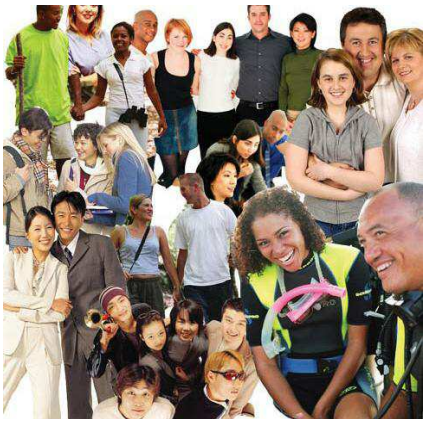
Paragon CRT® Diagnostic Dispensing System

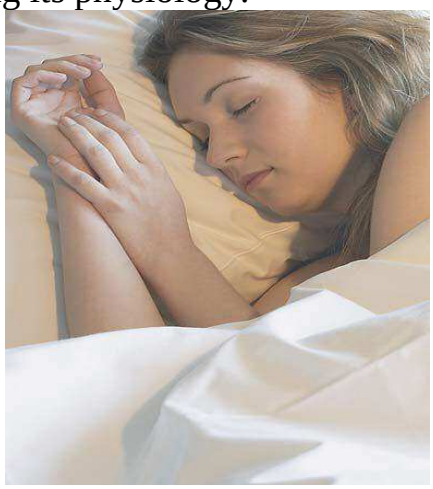
FDA approval

June 13, 2002
Paragon CRT system
has obtained FDA approval
for the night treatment.
Treatment Paragon CRT is approved
for the treatment of myopia up to -6.00 Dtr. and hyperopia up to +3.00 Dtr.
associated with astigmatism up to -1.75 Dtr.
You can also go beyond these limits, but the Optometrist
must see if you can. There are no age limits to treatment.

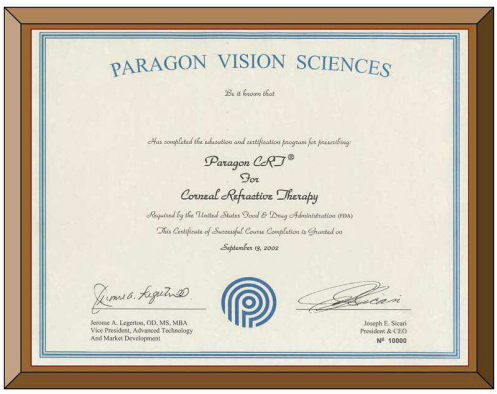
You wake up and see well without glasses or contact lenses every day !



Welcome to the world of Paragon CRT, a new system, non-invasive and reversible, for the correction of a defect of vision through the night use with special contact lenses.
The lenses are worn during sleep, temporarily change the shape of the cornea and gently, without permanently, altering its physiology.



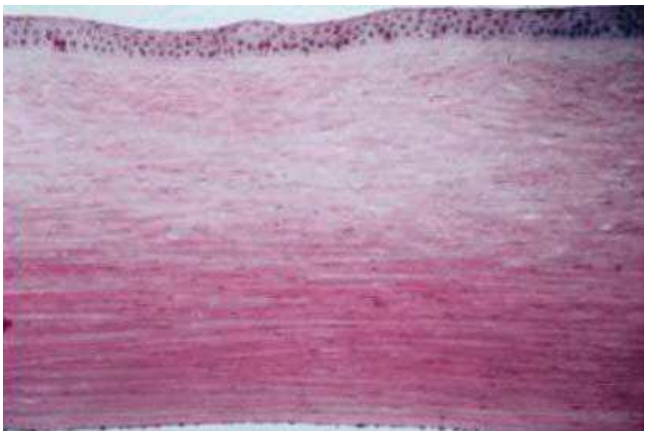
In addition to the laser treatment or other, the system Paragon CRT offers an opportunity to correct, a good part of the ametropic persons.
In fact, patients who are offered a choice, generally prefer treatment CRT to others.
This system allows a correction of myopia and astigmatism with no side effects and completely reversible.
The CRT system is safe and effective, as demonstrated by long trials.
Already after the first test can predict with certainty what the results that may be obtained. The specialist Paragon CRT knows how to best help you.
In boys there is a good stabilization of the problem by avoiding the continuous deterioration of vision.



