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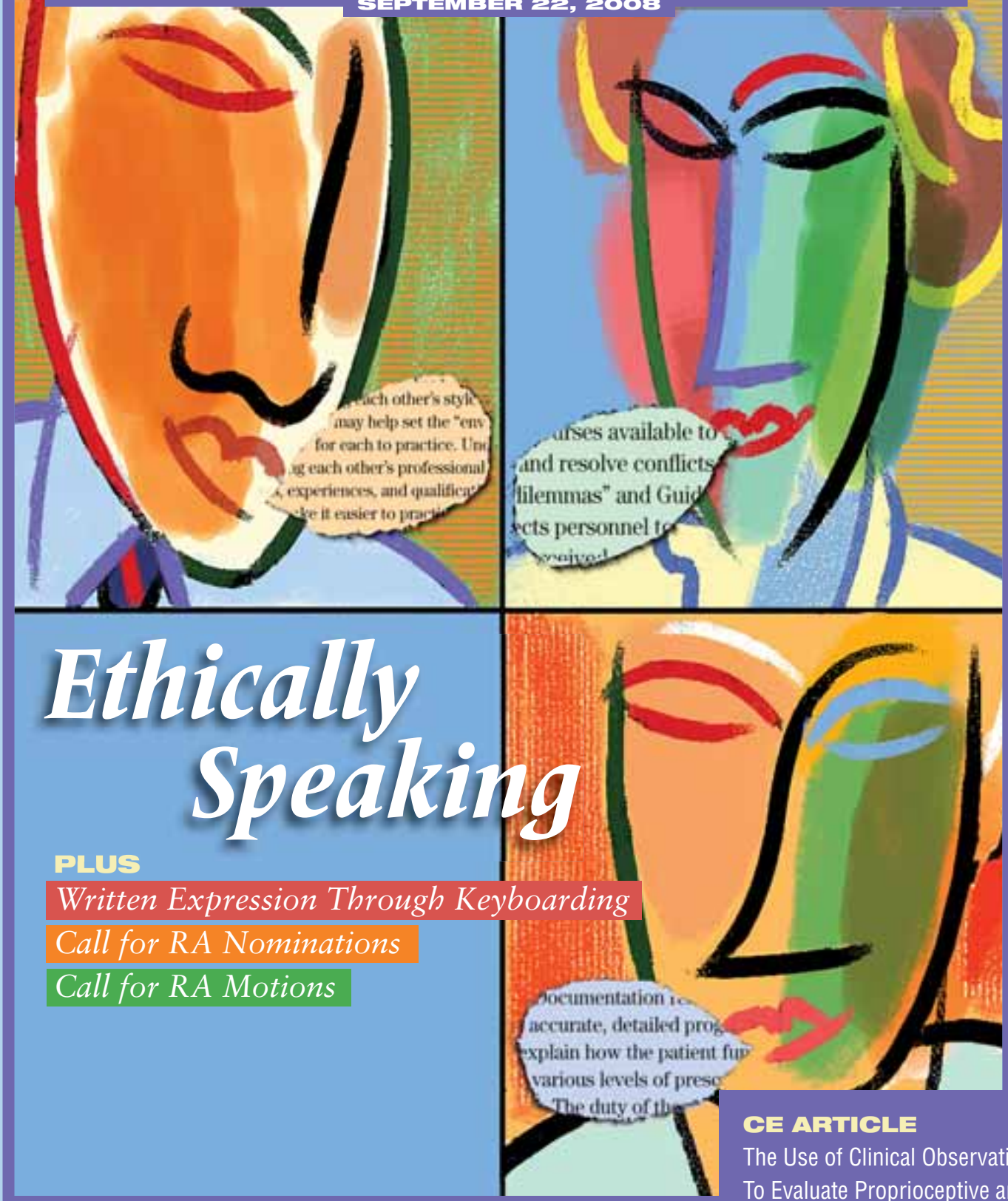
SEPTEMBER 22, 2008



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1 - Alon G, et al. J Stroke and Cerebrovascular Dis. 2002;11:99-106. 2 - Alon G, et al. NeuroRehabilitation 2003;18(3):215-225. 3 - Ring H, et al. J Rehab Med. 2005; 37:32-36.

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AOTA Updates

Student Conclave

Hey, students, register now! Don't miss your chance to attend the AOTA/NBCOT National Student Conclave this November 14 to 16 in suburban Chicago. You'll have a chance to network with other students and employers, attend advanced-level educational sessions, meet with exhibitors, and more. Join AOTA in suburban Chicago this fall and get on the **Inside Track to Your Future.** Visit www.aota.org/conclave to download materials and register online. **Register by October 14 and save!**

Recognize Your Colleagues

The AOTA Recognitions Committee encourages you to recognize colleagues who have made significant contributions to the profession by nominating them for one of the awards offered by the Association each year. Description of the awards, nominations forms, FAQs, and the general point system can be found on the AOTA Web site at http://www.aota.org/Practitioners/ProfDev/Awards.aspx. Questions can be directed to awards@aota.org.

Feedback and Contributors Wanted!

AOTA Press is planning to update its best-selling classic *The Occupational Therapy Manager*, and is seeking feedback from readers and users of the 4th edition as well as potential contributors to the 5th edition, which is scheduled to be published in spring 2010. Our goals include combining (a) evidence with dynamic practicality, (b) academic with clinician authors, and (c) print with electronic content. Please e-mail your thoughts about what currently works and what doesn't, and your résumé or CV if you are interested in becoming a contributor, to Chris Davis, Director of AOTA Press, at cdavis@aota.org.

Calling OT Researchers

AOTA would like to share recent occupational therapy research with journalists on an ongoing basis. If your research paper was accepted for publication in a peer-reviewed journal, but has not been printed yet, and you would like your work to be summarized for the press, please contact Heather Huhman, Media Relations Manager, 301-652-6611, ext. 2963, hhuhman@aota.org; or Susan Lin, Director of Research, 301-652-6611, ext. 2091, slin@aota.org.

OT Practice Thanks Reviewers

The staff members of *OT Practice* thank the following persons for sharing their expertise by providing content reviews of manuscripts and articles for the issues from July 14 through September 22: **Debbie Amini, Barbara Chandler, Sharon Elliott, Kim Hartmann, Jennifer Kaldenberg, Pamalyn Kearney, Maria Elena Louch, Deborah Pitts, Laurel Radley, Denise Rotert, Sandy Schefkind, Elin Schold Davis, Judith Schoonover,** and **Deborah Slater.**

Research Highlights

State of the Science Conference

Susan N. Schriber Orloff, OTR/L, has been invited to present at "Opening Doors: A State of the Science" conference on accessing services for children and youth with disabilities and special health care needs from traditionally underserved communities. The conference will be held in Bethesda, Maryland, from November 10 to 11. Orloff's presentation is titled "Out of the Box—Out of the Clinic: The Outdoor Sensory Experience." Orloff is the director of Children's Special Services, LLC, in Atlanta, Georgia, serving toddlers through teens with learning and developmental issues.

Geriatric Mental Health

Wayne State University, with funding from The Retirement Research Foundation, has created a 7-hour, modular, DVD-based training program called *Integrating Mental Health Into Occupational Therapy With Older Adults*. The program teaches rehabilitation and home care professionals how to identify and screen for mental health problems, how to motivate seniors who need it to accept mental health care, how to make referrals for care, and how to use their own professional skills to address mental health problems.

A pilot study of the program with 30 occupational therapists showed statistically significant increases in attention to mental health issues. After training, more charts indicated that therapists had discussed issues of mood or cognition with patients, completed depression and cognition screenings, and made referrals for mental health care. The program addresses depression; screening tools; medications; falls, balance, and exercise; driving and community mobility; and the mental health of caregivers. For ordering information, go to www.iog.wayne.edu/pdfs/iog-sage.pdf.

Autism & Sensory Integration Grant

Roseann C. Schaaf, PhD, OTR/L, FAOTA, vice chairman and associate professor, and director of graduate programs, in the Occupational Therapy department at Thomas Jefferson University in Philadelphia, was granted a 2008 Treatment Award from Autism Speaks, the leading nonprofit association dedicated to autism. This 3-year, $450,000 grant will fund research to assess improvement in adaptive behaviors in children with autism through sensory-based techniques using sensory integration strategies. The study will evaluate whether occupational therapy effectively reduces sensory dysfunction in children with autism spectrum disorder. Schaaf is collaborating

AOTA BULLETIN BOARD

NEW EDITION FROM AOTA PRESS

Reference Guide to the Occupational Therapy Ethics Standards 2008

By Deborah Yarett Slater, MS, OT/L, FAOTA

This book was written to assist all occupational therapy practitioners as they confront ethical issues throughout their careers. The complexity of the health care system and current social environment necessitates the need for learning ethical reasoning. **$34 for Members,** $48.25 for Nonmembers. *Order #1139E-BB*

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Core Knowledge for Occupational Therapy Practitioners and Educators

By AOTA Ethics Commission (The AOTA Press publication *Reference Guide to the Occupational Therapy Code of Ethics, 2006 Edition*, is a required text for successfully completing this course.)

The course material will help practitioners and educators identify and analyze ethical dilemmas, provide a framework for making ethical decisions, identify the different agencies involved in regulating the profession of occupational therapy and their roles, and identify a process for filing and handling complaints related to ethical violations. **$73 for Members,** $103.50 for Nonmembers. *Order #4827-BB*

FROM AOTA PRESS

Autism

A Comprehensive Occupational Therapy Approach, 2nd Edition

By Heather Miller-Kuhaneck, MS, OTR/L, BCP, Editor

This book includes topics such as social skills, school-based practice, sensory integration, alternative and complementary approaches, and play and praxis. It offers a fresh occupational therapy perspective that advances evidence-based practice and clinical reasoning. **$59 for Members,** $83 for Nonmembers. *Order #1213A-BB*

ONLINE COURSE

Occupational Therapy in School-Based Practice—Contemporary Issues and Trends

Autism and Related Disabilities

Considerations for Occupational Therapy in the School Setting—Elective Session 3

(You must successfully complete the Core Session to take Elective Sessions.) Earn .1 AOTA CEU (1 NBCOT PDU/1 contact hour)

By Heather Miller-Kuhaneck, MS, OTR/L, BCP. Edited by Yvonne Swinth, PhD, OTR/L

As the number of students with autism in public schools increases, many occupational therapists who work in this setting are struggling with appropriate assessment and intervention strategies. This resource helps occupational therapists explore issues unique to students with autism and their role in meeting these needs. **$22.50 for Members,** $32 for Nonmembers. *Order #OLSB3-BB*

Bulletin Board was written by **Emily Harlow,** AOTA Technology & Marketing Specialist.

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with **Donna Kelly,** MS, OTR/L, of Children's Specialized Hospital in New Jersey, who will oversee the recruitment and implementation efforts; and with **Zoe Mailloux,** MA, OTR/L, FAOTA, of Pediatric Therapy Network, who participates in training the therapists on intervention. Schaaf's proposal is partly based on the work of the Sensory Integration Research Collaborative (SIRC), a group of researchers and expert clinicians whose mission is to forward research in sensory integration and occupational therapy. The SIRC members include Dr. Janice Burke, Teal Benevides, Dr. Erna Blanche, Stephanie Bodison, Dr. Ellen Cohn, Dr. Barbara Brett Green, Dr. Jane Koomar, Dr. Shelly Lane, Dr. Teresa May Benson, Zoe Mailloux, Dr. Lucy Jane Miller, Dr. Diane Parham, Dr. Stacey Reynolds, Dr. Sarah Schoen, and Susanne Smith Roley.

Industry News

Call for Submissions

Matthew Molineaux, BOccThy, MSc, PhD, AccOT, reader and head of Occupational Science and Occupational Therapy Faculty of Health at Leeds Metropolitan University in the UK, has been asked to write a book for Oxford University Press to be included in *A Dictionary of Occupational Science and Occupational Therapy*. Molineaux will work with advisory editors, but is also looking for suggestions of terms, concepts, ideas, biographies of key people in occupational therapy, theories, models, approaches, and more from occupational therapy practitioners. Suggestions can be submitted via the form at www.leedsmet.ac.uk/health/osot/form/dictionary.htm, or by e-mailing your name, e-mail address, country, suggested term, and what this term means to you, to osot@mlmkjw.com

Practitioners in the News

- **Martha Hartgraves,** PhD, OTR/L, CLT, graduate program director of the OTD program at Rocky Mountain University of Health Professions, was named director of education and research of the Centro de Rehabilitacion y Educacion Especial (Government Center for Rehab and Special Education) and the Desarrollo Integral de la Familia (a government agency concerned with the Integral Development of the Family) in Yucatan, the two largest Mexican government agencies that provide rehabilitation services for people with disabilities. Additionally, Hartgraves and Level II fieldwork students **Staci Copses** and **Amy Todd,** from Brenau University in Georgia, were featured in two Mexican newspapers on July 19 for their work with Mayan clients in rural villages in Yucatan.
- **Barbara Larson,** MA, OTR/L, FAOTA, was featured in the June/July issue of *The Woman Today* magazine for her work with Lifecyclers Electronic Recycling.
- **Stephanie McCammon,** MS, OTR/L, from the University of Illinois Medical Center, and **Tamra Trenary,** OTD, OTR/L, BCPR, of the Mayo Clinic in Rochester, Minnesota, received the Beatrice D. Wade Award for Clinical Education from the Department of Occupational Therapy at the University of Illinois at Chicago. The award is given to outstanding fieldwork supervisors nominated by graduating occupational therapy students. McCammon and Trenary were selected for their clinical excellence, ability to facilitate student development

during fieldwork experiences, and enthusiasm and dedication to fieldwork education.

■ **Jaime P. Muñoz,** PhD, OTR, FAOTA, received Duquesne University's President's Award for Faculty Excellence in University Service for 2007–2008 from the Rangos School of Health Sciences. Muñoz has pursued his service with passion, efficacy, and responsible action to Duquesne University. Examples of his many accomplishments include overseeing student learning outcomes processes, facilitating and leading parts of the Center for Interpretive and Qualitative Research activities, and contributing to campus diversity opportunities and multiculturalism as a servant–leader.

■ **Janet Powell,** PhD, OTR/L, associate professor in the Division of Occupational Therapy at the University of Washington in Seattle, co-produced the documentary, *Living with Traumatic Brain Injury*. The 30-minute video chronicles the lives of four people adjusting to traumatic brain injury and shares information from rehabilitation experts about the effects of such injuries. The documentary can be downloaded at no cost from the University of Washington Web site at www.washington.edu.

■ **Jodie Valls,** instructor, and **Terri Gonzalez,** program director for the occupational therapy program at Laredo Community College in Laredo, Texas, were featured in the *Laredo Morning Times* in an article about the animal assisted therapy program at the college.

■ **Nancy Yoshida,** a retired occupational therapist, is training for the 2009 Iditarod in Alaska. Yoshida has been sledding for the past 12 years, and will begin the race on March 7, 2009.

■ Under the leadership of **Rosemary Boisvert,** MS, OTR/L, CAP, the Transitional Living Center of Southwest Florida Addiction Services, Inc., in Ft. Myers, Florida, received first place for Innovative Programs in the 2008 Substance Abuse Services Best Practices Awards presented by the Florida Department of Children and Families and the Florida Alcohol and Drug Abuse Association. Boisvert is the director of adult treatment services for the Center and developed and implemented a Peer Support Community program with the help of graduate students and faculty from the **Florida Gulf Coast University Occupational Therapy Program**.

■ Students from **Touro University Nevada's School of Occupational Therapy** were highlighted on two television stations and in four newspapers for their participation in the Assistive Technology Fair at Touro University. The fair is conducted annually by Yvonne Randall, EdD, OTR/L, FAOTA, and enables students to showcase their final projects from Randall's advanced course in Assistive Technologies and Adaptive Devices. ■

Share Your Success

OT Practice would like to help you share professional information with your colleagues. Please mail your news items, resources, or professional successes to Molly Strzelecki, Associate Editor, OT Practice, AOTA, PO Box 31220, Bethesda, Maryland 20824-1220 or e-mail them to news@aota.org. Submissions will be published as space permits and may be edited for style and space.

Molly V. Strzelecki is the associate editor of *OT Practice*.

For the latest news affecting you and your profession, visit AOTA's Web site at www.aota.org.

CAPITAL BRIEFING

Outpatient Therapy Payment Alternatives

Sharmila Sandhu

In 2007, the Centers for Medicare & Medicaid Services (CMS) established a research project titled Developing Outpatient Therapy Payment Alternatives (DOTPA), to identify, collect, and analyze therapy-related information tied to beneficiary need and the effectiveness of outpatient therapy services. The ultimate goal is to develop recommendations to CMS for payment alternatives to the current financial cap on Medicare Part B outpatient therapy services. The contract for implementing DOTPA was awarded on January 29, 2008, to Research Triangle Institute (RTI) and spans 5 years, through 2013.

"It will be critical that occupational therapy practitioners who provide services covered by Medicare Part B actively monitor the development and implementation of this tool, and participate in the feedback process…"

PT, OT, and SLP services account for about 3% of Medicare Part B spending. CMS's unsuccessful attempts to understand past growth in these expenditures (through numerous contracts that studied Part B therapy claims data) led CMS to realize that they cannot adequately assess the appropriateness of utilization patterns or the impact of changes in payment policy without access to better information. To collect the needed data, the project involves (1) developing a data collection strategy, including creating a patient assessment tool and recruiting therapy providers to participate in data collection; (2) analyzing the resulting data to identify payment alternatives to therapy caps; and (3) engaging with the stakeholder community throughout the project.

