



Femto-Lasik & Cornea Conter implantation By Femtosecond Tunnel Creation

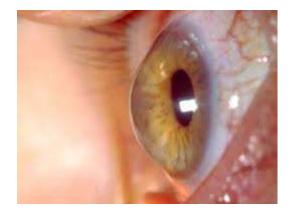
BY

Dr. Amr Mounir Lecturer of ophthalmology Sohag university



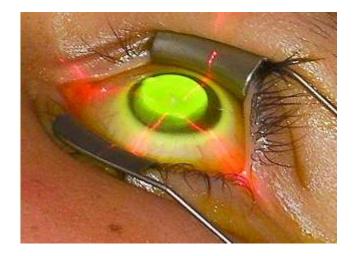
Introduction

Keratoconus is a progressive, noninflammatory, bilateral (but usually asymmetric) ectatic corneal disease.





Treatment modalities include hard contact lens, corneal collagen crosslinking, Intracorneal ring segments and Keratoplasty



Intracorneal Rings

Goals of Rings for Keratoconus

- To improve UCVA
- To improve BCVA
- To decrease HOA
- To increase Contact Lens Tolerance

and Prevent the need for a Corneal Transplant

However with Realistic expectations : Patients will still be dependent on visual aids



What can be expected from Rings ?

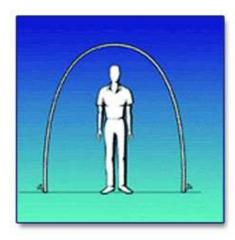
- SE Decreased by a mean of 1.45 to 3.46 D
- CYL Decreased by a mean of 0,24 to 2.88 D
- K readings Decreased by a mean of 1.57 to 5.59 D

Based on the literature data, with more than 100 publications upon Rings' topic!

4.0 v	Tyneidyle	-	100	Surged grades	Follow-Au-	100 - 100 gp	THE PARTY	Propriet de	COMPANY.	Statement of
Tak man T Streem	Property of the barrent	10.00	- Marci	Distantial -		1000	1.4	10		3.85
and the set of the distance	"Adapte has been derident	1000	diam'r.	1. Maintennet				100		A 88 GAA 11
Dian Merhouse 18 W and	in motor attice	7754	479.0	Northerize		341			-6.18.	22.00
Ingroup of all Williamson	Without they worked the state	334	Then:	April and a local	10	第			75.25	3.26
starting of a Philippine of the	Property of the lattice decision.	100	Anna	1 Annotation	- H.	144			10.00	Post they at
lathiacitane* 31 and	Automation	308	1 Novine	MARTINEE	34	1		1.00	. 81.42	1.00
Name of the Party of the American	If he specified while the dominant	204	Anald.	Administration	· · · · · ·	30			TH. 168	6-24 ing 8
									Contraction of	3-64554
No. of Advances.	Phipschet Intel-Automatic	100	/ Atani	1 Amount of the local of the local division of the local divisiono		International Content		1 Augment (August	Tagasi.	1-tophani photo
						100		2.9	10.00	ALF DIRICH
									6.62	
						Lotters Lat.		12 auguster	California	Contrast No.
						Contraction of the second second		128	990M	1.648 (1977)
							100 million (100 million)			
a service of the service of the service	Properties needs and and	2.00		And Dances	18.	- 141	1.80	9 M		6.W
and the local of t	Programme nearly derivator	-	40800	ADM DOCTOR		The strength		1008-10.0408-0	-	1-10 Scouters
et 10.47* 225 mile	Participation	100		METERS	1.8	and President and a second	the bandlet of	Children & Statement	11	PER BALANCE
						ALC: NOT A COMPANY OF A COMPANY	199	A DESCRIPTION OF THE OWNER OWNER OF THE OWNER OWNER OF THE OWNER		341400
						Albert Dox Wanness	specialized and and	station and the state of the st		Set produces
and the second se						197	1.00	1985		COMPAREMENTS
Network Property	Purpose di la	100	1000	Three months	100	12	10.	11.	(B)	1.00
the security of sciencials	Extended and the	3448	1000	10000000			3.6	441		1.00
Des Ares" (Manual	Parameter and a designed	-	1000	Baldena.	- 18 I	B06.2-0-0-		100	199	2.01.2.510
Concession of the state	Conception	494	(Prime	Station of		-110	1999 B	12.1		10,000
Subsequent and here? Streamer	Programmed and independent	-	Sec.	Mandowned.		212 ·	10	- test	14.45	2815
Note and T did upon	The set of a set of the set	-	-	Contraction of the local division of the loc		1	4.01	15		12
owned with the second second			100	- Hart Manager	- A -		14			
Contrainers (C. O. Street	Concept Ballion	308	-	The state of the second		414		110	-	28.1

