Radial Keratotomy

Radial keratotomy is a surgery for correcting nearsightedness (*myopia*). This is when you cannot clearly see objects that are far away. This usually happens because the eye is slightly longer from front to back. When the eyeball is too long, the light entering the eye focuses in front of where it is supposed to focus, causing nearsightedness. However, there are other less common causes for nearsightedness, which will not be helped by radial keratotomy. Radial keratotomy is also used to correct situations where the cornea (*clear front surface of the eye*) is shaped more like a football's surface than a round basketball's surface. The curvature is not regular, resulting in a condition called astigmatism. Many people have both myopia and astigmatism. Radial keratotomy is also used when both conditions are present in the same eye.

PROCEDURE

Radial keratotomy is a procedure in which multiple small incisions (*cuts*) are made in the cornea, in the front of the eye. The incisions are done under an operating microscope that allows the surgeon to be very precise. This procedure changes the shape of the cornea. This changes the focus of light, to bring it closer to the central point where it should be focused, on the retina in the back of the eye. This improves your vision.

This operation can be done in an office setting under local anesthesia. This means a medicine is used, to make the eye numb while your surgeon is working on you. Usually this procedure is brief. It may take less than one half hour. Usually one eye is operated on at a time. When that eye has recovered, the other eye can be corrected. You may be fitted with a contact lens on the unoperated eye, to balance your vision. This will allow you to avoid wearing glasses with a thick lens for the unoperated eye, only.

Recovery is usually quick and with minimal discomfort. You can usually return to normal activities right away, with certain precautions to protect the operated eye from becoming infected (keeping the eye clean and dry, no makeup, no contact lenses). Visual recovery may take several days, but may vary for as long as 2-3 months, and in some cases longer.

COMPLICATIONS

Radial Keratotomy is an operation, and like all surgery, complications can occur. These include:

- Over-correction or under-correction of your vision. This may mean you still need glasses or contact lenses.
- Infection, which may be mild or serious. This may cause permanent scarring and visual loss.
- Perforation of the cornea, which happens if the surgeon makes a cut that is too deep. This may cause no problems, or could result in serious complications, depending on the individual situation.
- Persistent glare.

CONSIDERATIONS

- Radial keratotomy is an elective procedure. You **do not NEED** to have this surgery. It is entirely your decision, since myopia and astigmatism can both be corrected by glasses or contact lenses. In having radial keratotomy, you are having an operation on an otherwise healthy eye, by your own choice and for your visual convenience, not to make your eye healthier.
- Not all people having this procedure achieve complete correction of their nearsightedness.
- Occasionally, a person may have worsening of their eyesight that cannot be corrected with glasses or further surgery.
- There is a tendency to farsightedness (*over-correction*) following the surgery.
- There may be late infections of the cornea.
- There is a slight risk of corneal rupture (*break*).
- Radial keratotomy can cause a risk for people with professions, sporting activities, or hobbies that increase the risk of a blow to the eye. The strength of your cornea is reduced by this procedure. So, if there is a risk of head trauma or a blow to the eye, there is a higher risk of rupture of the incisions created by the surgery. This would cause a serious danger to the eye, and the risk of loss of vision.

- If you need other types of eye surgery in the future, scars from radial keratotomy may make your surgery more difficult.

YOU SHOULD NOT HAVE RADIAL KERATOTOMY IF:

- You have progressive myopia. This means you are actively becoming more nearsighted. Progressive myopia is common in children and teenagers. Progressive myopia usually stabilizes in the late teens and early twenties.
- Your degree of myopia is varying. This can happen with diabetes and pregnancy or a developing cataract.
- You have had surgery or trauma that has affected the shape of your eye (such as retinal detachment surgery).
- You have other causes of reduced vision, so that changing the shape of your cornea will not help.
- Your cornea is extremely thin.
- You have certain corneal diseases or scars.
- You have any diseases or disorders that reduce the ability of the cornea to heal.
- You are taking steroid medicines (prednisone or its derivatives).

ALTERNATIVES TO RADIAL KERATOTOMY

Ask your doctor about the various types of laser surgeries available to accomplish the same purpose. These include:

- PRK (Photorefractive Keratotomy).
- LASEK.
- Epi-LASIK.
- LASIK.
- Corneal Ring.
- Intraocular lens implants.

Many of the risks and complications of radial keratotomy can be reduced or eliminated by selecting a laser procedure.

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