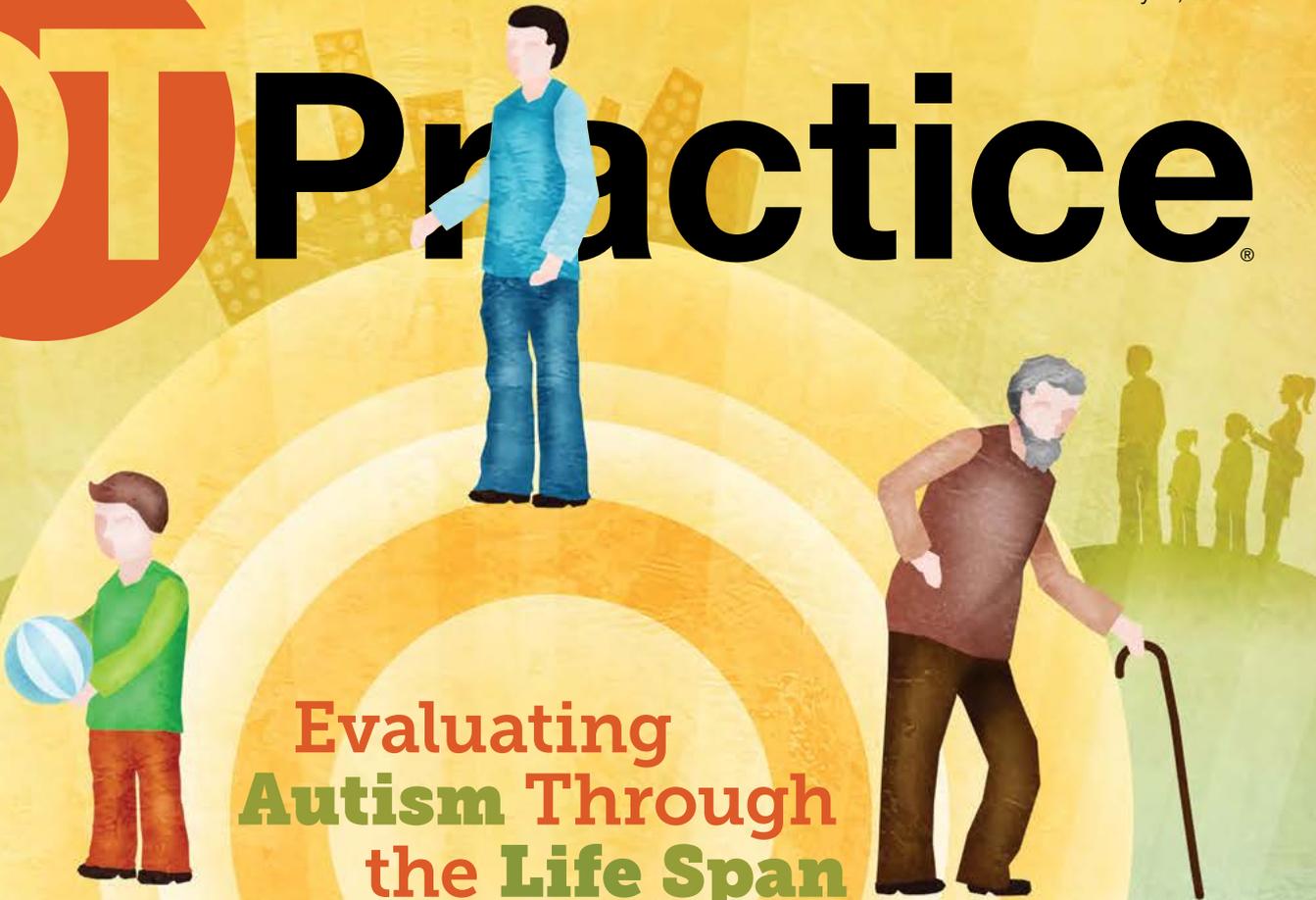


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Practice[®]



Evaluating Autism Through the Life Span

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Evaluating Clients With Autism Spectrum Disorders: **A Life Span Approach**

How evaluation, assessment, and intervention for clients with autism change over the life span.

by Carolyn Murray-Slutsky, Jennifer Richman, and John Pagano

 Occupational therapy can be used to evaluate and provide interventions for people with autism spectrum disorder (ASD) across the life span, to enhance participation in roles, habits, and routines in the home, school, workplace, and other community settings, as noted in the *Occupational Therapy Practice Framework: Domain and Process* (3rd ed.; American Occupational Therapy Association [AOTA], 2014).

