MAXIMUM PLUS TECHNIQUE FOR VISUAL ACUITY MEASUREMENT

TECNIS PureSee™ IOL with TECNIS SIMPLICITY™ Delivery System

Autorefractors may not provide optimal postoperative refraction of patients implanted with enhanced monofocal, EDOF, trifocal or hybrid IOLs due to the optical design of these types of IOLs. We strongly recommend the use of the Maximum Plus technique.

Accurate refraction is key to achieving optimal visual outcomes.

MAXIMUM PLUS TECHNIQUE

1. Check the visual acuity of the patient without correction.
2. Start now by adding +1.00 D to the phoropter. This should result in a loss of VA.
3. If there is no loss of visual acuity, then add another +1.00 D and check the VA.
4. Determine the smallest line patient can read clearly and start decreasing the power in the phoropter in steps of 0.25 D (less plus or more minus) until the patient reaches a VA of 1.0 decimal*, or their best-corrected VA line.
5. Now that we have achieved the maximum power, (maximum sphere) to maximum VA, the cylinder can be refined.

HERE IS AN EXAMPLE

Patient with new lens in the right eye:

Current Distance Visual Acuity is 0.63 with no correction.

WE NOW START THE MAXIMUM PLUS TECHNIQUE

Lens (D)	logMAR VA	Decimal VA**
+1	0.8	0.16
+0.75	0.6	0.25
+0.50	0.4	0.4
+0.25	0.3	0.5
0	0.2	0.63
-0.25	0.1	0.80
-0.50	0	1.00
-0.75	0	1.00

The maximum plus power or least minus that allows the patient to get the best VA is -0.5O D so this will be the final refraction of the patient. The cylinder may be checked now.

*VA of 1.0 decimal equivalent = 20/20 Snellen or 0.00 logMAR

**Decimal VA has been used for a simpler understanding of the example.

If the Optotype is set a 4 meters distance then +0.25D will need to be substracted in order to have the manifest refraction for infinity.[1] In our example the sphere for infinity would be -0.5D - (+0.25D) = -0.75D

Reference:

1. Fernández J, et al. Standard for collecting and reporting outcomes of IOL-based refractive surgery: update for enhanced monofocal, EDOF, and multifocal IOLs. J Cataract Refract Surg. 2022 Nov 1;48(11):1235-1240. REF2023CT4156.

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