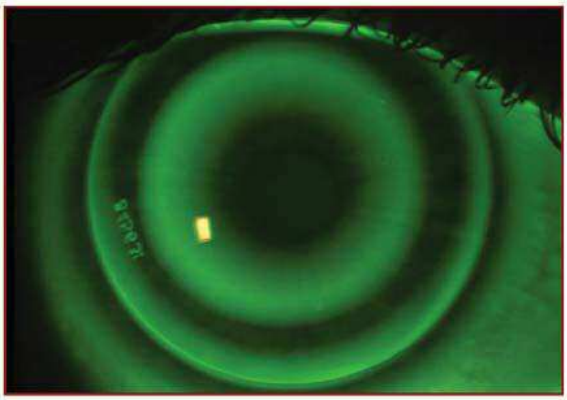
Only Optomerist who successfully pass the certification test CRTs have the ability, as defined by FDA regulations, to apply the CRT lenses. This presentation will help you for the certification.

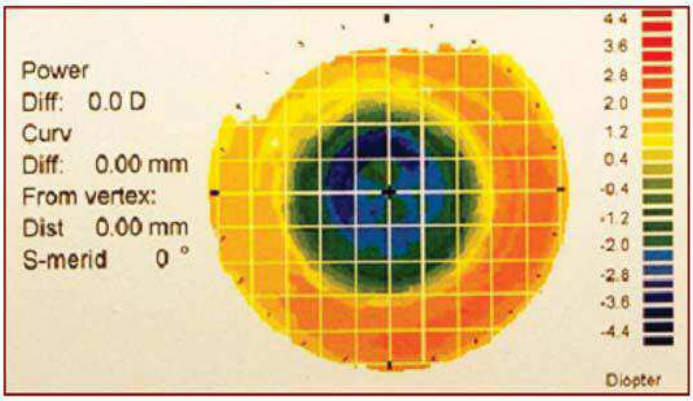
A brief review of the cornea, its structure and its 5 layers. Recent studies confirm that the majority of therapeutic treatment of the paragon CRT occurs in the epithelial tissue.

Epithelium 50 microns
Bowmans layer of 10 microns
Stroma 465 microns
Descemet's membrane 10 microns
Endothelium 5 microns
Approximate total thickness of 540 microns equal to 0.54 mm.



The concept is very simple, the treatment Paragon CRT gently compresses the epithelial tissue modeling it in the center of the cornea, supported also in the peripheral zone.





This variation corrects the dioptric power of the ocular surface up to get the right visual correction. The system is fully reversible.

To obtain this result, a specific contact lens generates a support layer on the tear, promoting the compression of the epithelial cells. When treatment is stopped, the process reverses.