The evaluation consists of the occupational profile (including occupational history, patterns of daily living, interests, values, needs, problems, and concerns about occupational performance) and an analysis of occupational performance (including supports and barriers to occupational performance and targeted outcomes, performance skills, and patterns; AOTA, 2014). However, the type of assessment and intervention vary depending on the age of the client and the setting in which they are being served. This article provides an overview of the varying tools and approaches

occupational therapy practitioners may use with clients with ASD across the life span (see Table 1 on p. 13 for a listing of the assessments).

Early Identification, Screening, and Diagnostic Evaluations

Occupational therapists can screen children for early signs of ASD that include lack of finger pointing, unresponsiveness to their name being called, and echolalia. Occupational therapists should include their clinical observations and administer published screening tools, such as the Modified Checklist for Autism in Toddlers (Autism Speaks, 2012), or parent/caregiver report measures, including the Social Communication Questionnaire (Al-Qabandi, Gorter, & Rosenbaum, 2011). Children demonstrating early signs of ASD should be referred for further diagnostic evaluation when warranted.

The goal of early screening and early diagnosis is to increase access to appropriate care and improve developmental outcomes (Centers for Disease Control and Prevention, 2017).

Early Childhood and Preschool

Play is a child's main occupation during the early childhood and preschool years and is the framework from which the occupational therapist evaluates the child's development, social, sensory-motor, adaptive, cognitive, communication, sensory processing, and motor behaviors. The occupational therapist also uses play to evaluate the child's interests, motivation, and restrictive or repetitive play patterns and determine methods to adapt activities to make them more naturally reinforcing (AOTA, 2015b; Tomchek & Koenig, 2016). These early years of life are critical periods of brain growth and a time of substantial neural plasticity (Dawson, 2008). It is believed that early evaluation and intervention for children with suspected or confirmed ASD during this period may help counteract the progressive symptom development and ultimately prevent ASD-related impairments before they fully manifest (Dawson, 2008; Zwaigenbaum et al., 2015). Family-centered care and active involvement of the families and/or caregivers is a central facet of the occupational therapy evaluation.

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Case Example

An occupational therapy evaluation was requested for Joshua, who was 3 years and 10 months old and had ASD. The referral concerns were motor planning difficulties interfering with speaking and signing, overall clumsiness, tantrums related to task demands, and lack of participation. His mother was concerned about his extreme loudness, constant running around, and tantrums. She had requested help from the occupational therapist in coping with her son’s behavior. The occupational therapy evaluations for Joshua included an occupational profile (AOTA, 2014; Tomchek & Koenig, 2016), Infant/Toddler Sensory Profile (Dunn, 2002), the Peabody Developmental Motor Scales (Folio & Fewell, 2000), and the Test of Playfulness (Bundy, 2010). Joshua’s mother reported concerns that her “over sensitivity” to Joshua’s screaming and constant movement was affecting her ability to “be a good mother.” To assess this, Joshua’s mother was given the Adolescent/Adult Sensory Profile (Brown & Dunn, 2002).

Joshua’s scores on the Infant/Toddler Sensory Profile indicated “definite difference” (more than others) in low registration and sensation seeking. Specific scores indicated that Joshua “almost always” needed to be touched to gain his attention, avoided eye contact, found ways to make noise with toys, enjoyed looking at moving or spinning objects, and enjoyed physical activity. Joshua’s mother’s scores on the Adolescent/Adult Sensory Profile were higher than normal for sensory sensitivity and sensation avoiding.

The sensory profile scores were used to contrast the differences in sensory processing and needs between Joshua and his mother. Joshua was “much more likely” than others his age to miss sensory stimuli and to actively seek out sensory input, whereas his mother was much more sensory sensitive and likely to avoid sensory input than most people. These sensory differences were addressed not as flaws but as sensory tendencies that put

stress on their relationship but could be helped through coping strategies.

Clinical observations, and the scores from the Infant/Toddler Sensory Profile and the Peabody Developmental Motor Scales, indicated that Joshua was low registration, was sensory seeking, and had motor planning challenges. The occupational profile and the Test of Playfulness indicated that Joshua’s mother was looking for ways to play with her son, help him communicate, and prevent his tantrums.

