

The Role of Occupational Therapy in **Providing Assistive Technology Devices and Services**

Assistive Technology Defined

Technology is a common element in our everyday lives. The goal of occupational therapy is to enhance or enable meaningful participation in the occupations (activities) important to the clients served. Therefore, technology is a component of providing occupational therapy services across practice arenas. However, just because an item is technological does not mean that it is assistive technology. Conversely, not all items used as assistive technology fall within the common definition of technology itself. The Technology Related Assistance for Individuals with Disabilities Act of 1988 put forth the definition of assistive technology that is used in most regulatory language.

In the bill, assistive technology is defined as both a device and a service. An *assistive technology device* is any item, piece of equipment, or product system, whether acquired commercially, modified, or customized, that is used to increase, maintain, or improve the functional capabilities of individuals with disabilities. *Assistive technology services* include the evaluation of need, the process of acquiring the device, fitting or customizing the device, coordinating the intervention plan, and providing training and technical support to the user and related support personnel. Occupational therapy practitioners provide both assistive technology devices and services.



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Technology, Assistive Technology, and the Occupational Therapy Process

Practitioners use activity analysis in the occupational therapy process to meet the demands of each client's desired occupation in *context*. They consider the tools used to meet the demands of the occupation (activity) and consider the match between the skills and abilities of the client with the use of the tools. When these tools increase, maintain, or improve someone's functional capabilities, they meet the definition of assistive technology. If the tools typically used to perform an occupation do not align with a client's skills and abilities, the occupational therapy practitioner adapts or modifies them, or the way the individual uses them, to facilitate occupational performance. Therefore, providing assistive technology devices and services to support individuals with disabilities (and those who need assistance for a short-term illness or injury) and minimize barriers to function is a natural part of the occupational therapy process.

Based on their educational curriculum and clinical experience, occupational therapy practitioners have the knowledge and foundational skills to assess clients and provide assistive technology devices and services (American Occupational Therapy Association [AOTA], 2010). An important part of the occupational therapy practitioner role, based on observation and evaluation of the client's performance, is to make specific recommendations for the most appropriate assistive technology to facilitate improved functional ability. Matching the client's abilities, preferences, environmental contexts, and barriers to the technology device features is a distinct role that occupational therapy practitioners can fulfill, and which leads to productive outcomes for their clients.

However, this is *often* a collaborative multidisciplinary team process including consultation with other health care professionals on the team as well as educators, assistive technology device vendors, manufacturers, and of course, the client and family or caregivers. The rapid rate of change in available technology means that occupational therapy practitioners not only have to stay current for applications in their area of practice (AOTA, 2010), but they also must work closely with other professionals and particularly with relevant vendors as an advocate for

the client, when necessary, to support the assistive technology decision-making process. The occupational therapist can then provide specific documentation about the purpose of the technology, how it will be used, and a rationale for its necessity to inform and support a physician order and payment. In addition, occupational therapy practitioners must exercise care and ethical judgment when recommending or using emerging technology, as supportive evidence and recognized standards may be limited or non-existent.

Case Examples of Occupational Therapy in Assistive Technology Intervention

- A fourth grade student with cerebral palsy has difficulty participating in classroom reading and writing tasks because of limited motor control in his arms. The occupational therapist introduces many high- and low-tech options, including a word processor with word prediction to increase his writing efficiency and legibility; a cut out desk with supports for his forearms so he can access a keyboard; highlighters to mark selections on multiple choice tests; and premade labels to use in group tasks without having to write. He reads using a tablet computer with access to a federally funded repository for digital books, and he uses the text-to-speech feature when he is getting fatigued. These supports allow him to function and learn in his classroom.
- An 81-year-old widow with vision loss lives at home. An occupational therapist helps identify and implement a variety of supports to increase her function in the kitchen, including a tablet with a camera to photograph and enlarge labels and recipes; voice output on the tablet to help her search for recipes online; high-contrast dials for the oven and stove; and large-print cookbooks and measuring tools. These interventions allowed her to remain independent and safe in her home without additional assistance.
- A college student with cerebral palsy who uses a power wheelchair for mobility has classes at lab tables that are difficult to reach. He is unable to reach some cabinets and work surfaces in his dorm when seated. He also struggles with constipation and loss of bone density. After observing his daily routine around campus, his occupational therapist helps him select the components of an appropriate seating and mobility solution, including a standing feature so he can access the lab tables and storage in his room, facilitating independence in self-care. The occupational therapist recommends and documents the rationale for a new chair, including the medical benefits related to digestion, elimination, and musculoskeletal integrity, for the physician and payer.

Conclusion

Occupational therapy practitioners' understanding of occupational needs and performance, coupled with their skills in activity analysis and focus on achieving client goals, strongly support the use of diverse types of assistive technology within models of best practice. That perspective helps identify and integrate desired features of assistive technology solutions, as well as address potential barriers to integrating assistive technology into the client's daily routines.

References

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Technology Related Assistance for Individuals with Disabilities Act of 1988. PL 105-394 Sec (3) (a) 3–4.

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Occupational therapy enables people of all ages live life to its fullest by helping them to promote health, make lifestyle or environmental changes, and prevent—or live better with—injury, illness, or disability. By looking at the whole picture—a client's psychological, physical, emotional, and social make-up—occupational therapy assists people to achieve their goals, function at the highest possible level, maintain or rebuild their independence, and participate in the everyday activities of life.