Product Description

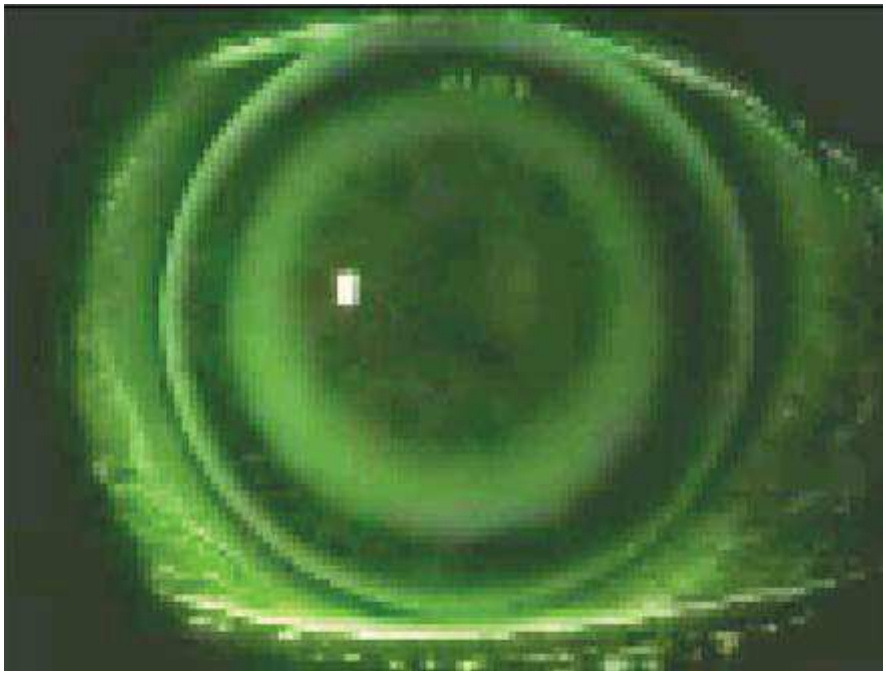
The Paragon CRT lens is divided several parts, each has a specific role in the optical zone, or area of treatment, the inversion zone and the contact area.

The central part of the lens is the treatment zone, in the system Paragon CRT, its diameter is 6.00 mm. The rear surface of the treatment zone is the base curve of the lens. When we start the treatment, the surface of the cornea gradually adapts to the shape of the base curve, until obtaining the desired optical correction.

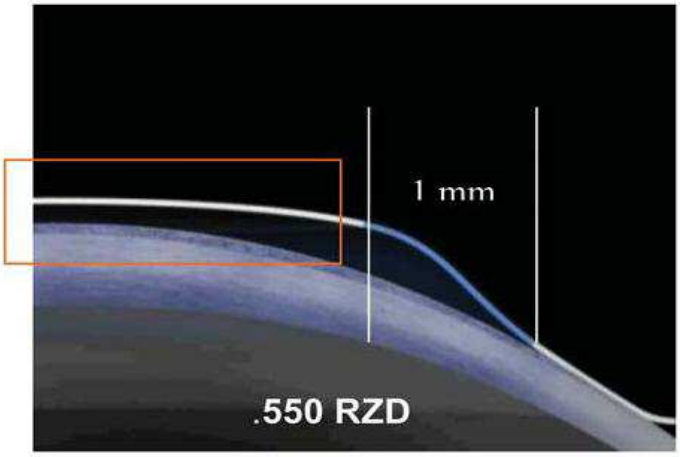
Moving towards the outside, we find the inversion zone and the supporting zone, which have the function of ensuring the correct positioning of the lens. Together provide for, and monitor compliance with treatment. The CRT lenses all have a diameter of 10.5 mm.

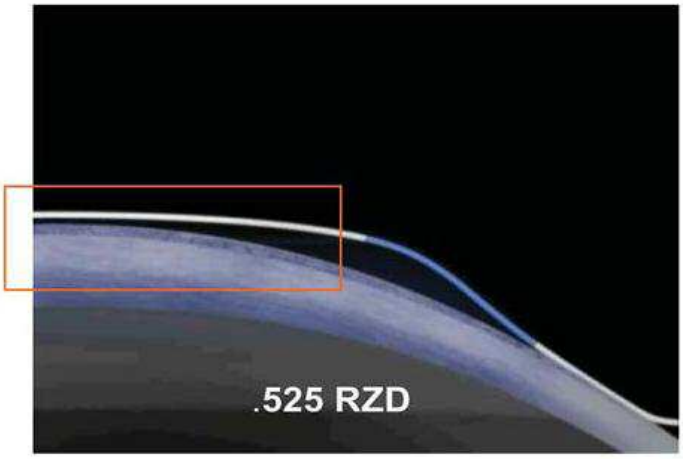
There are 4 main objectives to apply a lens Paragon CRT:
1. select the base curve that will reshape the cornea in order to ensure an emmetropia or low hyperopia (up to +1.50).
2. ensure a precise control of the treatment, so as to ensure that the base curve of the lens is perfectly positioned to shape the cornea. In this control contributes to the depth of the main inversion zone (Return Zone Depth - RZD).
3. provide a rest area that is tangent to the cornea in its periphery external. The angle of the supporting area (Landing Zone Angle - LZD) is the parameter that controls this element.
4. ensure the centering of the lens. The values of Return Zone Depth (RZD), Landing Zone Angle (LZD) and the total diameter of the lens have an influence on the centering. All parameters of the lenses described so far, RZD, LZA, Base Curve, Diameter, and Total sagittal, control the depth of the lens. Since the radius of the lens Paragon CRT system, once selected, remains unchanged, and