RTI is required to seek stakeholder feedback, and AOTA welcomes your comments and ideas. AOTA met with RTI representatives on May 21, 2008, to discuss the project's scope and timeline, and the need for OT experts to provide RTI with input throughout the project. In addition, AOTA was represented by members Elizabeth Skidmore, PhD, OTR/L; Sue Coppola, MS, OTR/L, BCG, FAOTA; and Nancy Richmond, OTR/L, FAOTA, in a Technical Expert Panel (TEP) meeting held on July 8 and 9 at CMS in Baltimore. These members subsequently sent a follow-up comment letter to RTI voicing their concerns with the assessment tool development and offering important policy considerations. RTI and CMS staff also held an Open Door Forum to introduce DOTPA to the provider community on August 6. AOTA has been pleased with the level of feedback we have been invited to provide to RTI on behalf of the profession and its clients. In fact, Nancy Richmond commented that, "It was gratifying to recognize how supportive other members of the TEP were to the occupational therapy concerns of including in the tool the client's ability to participate in life choices and environmental influences."

AOTA has significant interest in the progress and outcome of DOTPA. It is critical that the assessment tool be appropriately developed for and sensitive to the full scope of OT services and the variety of clients we serve. A goal of the assessment tool is to measure functional status, both at the start of treatment and again at completion of treatment, to provide information on functional improvement as an indicator for therapy outcomes. Sue Coppola remarked that, "As a consultant to the project, it has been challenging to provide recommendations for a single assessment tool that is brief, but that is also specific and sensitive to the myriad settings, conditions, and clients served by OT, PT, and SLP under Medicare B."

Although AOTA has been assured that implementation of a new outpatient payment system will not be the direct result of the project, RTI has stated that it will make recommendations about Part B payment method alternatives to CMS. AOTA is particularly concerned with what information will be used by RTI to formulate alternative payment recommendations and the appropriateness of payment alternatives. According to Elizabeth Skidmore, "While the TEP membership was comprised of occupational, physical, and speech therapy professionals representing a variety of practice settings, it will be critical that occupational therapy practitioners who provide services covered by Medicare Part B actively monitor the development and implementation of this tool, and participate in the feedback process to assure [that] their clientele and their occupational therapy outcomes will be represented in the data collection and future phases of this project."

AOTA is opposed to payment alternatives that will result in a condition-based lump sum payment and seeks to uphold deference to the OT practitioner's clinical judgment and to maintain payment for outpatient services under the Medicare Physician fee schedule.

Learn more about DOTPA at RTI's Web site at http://optherapy.rti.org/. You can send comments directly to RTI, including an interest in participating, to optherapy-comments@rti.org. Send comments to AOTA at rrpd@aota.org. ■

Sharmila Sandhu is AOTA's regulatory counsel in Reimbursement and Regulatory Policy.

An Exciting Ride

Molly V. Strzelecki

Twenty years ago when Debby Sabin, MS, OTR/L, started giving therapeutic riding lessons to five children in her backyard barn, she never thought the program would grow to become Lovelane Special Needs Horseback Riding Program, with more than 100 students and a state-of-the-art facility.

"The field of therapeutic riding programs has grown tremendously in the past 20 years, and has become much more accepted as an effective form of therapy," Sabin says. "There are a lot of programs in the country now. At Lovelane, we tend to really focus on the physical, occupational, and speech therapy goals to ultimately maximize the students' independence and enhance their quality of life."

Sabin first decided she wanted to be involved in therapeutic riding after coaching the equestrian Special Olympics team at The Riding School in Weston, Massachusetts, in 1984. At the time, Sabin was working as a licensed riding instructor.

"I really wanted to understand what was going on, because the riding was making such a difference physically and emotionally and psychologically," Sabin says. "That got me to go back to graduate school to become an occupational therapist, so I could really understand the essence of what was going on in the ring."

Sabin and her staff and volunteers at Lovelane work with kids ranging in age from 2 years to 22, who have a variety of special needs. Lessons are paid for by the families and through extensive fund-raising by Lovelane. Kids come to Lovelane with a physician's referral and have a therapy evaluation at the facility that involves occupational therapy, physical therapy, and speech therapy, and Sabin works with parents or the children themselves to figure out what issues they need or want to be addressed. The riding involves private, 30-minute sessions, usually on a weekly basis, addressing the kids' individual issues.

"I try to coordinate with whatever their speech or physical therapist is doing to really maximize this setting to enhance their other therapies," Sabin explains, "working on trunk control and balance and swallowing and voice control all at once. The nice thing is that this is such a multidisciplinary opportunity that really lends itself to address all the different areas. In general with pediatrics you can't chop a [kid's treatment] into occupational therapy, physical therapy, or speech therapy, but even more you can't do that in this setting—it all works together. And it's a very disguised therapy. A lot of the kids are having a blast, and it's not quite so hard to manipulate them to meet their goals because they're having a good time."

Sabin says that therapeutic riding fits ideally within the constructs of occupational therapy practice. She adds that at Lovelane they don't care if kids don't learn to ride, but they do care that kids become more independent, whether that means walking better, talking better, sitting independently, or being able to dress themselves.

"I think of occupational therapy as being a very holistic approach [to therapy], especially in pediatrics," she notes. "You're addressing independence. From my point of view, you don't really care if they can ride or not, but as a modality, you're really addressing all different areas of their development and this kind of setting is very well-suited to do that. You can be working on cognitive, fine motor, gross motor, sensory integration, and so many other different areas at once. It's very multifaceted. This type of therapy is very conducive to an occupational therapist's approach."

Sabin has had a lot of happy moments in the past 20 years. She's seen children saying their first words on horseback, and recently witnessed a child with brain damage get off her horse and take her first steps by herself.

"Those are always spectacular moments to see," Sabin says. "It's wonderful to see how empowered the kids are here. They're not thinking of themselves as disabled."

But that's not to say that she hasn't had some challenging times.

"I had no intention of growing the program as big as it has become," Sabin notes. "It's much more of a business, and for me personally that's a challenge because I like to practice. I like to do the therapy, so to interface with more business people as Lovelane has grown

is different. People on the business side come in and they think because we're so successful more is better, but as a practitioner I'm totally keyed into the quality for each individual kid, which doesn't really fit into a business model." Balancing the success and financial aspects of the business and keeping it going with the reality of her practitioner nature, Sabin says, is something that continually challenges her.

But that challenge, and her love of practice, are what keep Sabin and her staff going. That, and knowing that they have a list of about 300 kids who want a chance to do therapeutic riding at Lovelane. As a nonprofit organization, she notes, Lovelane is always seeking volunteers and donations to better help more kids with special needs.

Sabin is happy that in 20 years not only has therapeutic riding become increasingly popular and more accepted in the medical community, but also that she still loves her job.

"I'm spoiled because I love coming to work. I can't picture not loving what I do at this point. It really behooves you, especially therapists, to love what you do, because it's so consuming," Sabin says. "I think it's awesome for therapists to go alternative routes that get them psyched up, because as a provider, you need to do that in order to maintain quality and stay passionate to really make a difference to other people."

For other therapists with a passion for therapeutic riding, multiple organizations and associations exist that can help get them out of the starting gate.

"It also makes sense to volunteer for an established program to get your feet wet and learn enough to be able to incorporate different aspects of integrating the therapy with this kind of modality," Sabin adds. "There are well over 500 therapeutic riding programs across the country now, so they're all over the place.

"I think you can do so much more in a setting where you have the therapeutic potential and people are really fired up," Sabin says. "When you capture the heart and soul of the child you're working with, therapy gets done so much better and faster." ■

Molly V. Strzelecki is the associate editor of *OT Practice.*

Vestibular Rehabilitation

Susan Brownrigg

Q: What is the role of occupational therapy in vestibular rehabilitation?

A: In 2006, the American Occupational Therapy Association Representative Assembly approved the revised paper, *Specialized Knowledge and Skills in Adult Vestibular Rehabilitation for Occupational Therapy Practice.*[1] Some of the highlights of this paper are described below.

The term *vestibular rehabilitation* refers to intervention to decrease symptoms and increase independence, safety, and participation for those with specific disorders of the peripheral vestibular apparatus, the central vestibular pathways, and age-related disequilibrium. Clients with vestibular disorders have a complex combination of physiological and psychological problems. The specialized nature of intervention for vestibular disorders requires specific, advanced-level knowledge of the structure and function of the vestibular system, and of visual–vestibular–proprioceptive interactions and the principles of motor control.

Vestibular impairment affects activities of daily living; performance skills such as posture and mobility; performance patterns such as habit and routines; performance in varying environments and contexts; activity demands, such as timing because tasks may take longer than before; and client factors such as the sensory malfunction of the vestibular labyrinth. Clients with vestibular impairments often require more time to complete routine self-care skills. They may need to adapt the environment for safety or change the way in which they perform some tasks.

The occupational therapist must be highly skilled at evaluating the consequences of subtle vestibular deficits, such as balance disturbances due to head movements while sitting, standing, walking, reaching, and transferring between positions. The occupational therapy evaluation includes items such as a detailed health history; objective clinical tests such as Dix-Hallpike[2]; oculomotor tests; standing and walking balance tests; tests of dynamic visual acuity and oscillopsia; and cognitive and psychosocial assessments. The occupational therapist uses knowledge of the relationship between various body structures and functions in conjunction with observation and activity analysis when evaluating subtle changes in performance during typical daily activities.

Intervention may require specific techniques that focus directly on the vestibular impairment. Occupational therapy intervention skills include such activities as repositioning treatments, vertigo habituation exercises, gaze stabilization exercises, balance therapy, home and work safety environmental modifications, client education, recommendations for assistive devices, and task modification.

Refer to the full document for the basic science knowledge and applied science knowledge necessary for occupational therapists to address vestibular rehabilitation. ■

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2. Dix, M. R., & Hallpike, C. S. (1952). The pathology symptomatology and diagnosis of certain common disorders of the vestibular system. *Proceedings of the Royal Society of Medicine, 45*(6), 341–354.

Susan Brownrigg, OTR/L, is a current member of the COP. She is the inpatient therapy manager at St. Joseph Hospital in Bellingham, Washington, supervising occupational therapy, physical therapy, therapeutic recreation, and speech-language pathology services.

In Practice Perks, Commission on Practice (COP) members provide regular summaries of different official documents. These documents can be found in the *American Journal of Occupational Therapy* and in *The Reference Manual of the Official Documents of The American Occupational Therapy Association, Inc.* More information about COP can be found on the AOTA Web site at www.aota.org. Click on Practitioners, then Practice Resources.

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Ethically Speaking

Members of AOTA's Ethics Commission provide answers to common practice dilemmas.

ASHLEY OPP HOFMANN
MOLLY V. STRZELECKI

Ethical questions arise within the education and practice of any profession, and occupational therapy is no exception. We presented the members of the American Occupational Therapy Association's (AOTA's) Ethics Committee (EC) with some of the most common ethics dilemmas that students and practitioners encounter and asked them for their take on appropriate responses.

I'm a student completing my Level II fieldwork at a rehab facility, and my fieldwork supervisor is never available to review my intervention plans or co-treat clients with me. When I ask a question, she says I should either know the answer or figure it out. Last week she reprimanded me for my documentation and work with several clients, and said that I may fail this clinical fieldwork if my skills do not improve. There's another Level II fieldwork student, and the supervisor gives her a lot of encouragement and assistance. I believe the supervisor has a bias against me, and that this is unethical professional behavior. How should I proceed?

Linda Gabriel, PhD, OTR/L, Education Representative: The student and the fieldwork supervisor are responsible for the student's learning, as is the academic fieldwork coordinator at the university. It is important to determine whether the supervisor is providing adequate education and supervision of the student. This is necessary to ensure that clients are safe and receiving appropriate services, and that the student is meeting learning objectives. Structured and frequent supervision is more critical in the first few weeks than the last few weeks, although feedback is important to student learning throughout the entire experience.

I would not assume that the supervisor is biased without more information. However, it sounds like the student has legitimate questions and concerns about her learning (and the logical extension of that learning, which would be concern for the clients she is treating). It would be useful to frame the gathering of information using the *Occupational Ther-*

apy Code of Ethics (2005) (Code)[1] and *The Guidelines to the Occupational Therapy Code of Ethics*.[2]

Guideline 10 states "Occupational therapy personnel should utilize any and all recourses available to them to identify and resolve conflicts and/or ethical dilemmas" and Guideline 10.4 directs personnel to "attempt to resolve perceived violations of the Code within institutions by utilizing internal recourses" (p. 657).[2] With this in mind, the student should reflect on several recent instances when the supervisor did not review the intervention plan or co-treat with her. How far in advance did the student provide the intervention plan for review? Has the student been available when the supervisor is most likely to have extra time? Has the student told her supervisor that she is uncomfortable with the amount of supervision and feedback? Has a midterm evaluation been completed? I would advise the student to schedule a meeting with the supervisor to talk about supervision and to state her concerns. The student could request a review of and feedback on her treatment plans and offer one for a client scheduled to be seen several days from the meeting. She could also ask how to schedule a co-treatment with her supervisor in order to get specific feedback. Lastly, the student should contact the academic fieldwork coordinator at her school to explain her concerns and what she is doing proactively to address them, and ask for guidance.

If the supervisor does not respond to the student's documented concerns, then there is an ethical issue. She should develop a plan of action in collaboration with the academic fieldwork coordinator. If the supervisor considers the student's performance to be questionable in terms of passing, the supervisor has an obligation to be specific about the performance issues, what the student needs to do to improve, and her role in assisting the student to meet expectations. There should also be communication between the supervisor and the academic fieldwork coordinator because the college or university is ultimately responsible for the adequacy of the fieldwork education.

Betsy DeBrakeleer, COTA/L, ROH, OTA Representative: In this situation it is important to avoid comparing yourself with the other student. Your supervisor may be using different teaching strategies to best meet the different and unique learning needs of each of you. According to Principle 1 of the Code[1] your supervisor is ultimately responsible for the safety and well-being of the clients. You should first discuss your concerns with your academic fieldwork coordinator and request guidance in talking about the situation with your supervisor. One possible strategy is to provide your supervisor with tasks, interventions, or documentation examples with which you are willing to demonstrate your competency. If you have already tried problem solving with your supervisor, go up the chain of command and discuss your concerns with the site's clinical fieldwork coordinator, assuming that this is a different person. He or she may suggest a joint meeting among the three of you. If your supervisor is also the fieldwork coordinator, you should next talk with the director of your school's occupational therapy department. You should also inform your academic fieldwork coordinator of the situation and request intervention on your behalf with your supervisor and other involved staff or administrators if needed.

I'm an occupational therapy assistant who has worked in the same skilled nursing facility for 10 years. My new occupational therapy supervisor has worked in this practice area for only 3 years. I can complete a client evaluation more thoroughly and accurately than she can, but she refuses to let me do these independently. In addition, my treatment suggestions often are better than hers, based on my experience. I think I'm providing better care than she is, so why can't she let me continue to practice as I have been, rather than trying to direct my work?

Darryl Austin, MS, OT/L, Practice Representative: The two parties need to sit down and communicate their positions. Knowing each other's style and experiences may help set the "environment" for each to practice. Understanding each other's professional roles, experiences, and qualifications may make it easier to practice with this new supervisor.

You also need to consider legal requirements for occupational therapy assistant practice, which is spelled out in your state licensure law. Occupational therapy assistants must practice under the supervision of an occupational therapist. The type of supervision can vary depending on competency, setting, client complexity, and so forth. The AOTA document *Guidelines for Supervision, Roles, and Responsibilities During the Delivery of Occupational Therapy Services* (Guidelines for Supervision)[3] may be useful to the occupational therapist in understanding how to make decisions about delegating client services.

Take steps to resolve this issue, perhaps during supervision meetings. You may need to determine whether the issue involves the occupational therapist's practice skills, or the therapist's skills in supervising an occupational therapy assistant. Consider gradually introducing your ideas in a nonthreatening way and seeking

feedback. Set a timeline of 6 months to see whether the practice environment with this supervisor improves. If the environment in which you work becomes professionally constricting, then it may be time to consider other employment options.

There is often more than one intervention approach in a particular clinical situation; therefore, to say your suggestions are better than someone else's is a matter of opinion. Various therapists develop different practice styles, but have similar outcomes. Perhaps you could demonstrate the efficacy of your own techniques or approaches over time.

It is a professional duty and ethical mandate to demonstrate competency in a particular area. You may help demonstrate your competency for your new supervisor through a record of participation in professional development and educational activities.

DeBrakeleer: Occupational therapy practitioners at all levels are ethically responsible for ensuring that clients receive professional and competent care, as stated in Principle 4F of the Code.[1] Your supervisor is responsible for ensuring that you demonstrate competency to meet job requirements, and she has overall responsibility for the occupational therapy evaluation and plan of care, to which you may contribute. This process is outlined in your state licensure law. The supervisor may simply need more time to work with you. In addition to reviewing your state practice act and AOTA's Guidelines for Supervision,[3] you should also review the documentation guidelines for your facility.

