Questions for the Public Workshop –
Controlling the Progression of Myopia:
Contact Lenses and Future Medical Devices

1. In addition to the selection criteria described in the Daily Wear Contact Lens Guidance (http://www.fda.gov/RegulatoryInformation/Guidances/ucm080928.htm; see Appendix 1 below), who should be included in trials evaluating devices to reduce myopia progression:
    a. What should be the range for refractive errors (i.e., upper and lower limit)?
        i. How should you determine the refraction (i.e., cycloplegic autorefraction, manifest refraction, retinoscopy)? Is spherical equivalent or spherical component the best measure of myopia progression? How should cycloplegia be achieved?
        ii. How much astigmatism should be allowed?
        iii. Is there a maximum amount of anisometropia allowed to enroll?
    b. What should be the age range of enrolled participants (i.e., upper and lower limit)?
    c. Should progression affect eligibility?
        i. If so, how long should the patients be observed to determine the rate of progression?
        ii. Should there be a run-in phase prior to randomization or would historical charts be adequate to document progression?
    d. Are there other enrollment factors that should be considered for the indication of myopia progression compared to other contact lens studies?

2. We believe a randomized controlled clinical trial is needed to evaluate the effectiveness of a device designed to control myopia progression. Which one of the following is the most appropriate control group: a single vision soft contact lens group, a single vision spectacle group, or both?

3. What factors should be used to evaluate the effectiveness of the device?
    a. Which of the following should be the primary effectiveness endpoint(s)?
        i. Refractive error change
        ii. Axial elongation
        iii. Both?
    b. What are clinically meaningful differences for the above endpoints between/among study arms and within a study arm?
    c. Which of the following should be the secondary effectiveness endpoint(s)?
        i. Vitreous chamber depth
        ii. Corneal curvature
    d. What is the minimum duration of the premarket study? Please take the following into consideration:
        i. How long the patient should use the device to determine the primary effectiveness outcomes?

ii. How long should the patient abstain from using the device to ensure stability of the refractive outcome?
iii. At what time point following the abstention should the "rebound effect" be assessed?

4. Presumed microbial keratitis has been defined as a corneal stromal infiltrate with an overlying epithelial abnormality (ulceration) treated with antibiotics. What rate of microbial keratitis is acceptable in this population for this indication of controlling myopia progression?

5. Patient-centric outcomes are of paramount importance in the evaluation of medical devices across the total product lifecycle. Patient-reported outcomes and patient preference studies can both be used to clarify and generate patient-centric outcomes. A patient-reported outcome is any report of the status of a patient's health condition that comes directly from the patient, without interpretation of the patient's response by a clinician or anyone else. In 2009, the FDA issued guidance on the use of PROs in the evaluation of all medical products (http://www.fda.gov/downloads/Drugs/.../Guidances/UCM193282.pdf). In addition, the FDA recently posted draft guidance document detailing the approach for capturing patient perspectives in the benefit-risk evaluation of medical devices (http://www.fda.gov/downloads/medicaldevices/deviceregulationandguidance/guidancedocuments/ucm446680.pdf). This guidance document also detailed the importance of incorporating the patient's perspective throughout the entire life cycle of devices from development to postmarket evaluation.
    a. What patient-reported outcomes (PRO) should be collected in the clinical trial? How should the PROs be collected (e.g., patient, caregiver, or both) and analyzed?
    b. Could patient preference studies be informative for the benefit-risk determination of myopia control medical devices?
    c. What methods could be used to improve the enrollment and retention of patients in these clinical trials?
        i. How could we better engage the parents, the children, and potential advocacy groups to ensure these clinical trials yield results that are informative?

APPENDIX 1—PATIENT SELECTION CRITERIA AS LISTED IN THE GUIDANCE

a. Patients may have worn contact lenses previously, provided their eyes are shown to be normal at the start of the investigation.

b. Patient selection for entry into the study should be randomized and therefore not preselect for previously successful wearers.

c. The eyes of the patients should be randomly assigned to either the control or the test group and the sponsor should detail the randomization procedure.

d. There should be a need of an optical correction and a reasonable expectation of improved visual acuity with the use of contact lenses.

e. Patients should have normal eyes and use no ocular medications. A normal eye is defined as having the following characteristics:

   (1) no anterior segment infection, inflammation or abnormality;

   (2) no other active ocular or systemic disease that would contraindicate contact lens wear; and

   (3) no medications that would contraindicate contact lens wear.

f. Patients with normal eyes not correctable to 20/40 with spectacles may be enrolled, but should be analyzed separately.

A minor positive finding should not disqualify a patient from participating in a clinical study if the investigator determines that the finding does not interfere with contact lens wear or cause the eye to become compromised from contact lens wear. The investigator should use clinical judgment to determine a patient's eligibility based on any trace pre-fitting observations and the study protocol as designed by the monitor and sponsor.