

Astigmatism in cataract surgery

Astigmatism occurs when the cornea or lens are shaped more like a rugby ball - longer in one direction than the other. This means that the image at the back of your eye isn't as sharply focused.

I assess each eye prior to cataract surgery and aim to reduce astigmatism by a combination of selected placement of the surgical incision and additional incisions, called limbal relaxing incisions, if necessary. In some cases I use special astigmatic or toric intraocular lenses in place of the standard lens for additional anti-astigmatic effect. Low post-operative astigmatism is necessary if multifocal intraocular lenses are to be used.

Example of limbal relaxing incisions calculation

(Kill the Cyl by Mr Paul Chell, FRCOphth)

KILL the CYL 2001© v1.04 Paul Barrington Chell						
Patients surname	Smith	No.	1	EYE	od	
Enter Data into boxes using plus cyfs and tab key						
If you wish desired post op 0.00 cyl, type 0.001 at 90 degrees, otherwise select cyl and axis						
INPUT DATA AREA	DS	DC	Angle	Angle@	L7	
PRE OP STEEP AXIS AND CYL	0.00	3.22	95	1.658062789		
DESIRED POST OP CYL AND AXIS	0.00	0.00	90	1.570796327		
SURGEON WOUND FACTOR		1.00	175			
AGE OF PATIENT(<30INC>30DEC)		83	cyl age factor(0.4%)		1.8162	dioptrcs
Final vector non-modified		2.30	At axis	99		
Final vector age modified =		1.82	At axis	99		Age modified
Age + Axis modified for LRI's =		1.50	At axis	99		Age+Axis modified
			Arc @ Zone	Axis		
Off-meridional Incision + Paired AK's =		Off + AK	incisions	30 @ 8		99
On-meridional Incision + Opposing LRI =		On + LRI	incisions	4mm+3mm		95
Off-meridional Incision + Paired LRI's =		Off + LRI	incisions	4mm+3mm		99

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