Introduction to The NCMJ's Special Issue on Vision and Hearing Loss

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This article introduces NCMJ’s special issue on vision and hearing loss. The 13 articles are organized around four areas: 1) screening and early intervention; 2) technology; 3) prevention; and 4) accommodation, accessibility, and communication. Together the authors discuss a wide range of potential challenges. However, importantly, the authors also provide a wealth of resources for individuals, families, and health care providers.

It is my pleasure to introduce this issue of the NCMJ focused on hearing and vision. The authors present to us a wealth of knowledge and resources that span the life course from newborns to older adults. Whether you are an individual with a vision and/or hearing impairment, a health care provider, a family member, or in another category, you will find in this issue helpful resources and strategies for the thousands of North Carolinians and millions of United States citizens with a vision and/or hearing impairment.

Screening and Early Intervention

As with most impairments, screening is vital in terms of early intervention. Fort details newborn hearing screening in North Carolina [1] and describes the recommended benchmark that all infants have their hearing screened before 1 month of age. For infants who do not pass the newborn hearing screening, diagnostic audiological evaluation should occur before 3 months of age, and infants with a confirmed hearing loss should be enrolled in an early intervention program before 6 months of age to facilitate age-appropriate development of language and social skills. These guidelines, referred to as 1-3-6, are to ensure every child who is deaf and/or hard of hearing is provided the opportunity to achieve optimal language, literacy, and learning outcomes. Fort also provides information on the national Early Hearing Detection and Intervention (EHDI) process and reports that the North Carolina EHDI program consistently exceeds the benchmark for completion of newborn hearing screening by 1 month of age, but still faces significant challenges in reaching the 3-6 benchmarks.

Bashinsky provides information related to screening for retinopathy—impairment or loss of vision—of prematurity (ROP) [2], a leading cause of childhood blindness in premature infants. Screening for ROP is recommended for all infants with a birth weight of less than 1,500g or a gestational age of 30 weeks or less. Screening is also recommended for infants with a birth weight between 1,500g and 2,000g or a gestational age greater than 30 weeks who have had an unstable clinical course or who are otherwise believed to be at high risk by the attending neonatologist. Her article stresses that recognizing and treating ROP in a timely fashion is critical for achieving the best visual outcomes and lessening the impact of ROP and its sequelae.

While the Fort and Bashinsky articles focus on infants, the article by Skaggs and colleagues highlights the need for screening for diabetic retinopathy for the growing number of individuals with diabetes [3]. Their article states that diabetic retinopathy is the leading cause of new cases of blindness in the United States and the most common cause of blindness in North Carolina. They highlight that education is a critical component in increasing regular screenings. They also detail current findings that the use of telehealth for retinal tele screening is a promising new avenue for increasing rates of follow-up and compliance with diabetic retinopathy screening.

Technology

While Skaggs and colleagues discuss telehealth as a promising avenue for service, Johnson discusses technological advances in hearing technology [4]. Her article provides an update on hearing technology and shares best practices for providing tailored amplification for individuals. With binaural—ear to ear—communication between devices, hearing aids can now scan 360° around a person’s head to identify dominant speech patterns and reduce the effects of background noise. She further discusses the ability to wirelessly stream audio signals directly into hearing aids with Bluetooth technology. As she states in her introduction, “when it comes to hearing technology, we’ve come a long way from the beige banana-like hearing aids of our...

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grandparents’ generation.” Guidelines for cochlear implant candidacy as well as the more recent availability of hybrid devices, which are half cochlear implant−half hearing aid, are also discussed.

The sidebar by Thomas also addresses hearing technology and discusses direct−to−consumer marketing of hearing aids [5]. He shares information related to potential pros and cons of this practice. His article as well as the article by Johnson both share best practices and considerations for hearing health care. Both authors also stress the need for a local relationship with a licensed and certified hearing health care professional.

**Prevention**

Hearing health care professionals are increasing awareness of noise−induced hearing loss and are instrumental in identifying it. The article by Royster goes into detail related to the individual susceptibility to noise damage [6], including damage from gunfire, power tools, loud concerts, and personal stereo players, if the user wears the device regularly enough at high in−ear sound levels. The article also addresses occupational noise damage and the role of employers and the federal Occupational Safety and Health Administration standards in protecting workers.

Geary and colleagues discuss the number and treatment of eye and ear injuries in North Carolina [7], and share that ear and eye injuries are a large contributor to emergency department admissions among North Carolina residents. Their article also alerts us that a large proportion of these injuries are preventable through the use of appropriate protective wear such as eyewear or earplugs.

