



Incorporating award-winning wavefront technology, Intelliwave lenses were engineered in the UK. Through our partnership with Ultravision CLPL, they are now available for the first time in the U.S. Manufactured exclusively by Art Optical,

## Intelliwave Lenses Provide:



- Aberration control for clearer vision in all conditions, at all distances
- Enhanced vision in low-light conditions
- Enhanced contrast sensitivity
- Empirical fitting method to eliminate trial set investment
- Materials engineered to provide greater acceptance on the eye
- A wide range of MTO parameters for the precise prescriptions your patients require

## What is Wavefront Technology?



Wavefront technology enables the aberrations in both the eye and the eye-contact lens system, to be analyzed. However, since each patient's eye has its own unique set of aberrations, Ultravision has incorporated the results of the studies of over one thousand eyes to develop a design that offers the best wavefront controlled vision to the widest range of the population. This innovative and state-of-the-art technology allowed Ultravision to earn the highest business honor bestowed in Great Britain - The Queen's Award for Enterprise.

## The Benefits of Wavefront Optics

- Improved vision & sharpness
- Masking of low levels of astigmatism
- Reduced glare in patients with large pupils
- Improved night vision
- Reduced blurring caused by toric lens rotation

**For Computer Users, Students & Gamers:** Extensive close work over prolonged periods can stress the visual system. When wearing lenses with wavefront optics, the depth of focus at near is equivalent to the wearer using reading glasses of up to +1.00. The extra assistance can reduce headaches and other symptoms of visual stress related to computer work, school work, and video gaming.

**For Athletes:** Wavefront technology is now well accepted as being beneficial for athletes and those involved in high performance activities. Enhanced contrast and visual sharpness result in optimum visual function.

**For Hyperopia:** Providing young hyperopes the plus they need without blurring their distance vision can be a challenge. The enhanced optics in wavefront designed lenses allows you to provide fuller plus power and to aid near vision without compromising distance vision.



*Intelliwave® Aspheric & Aspheric Toric lenses use unique multi-aspheric front surface designs & wavefront technology to provide patented aberration control for exceptional overall optical performance.*



# Aspheric & Aspheric Toric Fitting Guidelines

## Initial Fitting

We recommend an empirical fitting method for Intelliwave® Aspheric & Aspheric Toric contact lenses. When ordering, simply supply us with the information listed below and we will manufacture the lenses to meet your needs.

- Horizontal Visible Iris Diameter (HVID)
- Keratometer readings
- Spectacle Refraction

For astigmatism above .75D, specify Intelliwave® Toric.

## Fitting Assessment

Insert the new lenses and allow to settle for 5 to 10 minutes. After the lenses have settled, assess vision and fit including the following points:

- The lens should exhibit good centration on primary (straight ahead) gaze and good corneal coverage in all directions of gaze.
- The edge should be approximately 1.5mm beyond the limbus.
- Vertical movement on blinking (on upward gaze) should be between 0.5mm and 1mm. The push up test (PUT) should show fast and smooth recentering of the lens.
- There should be no scleral indentation or blanching.
- Keratometer mires should be stable on blinking.
- The patient should experience good comfort.

## Toric Rotation Assessment

The central axis marking of the lens should be in the vertical position at 6 o'clock and return to a vertical position after the PUT. If the axis is slightly rotated but the patient's vision is acceptable, the lens can be worn and reassessed at the first follow up visit. If the axis is consistently rotated and is delivering unacceptable visual acuity, then using our exchange program, reorder lenses providing the direction and degree of rotation.

## Adjustments to Toric Distance Powers

In the event that adjustments are required, we request that practitioners do not make their own adjustments, and instead supply symptomatic details of any problems, along with any refractive information, to Art Optical. The Consultation Department has direct access to the details of the complex structure of the lenses and will determine the final specification of the lens to be made. This will enable the laboratory to effect the best combination of adjustments while retaining all the benefits of the incorporated wavefront technology.

