

FDA IMT Panel Meeting Questions

1. The sponsor has presented specular microscopy data from IMT-002 and IMT-002-LTM (the long term monitoring of patients who re-consented). Morphometric analyses were collected under both protocols. Considering the surgery-related decline in ECD, the chronic rate of ECD loss, the morphometric analyses, the proportion of eyes that declined to low ECD levels, and the number of cases of decompensation and late corneal edema, please address the following:
 - a. Do the ECD and morphometric data provide reasonable assurance that the long term risk of corneal decompensation will be acceptable for the intended population?
 - b. Do the specular microscopy data provide sufficient characterization of long term ECD trends?
2. The sponsor has constructed two “grids” for determination of minimum preoperative ECD (for various age and gender groups). One grid is based on the chronic ECD rate of change seen in a sub-cohort of 112 eyes (guttata-free eyes with anterior chamber depth ≥ 3.0 mm). The other is based upon the chronic rate of change seen in the full cohort of 206 IMT-Implanted eyes. Both “grids” are based upon calculations assuming an end of life ECD of 750 cells/mm².
 - a. Is the assumption of an end of life ECD of 750 cells/mm² acceptable? If not, what do you believe is appropriate?
 - b. Which grid do you recommend for labeling contraindications?
3. In an attempt to identify the characteristics of a sub-group with an improved safety profile, the sponsor performed multiple sub-group analyses. Considering the statistical issues associated with these analyses, do the data constitute valid scientific evidence for evaluation of safety of this device?
4. Has the sponsor adequately demonstrated the effectiveness of the IMT taking into account the analyses of visual acuity (VA) improvement in eyes with cataract removal without IMT implantation?
5. The sponsor has provided fundus images and investigator reports of fundus visualization performed by various techniques. Does this information support adequate visualization and treatment of the posterior segment of eyes implanted with the IMT?

6. The sponsor proposes the following indications and contraindications:

Indications

The Implantable Miniature Telescope (IMT) is indicated to improve vision by monocular implantation in patients 65 years of age or older with stable moderate (distance BCVA of 20/80 or poorer) to profound (distance BCVA 20/800 or poorer) vision impairment caused by bilateral central scotomas associated with end-stage age-related macular degeneration. Patients must have:

- retinal findings of geographic atrophy or disciform scar with foveal involvement, as determined by fluorescein angiography,
- evidence of cataract,
- at least a five-letter improvement on the ETDRS chart with an external telescope,
- adequate peripheral vision in the eye not scheduled for surgery
- willingness to participate in a postoperative visual training/rehabilitation program.

Contraindications

- evidence of corneal guttata
- anterior chamber depth <3.0 mm
- The IMT is contraindicated in patients who do not meet the minimum age and endothelial cell density, as shown in the grid in Table 1.

Table 1
Minimum ECD Levels by Age

Age Range	65-69		70-74		75-79		80-84		85-89		90 or Greater	
Gender	Male	Female	Male	Female								
Avg. Life Span	16.6	19.5	13.2	15.8	10.3	12.4	7.8	9.4	5.7	6.9	4.2	5.0
Minimum Cell Density	2460	2755	2000	2325	2000	2000	2000	2000	1800	1800	1800	1800

- Additional list of contraindications are proposed by the sponsor in the labeling (Vol II, Appendix 13).

Has the sponsor provided reasonable assurance of safety and effectiveness of the device for the proposed indications and contraindications?

7. At the time of the July 2006 panel meeting, the sponsor submitted protocols for two post-approval studies (PASs): (1) Five Year Follow-up of IMT-002-LTM Patients – A Long-Term Monitoring Study of IMT-002 Patients and (2) A Prospective Multicenter Post-approval Study of the Implantable Miniature Telescope (IMT) Patients with Central Vision Impairment Associated with Age Related Macular Degeneration (a follow-up study of newly enrolled patients who receive the IMT

after approval out to 5 years)). On February 6, 2009 the sponsor indicated that they do not believe a PAS is warranted at this point because most subjects followed in IMT-002 LTM (5 year study) have reached the 4 year follow-up examination. However, to address the possibility that a PAS may be recommended, the sponsor submitted a protocol to follow some of the subjects implanted under IMT-002 for two additional years.

- a. Given the currently available safety and effectiveness data, and if this device is approved, is a PAS(ies) recommended?
- b. If a PAS is recommended, does the panel agree with the sponsor's proposal to follow currently implanted patients to 7 years? If not, what do you recommend?
- c. Is a PAS of newly enrolled patients to evaluate the performance of the device under conditions of general use warranted?
- d. If a PAS is recommended, what do you recommend for the following PAS elements?
 - the objectives
 - clinical endpoints, including the need to assess the rate of endothelial cell density loss over time
 - the clinically tolerable rate of severe adverse events, such as corneal decompensation-induced device extraction and corneal transplant
 - duration of follow-up of study subjects
 - other specific issues you would like to be addressed in the PAS