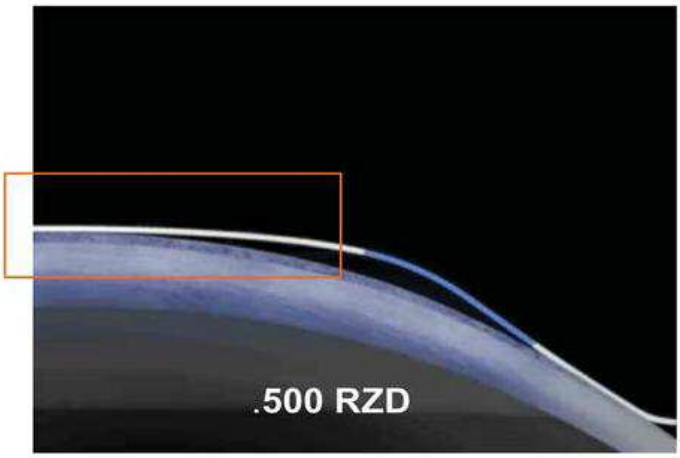
that the total diameter is fixed, the task of controlling the sagittal depth of the lens is mainly linked to the value RZD, while variations of the parameter used LZA primarily to control the correct positioning of the lens in the peripheral zone. After application, the lens "right" will show a fluoresceinic image with a central support of at least 4 mm, and a transition zone in the inversion zone (Zone Return). The lens will also have an adequate lifting of the edge in the contact area.



Inversion Zone

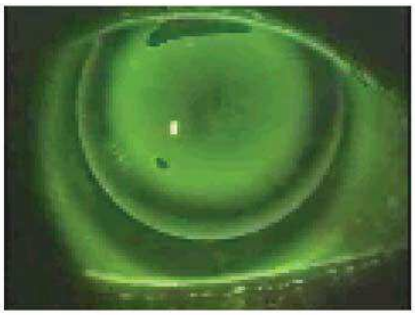
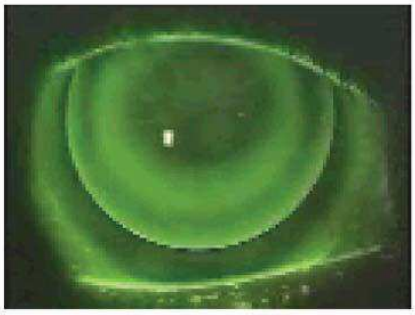
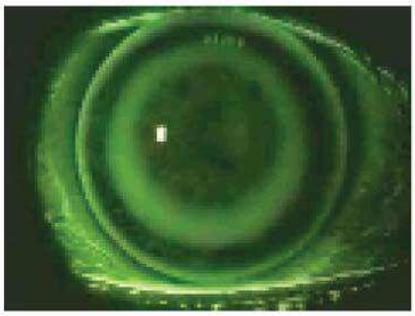






The inversion zone has a width of 1 mm and consists of a sigmoid segment of the lens that "connects" the geometry of the lens in the central area with the corneal surface.

The depth of the inversion zone (Return Zone Depth - RZD) is an essential element of the CRT. The lenses are available with variations in the value RZD in steps of 25 microns to ensure the positioning and control of the treatment.