The next step is to discuss your concerns with your supervisor and suggest that he or she evaluate your service competency to establish a baseline for your skills. This evaluation might entail co-treating several clients and comparing your interventions, results, and responses and interpretations. Communicating about strengths, knowledge, skills, and learning styles is key. After you and your supervisor have identified each other's strengths, it will be clearer how best to divide the workload in order to provide optimum intervention for clients.

I work in a facility whose administrator has told the occupational therapists to provide all services in groups, but we are expected to bill as if clients were getting one-on-one therapy. They also expect us to document as individual therapy. Our productivity standards are set so high that they can't be achieved without treating everyone in groups, but billing this way doesn't feel right to me. If we refuse, we'll be fired. As long as the clients are doing well, does it matter how we bill or get reimbursed?

Austin: Fraudulent practice or billing is illegal, and under no circumstances nor anyone's instructions (including an administrator's) should you compromise your professional license. You must say *no* to anyone who instructs you to engage in illegal practice.

We have a duty to the recipient of occupational therapy services to provide the best care possible (given the constraints of our health care environment).

We have a legal responsibility to bill for services provided, and if you document individual treatment, then you can bill for that. If you provide group treatment, then you should code as such. If you don't, you may be charged with illegal or fraudulent billing practices, which will jeopardize your occupational therapy license and may even result in criminal charges. The ends do not justify the means (i.e., "the clients are doing well" does not make it right or legal to treat in a group setting when you are billing for individual treatment).

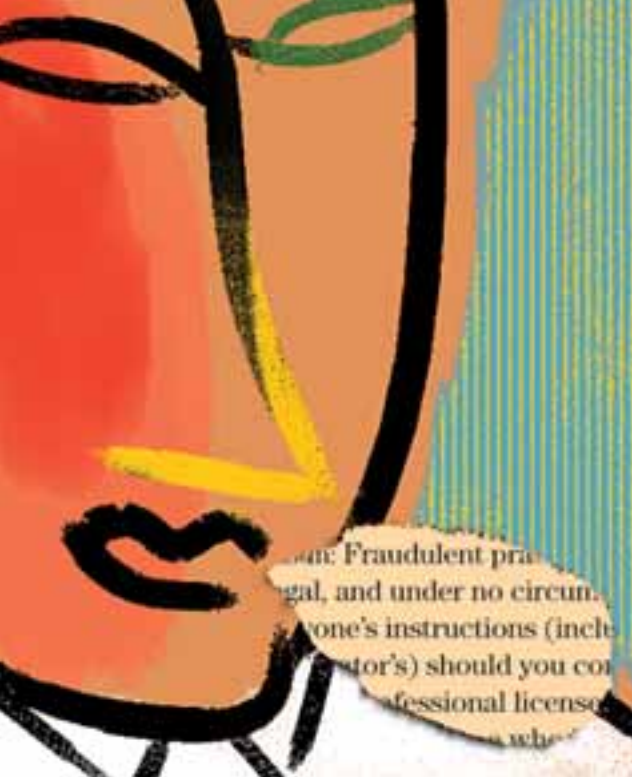
You may want to discuss this issue directly with the administrator. If you are not satisfied with the outcome of this meeting, then you should meet with the medical director or the administrator's superior or corporate compliance officer. If you are still not satisfied, regulatory bodies may be notified, such as the Joint Commission on the Accreditation of Healthcare Organizations (JCAHO), the federal Office of the Inspector General, or your state department of health, state facility licensing bodies, or consumer protection agencies.

Craig R. Jackson, JD, MSW, Public Member: There are a few unanswered questions, such as the practice setting and the primary insurance of your patients. Nevertheless, there are general guidelines we can discuss.

Billing must always be in compliance with payer regulations or guidelines. If the practice setting is asking you to bill for services that you have not provided or are not eligible to bill for, then the request is in violation of Principles 5 and 6 of the Code.[1]

Principle 5, Procedural Justice, requires you to comply with all laws and private insurance criteria; and Principle 6, Veracity, obligates you to honestly and accurately report the status of clients and the services rendered, as in documentation and billing. If you are being asked to commit insurance fraud by billing for services that have not or cannot be provided, not only is it unethical, but it is also illegal.

You should discuss this with the administrator so he or she is clear about your stand and consequences of this request.



I'm an occupational therapist who works for a large school district. The students' individualized education plans (IEPs) are the result of an extensive evaluation process, and the goals reflect what the students need to succeed in school. Yet many times parents want to change the recommendations to add specific interventions, or they insist that therapy continue although the child has met the goals and no longer can benefit from it. The principal allows these changes to the documented recommendations because she's afraid of a lawsuit. How can I maintain the integrity of the IEP and keep my job?

Lea Cheyney Brandt, OTD, OTR/L, Member at Large: In the scenario provided, the first question that must be answered is why the parents are demanding interventions that are not beneficial. Is it a lack of communication? Ensuring open dialogue between you and the family is imperative to a healthy client–provider relationship. If the family feels comfortable asking questions and there is an established trust relationship, often the ethical dilemma will resolve on its own. There are times when we are quick to identify a third party as the problem; in this instance, it may be easy to blame the principal when in fact the dilemma has arisen due to a lack of communication and relationship building on the part of the practitioner.

In the event that the occupational therapy practitioner believes that he or she has communicated effectively and there are unreasonable expectations to deliver care that is ineffective or even harmful, he or she must refrain from ongoing provision of care. As is outlined in Guideline 1.6 of the *Guidelines to the Occupational Therapy Code of Ethics*, "Occupational therapy practitioners [should] terminate services when they do not meet the needs and goals of the recipient or when services no longer produce a measurable outcome" (p. 652).[2] As is noted in the query, by not following this guideline the integrity of the IEP is compromised. In addition, reports and notes are legal documents and cannot be altered except by the author (not by another party), who must initial any changes.

Kathlyn L. Reed, PhD, OTR, FAOTA, MLIS, AHIP, Chairperson: The answer has two parts (a) information and (b) duty to perform. Information about occupational therapy as a related service in the educational system is an important first step. What do the principal and the parents (or caregivers) know about the role and function of occupational therapy in the educational system?

The principal may not know what specific occupational therapy services are available within the educational system or which of those services are most likely to benefit the particular student. Without such information, the principal may accept recommendations from parents that appear to be inappropriate from the perspective of the occupational therapist. In addition, the parents may not be familiar with what occupational therapy services would most likely help their child to be more successful in the academic program and be able to participate more fully in the school environment.

Parents and other IEP team members often come to the IEP meeting expecting occupational therapy services to be provided the way they are in medical settings. They may not understand the focus of occupational therapy services under the Individuals with Disabilities Education Act (IDEA)[4] to be supportive of the IEP, and they may need an explanation of how the services will be provided. Parents may also incorrectly assume that the school system can pay for occupational therapy services that their child needs for medical reasons. The occupational therapist has a responsibility to provide both the principal and the parents with information about occupational therapy services in educational versus medical environments, and what specific occupational therapy services may be recommended for a particular child to support educational goals and objectives.

After the IEP is in place, the occupational therapist has a duty to implement the goals identified as needing the addition of occupational therapy services in order to be achieved. If a goal has been met, or cannot be met, the occupational therapist should inform the therapy supervisor or principal so that one or both can determine whether a new IEP meeting must be held to change the goal(s) or change services (decrease or dismiss).

I'm an occupational therapist in a skilled nursing facility. It is the administrator's policy that all patients automatically go into a high or ultra-high resource utilization group (RUG) category, regardless of the occupational therapy clinical evaluation results. Many of the patients can't tolerate or don't need this level of therapy. Because the RUG category determines reimbursement, the administrator won't reconsider this policy and he says it doesn't violate Medicare rules. The new grad therapists don't question it, but I'm uncomfortable with this policy. I can't afford to lose my job, but I'm worried about some of these patients.

Donna Homenko, RHD, PhD, Public Member: It is important to keep in mind that new graduates are entry-level practitioners. Their level of judgment and clinical expertise continues to be developed, especially during their first year of full-time employment. A basic ethical concern exists when treatment plans are arranged based on insurance reimbursements. I have heard

this dilemma expressed by graduates in many different health care professions. Documentation remains the key—accurate, detailed progress notes that explain how the patient functions at the various levels of prescribed therapy. The duty of therapists also requires follow-up with their cadre of patients on future visits and with their daily supervisor. If a therapist operates from a position of "caring," in concert with an acceptable "standard of care," then positive outcomes can be anticipated. In addition to documentation, it is important to communicate with all individuals involved in administering the treatment protocols.

Brandt: Contrary to the administrator's perception that this policy does not violate Medicare rules, there are certainly stipulations in the Medicare ruling and clarifications on the Centers for Medicare & Medicaid Services (CMS) Web site (www.cms.gov) indicating that this type of billing is a violation. Medical review decisions should be based on observation, look-back periods relevant to the Minimum Data Set (MDS), and supporting documentation for the claim period billed. If you do not feel that the services provided are in accordance with the patient's need and clinical indicators, then you are not in line with CMS standards. If you have documented in your clinical evaluation that the patients cannot tolerate the amount of therapy required for an ultra high RUG category or would not benefit, then to enter MDS information that does not correlate with your assessment is fraud.

In addition to your duty to follow CMS standards and legal requirements, which if violated may result in loss of licensure, there are also ethical principles identified within the Code that require you to dissent from participating in said practices and adhering to the identified organizational policy. In particular, Principle 6C requires occupational therapy personnel to "refrain from using or participating in the use of any form of communication that contains false, fraudulent, deceptive, or unfair statements or claims" (p. 641).[1] ■

FOR MORE INFORMATION

Educating for Moral Action: A Sourcebook in Health and Rehabilitation Ethics
By R. B. Putilo, G. M. Jensen, & C. B. Royeen, 2005. Philadelphia: F. A. Davis. ($69 for members, $98 for nonmembers. To order, call toll free 877-404-AOTA or shop online at store.aota.org. Order #1330-MI)

The Ethics Section of AOTA's Web site contains information on the Ethics Commission, ethics documents, advisory opinions, and enforcement, and frequently asked questions. Go to www.aota.org and click on Practitioners, then Ethics.

Ethical Decision Making in Clinical Research: Application of CELIBATE
By T. van Denend & M. Finlayson, 2007. *American Journal of Occupational Therapy, 61*, 92–95.

The Ethics of Productivity
By D. Slater, 2006. *OT Practice, 11*(19), 17–20.

Everyday Ethics: Core Knowledge for Occupational Therapy Practitioners and Educators
(CE on CD™)
By the AOTA Ethics Commission, 2007. Bethesda, MD: American Occupational Therapy Association. (Earn .3 AOTA CEUs [3 NBCOT PDUs/3 contact hours.] $73 for members, $103.50 for nonmembers. To order, call toll free 877-404-AOTA or shop online at store.aota.org. Order #4827-MI)

Intervention Planning Facets—Four Facets of Occupational Therapy Intervention Planning: Economics, Ethics, Professional Judgment, and Evidence-Based Practice
By A. Lopez, E. A. Vanner, A. M. Cowan, A. P. Samuel, & D. L. Shepherd, 2008. *American Journal of Occupational Therapy, 62*, 87–96.

Reference Guide to the Occupational Therapy Ethics Standards 2008
Edited by D. Yarett Slater, 2008. Bethesda, MD: American Occupational Therapy Association. ($34 for members, $48.25 for nonmembers. To order, call toll free 877-404-AOTA or shop online at store.aota.org. Order #1139E-MI)

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4. Individuals with Disabilities Education Improvement Act of 2004. Pub. L. 108-446.

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Molly Strzelecki is the associate editor of *OT Practice.*

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PR-190

The Art of *Written Expression* Through Keyboarding

TERRY GIESE

SUMMARY

Occupation-based word processing training leads to a communication breakthrough for a student with autism.

It was a typical midwinter, Midwestern school day. The bright sun peeked through steely clouds as children looked at schoolbooks to start their daily lessons. Patrick was a quiet, compliant student. He had moments of misbehavior, to be sure, but his worst offense was to pinch others when he was frustrated, or wanted their attention, or felt that they got too close. Patrick was a student whose lack of functional communication and difficulty with social and motor skills placed him on the autism spectrum: It was his profound message on that day that marked Patrick's story on my heart forever.

That this moment happened at all speaks to the art of therapy, the spark of intuition that leads us to the science, rather than the reverse. Patrick's story began when I decided to support a team member by attending her workshop on Kurzweil 3000 (www.kurzweiledu.com), a software program that seemed too advanced for my students. Kurzweil 3000 is an assistive reading software program with features designed for English language learners, students with learning disabilities, and students with physical or visual constraints. This program provides synchronized visual and auditory presentation of text with options to adjust reading speed, text size, and highlighting, as well as voice and reading outputs of printed text and of text as it is typed. These special features go beyond typical word processing programs that are designed for creating and sharing written documents; it is geared toward students who need reading or writing supports, but who already have functional vocabulary and written composition skills.

The intermediate, 3rd through 5th grade, multi-needs classroom on my workload uses a variety of software programs in the curriculum. Edmark Reading Programs Levels 1 and 2 (www.proedinc.com), and Discrete Trial Trainer (www.dttrainer.com) support instruction in mouse operation, word and number recognition, reading, spelling, and math. Clicker 5 is a talking word processor that focuses on sight words, mouse operations, and voice feedback of individual words before selection, and full sentences after their creation (www.cricksoft.com/UK/products/clicker/). Type to Learn (www.sunburst.com) is part of the general education curriculum into which multi-needs students are integrated, and Type to Learn Junior is an alternate instructional program for teaching basic keyboarding skills.

The multi-needs classroom is organized into a variety of work spaces, and students use visual schedules to guide them through their school day. Academic task and worksheet folders are stored in a cabinet with students' names on individual drawers to promote independent performance. The prevocational center contains 20 bins filled with sorting, assembling, shredding, recycling, and filing activities. A calendar area, computer cubicles, group work table, reading carrel, and sensory break area round out the classroom landscape. Though school district options range from full inclusion to private placement, this classroom provides individualized instruction for a small number of students who also attend general education classes with their age-matched, typically developing peers. An inclusion model is used for lunch and recess, and often also for art, music, science, and physical education. Structure and predictable routines are important components of the program, and occupational therapy plays an integrated, collaborative consultation role in the classroom. Additionally, individual, direct occupational therapy sessions are used as "schedule interrupters" to encourage students to use routines, but not be ruled by them. Block scheduling

places the occupational therapist in the classroom for an extended period. Students receive individual, direct therapy at varying times within that block to challenge their routine, work within their routine, or take advantage of "teachable" moments when they appear ready for optimal performance.

Although the focus of direct, individualized occupational therapy sessions continues to evolve, one consistent feature has been to work with students in the Learning Resource Center (LRC). The LRC exposes students to a larger, multisensory, age-appropriate environment similar to what one may find in a public library, and allows them to work side-by-side with peer groups from different grade levels. Patrick seemed to enjoy his time in the LRC. Though sometimes a noisy and challenging environment, the low noise level that was more typical afforded a break from the busy classroom. Keyboarding provided time off from the physical demands of handwriting. (The benefits of keyboarding for individual students are determined by the functionality of the handwriting—legibility, speed of performance, and effort required.) Although dyspraxia and gravitational insecurity left Patrick pacing the playground rather than climbing on its various structures, pinching was his primary gestural communication method, which I took as a cue of the relative strength of kinesthetic feedback through his fingers. I provided various supports and challenges to determine his functional capabilities using finger metacarpo-phalangeal motion, such as is used in touch-typing, and his fingers coordinated the sequential movements needed for keyboarding in typical QWERTY fashion.

Occupational therapy research supports the notion that different components make up the task demands for writing and keyboarding. Rogers and Case-Smith found that "keyboarding performance demonstrated low to moderate correlation with handwriting performance, suggesting that these forms of written expression require distinctly different skills" (p. 34).[1] Preminger, Weiss, and Weintraub found that "it appears that handwriting and keyboarding accuracy may entail different skills, suggesting that keyboarding may be a potential alternative writing tool for students with handwriting difficulties" (p. 193).[2] Students such as Patrick, with poor proprioceptive feedback, decreased motor coordination, and poor visual perceptual skills, are prime candidates for early introduction of computer use for written expression as an assistive technology alternative to handwriting.

Many children have far greater receptive capabilities than their expressive language conveys. The need is great for occupational therapy interventions that facilitate functional performance in written communication.

Keyboarding itself is not word processing. Keyboarding develops familiarity with the keyboard so that typing becomes an automatic motor function and the typist no longer needs to think about locating keys. Word processing is the creation of text documents for sharing information. Initial elementary-level keyboarding competency of 10 words per minute can be achieved even with the "hunt and peck" method of using one or both index fingers to locate desired keys.[3,4] Skills are considered functional at the level of 20 to 30 words per minute, because that is the speed at which most students are able to compose quality writing.[5–7]

It is generally accepted that keyboarding speed should be at least one word per minute faster than handwriting speed in order to keep up with the compositional flow of ideas.[8] The goal of keyboarding, therefore, is to prepare students to learn to use the computer as an alternate writing tool.