Twice-weekly occupational therapy services were recommended in conjunction with Joshua’s mother and a speech-language pathologist. The occupational therapy treatment goals were to:

- Develop environmental adaptations and sensory strategies to improve mother–child interactions as well as Joshua’s sensory discrimination, processing, and motor planning
- Improve Joshua’s functional skills in the areas of seated attention, grasping, and object manipulation
- Improve Joshua’s participation in interactive play and daily activities
- Strengthen Joshua’s mother’s confidence, interactions, and ability to meet Joshua’s developmental and emotional needs, while meeting her own
- Improve Joshua’s ability to communicate



School Age

Functional demands increase as the child with ASD becomes school age. The occupations include more and greater sophistication in performance in play; academics; socializing; ADLs; leisure and adaptive behaviors with a primary focus on school learning; and developing sensory, motor, behavioral, and cognitive skills required for social and academic participation. School-based occupational therapists evaluate barriers to participation and build competencies required for academic, social, school-based extracurricular, and routine-oriented tasks. Through education, team collaboration, and partnership with students, they foster student access to and adequate progress in the national and/or state-mandated curriculum (AOTA, 2015c).

Children with ASD often demonstrate clear sensory differences. The extent to which these sensory features are present may moderate or intensify the severity of social communication difficulties and repetitive behaviors that characterize ASD (Lane, Young, Baker, & Angley, 2010). Occupational therapy practitioners often use sensory motor and sensory integrative evaluations and interventions with children who have ASD. Ayres Sensory Integration® is used to identify and address differences in neurological processing of sensation that can affect self-regulation, behavior, attention, and performance (AOTA, 2015a). Sensory-based observations, parent and teacher profiles, and standardized assessments are used to evaluate sensory differences.

Case Example

Danielle, a 10-year-old student with ASD and anxiety disorder, was referred for an occupational therapy consultation by her teacher because of sensory concerns. The teacher reported that Danielle's extreme distractibility, particularly during the last hour of school, and an attention span of only about 7 minutes despite good effort, was severely hindering her ability to actively participate in various school activities. The teacher was looking for recommendations and classroom accommodations. The occupational profile and the Short Sensory Profile 2 (Dunn, 2014) were included in the occupational therapy evaluation and observation. Danielle's scores indicated sensitivity and sensory section scores that were "much more than others," and "just like others" performance in all other areas (e.g., seeking, avoiding, registration, behavioral sections). The School Function Assessment (Coster, Deeney, Haltiwanger, & Haley, 1998) was administered to assess Danielle's participation in school routines. Because the evaluation and observation suggested that Danielle had sensory over-responsivity to auditory, tactile, and multisensory processing, efforts to reduce multisensory stimuli (auditory and tactile) were the focus of evidence-based environmental adaptations (Green et al., 2015). The occupational therapist worked closely with the teacher and integrated strategies to help Danielle focus during, attend to, and participate in class, while working

within the teacher's classroom structure and comfort. Several effective accommodations included scheduling the most challenging academic activities earlier in the day and determining Danielle's preferred placements for work areas to reduce distractions from peers and simultaneous tactile and auditory input.

Adolescents

Greater social expectations are placed on the growing child as they transition from childhood to adulthood. The teen years are a critical period for an individual with ASD, as they begin to age out of the education system and enter into pre-vocational, community, and/or residential placement. Adolescence is also a time of vulnerability to mental health challenges as socio-emotional stressors and demands increase (Pfeiffer, Kinnealey, Reed, & Herzberg, 2005). A positive transition creates a solid foundation for an adaptive adult life course (Shattuck, Wagner, Narendorf, Sterzing, & Hensley, 2011; Shattuck et al., 2012).

Main occupations include increased responsibility in IADLs, such as money management and participating in household chores, transitioning into college, pre-vocational training, romantic relationships, engaging in hobbies, and preparing for the transition from school to community-based programs and/or work.

Occupational therapy evaluations, in addition to the occupational profile, may

functional leisure skills and interests that can facilitate community integration, self-esteem, and self-worth. Long-term planning, such as guardianship preparation, post school-age life, and long-term care may be an integral part of the evaluation (Case-Smith & Arbesman, 2008). In addition to the occupational profile, the Kohlman Evaluation of Living Skills (KELS; Kohlman Thomson & Robnett, 2016) and the Adaptive Behavior Assessment System (ABAS-3; Harrison & Oakland, 2015) may be used.

Adults

As young adults with ASD transition to adulthood, several life events occur. Families have to decide what happens after high school, when the Individuals with Disabilities Education Act-mandated services conclude. Recent studies have found that relatively few young adults with autism receive assistance after high school (Shattuck et al., 2011; Turcotte, Mathew, Shea, Brusilovskiy, & Nonnemacher, 2016). Parents also need to start making decisions to ensure their young adult will be taken care of when they can no longer fill this role.

