The Toric IOL represents the biggest innovation in cataract surgery in the last three years. The quality achieved in the correction of astigmatism inside the eye, couldn’t be achieved in any other way.

There are three milestones in the implant of a Toric IOL:

A) The exact measurement of the size and of the axis of corneal astigmatism.
B) The exact mark of this axis on the eyeball at the beginning of surgery.
C) The implant of the IOL with the axis of the lens equal to the axis marked on the eyeball.

However the marking techniques are still coarse and complex.

For this reason, we created an instrument, the Goniometric Caliper, in order to insert easily, quickly and precisely the Toric IOL.

Patients and methods:

we analyzed 30 eyes treated with Acrysoft Toric IOL, divided in two groups.
In group A (22 eyes) we used the Mendez ring in order to mark the insertion angle of the IOL, in group B (8 eyes) we used Limoli’s Goniometric Caliper.

For all the patients, the choice of the implant was provided by the Alcon software found on:
www.acrysofsoftcalcularator.com

The marking is done on the limbus along the 180°-0° axis with the patient seated. Then a topographic analysis allows the valuation of the magnitude of the mistake on the mark, if it exists.

The Mendez ring has been limited to the limbus and the axis has been identified with a marker afterwards.

The Goniometric Caliper is opened to the necessary degrees, and with one of its tips placed on the first mark along the 180°-0° axis, permits the identification of the axis and the mark at the same time.

The possible errors in the first marking had been evaluated and included in the opening of the caliper.

Results:

From each group we considered the preoperative corneal astigmatism and, after two weeks from the surgery, we considered also the refractive astigmatism and the relative rate of reduction of the astigmatism. The rate of reduction of the astigmatism in group A was 69.17% and in group B 86.01%.

Conclusions:

The Goniometric Caliper gives the required precision criteria and makes the marking more simple.

References