Patrick learned keyboarding skills with considerable effort and skilled therapeutic intervention. The therapeutic progression began with physical support and kinesthetic guidance at both elbows to facilitate bilateral use of his index fingers: Simultaneous use of both sides of the body is thought to activate left and right brain hemispheres to promote holistic, well-balanced function, particularly while learning novel tasks.[9–11]

As Patrick responded favorably to this approach, support shifted to progressive resistance at his wrists, then to traditional QWERTY fingering. After Patrick met his goal of typing 10 words per minute, the push was on for functional use of his newfound skills.

Keyboarding skills functionally transition to word processing through the creation of simple documents for purposeful use. A popular initial word processing task for students with special needs is to copy a schedule to be used throughout the day. But although this task promotes independent physical function by having the student type the schedule without assistance, it limits the user to receiving communication, rather than sending it. As a nonverbal student, Patrick's need was to express ideas; therefore, his next step was to shape familiar calendar activities into the process of composing short letters to his parents. Autism is a disorder of communication and relationship building, and this activity offered a low-risk way to work on mutual exchange and partnering skills. The beauty of Kurzweil 3000 is that auditory reading tools provide immediate feedback about what a student types. The program can be set up to read each letter as it is typed, then when the spacebar is hit, the individual word is sounded. When the spacebar is hit after a punctuation mark, the complete sentence is read back. Research suggests that the monotone voice used by the auditory feedback mechanism may be preferred by many on the autism spectrum scale because it lacks the tonal changes in emotional expression that can be confusing to them.[12–16] This program can also be set to read less frequently for students who find recurrent auditory feedback confusing or irritating.

Patrick benefited from the highest frequency of auditory feedback, with

synchronous sounding of each letter, each word, and each sentence as they were typed. Although Patrick had already amassed more than 200 sight vocabulary words through the Edmark Reading program, simultaneous voice and text production soon helped him understand that combinations of letters formed words that married with other words to convey ideas. The correspondence format that Patrick used in his sessions incorporated a social greeting, daily calendar, immediate concrete observations, and social closing. Patrick soon became familiar with coming to the LRC, sitting at the computer, and opening his letter with "Dear Mom and Dad," followed by the day, date, and year. He seemed quite happy with this approach, and each letter seemed easier to complete.

Patrick's compliance was a delight… until one day he was more than out of sorts. After sitting dutifully at the computer, he pushed away from the keyboard and refused to begin typing. No prompt or cue could entice his participation. Hand-over-hand encouragement was met with light, but convincing pinches of protest. Finally, with inspired insight, I suggested that Patrick write whatever he wanted instead of our usual correspondence. Understanding the importance of respecting the client by following his lead led to a significant outcome. Taking my hand for progressive resistance, Patrick typed "Dear Yu, I kin undrstd." Chills ran up my spine.

Although my impression had already been that Patrick was often bored by the repetitive nature of his classroom worksheets, I never imagined that something so simple, and yet so profound, would be the result of our keyboarding work. From that moment on, we added Kurzweil 3000 reading to our word processing sessions. The original L. Frank Baum version of *The Wizard of Oz* (available through a free download from Project Gutenberg at www.gutenberg.org/wiki/Main_Page) was our first book, which we used for determining functional skills: Through word processing with synchronous voice production, Patrick answered yes/no questions for immediate recall about passages he had read. He progressed to making a choice from a field of two responses about concrete facts from the story, and finally stunned me again when he answered an open-ended question with reasoning and insight. When queried about whether he would rather ask the Wizard of Oz for a brain or a heart, and why, Patrick typed, "If I went to see the Wizard of Oz, I would ask him for brains because I want to learn. I want to learn to read reference books about doctoring."

Silence…again I was stunned. Patrick's mother is a physician, so the leap to an interest in medicine is a short one. Patrick's spelling is corrected here, so I needed to check for the accuracy of his intended message. Patrick gave a distinct nod when asked if the misspelled word was "doctoring." His message was clear. The challenge, therefore, was for me to check the accuracy of my understanding of Patrick's interest. Because Patrick's request for reference books was completely unexpected given the prior level of written expression, I decided to create short reading passages of simpler vocabulary that addressed

medical information. And because Patrick was demonstrating increased understanding of simultaneous written and spoken text, my goal was to see if he would respond to newly presented medical concepts by modifying his own behavior in response to what he read. What else could the therapist in me do, but write short passages about sensory processing to relate its effect on Patrick's daily life?

With concepts broken down into short passages of fewer than two pages, Patrick began to read about and *accurately* respond to questions about neurons, proprioception, and motor planning. He read about sensory defensiveness and its social implications. Though his spelling was often less than accurate, his ideas were clearly conveyed. And as exciting as Patrick's written answers were, even more heartening to me were his actions on the playground. After reading how gravitational insecurity contributed to his reluctance on the playground, but how good the challenges were for his nervous system, he began climbing on equipment that he had avoided for 3 years. He accepted my hand in support as he stepped atop the elevated "mushrooms," and checked to see me standing beside him as he climbed the "spider web." One day Patrick extended direct eye contact to me, a delighted look on his face, as he reached the top of the climbing apparatus. His look of glee was repeated as we danced on the last day of school before Patrick graduated to junior high that spring. By facilitating outcomes achieved in occupations such as play and learning, occupational therapy helped prepare Patrick for transition to middle school.

KEYBOARDING WITH PROGRESSIVE KINESTHETIC FEEDBACK

Patrick's work that winter has since inspired the direction of therapy for others. A new keyboarding program initiates instruction for most students, and the therapeutic technique that I now call progressive kinesthetic feedback (PKF) continues to generate results for a variety of children on the autism spectrum. The PKF technique involves providing progressively graded kinesthetic feedback through the upper extremities in a strategic manner that facilitates fine motor control through keyboarding, with graded activity and activity analysis as key elements. Some students may start with PKF through the elbow and wrist to facilitate shoulder stability; others may need PKF at the elbow to generate accurate hand placement through forearm motions. PKF techniques are also implemented at the wrist and through the palm to generate increasingly skilled fine motor control.

PFK differs from facilitated communication (FC) in that it uses skilled therapeutic task analysis of keyboarding function using naturalistic observation of biomechanical and sensorimotor strengths and challenges. The occupational therapist uses individually designed progressive kinesthetic input to grade the task during projected movement sequences. FC is a form of augmentative and alternative communication that provides physical and emotional support to individuals who have difficulty with unassisted typing. FC techniques vary widely, with highly contested outcomes.[17]

Keyboard training with PKF now begins with BBC Dance Mat Typing (www.bbc.co.uk/schools/typing/), a free program that is used online. Colorful animation provides the backdrop and motivation for students learning standard keyboarding. The program is divided into four levels of three stages each. Warm-ups precede new instruction, and each stage ends with a short, animated song that reviews what has been learned. Each level offers a certificate of completion that can be printed and sent home with students. Though overwhelming for some individuals with visual or auditory sensitivity, this program is highly motivating for many, and it is well-timed with short instructional sequences that provide increased opportunities for student success. Type-to-Learn Junior remains a viable alternate for students who need to start by improving visual attention, visual shift, and visual scanning.

After keyboarding has been learned, the therapeutic approach of composing short letters on software with synchronized visual and auditory presentation of text to be sent home to parents seems to be effective in conveying the idea that written words can provide social interaction, which is a key goal for many students with autism. Some students, however, need to start with more powerfully concrete activities. David started by requesting the color of jellybean he desired as his earned reward. His work progressed to gestured requests to label favorite Disney characters from library magazines by pointing to the character and having the name typed on Kurzweil 3000 as he assisted. David now types independently as he copies his daily schedule, and he increasingly uses verbal language to communicate. Luca has challenging multisensory sensitivities, and initially resisted computer training. He now types sentences in the format of the Picture Exchange Communication System (www.pecs.com), typing his wants and feelings on the keyboard. PKF has also improved Luca's motor accuracy in using his new Go-Talk augmentative communication device (www.attainmentcompany.com). Accurate pointing recently allowed Luca to spontaneously ask for assistance at home when his baby brother was crying in distress.

The addition of the PKF technique using computer keyboarding is emerging as an option for improving fine motor skills with a population in great need of successful strategies for facilitating functional performance. Patrick's story punctuates the nature of autism as a condition that affects language and sensorimotor and social skills. Many children have far greater receptive capabilities than their expressive

FOR MORE INFORMATION

Autism: A Comprehensive Occupational Therapy Approach, 2nd ed.
Edited by H. Miller-Kuhaneck, 2004. Bethesda, MD: AOTA Press. ($39 for members, $55 for nonmembers. To order, call toll free 877-404-AOTA or shop online at store.aota.org. Order #1213A-MI).

AOTA Online Course: ***Occupational Therapy in School-Based Practice: Contemporary Issues and Trends—Handwriting, Keyboarding, and Literacy: What is the Role of Occupational Therapy?—Elective Session 8***
By Y. Swinth & D. Handley-More. Bethesda, MD: American Occupational Therapy Association. (Earn .1 AOTA CEU [1 NBCOT PDU/1 contact hour] $22.50 for members, $32 for nonmembers. To order, call toll free 877-404-AOTA or shop online at store.aota.org. Order #OLSB8-MI. Note: You must complete the core course before taking an elective session.)

language conveys. The need is great for occupational therapy interventions that facilitate functional performance in written communication. This case illustrates, through functional results, the hypothesis that PKF can generate motor memory to facilitate new performance habit patterns and increase motor control.[18] Patrick's story, though powerful, has really only begun. Eleven additional students in Patrick's original classroom, with individualized functional goals and outcomes, have been introduced to PKF over the past 2 years. The challenge is for each of us to build upon Patrick's legacy by gathering data and sharing our findings, and to finish his story with many triumphant endings of improved functional performance for students with special needs. "Dear Yu," Patrick pleads, "I kin undrstd…." Kin you? ■

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Animal Assisted Therapy and Nature

Melissa Winkle **Jill Goode**

For many practitioners, having animals in the treatment setting is not possible due to organization policies or environmental constraints. This article proposes having clients participate in community-based activities that incorporate animals and nature as part of the therapeutic process and explores the relationship between the areas of occupational performance components, client factors, and activity demands. The examples provided are based on community outings to a botanical garden, a guided bird-watching walk, a hike in the foothills of the mountains, and a visit to a local university pond—all of which provided participants ample occasion to interact with other community members, domestic animals, and nature. The participants range in age from 8 to 59. Diagnoses include developmental disabilities, Tourette's syndrome, autism, traumatic brain injury, and Down syndrome.

The combination of animal assisted therapy and nature therapy provides an ever-changing environment in which there are certain fluid opportunities for physical, cognitive, and psychosocial skill development.

Animal assisted therapy is defined by the Delta Society as "a goal-directed intervention in which an animal that meets specific criteria is an integral part of the treatment process. Animal assisted therapy is directed and/or delivered by a health/human service professional with specialized expertise, and within the scope of practice of his/her profession."[1] *Nature therapy* "relates to the environment as a live and dynamic partner in the shaping of the setting and the process…[it] can also be used by the therapist to open [the therapeutic act] up to additional dimensions" (p. 81).[2] It is difficult to differentiate entirely between them because animal assisted therapy is part of nature therapy.[3]

Animal assisted therapy and nature therapy share common positive outcomes for individuals of all ages and abilities. They have been correlated with improvement in client factors such as decreased blood pressure, stress levels and anxiety, and agitation and tension; and increased overall well-being and mental health.[4–6] The combination of animal assisted therapy and nature therapy provides an ever-changing environment in which there are certain fluid opportunities for physical, cognitive, and psychosocial skill development. The following activities provide many opportunities for formal intervention with individuals of all ages and abilities; more importantly, they provide a way to include caregivers, families, and friends in the intervention process, and ensure that the approach is participatory and meaningful to clients.

The exploration of animals and nature lend themselves to individuals and groups alike. Many bird centers, nature reserves, and wildlife organizations provide guided activities, most of which occur outdoors, and many are free to the public. Nature reserves and state parks offer informational pamphlets, classes, and guided tours so that a variety of species and their habitats are easily identified. Because these opportunities are frequently offered in areas of nature virtually undisturbed by humans, it is paramount to ask which trails are accessible for those who use wheelchairs or other mobility equipment.

A variety of populations can attend to cognitive integration goals by planning and executing each step of the activity, beginning weeks in advance. This involves inquiring about (verbally, orally, or in writing) and practicing related activities of daily living (ADL) and instrumental activities of daily living (IADL) such as managing money (counting and budgeting), dressing (selecting clothing appropriate to the activity and the weather), and organizing space and objects (locating and gathering needed items for the activity). Accessing community transportation to the site and using trail maps and markers for topographical orientation during the activity facilitates community mobility skills. In a group setting, there are numerous opportunities to practice communication and interaction skills. Interaction between group members may include physical contact for introductions, and close proximity to others on public transportation, during vehicle tours, when sharing equipment and when viewing particular areas. For clients with goals including voice modulation, eye contact, interpreting gestures, and reading body language (of humans and animals), nature commands that their presence is quiet, because a tranquil environment is conducive to keeping the wildlife close by for viewing. Participants may improve health maintenance goals by reaching, carrying supplies, walking, climbing, and performing static and dynamic balance. Individuals who use wheelchairs gain upper extremity and postural strength as they propel themselves along trails and paths that are not yet in their

Visual fixation and tracking, balance, and social skills are among the many goals that can be addressed by using nature in therapy.

typical environments. Individuals with sensory goals benefit from the physical proprioceptive input, the calming rustle of the trees or from the white noise of rapids. A tram or ski lift ride can prove to be an excellent modality for vestibular-based activity. Tactile opportunities abound from the use of sunscreen to the properties of the landscape such as rock and tree surfaces, sand, water, and brush. Others may benefit from the tranquility that offers a subtle reminder that there is a place where they can have peace and an environment that can free them from the constraints or demands of everyday life.

It is important to ensure the safety of all individuals involved in nature outings. Knowing your client and specific precautions is the first and most important step. Obtaining permission from guardians or caregivers who will not be attending is imperative. Medical information, including allergies and fears, must be acknowledged before and during the expedition. Having clients obtain supplies to create their own first aid kits can be fun way to prepare and develop cognitive and safety skills. Money management skills can also be addressed if the clients are required to shop for the items. The therapist must carry a cell phone in case of emergency and have all pertinent medical information available. Hydration is crucial, and having the clients carry their own water bottles and other supplies can create proprioceptive heavy work that increases arousal and can contribute to neuromusculoskeletal functioning.

Observation in a natural context provides opportunities for clients to generalize knowledge, such as recognizing domestic and wildlife species and categorizing them accordingly. Informational pamphlets can be used to keep track of what kind and how many animals are seen; completing the list (seeing all of the animals) provides motivation to revisit the environment. In addition, nature offers precalibrated perceptual challenges. Visual fixation and visual tracking is easier with a swan gracefully treading water than with a roadrunner or a rabbit. Watching a passing butterfly or bird in flight overhead may require different sensorimotor mechanisms than observing land animals, depending on specific client factors. Listening to prerecorded bird songs and call samples can be useful before engaging in a natural setting. Individuals can use auditory processing and discrimination skills to differentiate varieties of birds sharing the same habitat.

Kaplan discussed an integrative framework, Attention Restoration Theory, which described the impact of the interaction between humans and the environment on cognitive integration.[7] This theory suggests that natural environments have characteristics that positively affect attention, and that non-green environments can exacerbate attention deficit characteristics. The beauty and spontaneity of nature supports cognitive process skill development.[8] Louv described research that distinguished fascination (involuntary attention) from directed attention. It implied that individuals can experience a phenomenon called "directed-attention fatigue" that can result in negative emotions and maladaptive responses.[9] Kaplan explained, "If you can find an environment where the attention is automatic, you allow directed attention to rest. And that means an environment that's strong on fascination" (p. 104).[9] If the client is truly engaged (as can happen with nature) he or she is experiencing fascination, which may prevent perceived physical fatigue and open the doors to improved neuromusculoskeletal and motor performance. Suddenly, the individual who tired after a half-mile walk on the treadmill has progressed to a 2-mile trail hike.

Many nature walks include changes in elevation and terrain that can address range of motion, strength, endurance, postural stability, gross coordination, and motor control. Even oral-motor and respiratory functioning can be enhanced through the use of a bird call device. There are prospects for praxis with climbing trees or rocks, and ascending steps to viewing decks. Stepping stones and sandbars offer opportunities for static and dynamic activity to cross a quiet pond or gentle stream. As local turtles, fish, and ducks come closer to investigate, individuals will naturally balance themselves to stoop and reach with their offerings. It also provides an environment to alternate between the fatigue of direct attention (requiring stimulus focus, information processing, inhibition of extraneous stimuli) and effortless fascination (pleasurable, involuntary attention).[4] The fascination becomes both an intrinsic motivator and a reward for completing the activity.

Individual client interests can be brought closer to home by incorporating the activity of building bird or butterfly houses (obtaining supplies, shopping,

sequencing, measuring, tool use, and perceptual skills) and making nesting materials available (researching and obtaining appropriate materials). Individuals could also create birdseed mixtures (finding a recipe, shopping for ingredients, measuring, pouring, and scooping) or plant gardens that attract different birds and insects to their own back yards.

Animals and nature can also inspire and enhance related skill development such as drawing, writing, photography, and filmmaking. Any one of these related skills may progress into volunteer or paid positions, providing additional opportunities for participation. ■

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Jill Goode is completing her MSOT at Brenau University in Gainesville, Georgia. As a fieldwork II project with Dogwood Therapy Services, she has been a pioneer in the development, application, and documentation of animals and nature therapy in relation to the domain of occupational therapy.

