

ABSTRACT SUBMISSION FORM
INTERNATIONAL BIOPTIC DRIVING CONFERENCE

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Bioptics are not Just for Driving: A Protocol for understanding the social impact of Bioptic telescopes.

ABSTRACT OF PRESENTATION:

Visually impaired individuals usually have rather specific performance goals in mind when dealing with near centered activities, however, distance seeing goals can often be non-specific. While not all visually impaired will be appropriate driving candidates, such persons may still experience significant benefits from the use of Bioptic systems.

The impact of reduced distance vision on an individual may be more psychosocial than task-related in nature, affecting interpersonal interactions, such as the ability to recognize friends in social situations, read body language and make eye contact. Loss of such abilities can lead to feelings of isolation, helplessness and despair and undermine quality of life in ways that loss of reading ability may not. In children, lack of functional distance vision may impact normal social development.

High contrast Snellen charts with isolated letters are traditionally used to assess visual acuity. However, high contrast letters are rarely encountered in day-to-day activities other than reading. In fact, even for reading, practitioners have adopted continuous text charts that offer a more realistic functional assessment. For distance vision, however, we continue to use conventional Snellen acuity, despite its lack of resemblance to the world about us.

We have developed a telescope prescribing paradigm that quantifies a “visual radius” as the furthest distance at which a patient is able to discern facial features. Social interaction generally occurs within a range of 3 to 15 feet, a distance that we have named the “social range.” When the patient’s “visual radius” does not extend far enough into the “social range” to be of functional value, we suggest that they risk experiencing negative social effects from their vision loss. The benefit of a bioptic telescope, from a treatment perspective, is not its ability to make images larger, but rather to allow the individual to see further away—it can extend the “visual radius” by a factor of the magnification power of the device.

The patient's response to telescopic magnification can be determined by viewing a face through a handheld telescopic device from 15 feet away. This "Face Test" will help characterize the magnification gain, the response to low contrast targets, the ocular dominance and the patient's dexterity with the device—all important factors in determining prescriptive choices and prognosis. A telescope power is indicated that can extend the "visual radius" far enough into the "social range" to be of functional benefit for the individual. Assessment of the patient's expectations and motivation should also be conducted. In a retrospective study of patients using one bioptic device this evaluation protocol yielded a 73% long term acceptance rate (they would purchase the device again).

In summary, our clinical method of defining a visual radius and clinical protocol of evaluating patient response to telescopes is a significant aid in determining a prognosis for prescribing Bioptic telescopes.

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