# Low Vision: When Vision Fails

**Gwen K. Sterns**

## Case Report

An 80-year-old woman and her sister who is 85 years old visited their ophthalmologist both complaining of a loss of vision for the past few months. Previously the younger sister was able to drive, prepare meals, read prescription labels, and pay the bills. Lately she has had difficulty with all of these tasks. Both sisters had undergone successful cataract surgery a few years earlier. The younger sister had assumed many of the homecare responsibilities as she felt her older sister not only could not see as well but had some early cognitive impairment. The ophthalmologist uncovered bilateral macular degeneration in both the sisters. The older sister was content with her life situation and was happy with talking books and a reading radio service. She had depended on her younger sister for so long she assumed things would remain the same. As she did not drive and meals were prepared she noticed little loss in her daily activities. The younger sister did find managing the home more difficult and was hoping a new pair of spectacles would cure her visual concerns.

## Practice-Based Learning and Improvement

With the aging of our population has come an increased incidence of older adults with vision loss. When this vision loss is not corrected with standard spectacles and medical or surgical treatment the patient's vision loss and loss of visual function is referred to as low vision (Fig. 1). Eye doctors need to address the care and treatment of these patients to enable those with vision loss to remain independent and productive. Identifying their loss and providing treatment options are essential to maintaining productivity and independence. The cost of caring for those with blindness and vision impairment is rising yearly. The impact on the patients and their families is not only economic but social as

G.K. Sterns (✉)
Department of Ophthalmology, Rochester General Hospital and University of Rochester School of Medicine, Rochester, NY, USA

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**Fig. 1** Low-vision aids facilitate the pursuit of the activities of daily living. Source: Reprinted with permission from the Department of Ophthalmology, The University of Iowa Carver College of Medicine

well with a significant increase in the depression associated with vision loss.[1] It has been estimated that the number of blind people in the United States over age 40 years would increase to 1.6 million by the year 2020, and the number of person with low vision is projected to be 3.9 million by 2020.[2] The incidence of low vision and blindness in community-dwelling adults increases dramatically in all racial and ethnic groups.[3] The cost annually of adult vision problems approaches $51.4 billion.[4]

These sisters had depended on each other for many years both emotionally, socially, and financially. They had pooled their retirement resources to secure safe housing. Until now this was true but now they needed outside assistance. The younger sister could no longer drive safely or perform visually as she had previously. Their ophthalmologist referred to information he had received from American Academy of Ophthalmology, Smartsight, Making the Most of Remaining Vision,[5] and elected to give them information on resources available in their community.

## Medical Knowledge

The ophthalmologist performed a complete eye examination on both sisters and determined that they would not be candidates for laser treatment or intraocular medication. It was felt that both sisters should continue taking multivitamins and be given the best-obtained refraction with a higher reading add to enable them to see the large print with greater ease. The ophthalmologist was aware that almost a quarter of patients with impaired vision have trouble managing their household duties. In a study by Brody et al., approximately a third of patients with advanced macular degeneration demonstrated a depressive disorder.[6] With this in mind he wanted to maximize their usable vision and referred them to a local Vision Rehabilitation Center for evaluation and low-vision treatment.

## Patient Care

The sisters visited the low-vision center together. They had the opportunity to speak with a social worker who was able to assess their living situation and provide them with a referral to an eldercare agency. The agency was able to provide services which provided them with transportation to go shopping and to medical appointments. They also provided aides to help them maintain their home by helping with cooking and cleaning. Alternative living scenarios were suggested and visits to assisted living homes were arranged. A social worker was assigned to help evaluate the sister's success in performing IDLS (instrumental activities of daily living skills) such as meal preparation, using the telephone, housekeeping, handling finances, as well as taking medications safely.

## Interpersonal and Communication Skills

The ophthalmologist discussed his findings with the primary care provider. His concerns were relayed to the medical doctor who was caring for the sisters. They agreed to encourage the sisters to look into available services and possibly assisted living. There were no other family members living near the sisters to look in on them and provide support. Both the ophthalmologist and the internist had known the sisters a long time and their relationship with them was such that they were receptive to the doctors' suggestions. Taking the extra time from a busy practice to make sure the proper referrals are made could be the difference between a poor outcome and a good quality of life.

## Professionalism

Their ophthalmologist went the additional step. After providing initial low-vision care on site by improving and maximizing their vision with a stronger reading add and updated refraction, he referred them to a Low Vision Center. They also were referred to an elder care agency, which helped them navigate the often complex system. Communication and linkages between providers was initiated.

## Systems-Based Practice

A study published in 2007 showed that non eye-related costs were found to be from $2193 to $4443 higher for moderate, severe, and blind categories. Any degree of progressive vision loss was associated with increased odds of

depression, injury, skilled nursing facilities utilization and long-term care admission.[7] By providing the sisters with appropriate intervention, their risk of depression and injury and perhaps long-term care admission could be reduced. Taking all of this account should play a role in each provider's care of his/her patients. In this way the patients receive the best care in the most efficient, cost-effective way with attention to the whole person.

## Case Resolution

The sisters each received a comprehensive low-vision evaluation. The older sister enjoyed some of her nonoptical low-vision aids such as a talking watch and talking clock. She also utilized large print playing cards. A magnifier she could wear around her neck allowed her to read phone numbers left for her by her sister. Talking books were provided as well. The younger sister made use of several magnifiers to help her read labels on medication bottles, directions on food packages as well as mail and bills. A Closed Circuit TV (CCTV) was demonstrated and she will consider this if and when her vision deteriorates (Fig. 2). A rehabilitation teacher for the visually impaired spent a few hours with the sisters in their home and marked the microwave, oven, washer, and dryer with marks that were raised and bright so that they could see and feel the dials to utilize them properly. The rehabilitation teacher also looked around the home for other ways she could simplify their vision concerns and make the home safe. Additional services were offered and a list of groups for older adults with vision impairments was presented for support. The vision-rehabilitation process was explained as an ongoing relationship was established.


**Fig. 2** Low vision aids being demonstrated (in this instance a closed circuit television).
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