FOCUS ON

Sensory Integration Special Interest Section

Renee Watling

Among pediatric occupational therapy practitioners, sensory integration is a frequently used frame of reference that provides valuable insights into the complexity of human behavior, with an emphasis on how sensation can both support and inhibit adaptive functioning in context. As knowledge in the areas of neuroscience and human behavior grows, the relevance of sensory integration intervention across a wider range of ages and health conditions has been recognized. Sensory integration offers occupational therapy practitioners

- a theory base for understanding the relationship between the brain, emotion, and behavior;
- a psychometrically sound standardized assessment for evaluating sensory integration strengths and deficits; and
- intervention principles that guide the use of sensation to support adaptive behavior in context.

In recent years, practitioners, consumers, and the public have demonstrated increased awareness of sensory integration. However, with this recognition has come increased scrutiny by other professionals, payers, policymakers, and the public. Efforts to establish the credibility of sensory integration as a theory base and an intervention approach are moving forward. (See the September 2008 edition of the *Sensory Integration Special Interest Section Quarterly* at www.aota.org for a summary of some current research efforts related to sensory integration.) As the American Occupational Therapy Association (AOTA) works to achieve the Centennial Vision: to be a "powerful, widely recognized, science-driven, and evidence-based profession…meeting society's occupational needs," the organization will increasingly be looked to for information about sensory integration. The Sensory Integration Special Interest Section (SISIS) is poised to support AOTA in becoming a visible and active resource in meeting the demand for accurate information about sensory integration.

A new term of leadership for the SISIS began on July 1. The current committee consists of clinicians, researchers, and educators who will serve the SISIS membership for the next 3 years. The following is a brief introduction to the current committee members.

I am the chairperson, and an assistant professor at the University of Puget Sound in Tacoma, Washington. My background includes clinical, school-based, and private practice experience with an emphasis on young children with autism spectrum disorders (ASD) and behavioral and emotional disorders. My research interests include effective occupational therapy intervention for children with ASD and investigation of the construct of engagement.

Teresa May-Benson, ScD, OTR/L, the education research coordinator, is the clinical director of Occupational Therapy Associates in Watertown, Massachusetts, and research director of the Spiral Foundation. Her clinical work focuses on sensory integration in adults, and her research has focused on Goal Attainment Scaling, praxis, and sensory processing disorder in early childhood.

Stacey Reynolds, PhD, OTR/L, the *Quarterly* editor, is an assistant professor at Virginia Commonwealth University in Richmond. Her research interests include examining physiologic stress reactivity patterns in children with sensory processing disorder, and identifying links between sensory processing disorders and behavioral challenges in young children.

Audrey Zapletal, MS, OTR/L, the communications liaison, is an instructor at Thomas Jefferson University in Philadelphia, Pennsylvania. Her clinical work includes practice in early intervention, skilled nursing units, and the NICU. Her research interests include the impact of fine motor skills on the academic environment and sensory processing in children and adults.

This committee will target five key areas in the next 3 years to ensure that the demand for increased knowledge about sensory integration is met with accurate, complete, and science-based information. These target areas are:

- Provide informational resources for both internal and external audiences to increase awareness of the science of sensory integration, including clarification of what sensory integration intervention is and is not.
- Increase the acknowledgment of occupational therapy practitioners as experts in providing sensory integration intervention.
- Link research to practice through publications, Web postings, and educational seminars.
- Increase awareness of the viability of sensory integration as a treatment across the lifespan and disability conditions.
- Work with occupational therapy education programs to ensure that the theory and principles of sensory integration are adequately and accurately taught to entry-level personnel.

We look forward to your feedback and involvement as we move forward. For more information, or to contact us, go to the SIS communities section of AOTA's Web site at www.aota.org. ■

Renee Watling, PhD, OTR/L, is the chairperson of the Sensory Integration Special Interest Section.

RA

Candidates Sought *for the* Representative Assembly

Candidates for the positions of Representative and Alternate Representative of the Representative Assembly (the profession's Congress) are being sought for next year's election in the states/election areas listed below. The election will be conducted by the American Occupational Therapy Association (AOTA) from February through June, with the duly elected Representatives and Alternate Representatives assuming their duties on July 1, 2009.

Representatives and Alternate Representatives are elected for a 3-year term of office and may serve two consecutive terms. To be eligible to run for Representative or Alternate Representative from a state/election area, a person must:

1. Be an occupational therapist (OT) or occupational therapy assistant (OTA).
2. Be a member in good standing of AOTA and the state association at the time of the election and throughout the term of office.
3. Be a voting member of the election area to be represented at the time of the election and throughout the term of office.
4. Maintain any election area regulatory requirements necessary to identify themselves as OTs or OTAs throughout the term of office.
5. Have at least 2 years' experience working in official capacities in local, state, or national occupational therapy associations.
6. Have consistent access to a computer with a high-speed Internet connection and be comfortable working in an e-mail environment. This includes opening, saving, editing, and sending attachments in e-mail as needed.

The duties of a Representative and Alternate Representative are:

1. To represent the Association members in their state/election area and participate in meetings of the Assembly. Generally, this involves one meeting conducted online in the fall and one face-to-face 4-day meeting at AOTA's Annual Conference & Expo, for which travel and per diem are provided.
2. To identify and clarify issues of concern within the state/election area and initiate action on behalf of the constituents if indicated. This may include assisting the constituent in writing a motion to the Assembly for consideration at one of their meetings.
3. To communicate the results of deliberations from these meetings, as well as general information on Association issues, to the constituents.
4. To encourage Association membership. ■

Anyone wishing to run for Representative or Alternate Representative is urged to contact his or her state association president at http://www1.aota.org/asap_roster/index.asp or e-mail raelections@aota.org. (Please note that each state association sets its own deadlines for the receipt of nominations.) Copies of the Representative and Alternate Representative Job Description and the Representative Assembly Standard Operating Procedure are also available upon request.

States/ Election Areas:

California #1	Kentucky	Nevada	Pennsylvania #1
Georgia	Louisiana	New Mexico	South Dakota
Indiana	Maryland	North Carolina	Vermont
Iowa	Missouri	Oklahoma	Wyoming

RA

Deadline for Submissions:
November 19, 2008

Call for
Representative Assembly Motions

The American Occupational Therapy Association's (AOTA's) Representative Assembly (RA) is your link to action in your professional association. It is the "Congress of AOTA" that establishes policy for the Association and deliberates on individual members' or member groups' requests for action on **issues of the profession,** primarily in the form of motions. It also considers motions from bodies of the Assembly and Board and ad hoc committees.

It is now time for YOU, **the members of AOTA,** to become active participants in your "Congress." Please give thought to the issues and draft motions that you would like to be considered by the AOTA RA in Houston, Texas, **April 21 to 23, 2009.** Specific instructions on how to write motions are outlined below. Do not hesitate to contact any of the RA officials or your representative(s) for advice on whether your idea should be a motion and to discuss appropriate topics and issues for policy changes. For the names(s) of the officials or your representative(s), go to the Members section of AOTA's Web site and click on Leadership & Governance then Representative Assembly for the RA Roster. Alternatively, you can call AOTA at 800-SAY-AOTA (729-2682), ext. 2103, to find out who your representatives are.

Remember:
Deadline for Submissions is November 19, 2008.

HOW TO WRITE A MOTION

The following must be included when submitting a motion for consideration by the AOTA RA.

I. INTRODUCTORY INFORMATION

A. DATE

B. TITLE OF MOTION

C. ORIGINATOR(S)

Include the name of the individuals(s) or group(s) submitting the motion and the address, telephone number, fax number, and e-mail address of either the individual originator or of one member of the group.

II. BODY OF MOTION

A motion should state clearly who is being charged to do what by when. It may or may not include qualifications of how and where. The RA can charge only the RA Officials, the RA Leadership Team, bodies of the RA, AOTA Officers, and Board of Directors. The RA cannot directly charge the executive director, Association staff members, or organizational advisors of the Board of Directors.

III. RATIONALE

Using a maximum of 6 bullets, briefly state the reason(s) for the motion and add accurate information that directly supports the motion. Within one bullet, identify how you believe the motion addresses the Association's strategic plan if applicable and the Centennial Vision if applicable. (Note: The Strategic Plan is under Reference Documents in the Leadership & Governance area on AOTA's Web site or can be obtained by calling extension 2103. Information on the Centennial Vision can also be found on the AOTA Web site.) Please limit the Rationale to **250 words.** A sample motion is posted on the AOTA Web site at http://www.aota.org/Govern/RA.aspx.

IV. FISCAL IMPLICATIONS

If applicable, estimate costs for **significant items** such as consultants, travel, and per diem. Costs for online (live) meetings and telephone do not need to be included. AOTA Chief Financial Officer Chuck Partridge is available to assist you in developing your budget. His extension is 2121, or e-mail cpartridge@aota.org. You may also contact the RA staff liaison, Carol Gwin, at cgwin@aota.org for assistance.

MOTION TIMELINE

For publication in *OT Practice*, motions must be received at AOTA via e-mail at ra@aota.org by midnight, **November 19, 2008.** Confirmation of receipt will be provided and motions will then be reviewed by the Agenda Committee, which will provide feedback to the originators by December 15. Motions will be posted on AOTA's Web site in mid-February and in the **March 9, 2009,** issue of *OT Practice* for consideration by the membership.

After midnight on **November 19, 2008,** motions may still be submitted, but they must be sent directly to the AOTA representative for your state/election area. They can be received up until the start of the RA to be considered as new business on the agenda; however, because of the importance of membership feedback, the sooner your representative has the motion, the better. If you have any questions about the motion or resolution process, you are invited to contact Denise Chisholm, RA Agenda Committee Chairperson, at 412-383-6606 or dchishol@pitt.edu. ■

CALENDAR

*To advertise your upcoming event, contact the OT Practice advertising department at **800-877-1383, 301-652-6611**, or **otpracads@aota.org**. Listings are $95 each for 1–10 lines, $150 for 11–15 lines, per event. Multiple listings may be eligible for discount. Please call for details. Listings in the Calendar section do not signify AOTA endorsement of content, unless otherwise specified.*

Look for the AOTA CE logo on continuing education promotional materials. The AOTA CE logo indicates the organization has met the AOTA APP requirements and offers continuing education that meets quality standards..

Ongoing

Internet/Home Study **Ongoing**

Become an Accessibility Consultant. Incorporate home safety, environmental modifications, assistive technology, and ADA consulting in your present career, or begin a private practice. Extensive manual included. Instructor: Shoshana Shamberg, OTR/L, MS. **Cost: 2-Day $350–$400; COMBO+Internet $625–$675; Internet-Home Study $300–$400. Next 2-Day: Baltimore, MD, October 26–27, 2008.** Earn CEUs OT/OTA/PT/PTA; college credits; AOTA Approved Provider. Member NBCOT PP Registry. Contact Abilities OT Services, 410-358-7269. Brochure/free info: www.aotss.com; e-mail: info@aotss.com

Internet/Home Study **Ongoing**

A new "Lumbo-Pelvic" course is now available. Other courses are also available, including "Pediatrics" and "Geriatrics." Earn up to 15 contact hours/1.5 CEUs depending on state board approval. $89.00 + $3.50 S/H. Contact Therapy Information Services, Inc., 1-800-651-2231; or www.therapyedu.com.

AOTA CE on CD™ **Ongoing**

The New IDEA Regulations: What Do They Mean to Your School-Based and EI Practice? Presented by Leslie L. Jackson, MEd, OT, and Tim Nanof, MSW. Understand the meaning of the 2004 reauthorization of IDEA and the new Part B regulations, released in August 2006, and how they affect your work as a school-based and early intervention practitioner. This CE course is an excellent opportunity to update your knowledge on IDEA. Earn .2 AOTA CEU (2 NBCOT PDUs/2 contact hours). Order #4825-CR, $68 AOTA Members, $97 Nonmembers.

AOTA CE on CD™ **Ongoing**

Response to Intervention: A Role for Occupational Therapy Practitioners. Presented by Gloria Frolek Clark, MS, OTR/L, BCP, FAOTA. Response to Intervention (RtI) is a process for educational decision-making promoted by the U.S. Department of Education. High-quality instruction and interventions are matched to the student's needs, and progress is monitored frequently. Occupational therapy practitioners need to understand how federal statute and data-based decision-making have changed the way we meet the needs of students. This CE on CD™ addresses the evolving role of occupational therapists and occupational therapy assistants who work with students in grades K–12. The information contained on this CD is from the AudioInsight™ Seminar originally presented on March 7, 2007. Earn .2 AOTA CEU (2 NBCOT PDUs/2 contact hours). Order #4826-CR, $68 AOTA Members, $97 Nonmembers.

AOTA CE on CD™ **Ongoing**

Everyday Ethics: Core Knowledge for Occupational Therapy Practitioners and Educators. Developed by the AOTA Ethics Commission, this CE on CD helps practitioners and educators identify and analyze ethical dilemmas, provide a framework for making ethical decisions, identify the different agencies involved in regulating the profession of occupational therapy and their roles, and identify a process for filing and handling complaints related to ethical violations. The AOTA Press publication *Reference Guide to the Occupational Therapy Code of Ethics, 2006 Edition* is a required text for successfully completing this course. Earn .3 AOTA CEU (3 NBCOT PDUs/3 contact hours). CE on CD™ only: Order #4827-CR, $73 AOTA Members, $103.50 Nonmembers. CE on CDTM and text: Order #1139K-CR, $90.95 AOTA Members, $128.99 Nonmembers.

AOTA CE on CD™ **Ongoing**

Occupational Therapy and Transition Services. Presented by Kristin S. Conaboy, OTR/L, Susan M. Nochajski, PhD, OTR/L, Sandra Schefkind, MS, OTR/L, and Judith Schoonover, MEd, OTR/L, ATP. This course will present an overview of the importance of addressing transition needs as part of a student's IEP and the key role of the occupational therapy practitioner as a potential collaborative member of the transition team. It is an excellent opportunity to update your knowledge about transition services and practice opportunities related to this area of school-based practice. Earn .1 AOTA CEU (1 NBCOT PDUs/1 contact hour). Order #4828, $34 AOTA Members, $48.50 Nonmembers.

AOTA Conference Session Webcast **Ongoing**

Do Trees Really Talk? Using Sensory Experiences in the Early Education Classroom. Presented by Elizabeth Thomas, MA, OTR/L. Learn strategies for recognizing teacher responsibility and consulting

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Stamford, CT	**Oct 24*–25**
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D-3511

CALENDAR

with school personnel for optimum understanding and cooperation, and broaden the scope of sensorimotor experiences in the early education classroom setting. Earn .15 AOTA CEU (1.5 NBCOT PDUs/1.5 contact hours). Order #CSC310-CR, $45 AOTA Members, $64 Nonmembers.

AOTA Conference Session Webcast Ongoing
Ergonomics in the Classroom: An Overview of Ergonomics for School-Aged Children. Presented by Karen Jacobs, EdD, OTR/L, CPE, FAOTA, and Jennifer Wingrat, MS, OTR/L. Ideal for occupational therapy professionals looking for research-based principles and strategies that reduce musculoskeletal strain and enhance occupational performance in classrooms. Earn .25 AOTA CEU (2.5 NBCOT PDUs/2.5 contact hours). Order #CWS208-CR, $66 AOTA Members, $94 Nonmembers.

AOTA Conference Session Webcast Ongoing
Occupational Therapy In-Home Assessment Program: Meeting the Needs of Older Adults. Presented by Pamela E. Toto, MS, OTR/L, BCG, and Cathy Dolhi, MS, OTR/L, FAOTA. This presentation discusses the evidence, cost–benefits, and outcomes in developing an in-home assessment program using traditional reimbursement sources for community-dwelling seniors who are aging in place. Earn .15 AOTA CEU (1.5 NBCOT PDUs/1.5 contact hours). Order #CSC128-CR, $45 AOTA Members, $64 Nonmembers.

AOTA Conference Session Webcast Ongoing
Improvised Splinting: Enabling Patients in Instrumental Activities of Daily Living and Leisure Activities with Creative Fabrication. Presented by Erik Johnson, MS, OTR/L. Learn key strategies and concepts for creative hand-therapy splinting with a focus on purposeful activities and occupations. Find out why the initial interview is important in discerning the appropriate occupation-based treatment, and identify reasons why the biomechanical frame of reference has such a grip on hand therapy. Earn .15 AOTA CEU (1.5 NBCOT PDUs/1.5 contact hours). Order #CSC226-CR, $45 AOTA Members, $64 Nonmembers.

AOTA Conference Session Webcast Ongoing
Innovative Approaches in the Upper-Extremity Rehabilitation After Stroke. Presented by Salvador Bondoc, OTD, OTR/L, and Lisa Finnen, MS, OTR/L. Perfect for occupational therapy professionals looking for innovative and emerging technologies to use in treating those with a neurological impairment caused by stroke. Get new ideas and the related research evidence to support treatment. Earn .3 AOTA CEU (3 NBCOT PDUs/3 contact hours). Order #CWS105-CR, $79 AOTA Members, $112 Nonmembers.