## Early Presbyopia

For early presbyopes, the improved depth of focus of the Intelliwave® Aspheric & Aspheric Toric lens allows the following options to be considered:

- 1) Assess the near vision capability of the patient with the correct distance Intelliwave® lenses in place. If the near vision is not acceptable, do an over refraction with power +0.50D greater than the distance in both eyes, then reassess the near vision and distance vision. If both are acceptable then reorder the lenses requesting an addition of +0.50D to be added to the lens power in both lenses.
- 2) If the above process does not provide acceptable vision then over refract by adding +1.00 to the non-dominant eye only, leaving the dominant eye with the normal Intelliwave® lens for best distance power binocularly. If satisfactory, reorder requesting an extra +1.00D to be added to the lens of the non-dominant eye. Due to the unique multi-aspheric front surface lens design, good binocular intermediate vision can be obtained even with the monovision solution.



The Intelliwave® Multifocal is a center-near, simultaneous vision soft lens. The multi-aspheric front surface provides clear distance, intermediate and near vision for all stages of presbyopia.



# Multifocal & Multifocal Toric Fitting Guidelines

## Initial Fitting

The practitioner provides the following parameters:

- Spectacle refraction including sphere, cyl, axis and add, as appropriate
- Keratometer readings (preferably with axes)
- Horizontal Visible Iris Diameter (HVID)
- Dominant eye
- Pupil diameter in normal light

Identification of the dominant eye enables a slightly larger area, for the near and near/intermediate powers to be worked into the lens for the non-dominant eye. This promotes a more "comfortable" binocular relationship.

## Initial Assessment

The initial parameters provided will usually achieve first-time, optimum vision. However in some cases modification may be required.

If the practitioner is satisfied with the physiological aspects of the fit, it is best to defer any adjustment to power until the patient has completed 7 to 10 days of regular wear. This period permits the patient's visual system to become accustomed to the specific nature of the aspheric optical system.

## Assessing the Fit

At the 2 week follow-up visit, the fit should be assessed, taking note of the points outlined below.

## Characteristics of a Flat Fit

- A flat fit results in excessive movement of the lens and will affect the optical efficiency of the system with the following symptoms.
- There will be induced astigmatism in the over-refraction.
- The over-refraction will require more plus for near vision.
- Manual correction of the position of the lens on the eye will usually confirm the above.
- For a toric lens, the axis will usually rotate. In such cases, steepening of the fit, preferably by diameter increase, will correct the problem.

## Characteristics of a Steep Fit

When the fit is steep, vision is inconsistent and clears only for a brief time following a blink. In most cases, flattening of the fit will overcome these problems. The steep fit also negates the effect of the stabilization areas in toric lenses and there may be a slow, progressive movement of the cylinder axis away from its prime position.

## Cylindrical Axis Mislocation

When the multifocal is in toric form, axis mislocation will be detrimental to vision. In the case of small deviations (5 degrees or less), a compensating change in the cylinder axis will often rectify the problem. Larger deviations will require additional consideration or an increase in the diameter to increase the influence of the sclera in promoting stability.

## Adjustments to Lenses

In the event that adjustments are required, we request that practitioners do not make their own adjustments, and instead supply symptomatic details of any problems, along with any refractive information, to Art Optical. The Consultation Department has direct access to the details of the complex structure of the lenses and will determine the final specification of the lens to be made. This will enable the laboratory to effect the best combination of adjustments while retaining all the benefits of the incorporated wavefront technology.

## Important Notes for Follow Up Visits

- As with all progressive multifocal corrections, there is an adaptation period of at least one week of regular wear.
- Minor with-the-rule astigmatic errors may be ignored if the patient copes without this correction in their spectacle Rx or single-vision soft lenses.
- Should unsatisfactory vision result from a lens, an over-refraction should be performed\*, first for the distance, then, independently for the near.

\*The use of pinholes or similar techniques in over-refraction of the Intelliwave® multifocal is ineffective as an aid to evaluating visual results.