See meta-analysis in literature - Alió et al

Mechanism of action of rings



Imagine your cornea as a tent with a curved top.

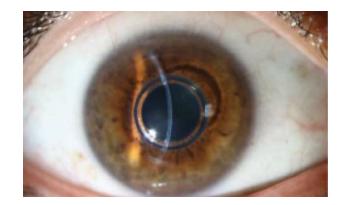


If the sides are pushed out, the top is flattened slightly and the dome shape is restored.

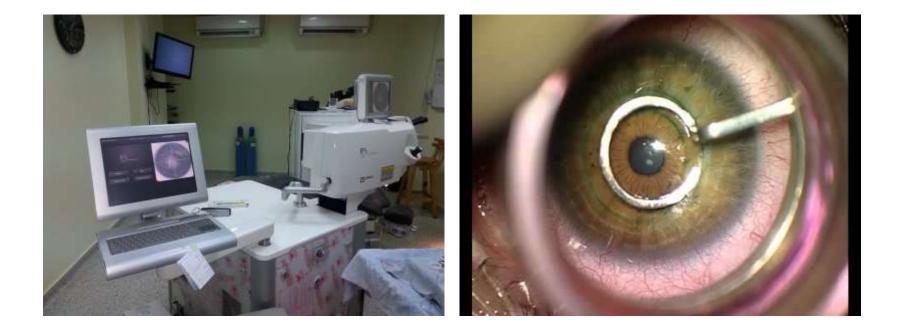
Types of Rings







Methods of implantation of rings



Advantages of Femtosecond Tunnel Creation

- Precise Depth
- Precise Incision site creation
- Easier than manual
- Avoid complications of manual tunnel creation e,g: Anterior or Posterior corneal perforations , epithelial defects, infectious keratitis, asymmetric segment placement, corneal stromal oedema around the incision, extension of the incision towards the central visual axis or the limbus and persistent incisional gapping

Ideal patient for rings

➢ High errors.

- Mean Keratometry > 48 Ds
- K Max > 50 Ds
- ➢ BCVA < 6/30</p>
- > High patient motivation

Rings we use



Parameters which guide us

- Refraction
- Pachymetry
- Steepest K axis
- Cone site
- Nomogram

D	hend, mahamad Birthdate: 2/9/1983 Identification code: 1215017 Exam date and time: 12/16/2015 12:27 0 Acquisition date: 12/16/2015 12:27 0	19
	Acquisition quality	•
	Summary Indices 1 + 3	
erior	Horizontal Visible Iris Diameter HVID = 11.37 mm + Pupil (Topographic) r = 0.36 mm @ 162° Ø = 5.43 mm * Thinnest location r = 0.80 mm @ 222° Thk = 478 µm • Apex r = 3.20 mm @ 47° Thk = 607 µm Curv = 53.02 D Anterior chamber CCT + AD = 0.482 + 2.83 = 3.31 mm Volume = 127 mm ⁹ Indocomeal angle = 37° Corneal volume (Ø = 10 mm) Volume = 54.4 mm ⁹	
	K readings (Front) 7 + 3	
	Sim-K n0 = 1, n1 = 1.3375 Sim-K K1 = 43.87 D @ 170' K2 = 47.17 D @ 80' Avg = 45.46 D Cyl = -3.30 D Ax170' 270' 90' 270' 270'	