AOTA Conference Session Webcast Ongoing
Integrating Evidence From Neuroscience and Family Systems To Foster Childhood Occupations. Presented by Winifred Schultz-Krohn, PhD, OTR/L, SWC, BCP, FAOTA; Michelle J. Brown, MOT, OTR/L, BCP; Patricia L. Davies, PhD, OTR, BCP; Rachel B. Diamant, MS, OTR/L, BCP; and Theresa L. Schlabach, MA, OTR/L, BCP. Learn more about how the current research on brain development and function applies to pediatric occupational therapy practice. This Webcast identifies and explains the key components of family-systems theory and how the parent–child roles support growth in both child and parent. Earn .2 AOTA CEU (2 NBCOT PDUs/2 contact hours). Order #CWS304-CR, $53 AOTA Members, $76 Nonmembers.

AOTA Conference Session Webcast Ongoing
Non–Driver Rehabilitation Specialists: Community Mobility Across the Life Span. Presented by Anne Hegberg, MS, OTR/L, CDRS, CDI. Emphasizes the role occupational therapy plays in community mobility, and offers a variety of resources in your state,

NETWORK

including reporting laws for medical personnel, state driving requirements, wheelchairs and accessible vehicles for clients in acute and rehabilitation settings, and much more. Earn .15 AOTA CEU (1.5 NBCOT PDUs/1.5 contact hours). Order #CSC244-CR, $45 AOTA Members, $64 Nonmembers.

AOTA Online Course **Ongoing**

Fundamentals of Occupational Therapy for Individuals with Dementia. By Mary A. Corcoran, PhD, OTR/L, FAOTA. Learn to evaluate occupational performance and establish goals to reduce disability, simplify objects and tasks, and communicate effectively. Assessment tools and intervention protocols are provided. Earn 1 AOTA CEU (10 NBCOT PDUs/10 contact hours). Order #OLD07-CR, $198 AOTA Members, $280 Nonmembers.

AOTA Online Course **Ongoing**

Advanced Occupational Therapy for Individuals with Dementia. Presented by Mary A. Corcoran, PhD, OTR/L, FAOTA. Learn how to develop and monitor interventions that address common but complex problems, such as wandering, agitation, driving difficulties, and resistance to self-care. Assessments and intervention protocols for standardized approaches are provided; strategies for reimbursement are discussed. Earn 1 AOTA CEU (10 NBCOT PDUs/10 contact hours). Order #OLD06-CR, $198 AOTA Members, $280 Nonmembers.

AOTA Online Course **Ongoing**

Occupational Therapy for Family, Professional, and Paraprofessional Caregivers of Individuals With Dementia. Presented by Mary A. Corcoran, PhD, OTR/L, FAOTA. Learn how to help family and paid caregivers manage dementia-related symptoms on a daily basis. A library of caregiver assessments is provided, as are research-tested intervention protocols. Earn 1 AOTA CEU (10 NBCOT PDUs/10 contact hours). Order #OLD05-CR, $198 AOTA Members, $280 Nonmembers.

AOTA Online Course **Ongoing**

Using the Fieldwork Performance Evaluation Forms: An Interactive Approach. Presented by Karen Atler, MS, OTR, and Roberta Wimmer, OTR/L. Five lessons address how to use the Fieldwork Performance Evaluation Forms for OT and OTA fieldwork students. Learn how to identify and write site-specific objectives, rate and score student performance, and much more. The AOTA Press publication, *Using the Fieldwork Performance Evaluation Forms: The Complete Guide,* is necessary for taking the course. Earn .6 AOTA CEU (6 NBCOT PDUs/6 contact hours). Course only: Order #OL23-CR, $135 AOTA Members, $195 Nonmembers. Course and text: Order #OL23K-CR, $143.10 AOTA Members, $206.10 Nonmembers.

AOTA Online Course **Ongoing**

Occupational Therapy in School-Based Practice: Contemporary Issues and Trends. Edited by Yvonne Swinth, PhD, OTR/L. Gain an understanding of and suggestions for service delivery and intervention strategies in school-based settings based on IDEA, the No Child Left Behind initiative, the philosophy of education, and the *Occupational Therapy Practice Framework.* **The content of the Core Session has been updated to reflect the changes in the 2004 IDEA amendments.** Core session: *Service Delivery in School-Based Practice: Occupational Therapy Domain and Process.* Earn: 1 AOTA CEU (10 NBCOT PDUs/10 contact hours). Order #OLSBC-CR, $225 AOTA Members, $320 Nonmembers. Elective sessions: After completing the Core session, choose supplemental sessions to further enhance your knowledge for specific school-based populations, types of settings, and service delivery issues. Each provides .1 AOTA CEU (1 NBCOT PDU/1 contact hour), $22.50 AOTA Members, $32 Nonmembers.

AOTA Online Course **Ongoing**

Low Vision in Older Adults: Foundations for Rehabilitation. Presented by Roy Gordon Cole, OD, FAAD; Gordon Rovins, MS, CEAC; and Alison Schonfeld, OTR/L. This course is an overview of low-vision causes, effects, and interventions, with emphasis on optical considerations and strategies for environmental adaptation. Examines the clinical deficits associated with low vision, and addresses the rehabilitation process. Includes a review of the eye, an overview of the types of optical prescriptions, and the use of specific intervention approaches. Case study format enhances clinical reasoning skills. *From AOTA and SightCare, a program of The Jewish Guild for the Blind.* Earn .8 AOTA CEU (8 NBCOT PDUs/8 contact hours). Order #OL28-CR, $158 AOTA Members, $225 Nonmembers.

AOTA Online Course **Ongoing**

Driving and Community Mobility for Older Adults: Occupational Therapy Roles. Presented by Susan Pierce, OTR, CDRS, and Linda Hunt, PhD, OTR/L. Provides an understanding of the key issues related to community mobility, including driving. Helps therapists working with older adults in all settings identify the desired community mobility outcomes of clients and find resources for specialized driving rehabilitation. Offers professional development guidelines for those who wish to become occupational therapy driver rehabilitation specialists. *Development sponsored by the National Highway Traffic Safety Administration.* Earn .5 AOTA CEU (5 NBCOT PDUs/5 contact hours). Order #OL25-CR, $112.50 AOTA Members, $160 Nonmembers.

AOTA Self-Paced Clinical Course **Ongoing**

Collaborating for Student Success: A Guide for School-Based Occupational Therapy. Edited by Barbara Hanft, MA, OTR, FAOTA, and Jayne Shepherd, MS, OTR, FAOTA. Engages school-based occupational therapists in collaborative practice with education teams. Identifies the process of initiating and sustaining changes in practice and influencing families/education personnel to engage in collaboration with occupational therapists. Perfect for learning to use professional knowledge and interpersonal skills to blend hands-on services for students with team and system supports for families, educators, and the school system at large. Earn 2 AOTA CEU (20 NBCOT PDUs/20 contact hours). Order #3023-CR, $370 AOTA Members, $470 Nonmembers.

AOTA Self-Paced Clinical Course **Ongoing**

Strategies to Advance Gerontology Excellence: Promoting Best Practice in Occupational Therapy. Edited by Susan Coppola, MS, OTR/L, BCG, FAOTA; Sharon J. Elliott, MS, OTR/L, BCG, FAOTA; and Pamela E. Toto, MS, OTR/L, BCG, FAOTA. Foreword by Wendy Wood, PhD, OTR/L, FAOTA. Excellent resource for gerontology practitioners to help sharpen skills and prepare for the spiraling demand among older adults for occupational therapy services. Special features include core best practice methodology with older adults, approaches to and prevention of occupational problems, health conditions that affect participation, and practice in cross-cutting and emerging areas. Earn 3 AOTA CEUs (30 NBCOT PDUs/30 contact hours). Order #3024-CR, $490 AOTA Members, $590 Nonmembers.

AOTA Self-Paced Clinical Course **Ongoing**

Low Vision: Occupational Therapy Evaluation and Intervention With Older Adults, Revised Edition, 2008. Edited by Mary Warren, MS, OTR/L, SCLV, FAOTA. Occupational therapy practice in low vision rehabilitation services has changed significantly since the first edition of *Low Vision.* The *Revised Edition* helps practitioners maintain professional competency by supporting the AOTA Specialty Certification in Low Vision Rehabilitation (SCLV) credentialing process. Special features include first-edition updates and revisions, new information on evaluation, lessons related to psychosocial issues and low vision, eye conditions that cause low vision in adults, and basic optics and optical devices. Earn 2 AOTA CEUs (20 NBCOT PDUs/20 contact hours). Order #3025-CR, $370 AOTA Members, $470 Nonmembers.

AOTA Self-Paced Clinical Course **Ongoing**

Neurorehabilitation Self-Paced Clinical Course Series. Series Senior Editor: Gordon Muir Giles, PhD, DipCOT, OTR/L, FAOTA. This Series includes 4 components—the Core SPCC and 3 Diagnosis-Specific SPCCs. The Core SPCC is highly recommended as a prerequisite for the Diagnosis-Specific courses. Each of the Diagnosis-Specific SPCCs is based on a case study model supported by key concepts presented in the Core. **Core SPCC:** *Core Concepts in Neurorehabilitation:* Earn .7 AOTA CEUs (7 NBCOT PDUs/ 7 contact hours). Order #3019-CR, $130 AOTA Members, $184 Nonmembers. **Diagnosis-Specific SPCCs:** *Neurorehabilitation for Dementia-Related Diseases* (Order #3022-CR), *Neurorehabilitation for Stroke* (Order #3021-CR), and *Neurorehabilitation for Traumatic Brain Injury* (Order #3020-CR). Each: 1 AOTA CEU (10 NBCOT PDUs/10 contact hours), $185 AOTA Members, $263 Nonmembers. Call or shop online to purchase the Core and/or 1 or more Diagnosis-Specific SPCCs together for significant savings!

AOTA Self-Paced Clinical Course **Ongoing**

The Hand: An Interactive Study for Therapists. By Judy C. Colditz, OTR/L, CHT, FAOTA. Combines written coursework with interactive, computer-based learning to present the anatomical basis and clinical presentation of problems in the hand and forearm. Using the CD-ROM *The Interactive Hand: Therapy Edition,* explore the multiple layers of complex anatomy while learning about palpation, examination, and common disorders. An excellent preparation tool for the Hand Therapy Certification Exam. Earn 1.6 CEUs (16 NBCOT PDUs/16 contact hours). Order #3017-CR, $260 AOTA Members, $360 Nonmembers.

AOTA Self-Paced Clinical Course **Ongoing**

Dysphagia Care for Adults. Edited by Wendy Avery-Smith, MS, OTR/L. Advance your evaluation and intervention skills in dysphagia care for adult clients in settings such as acute-care hospitals, home health, rehabilitation settings, long-term-care facilities, school settings, nursing homes, residential settings, and outpatient-care environments. Topics include physiology and manifestations of abnormal swallowing; clinical evaluations of swallowing; identification of commonly used instrumental evaluation procedures and when to recommend them; how to interpret dysphagia evaluation results and provide appropriate treatment; and more. Earn 1.4 AOTA CEUs (14 NBCOT PDUs/14 contact hours). Order #3018-CR, $259 AOTA Members, $374 Nonmembers.

October

Jacksonville, FL **Oct. 4–5**

Splinting With Style. A 2-day, hands-on, interactive splinting course designed for therapists and other health professionals interested in advancing their splinting skills! Each participant will manually fabricate commonly used splints, both static and dynamic, with in-class supervision and multiple lab instructors. Concepts from this course can immediately be applied in the clinical setting from the detailed reference manual and course materials. Cost: $250–$295; 1.0 CEU. Register: call 888-909-2426 or visit www.ciaoseminars.com

CALENDAR

Ft. Lauderdale, FL — **Oct. 6–18**

Lymphedema Management. Certification courses in Complete Decongestive Therapy (135 hours), Lymphedema Management Seminars (31 hours). Coursework includes anatomy, physiology, and pathology of the lymphatic system, basic and advanced techniques of MLD, and bandaging for primary/secondary UE and LE lymphedema (incl. pediatric care) and other conditions. Insurance and billing issues, certification for compression-garment fitting included. Certification course meets LANA requirements. **Also in Denver, CO, Oct. 6–18.** AOTA Approved Provider. For more information and additional class dates/locations or to order a free brochure, please call 800-863-5935 or log on to www.acols.com

Tampa, FL — **Oct. 11**

A Holistic Therapy Perspective: The Missing Link in Parkinson's Disease Management. This course looks at conventional PD management, the latest evidence-based science, as well as critical clinical thinking through real-life case report clinical outcomes. Participants will challenge conventional approaches to optimize clinical outcomes. This course will advocate a new wellness perspective and explain its influence on PD management. Cost: $140–$175; 0.75 CEU. Register: call 888-909-2426 or visit www.ciaoseminars.com

Tampa, FL — **Oct. 11–12**

Myofascial Release and Other Manual Techniques in Dysphagia Management. This interactive two-day workshop for rehabilitation teams will address evaluation and current treatment techniques appropriate for soft tissue and joint restrictions that contribute to an abnormal swallow. Registration includes price for prerequisite 4-hour online course, "Anatomy of Swallowing." Cost: $260–$305. Earn 1.2 CEUs. To register, call 888-909-2426 or visit www.ciaoseminars.com

New Brunswick, NJ — **Oct. 17–18**

The Listening Program® (TLP) Provider Training. Become a TLP Provider, train the auditory-vestibular system, and improve treatment outcomes. This course presents what you need to begin offering The Listening Program® method of Music-Based Auditory Stimulation™. Receive comprehensive training and learn about the New iListen™ iPod system and portable bone conduction technology. 12–23 contact hours. **Also in Denver, CO, November 7–8; and Ogden, UT, November 13–15.** AOTA Approved Provider. Contact ABT–Advanced Brain Technologies, 1-888-228-1798. To register, for more information, or for 2008 schedule, visit www.the listeningprogram.com.

Macon, GA — **Oct. 18**

Effective Diagnosis and Treatment of Dysphagia in the 21st Century. Take this course and "Effective MBS Evaluation of the Swallow for Treatment Planning" for a discount up to $55! Dysphagia evaluations and treatment have evolved beyond simple bedside evaluations, compensatory strategies, and diet modification. This intermediate-level course for SLPs and OTs presents a structured approach to evaluating and treating dysphagia based on neurophysiological processes. Cost: $140–$175. Earn 0.8 CEU. To register, call 888-909-2426 or visit www.ciaoseminars.com

Hartford, CT — **Oct. 18–19**

Eval and TX of Visual Perceptual Dysfunction in Adult Brain Injury Part I. Evaluation, treatment, and documentation of visual perceptual deficits after CVA and TBI is addressed using a practical, functional, and reimbursable approach. Topics include hemianopsia, visual neglect, oculomotor impairment, and complex visual processing. **Also in San Diego, CA, Feb. 21–22, 2009 and Winston-Salem, NC, May 16–17, 2009.** Faculty: Mary Warren MS, OTR/L, SCLV, FAOTA. Contact visABILITIES at www.visabilities.com or 888-752-4364; fax 205-823-6657.

Macon, GA — **Oct. 19**

Effective MBS Evaluation of the Swallow for Treatment Planning. Take this course and "Effective Diagnosis and Treatment of Dysphagia in the 21st Century" for a discount up to $55! An effective treatment session starts with an effective evaluation. Your treatment is only as good as the information you gather from your evaluation of the swallow system. This intermediate-level course for SLPs and OTs discusses how to effectively evaluate the swallow system using an MBS video and/or report. Cost: $140–$175. Earn 0.6 CEU. To register, call 888-909-2426 or visit www.ciaoseminars.com

Montreal, QC, Canada — **Oct. 28**

Catching Kids Before They Fall: Helping the Out-of-Sync Child, with Carol Kranowitz, author of *The Out-of-Sync Child.* Learn how to recognize, understand, and help children with Sensory Processing Disorders. Continuing education credits may be available for professionals by certificate of attendance. Contact 561-620-9377; for more info and registration, visit www.unicornchildrensfoundation.org.