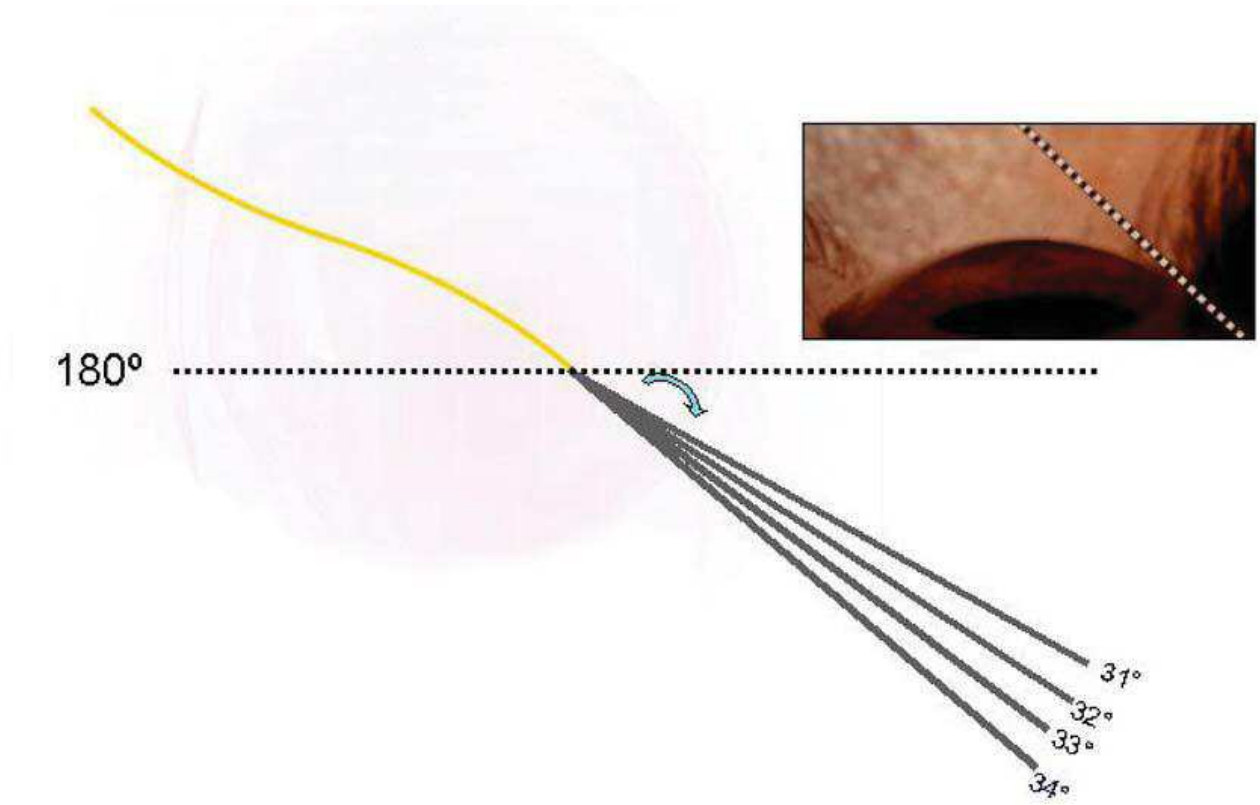
		A lens with a excessive sagittal depth (and therefore with the value of RZD too large) will have little or no effect on the cornea.
		By reducing the sagittal depth (reducing the value RZD), will have a poor decentralized treatment with a lifting of the lens edge.
		The aim in selecting the value RZD of the lens is to select the lens with the least sagittal depth still ensures that the centering and at least 4 mm of central treatment.

The Landing Zone

The bearing surface allows the lens to lean gently on the peripheral zone of the cornea and contributes to the centering while reducing friction between the lens and cornea during the treatment.