Occupational therapy assessments help to identify client needs, strengths, interests, meaningful occupations, work skills, and living options to ensure successful transitions. Occupations include work; independent living; IADLs, such as shopping, doing laundry, and paying bills; ADLs, such as cooking; and overall community



"Occupational therapy assessments help to identify client needs, strengths, interests, meaningful occupations, work skills, and living options to ensure successful transitions."

also assess occupational performance and level of independence by measuring sensory processing and socio-emotional skills, visual-motor and cognitive skills, ADLs and IADLs, and neuromotor and musculoskeletal functions. The occupational therapist is also trained to evaluate

integration. Occupational therapists use their background in sensory processing, task analysis, mental health, learning style assessment, and environmental modifications to evaluate independence regarding living arrangements and vocational skills, as well as functional leisure interests that will improve quality of life.

Case Example

Stevie was a 25 year old with autism. He had graduated from a supported academic program but was having difficulty transitioning to independent living. His passion and the focus of his academics had been geology. He was referred by his Vocational Rehabilitation Counselor for an occupational therapy assessment to provide recommendations for assistance needed. Assessments completed included an occupational profile, KELS, and ABAS-3.

Stevie demonstrated motivation to live on his own, even though he received extensive support from his parents. He could take care of his basic hygiene and

assessing Stevie's progress, addressing his functional concerns and interests, and improving his independence and occupational performance.

As a result, Stevie moved into a small apartment and got a paying part-time job/internship at a private jewelry store nearby, and also set up his own website to sell polished rocks and gems himself. He became independent in managing his IADLs of housecleaning, laundry, grocery shopping and meal planning and cooking, with a weekly schedule and task organizers set up for each task, and he learned to keep track of his expenses using a computer-assisted spreadsheet. Steve also joined a local geology

profile to determine the effect of sensory issues on function; current occupations; motivations; behaviors; independent daily routines and problematic routines; current leisure, recreational, and exercise activities and interests; current social supports and any projected changes; and the individual's and caregiver's concerns, questions, goals, and priorities.

Evaluations look at the aging process; sensory and physical components of aging and their effect on function; the effects the characteristics of autism have on the individual's ability to function; the individual's current level of functioning; and the individual's and caretaker's goals, desires, and priorities. The evaluation identifies ways to minimize the effects of aging while strengthening current skills; adapt the environment and educate others on accommodations to meet the needs or behaviors characteristic of ASD or aging that interfere with the ability to participate; develop skills and systems to access social, leisure, and recreational activities; and address the goals and priorities of the individual to improve their quality of life.

“Older adults will also be transitioning to a time when they will not have the benefits of parental oversights, support, and advocacy.”



self-care needs, but several IADLs were a concern, such as managing his finances. In addition, Stevie reported that he often felt lonely. He had tried unsuccessfully to make friends, and he continued to find that to be a void in his life.

IADL areas that required support and training included doing laundry and other housekeeping tasks; planning, preparing, and cooking meals; paying bills and managing finances; maintaining his health; and, because he did not drive, using public and other transportation solutions. The occupational therapist worked closely with Stevie, the Vocational Rehabilitation Counselor, his assigned Social Worker, and his family to establish systems and schedules, and to establish ongoing instructions in areas of need. The Goal Attainment Scale was used to develop individualized goals that addressed Stevie's personal and occupational performance needs, with his intense interest in geology (e.g., mining, cleaning, identifying, cutting stones) identified as an area that could be expanded to include leisure, social, and vocational opportunities. The occupational therapist became a vital part of the team in coordinating services,

group that sponsored field outings and, while there, made friends with other like-minded individuals. His parents continued to be actively involved in his life and reported he was thriving on his own, appeared to be happy, and showed increased self-confidence.

Older Adults

Aging with ASD brings not only the ongoing challenges of communication, social interaction, and behavioral and/or sensory issues, but also the social, physical, and mental health issues often experienced with old age. Older adults will also be transitioning to a time when they will not have the benefits of parental oversights, support, and advocacy. Often this support was what enabled them to live and work in the community.