November

Ann Arbor, MI — **Nov. 7–9**

Evaluation and Treatment of Visual Perceptual Dysfunction in Adult Brain Injury, Part II. Continuation of Part I course, this intense practicum teaches participants specifics of evaluation and treatment planning for visual perceptual deficits from brain injury, including oculomotor dysfunction, visual field deficit, reduced visual acuity, and visual neglect. **Next in Raleigh, NC, Nov. 7–9, 2009.** Faculty: Mary Warren, MS, OTR/L, SCLV, FAOTA. Contact visABILITIES, 888-752-4364; fax: 205-823-6657; or www.visabilities.com

Chicago, IL — **Nov. 14–16**

The **AOTA/NBCOT National Student Conclave** will be held November 14–16, 2008, in suburban Chicago. Attend the national conclave that was created exclusively for occupational therapy and occupational therapy assistant students. This intense day-and-a-half was designed entirely for your unique needs, giving you an insider's view of your profession; access to, and tips from, some of the nation's top employers; and a jump on career skills that will last a lifetime. Go to www.aota.org/conclave for details

December

Vancouver, BC, Canada — **Dec.**

Call for Papers—Vocational Outcomes in TBI Conference. One-hour presentations, poster sessions, pre-conference workshops, and 2-hour in-conference workshops. Topics related to vocational rehabilitation and other functional outcomes of our target group. Submissions required by December 2008. **Conference: May 7–9, 2009.** For more information, visit www.tbicvancouver.com

January

Miami, FL — **Jan. 24–25, 2009**

Low Vision Rehabilitation:Treatment of the Older Person with Vision Loss. Faculty: Mary Warren MS, OTR/L, SCLV, FAOTA. Practical workshop teaches functional evaluation and treatment approach for adults with vision loss from macular degeneration, diabetic retinopathy, and glaucoma. Documentation for insurance reimbursement included. Appropriate for all OT/COTAs working with older adults. **Also in Houston, TX 9/12–13/09 and Grand Rapids, MI 10/17–18/09.** Contact visABILITIES (888) 752-4364, Fax (205) 823-6657 or www.visabilities.com

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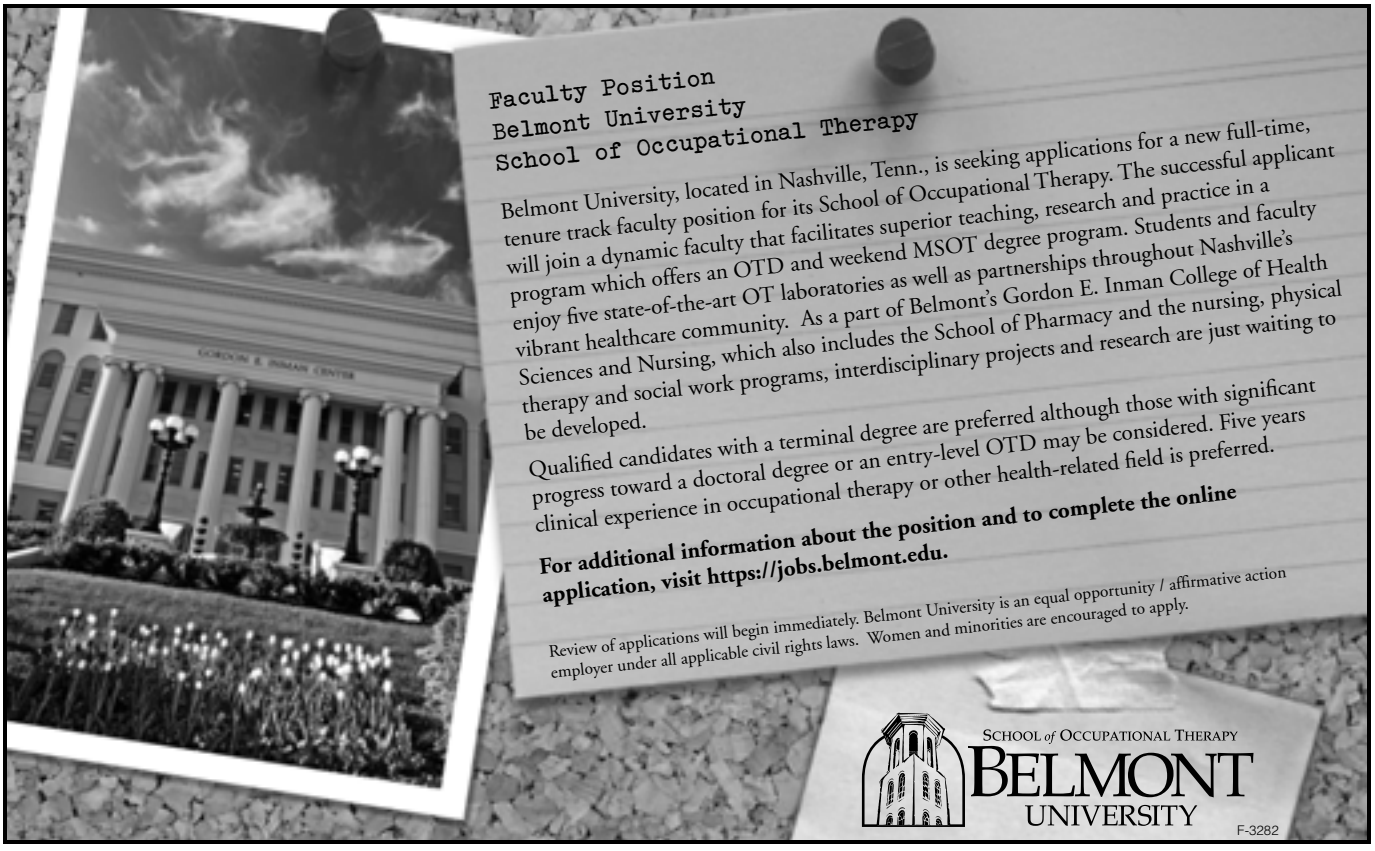

Faculty

DUQUESNE UNIVERSITY

DEPARTMENT OF OCCUPATIONAL THERAPY

The Department of Occupational Therapy is seeking to hire a full-time, tenure track Assistant Professor beginning in fall 2009. Our department is nationally recognized as a pioneer and leader in the development of practice-scholars who serve, do, question, and lead occupational therapy. We also have a strong reputation for innovation and scholarship in educational pedagogy and long-standing community university partnerships. Learning in our lauded five- and two-year entry-level graduate programs is intentionally situated in clinical and community contexts. The Duquesne faculty are dedicated to maintaining an educational environment that challenges students to critically reflect on their practice and to constantly question the complex interaction of personal and contextual factors that impact occupational performance and occupational and social justice.

We are seeking an educator who possesses graduate teaching experience and expertise in experimental research and who can immediately contribute to the development of an online OTD program and to our established interdisciplinary PhD program in Rehabilitation Science. The ideal candidate will have demonstrated expertise as well as commitment to the dual role of scholar and educator, including faculty and student mentoring; evidence of leadership; and teaching interests in aging, rehabilitation technology, experimental, and/or evaluation methodologies. Candidates must be eligible for Pennsylvania OT licensure. Candidates with an earned doctorate or ABD status are preferred. Preferences will be given to applicants with an established tradition of research and success in securing external funding.

Expressions of interest and applications will be treated in strict confidence. Application review will begin immediately and continue until the position is filled. To learn more about Duquesne University and the Rangos School of Health Sciences, please visit http://www.healthsciences.duq.edu/ot

Submit a letter of interest, curriculum vitae, and three professional letters of references to:

Jaime Muñoz, PhD, OTR, FAOTA
Search Committee Chair—Department of Occupational Therapy
Duquesne University
Office of Human Resources
600 Forbes Avenue, Pittsburgh, PA 15282

Applicants must be willing to contribute actively to the mission and to respect the Spiritan Catholic identity of Duquesne University. The mission is implemented through a commitment to academic excellence, a spirit of service, moral and spiritual values, sensitivity to world concerns, and an ecumenical campus community.

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Kevin Silvestre
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M-3520

Faculty

THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL

The Division of Occupational Science invites applications for a 12-month, tenure-track faculty position. This is an open search, so rank and salary will be commensurate with experience.

The UNC Occupational Science Division prepares master-level students to engage in innovative occupational therapy and serve as change agents. The doctoral curriculum was established in 2005 and recruits future scholars interested in building research and academic careers in Occupational Science and generating knowledge that supports best practice. Our new faculty member will teach and advise students in both the MS and PhD programs; engage in research, grant writing, and scholarship; and fulfill other academic responsibilities.

Qualified candidates will have a research-based doctoral degree (PhD, ScD or equivalent) and will be eligible for a North Carolina license as an occupational therapist. Preference will be given to applicants who have scholarly interests in the occupations of older adults or occupation-centered practice with adults.

The home of this top-ranked program, the University of North Carolina at Chapel Hill, began as the nation's first public university and offers unlimited opportunities to develop research, teaching, and service interests. The community surrounding the university offers unsurpassed quality of life for the candidate who enjoys a mix of urban and rural options.

Application Procedure: Applicants can complete an online application at http://hr.unc.edu/jobseekers and should attach: Cover letter, current curriculum vitae, and contact information for four references.

To learn about the Division of Occupational Science: http://www.med.unc.edu/ahs/ocsci/

For inquiries, contact Search Committee Chair Dr. Ruth Humphry at rhumphry@med.unc.edu or call (919) 843-4468.

The University of North Carolina at Chapel Hill is an equal opportunity employer

F-3504

Faculty

MISERICORDIA UNIVERSITY
DEPARTMENT OF OCCUPATIONAL THERAPY
FULL-TIME FACULTY POSITION

The Department of Occupational Therapy is currently accepting applications for a full-time (10 month), tenure-track position in our newly expanding occupational therapy program.

The Department of Occupational Therapy is a fully accredited program that includes a five-year professional entry-level master's degree program and a weekend college program for COTAs and individuals already possessing a baccalaureate degree in another discipline. We also offer a post-professional pediatric certificate program. In 2008 the department also began to offer a post-professional clinical doctorate in occupational therapy.

Misericordia University is a teaching-centered institution with a commitment to community service. The curriculum has a strong foundation in occupation, and also evidence-based practice and community-based practice. Successful candidates will join an experienced faculty who are doctorally prepared with diverse clinical and educational backgrounds.

Full-Time Faculty Position: Responsibilities include teaching in areas of expertise in undergraduate and graduate programs, supervising graduate research projects, advising students, and participating in related college and community service. Will consider candidates with varying clinical and academic backgrounds.

Qualifications for Full-Time Faculty Position: Post-professional doctoral degree in occupational therapy or related field. ABD will be considered. A minimum of five years of clinical experience and previous teaching experience is desirable. Must have NBCOT certification and be eligible for Pennsylvania licensure.

Starting date for full-time position: January 2009

Salary is commensurate with education and experience.

Misericordia University is committed to excellence and actively supports cultural diversity. To promote this endeavor, we invite individuals who contribute to such diversity to apply, including minorities.

Misericordia University, an 83-year-old institution sponsored by the Sisters of Mercy, offering baccalaureate and master's degrees, is located adjacent to the Pocono Mountains region of Northeastern Pennsylvania, approximately 2–3 hours from New York City, Philadelphia, and Baltimore. The university's approach of combining a quality liberal arts education with professional preparation and service leadership has resulted in its wide regional acclaim.

For confidential consideration, please enclose in your application package a letter of application, curriculum vitae, and three letters of recommendation to Gwen Bartolacci, OTD, OTR/L, Search Committee Chair, c/o Office of Human Resources, Misericordia University, Dallas, PA 18612, or e-mail hr@misericordia.edu.

F-3500

Midwest

POSTDOCTORAL FELLOWSHIP

The Division of Physical Medicine and Rehabilitation at University of Michigan Medical Center announces availability of an NIH-sponsored postdoctoral fellowship for occupational therapists. Fellows interested in physical activity engagement and symptom management in people with osteoarthritis are encouraged to apply. The Fellow will participate in a comprehensive curriculum of didactic activities.

The overall goal of this fellowship is to prepare trainees who have a primary interest in pursuing academic careers.

Applicants should have completed all requirements for a PhD and be a U.S. citizen or permanent resident. This position includes an attractive fringe benefits package, consistent with University of Michigan guidelines including vacation, sick, and conference time and an excellent health care package.

Interested candidates should send a cover letter indicating future research plans, a CV, two letters of recommendation and a sample of academic work to Denise G. Tate, PhD, ABPP, Department of Physical Medicine and Rehabilitation, 325 E. Eisenhower, Suite 100, Ann Arbor, MI 48108. Applicants must also apply online through the University of Michigan Web site at http://www.umich.edu/~jobs/ to complete the application process.

The University of Michigan is an Equal Opportunity Affirmative Action Employer and does not discriminate on the basis of race, color, religion, national origin, sex, age, disability, or citizenship or veteran status as provided by law.

M-3470

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South Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, S. Carolina, Tennessee, Texas, Virginia, West Virginia

Midwest Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, South Dakota, Wisconsin

West Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming

National Multiple locations within the U.S.

International All countries outside the United States

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W-3490

EMPLOYMENT OPPORTUNITIES

Faculty

Clinical Faculty Position
Department of Occupational Therapy
School of Health and Rehabilitation Sciences
Indiana University, Indianapolis, Indiana

The Department of Occupational Therapy at Indiana University, Indianapolis, invites applications for a 12-month appointment as an Academic Fieldwork Coordinator in the entry-level Master of Science in Occupational Therapy. The individual will join the current team in the recently created graduate curriculum in renovated instructional space. The program is fully accredited by ACOTE.

Responsibilities for the Academic Fieldwork Coordinator include arranging innovative student community and clinical fieldwork experiences, developing innovative clinical education partnerships, initiating fieldwork contracts, advising students, teaching entry-level courses, and training fieldwork educators. Applicant must be licensed or eligible for licensure as an occupational therapist in the state of Indiana, must have minimally earned a master's degree, and must have five years of clinical experience, including supervising professional occupational therapy fieldwork students.

Salary and rank will be commensurate with the candidate's qualifications and experience.

Indiana University/Purdue University–Indianapolis (IUPUI), is an urban research university created in 1969 as a partnership by and between Indiana and Purdue Universities. The campus, which includes the Indiana University Medical Center, ranks among the top 15 in the country in the number of first professional degrees it confers and among the top 5 in the number of health-related degrees. Numerous opportunities are available for interdisciplinary collaborations.

Review of applications will begin immediately and continue until the position is filled. Interested applicants should submit a letter of interest and curriculum vita along with the names of three references to: Dr. Jeffrey L. Crabtree, OTD, OT, FAOTA, Chair, Occupational Therapy Search and Screen Committee, Department of Occupational Therapy, Indiana University, School of Health and Rehabilitation Sciences, 1140 W. Michigan St., Coleman Hall, Room 311, Indianapolis, Indiana 46202-5119; Office: 317-274-5368; Fax: 317-274-2150; jlcrabtr@iupui.edu.

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F-3486

South

UL Health Care

University of Louisville Hospital in Louisville, KY, seeking Occupational Therapists and COTA

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We are seeking energetic Occupational Therapy professionals for a fast-paced inpatient acute care/trauma setting. The ideal candidate will be a dynamic therapist to work with Physicians and the Rehab team. The Occupational Therapy department serves a wide variety of patients, including: Burn, Stroke, TBI/Neuro, Spinal Cord Injury, Orthopedics, Geripsych, Hand Trauma, Oncology, and Women's Health.

We offer Flexible Shifts and Excellent Benefits, including Flex Time and Sick Time

Extra Flexible Shifts are available:

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Sign-On Bonus and/or Relocation Packages are available

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Please call Laura Carr for additional information: 502-562-3158

Please apply online at www.uoflhealthcare.org EOE

S-3502

Northeast

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Northeast

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N-3311

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Faculty

Pacific University School of Occupational Therapy

Salary: Open
Location: Pacific Northwest
Type: Tenure track, full time—
Mental health teaching and practice experience preferred

Join our dynamic and innovative Masters of Occupational Therapy (MOT 1) curriculum and help shape the future of the program as it continues to: focus on occupation, provide students with foundational practice skills and knowledge, incorporate occupational science and occupational justice explicitly into the curriculum, and expand innovative and visionary practice models to address community-based health and wellness needs in rural and urban settings.

Key responsibilities for a tenure track (9 or 10 mo.) position include teaching in a learning-centered curriculum and participation in a collaborative school management model. Faculty members are expected to pursue scholarly activities, provide student and research advisement, supervise students in innovative practice development, and serve the local and University communities. Minority and/or bilingual (English and Spanish) candidates will be especially welcomed. Mental health experience preferred but other backgrounds will be considered. For more detailed information, please see our Web page at

www.pacificu.edu/hr/employment/positions/detail.cfm?JOB_ID=265

Please send letter of intent to apply, curriculum vitae, and names of 3 professional references to:

Sandra Rogers, PhD, OTR/L, Pacific University School of Occupational Therapy, 222 SE 8th Ave., Ste. 363, Hillsboro, OR 97123.
Inquiries welcomed. Phone John White, 1-877-PAC-UNIV ext. 7355, or e-mail: whiteja@pacificu.edu; Web site: http://www.ot.pacific.edu

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F-3480

National

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U-3474

Northeast

Private School for the Disabled, Celebrate The Children in Wharton, New Jersey, has immediate openings for part-time and full-time Occupational Therapists. Must hold N.J. license and NJDOE certifications. Please fax resume to 973-895-7457 or e-mail to Blaszak@CelebratetheChildren.org.

N-3475

West

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W-3471

National

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U-2822

South

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S-3451

EMPLOYMENT OPPORTUNITIES

West

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702-799-7443

W-3521

West

PIMA MEDICAL INSTITUTE

Help Educate Occupational Therapy Assistants

Pima Medical Institute is a progressive, private school that offers associate degree and certificate programs in numerous allied health professions. We are seeking dedicated, energetic professionals to help build successful Occupational Therapy Assistant programs at our Albuquerque, Denver, Tucson, Renton (Seattle area), and East Mesa (Phoenix area) locations. We are looking for program directors, clinical directors, and faculty (PT & FT) who would like the opportunity to build a new program and make a difference in the lives of others!

