue or continue with the treatment. In cases where Ortho-K has been unsuccessful, either by the six month point or earlier, our refund policy is as follows:

- **The consultation fee of \$1,305 is fully refundable** regardless of how many consultations have been provided.
- Because each pair of corneal lenses are ordered individually for each patient they cannot be re-used, so **there is no refund of the lens fee of \$640** (or more for non-standard lenses).