Evaluations are tailored to the individual's specific lifestyle and needs. Individuals may be living independently, with family, in group homes, or in institutional care. The evaluation starts with the occupational profile, to identify the individual's background, including medical history, and also includes a sensory

Case Example

Adam was a 70-year-old male with autism and depression. He lived alone, was afraid to leave his apartment, had limited social supports, and was a client of an outpatient day treatment program. He appeared disheveled and was socially isolated, anxious, obese, and pre-diabetic. Both his parents had passed away years prior and he felt guilty about the burden he had placed on them while they were alive, further leading to his depression. Adam was referred by his case manager at the clinic for occupational therapy evaluation and intervention. The occupational therapist used the occupational profile, Adolescent/Adult Sensory Profile, KELS, interest checklist, and Canadian Occupational Performance Measure (Law et al., 2005) to evaluate Adam's occupational performance, sensory processing skills, safety in the home, potential functional leisure skills, and occupations he would like to improve on. The evaluation results indicated that he was over responsive to tactile, visual, and multi-sensory input. He was often overstimulated while walking

Table 1. Assessments for Autism Across the Life Span

Early Childhood	School Age	Adolescents	Adults	Older Adults
Sensory Processing Measure—Preschool: Home (Ecker & Parham, 2010); Sensory Processing Measure—Preschool: School (Miller Kuhaneck, Henry, & Glennon, 2010)	Sensory Processing Measure—Preschool: Home; Sensory Processing Measure—Preschool: School	Adolescent/Adult Sensory History (May-Benson, 2015)	Adolescent/Adult Sensory History	Adolescent/Adult Sensory History
Bayley Scale of Infant and Toddler Development, 3rd Edition (Bayley, 2005)	Sensory Profile 2 (Dunn, 2014)	Kohlman Evaluation of Living Skills (KELS; Kohlman Thomson & Robnett, 2016)	KELS	KELS
Infant/Toddler Sensory Profile (Dunn, 2002)	Goal-Oriented Assessment of Lifeskills (Miller & Oakland, 2013)	Goal-Oriented Assessment of Lifeskills	COPM	COPM
Test of Playfulness (Bundy, 2010)	Canadian Occupational Performance Measure (COPM; Law et al., 2005)	Adaptive Behavior Assessment System (ABAS-3; Harrison & Oakland, 2015)	ABAS-3	Quick Neurological Screening Test 3rd Edition (Mutti, Martin, Sterling, & Spalding, 2011)
Miller Assessment of Preschoolers (Miller, 1988)	School Function Assessment (Coster, Deeney, Hal-tiwanger, & Haley, 1998) School Version of the Assessment of Motor and Processing Skills (Fisher, Bryze, Hume, & Griswold, 2005)	Vineland Adaptive Behavior Scales, 2nd Edition (Spar-row, Cicchetti, & Balla, 2005)		ABAS-3
Battelle Developmental Inventory, 2nd Edition (Newborg, 2016)	Bruininks- Oseretsky Test of Motor Proficiency, 2nd Edition (Bruininks & Bruininks, 2005)	COPM		
Peabody Developmental Motor Scales, 2nd Edition (Folio & Fewell, 2000)	Miller Function and Participation Scales (Miller, 2006)	Interest Checklist (Center for the Advancement of Distance Education, n.d.)		

Note. This is a sample of occupational evaluations by age. For more information or a more comprehensive list, refer to the *Occupational Therapy Practice Guidelines for Individuals with Autism Spectrum Disorder* (Tomchek & Koenig, 2016) or *Asher's Occupational Therapy Assessment Tools* (4th ed.; Asher, 2014).

in the street and, as a result, had difficulty attending the day treatment program on a regular basis. His diet consisted of chips and soda for each meal; he had difficulty with leisure skills in a social setting, budgeting, transportation, and grooming; and he had poor self-esteem. Areas that he wanted to improve on included making healthier meals to improve his health and lose weight. Adam's interests included making and listening to music and attending groups at the clinic. His parents sang with him when they were alive—he was a member of a chorus when he was young, and he was motivated to attend the music group at the clinic.

Through education, environmental modification, and practice shopping in the community, the occupational therapist helped Adam learn how to make more nutritious food purchases on a low budget. The therapist also helped Adam

clean and organize his home. Further, the occupational therapist encouraged Adam to join an occupational therapy–led music group to improve his self-esteem and self-expression. He thrived during the group, making friends with peers and expressing his musical ideas freely. He was motivated to attend the music group on a weekly basis, wrote a song about his parents and the challenges of growing up with a disability, and performed along with fellow music group members in various concerts for peers at the clinic. He began attending other groups as well, with occupational therapists facilitating peer interaction, resulting in peer relationships and social supports. Peers helped Adam see his relationship with his parents in a more positive way and, ultimately, he reported improvement in his self-esteem and self-worth.

Conclusion

Occupational therapy practitioners help clients with ASD throughout their life span and in a broad range of ways, reflecting the profession's distinct ability to address the many facets that make each person unique, regardless of who they are, their age, their condition, or any other factor. As time goes by, the importance and recognition of occupational therapy in helping individuals with ASD and their families should continue to grow, underscoring the need for therapists to be able to appropriately assess and address their needs. 📌

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