**Accommodations and Strategies to Ensure Accessibility and Communication**

Stiles, in an article focused on rights and accommodations for individuals with hearing impairments [8], discusses the Americans with Disabilities Act (ADA) and its prohibition of employment practices that bar discrimination against qualified individuals with a disability. In addition to discussing federal rights afforded by the ADA, Stiles shares other resources such as the Job Accommodation Network and the Employer Assistance and Resource Network on Disability Inclusion programs. In addition, Stiles shares low and no−cost options such as holding meetings or other conversations in a well−lit room and ensuring that the employee is able to face the individual who is speaking during all communications.

Withers and Speight’s article also discusses the Americans with Disabilities Act. In addition, they provide information on available state resources such as the Division of Services for the Deaf and the Hard of Hearing (DSDHH) cultural competency and effective communication training curricula. Another resource includes an experimental type of training for hospitals called “Different, Different World,” wherein participants who do not have hearing loss can experience what it is like to face communication barriers. DSDHH also offers expert consultation to hospitals and other health care facilities on policies and procedures governing the provision of accommodations. This article also highlights the Medical Eye Care Program offered through the North Carolina Division of Services for the Blind (DSB). This program provides financial assistance in obtaining medication, treatment, and some surgical procedures.

The article by Lewis provides a wide range of considerations and strategies in terms of communication with individuals with a hearing loss [10]. Strategies within her article are focused on patient−provider communication. Health care providers are reminded of how procedures such as telephone reminders and calling names or a number in waiting rooms are dependent on the ability to hear. Lewis suggests that multiple procedures including both visual and auditory options be provided. For example, in addition to telephone reminders, online portals for making appointments and confirmation of appointments can be provided. She further reminds us that entering data on a computer while talking with patients can decrease important cues for individuals with hearing loss.

Patient−provider communication is especially poignant when working with adolescents with vision and/or hearing loss. As mentioned in the article by Sexton about empowering adolescents [11], the critical need to transfer ownership of hearing loss from the parent to the adolescent to foster self−advocacy and empowerment requires skill development, not just in communication, but in advocacy and independence.

Given that vision and hearing loss are particularly prominent in older adults, the coverage paradox discussed in the Rooth article [12] is particularly troubling given the effects of untreated hearing loss that her article also discusses. She connects untreated hearing loss with current evidence related to hearing loss and cognition. We are also reminded in this article that although dual sensory impairments are more common with an ever expanding older adult population, few studies have examined the statistics on concurrent vision and hearing loss.

As mentioned earlier in this introduction, the articles within this special issue provide an abundance of resources and other information. Importantly, while we know that vision and/or hearing impairment can impact health care encounters, as well as impact individuals socially, emotionally, and physically, it is critical that we remember that individuals are unique and require and deserve individualized care and resources.

Enjoy the wealth of resources and information in the articles. NCMJ
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References
1. Fort M. Newborn hearing screening: making a difference. N C Med J. 2017;78(2):96-100 (in this issue).
2. Bashinsky AL. Retinopathy of prematurity. N C Med J. 2017;78(2):124-128 (in this issue).
3. Skaggs JB, Zhang X, Olson DJ, Garg S, Davis RM. Screening for diabetic retinopathy: strategies for improving patient follow-up. N C Med J. 2017;78(2):121-123 (in this issue).
4. Johnson P. Updates in hearing technology. N C Med J. 2017;78(2):104-106 (in this issue).
5. Thomas KP. Are direct-to-consumer marketing and over-the-counter sale of hearing aids beneficial to patients with hearing loss? A provider’s perspective. N C Med J. 2017;78(2):109-110 (in this issue).
6. Royster JD. Preventing noise-induced hearing loss. N C Med J. 2017;78(2):113-117 (in this issue).
7. Geary SM, Cox ME, Proescholdbell SK. Understanding the prevalence of eye and ear injuries in North Carolina. N C Med J. 2017;78(2):134-137 (in this issue).
8. Stiles H. Accommodating deaf and hard-of-hearing employees. N C Med J. 2017;78(2):101-103 (in this issue).
9. Withers J, Speight C. Health care for individuals with hearing loss or vision loss: a minefield of barriers to accessibility. N C Med J. 2017;78(2):107-112 (in this issue).
10. Lewis MP. Patient-provider communications in the context of hearing loss. N C Med J. 2017;78(2):131-133 (in this issue).
11. Sexton J. Empowering adolescents who are deaf and hard of hearing. N C Med J. 2017;78(2):129-130 (in this issue).
12. Rooth MA. The prevalence and impact of vision and hearing loss in the elderly. N C Med J. 2017;78(2):118-120 (in this issue).