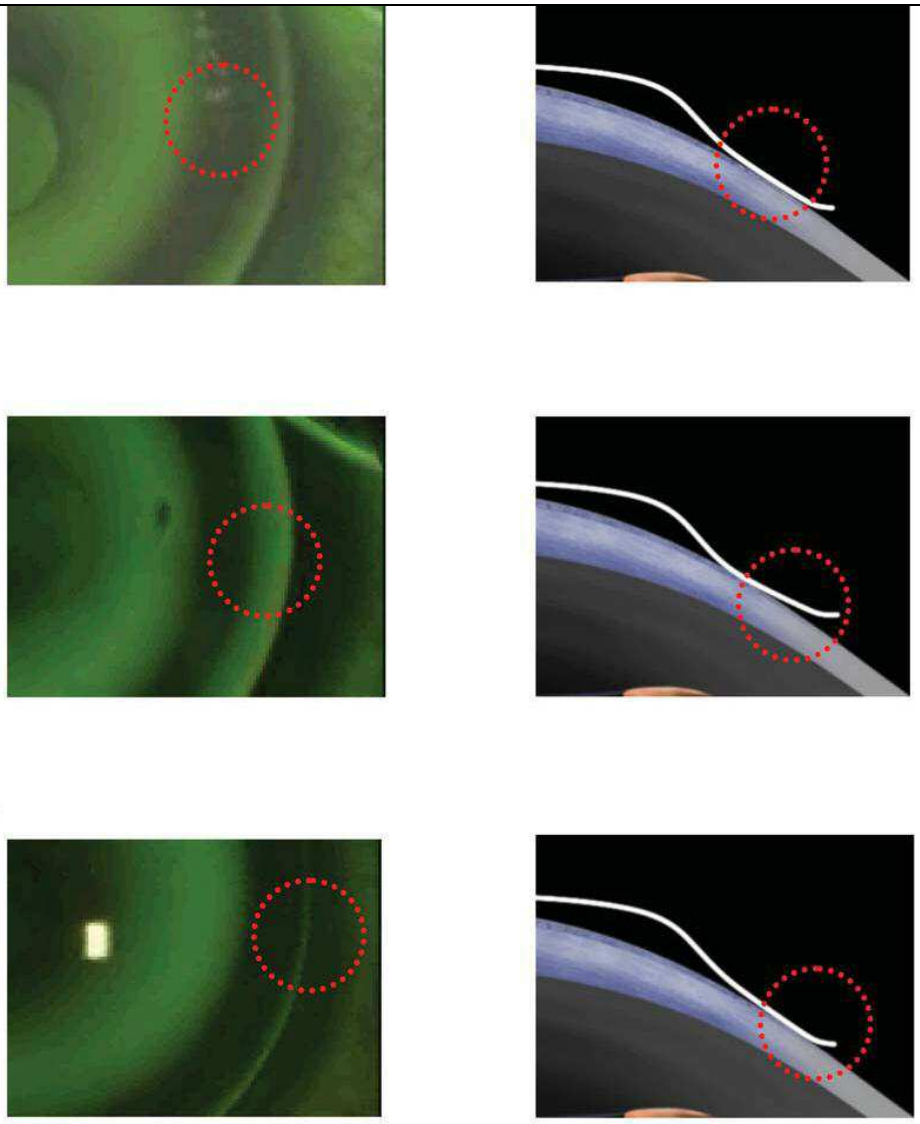
The value of the support (Landing Zone Angle - LZA) is measured from a hypothetical horizontal line.

Landing Zone Angle



The objective in the selection of the value LZA is to select the lens to ensure the right peripheral support and a suitable lifting of the edge in most of the outer circumference of the lens.

Different values of LZD affect the lifting of the edge, the smaller the value of the angle, the greater the lifting; the greater the value of the angle, the less the lift. During the examination with fluoresceine will be easy to control this parameter by observing the lifting of the edge.



The correct value of LZA is that which ensures the contact between the lens and cornea in the central zone of the area of support. The lenses are available with different values of LZA.

A lens with an excessive lifting of the edge (in this case, the value LZA is therefore too small) will rely in a harmless near the inversion zone, with an excessive amount of fluorescein to the edge.

A lens with a reduced lifting of the edge (in this case too large a value of LZA) will result in the contact between the lens and cornea to the edge. In this case we will have the almost total absence of fluorescein under the edge.

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Paragon CRT Authorized fitting Optom

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