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Please send a cover letter and resume to:
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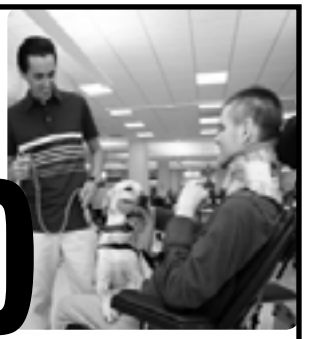
Fax: 520-326-9356
Phone: 520-323-5975

W-3499

Northeast



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West

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W-3452

West

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W-3377

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W-2549

EMPLOYMENT

West

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akhand@gci.net W-3440

South

SR. OCCUPATIONAL THERAPIST/MANAGER
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South

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Northeast

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Molly Asks

A monthly column in which Associate Editor Molly Strzelecki profiles your peers.

Jane Case-Smith, EdD, OTR/L, FAOTA, professor and chair of the occupational therapy department for the School of Allied Medical Professions at The Ohio State University, became the editor of *OTJR: Occupation, Participation and Health* in January 2008. The journal is published by the American Occupational Therapy Foundation (AOTF).

Q What do hope to bring to *OTJR*?

We hope to publish studies of high relevance to practice and help to define it. Examples would be studies that demonstrate that our evaluation tools are valid, controlled trials that define which occupational therapy interventions are effective, and studies that reveal what mechanisms relate to effective interventions. We hope that scholars consider *OTJR* for publication of trials and experimental design research, particularly studies that include measures of occupation and participation. Well-designed trials provide findings on the application of an intervention, but they also provide information on how well evaluations measure change, whether evaluations are sensitive, and how client or contextual variables relate to treatment effects. Because well-designed trials provide complex and rich data, they produce findings that extend well beyond the question of intervention effects—*OTJR* is a great journal for publishing secondary analyses of major trials.

How is *OTJR* aligning with AOTA's Centennial Vision?

The editorial board of *OTJR* is enthusiastic about aligning *OTJR* with the AOTA Centennial Vision. Although it is not intuitive that a research journal can or should follow the profession's 10-year vision, we think that this alignment makes good sense on many levels. A primary goal in the Centennial Vision is to communicate the value of occupational therapy to society. We hope that researchers are tuned into the Centennial Vision and that they ask how their lines of research can positively influence the health and participation of our consumers. Hopefully, researchers are asking questions about how occupational therapy affects quality of life and affects life issues of high value to society. When occupational therapy scholars develop research programs that are self-sustaining, have a long-term view of their science and of the profession, and ultimately contribute important knowledge to our field, they are in perfect alignment with the Centennial Vision.

A journal that is perceived as relevant and helpful to other professionals will improve our image in health care and will help other professions understand our practice. If *OTJR* does not hold this goal as one of its missions, we are missing an important opportunity for communicating our role in health care and our relevance to society.

The journal's role is to select papers that ask questions of value to consumers, other health care professionals, and society in general. We intend to stay focused on publishing studies that will be valued by our readers, inside and outside the profession, by placing greater emphasis on the significance of the research. In addition, we will encourage authors, through the editing process, to discuss the meaning of their findings to practice and the field in general. We will ask the question, "How do these research findings make an important contribution to the occupational therapy profession?" The Centennial Vision is about maintaining a focus on the value of occupational therapy to society and on occupational therapy's contributions to health care. We would like the journal to help the profession maintain this focus.

Will the mission of *OTJR* change?

No, *OTJR* continues to be a journal for publication of studies of occupation, participation, and health. We are placing priority on studies of occupation and participation that have clear importance to occupational therapy practice and contribute to understanding the impact of occupation on health and society.

The *OTJR* aim and scope states that the journal publishes papers that "advance the science of occupational therapy or the understanding of occupation, and will lead to improving the lives of people at risk of being restricted from participating in activities and roles that have meaning to them." This aim of the journal, which was written by past editorial boards, remains true today. That said, the current editorial board may ask authors to place more emphasis on how their research findings can "lead to improving the lives of people." We would like to increase the relevance of the journal. Society is demanding more evidence for our practices and rigorous standards for research; therefore *OTJR*, like other journals, must respond to these pressures by publishing rigorous, well-designed studies.

Where can people find more information about guidelines and submitting to *OTJR*?

The guidelines are on the Web at www.otjronline.com. Information can also be found on the AOTF Web site at www.aotf.org. Authors who would like to submit a paper must send it to me at otjr.editor@osumc.edu. The editorial office is currently located at The Ohio State University. We only accept electronic submissions so submission is really a click away. I am also happy to answer questions at the same e-mail address. ■

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The Use of Clinical Observations To Evaluate Proprioceptive and Vestibular Functions

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ABSTRACT
The evaluation of sensory integration (SI) dysfunctions involves many forms of collecting information, including parent surveys, standardized testing, and observations. What has traditionally been referred to as clinical observations is an analysis of a child's performance during structured and unstructured tasks linked to the underlying tactile, vestibular, and proprioceptive functions influencing the child's occupational performance. Although there is no consensus regarding the "right" clinical observations to use during an assessment, the most commonly reported structured observations related to vestibular and proprioceptive processing collect information about oculomotor skills, postural control, motor planning, and organization of behavior. Observations related to tactile processing are generally limited to unstructured observations of registration and modulation skills, whereas discrimination of tactile sensations are more accurately addressed with standardized testing such as the Sensory Integration and Praxis Test (SIPT; Ayres, 1989). Although clinicians often describe vestibular functions in conjunction with proprioceptive functions, this article attempts to differentiate between both and thus comprises three separate sections: observations linked primarily to vestibular functions, observations linked primarily to proprioceptive functions, and observations related to a combination of vestibulo-proprioceptive functions.

The intent of this article is to highlight the importance of accurate interpretation of clinical observations. For detailed descriptions and administration guidelines of the structured clinical observations used during an occupational therapy evaluation, refer to Dunn (1981), Wilson, Pollock, Kaplan, and Law (2000), and Blanche (2002).

LEARNING OBJECTIVES
After reading this article, you should be able to:
1. Recognize the role of structured and unstructured observations in the occupational therapy evaluation process.
2. Identify key observations that are linked to vestibular, proprioceptive, and vestibular-proprioceptive processing.
3. Differentiate clinical observations and their tentative relationship to sensory integrative dysfunction.

THE ROLE OF CLINICAL OBSERVATIONS IN PRACTICE
Clinicians using the theory of sensory integration (SI) to guide their clinical reasoning rely on a variety of methods to collect information about the child's difficulties, including standardized tools, parent surveys, and observations of the child in the natural and clinical environments. As part of the evaluation process, clinical observations play an essential role when making a distinction among different patterns of SI dysfunction, primarily in children with disorders in motor coordination (Asher, Parham, & Knox, 2008; Ayres, 1965, 1966a, 1966b, 1972, 1989).

Clinical observations are a group of structured and unstructured observations focusing on the relationship between sensory processing, movement, and behavior that were originally described by A. J. Ayres (1965; personal communication, 1984). Ayres's original compilation of clinical observations included a set of structured therapist-led activities that supplemented standardized testing or were primary sources of information when other measures were not available because of the child's age or diagnosis (Ayres, 1984). Clinicians differentiate between the terms *structured* and *unstructured* clinical observations in that *structured observations* occur when the examiner controls the environment and organizes a task for the child to carry out, whereas *unstructured observations* occur when the examiner observes a child in the natural environment (Blanche, 2002). Structured observations are suited for children who are able to follow verbal commands such as children with developmental coordination disorder and dyspraxia, whereas unstructured observations can be used with children who have a variety of diagnoses, including autism spectrum disorder.

The primary purpose of clinical observations is to allow the therapist to use clinical judgment as informed by evolving theory and research to analyze a child's performance in relationship to sensory processing. Specifically, these observations provide information about vestibular and proprioceptive processing and their relationship to postural control,

motor planning, and organization of behavior. The goal of clinical observations is not necessarily to analyze whether each individual task is performed adequately, but rather to infer whether inadequate performance on these tasks constitutes a pattern of dysfunction that contributes to difficulties in functional performance. However, in order to come to a conclusion, the examiner needs to understand SI theory and use it proficiently to interpret the results in the context of the child's age and functional difficulties.

Although most clinical observations do not provide a comparison with the typically developing population, many are backed by research and provide preliminary information on administration and interpretation (Dunn, 1981; Fraser, 1983; Gregory-Flock & Yerxa, 1984; Haack, Short-DeGraff, & Hanzlik, 1993; Harris, 1981; Magalhaes, Koomar, & Cermak, 1989; Wilson et al., 2000). Researchers from the fields of rehabilitation medicine and neuroscience have developed a number of research tools, some of them computer-based, to measure what occupational therapists traditionally incorporate in their observations (Fife et al., 2000; Ivanenko, Grasso, Israel, & Berthoz, 1997; Sigmundsson & Whiting, 2002; Wuyts, Furman, Vanspauwen, & Van de Heyning, 2007; Wycherley, Hellwell, & Bird, 2005). We include this contemporary research to support the use of observations in clinical practice.

OBSERVATIONS LINKED TO VESTIBULAR FUNCTIONS

Ayres's early work described the evaluation of vestibular functions through observations and standardized testing, and the influence of this system on postural control, ocular motor control, arousability, and spatial organization. Specifically, she referred to processes such as visual perception, arousal modulation, postural control, oculomotor control, spatial relationships, bilateral motor coordination, language development, and psychosocial growth (Ayres, 1972). Most of Ayres's original ideas are supported by contemporary research in neurosciences and vestibular rehabilitation literature (Beidel & Horak, 2001; Ivanenko et al., 1997; Wuyts et al., 2007).

Vestibular function can be divided into three main categories: Vestibulo-spinal, vestibulo-ocular, and vestibulo-perceptual (Beidel & Horak, 2001).

Vestibulo-spinal functions are related to the contribution of the vestibular system to a sense of acceleration, deceleration, and tilting of the body, thus influencing postural control and extensor tone. In SI theory, we have traditionally evaluated these functions by focusing on equilibrium reactions, extensor muscle tone, and neck and upper body stability. Standardized tests used to measure these functions include the Standing and Walking Balance Test (SWB) of the Sensory Integration and Praxis Tests (SIPT) (Ayres, 1989), the Pediatric Clinical Test of Sensory Interaction for Balance (Deitz, Richardson, Atwater, Crowe, & Odiorne, 1991), and Posturography (Valente, 2007).

Vestibulo-ocular functions include gaze stability and gaze shifting or the ability to visually track and maintain a stable visual field. These vestibular system functions have been traditionally assessed using a variety of procedures. Accepted gold standards include rotational chair testing (computer-generated rotation) and caloric testing (electronystagmography or infrared video nystagmography) (Fife, et al., 2000). In SI, ocular functions have been evaluated by focusing on visual tracking and the ability to maintain a stable visual field, and by observing the vestibular ocular reflex in response to movement as tested with the Postrotary Nystagmus Test in the SIPT (Ayres, 1989).

Vestibulo-perceptual functions refer to the contribution of the vestibular system to spatial orientation, spatial memory, or path integration, and the ability to navigate in space (Ivanenko et al., 1997). Spatial orientation can be tested by positioning the subject in a mobile robot that moves in the dark and does not allow the person to produce active movements, thus eliminating proprioceptive and visual cues of space. After the movement, the examiners ask the individual to reconstruct his or her body trajectory or to point to a memorized target (Ivanenko et al., 1997). The cortical areas responsible for these functions are described as the retro-insular region (parieto-insular vestibular cortex), inferior parietal lobule, anterior cingulate gyrus, somatosensory cortex, and motion sensitive visual cortices (Yasushi, 2005). Ayres (1972) referred to the contribution of the vestibular system to the perception of space as linked to gravity and visual perception.

Vestibulo-spinal, vestibulo-ocular, and vestibulo-perceptual functions encompass Ayres's original description of vestibular functions, although they do not include the relationship of the vestibular system to arousability, feedforward mechanisms, and bilateral motor coordination (Ayres, 1972; Fisher, 1991). The link between arousability and the vestibular system is supported by research describing the pathologies linked to this system, including anxiety; agoraphobias; schizophrenia; dizziness; and space and motion discomfort, including when encountering heights, crowds, busy environmental patterns, and soft or vibrating floors (Jacob & Furman, 2001). Clinicians address the relationship between arousability and vestibular functions through unstructured observations and parent surveys focusing on the child's need for, or avoidance of, vestibular input.

Bilateral motor coordination difficulties linked to vestibular functions may also relate to the perception of body in space and influence other spatial abilities. In SI clinicians evaluate bilateral motor coordination by including tasks such as skipping, jumping jacks, and the Bilateral Motor Coordination test of the SIPT (Ayres, 1989). Feedforward mechanisms are influenced by proprioceptive and vestibular functions (Fisher, 1991) and will be discussed in the vestibulo-proprioceptive section of this article.

Based on SI and contemporary neuroscience literature, the evaluation of vestibular functions should include four areas of performance: (a) spinal or postural mechanisms, (b) ocular-motor skills, (c) spatial awareness, and (d) psychosocial well-being as affected by arousability. Table 1 provides a list of the most commonly used clinical observations and their relationship to vestibular functions. This table illustrates the difference between vestibular and proprioceptive functions, and between structured and unstructured observations.

OBSERVATIONS LINKED TO PROPRIOCEPTIVE FUNCTIONS

Ayres described the proprioceptive system as influencing motor planning and modulation of the level of arousal (Ayres, 1972; 1984). The importance of the proprioceptive system in SI has been expanded by describing its link with vestibular bilateral integration and sequencing disorders, somatodyspraxia, and sensory-seeking behaviors using evaluations focusing on kinesthetic awareness, postural control, motor planning, and organization of behavior (Blanche & Schaaf, 2001; Dunn, 1999; Fisher, 1991).

Table 1. Most commonly used clinical evaluation tools and their relationship to sensory integration.

Unstructured Observations

Linked to Vestibular Functions

Vestibulo-Spinal
- Extensor tone
- Neck stability

Vestibulo-Ocular
- Stabilization of the visual field

Linked to Proprioceptive Functions
- Muscle tone is decreased (not hypotonia)
- Joint hypermobility
- Inadequate joint alignment and co-contraction
- Inefficient ankle strategies on uneven surfaces
- Decreased, slow, or absent weight-bearing and weight-shifting strategies
- Inappropriate grading of force
- Tiptoeing
- Tendency to push, pull, or hang
- Tendency to lean on others
- Need of visual input when copying simple body movements

Linked to Vestibulo-Proprioceptive Functions
- Falling and tripping
- Catching/throwing balls
- Activity level either overly active or overly passive
- Tendency to crash, run, fall, jump, bump into others and objects
- Avoidance of movement experiences; fear, anxiety related to movement

Structured Observations

Linked to Vestibular Functions

Vestibulo-Spinal
- Prone extension
- Supine flexion (neck stability)
- Postural measures with eyes closed on soft surface

Vestibulo-Ocular
- Eye tracking
- Side to side movements of the head while maintaining a stable visual field

Linked to Proprioceptive Functions
- Schilder's Arm Extension test (Silver & Hagin, 1960)
- Slow ramp movements
- Finger to nose
- Sequential finger touching
- Alternating movements

Linked to Vestibulo-Proprioceptive Functions
- Jumping jacks, symmetrical and reciprocal stride jumps
- Postural measures with eyes closed

Standardized Tests and Research Protocols

Linked to Vestibular Functions

Vestibulo-Ocular Functions
- Post-rotary Nystagmus Test (Ayres, 1989)
- Caloric test (Andrieu-Guitrancourt, Peron, Dehesdin, Aubet, & Courtin, 1981)

Linked to Proprioceptive Functions

Position Sense
- Kinesthesia Test (Ayres, 1989)
- Intra- and Inter-sensory modality matching tool (Sigmundsson, Ingvaldsen, & Whiting, 1997; Sigmundsson et al., 1999)
- Test of Kinesthetic Sensitivity (Laszlo & Bairstow, 1980)
- Proprioceptometer (Wycherley et al., 2005).

Visual/Proprioceptive Functions
- Intra- and Inter-sensory modality matching tool (Sigmundsson et al., 1997, 1999)
- Postural Praxis (Ayres, 1989)
- Oral Praxis (Ayres, 1989)

Linked to Vestibulo-Proprioceptive Functions

Vestibular/Proprioceptive/Visual
- Pediatric Clinical Test of Sensory Interaction for Balance (Deitz et al., 1991)
- Biodex (Taylor, Sanders, Howick, & Stanley, 1991)
- SWB (Ayres, 1989)
- Fukuda stepping test (Fukuda, 1984)
- Standardized Test Battery for the Assessment of Clumsy Children (Gubbay, 1973)
- GI Scale (May-Benson & Koomar, 2007)

The types of diagnoses described in the general literature as relating to aspects of proprioceptive processing include sports injuries (Dover, Kaminski, Meister, Powers, & Horodyski, 2003), idiopathic scoliosis (Keessen, Crowe, & Hearn, 1992), schizophrenia (Chang & Lenzenweger, 2005), joint hypermobility syndrome (Ferrel et al., 2004), clumsiness and developmental coordination disorder (Ayres, 1972; Lazslo & Sainsbury, 1993; Sigmundsson, Whiting, & Ingvaldsen, 1999), Asperger syndrome (Weimer, Schatz, Lincoln, Ballantyne, & Trauner, 2001) and oculomotor control (Ayres, 1972).

A thorough evaluation of proprioception in SI requires careful consideration of its spinal, subcortical, and cortical functions. Spinal functions relate to muscle tone, dynamic joint stability, and stretch reflexes; subcortical functions include postural control and fluidity of movement; and the cortex provides conscious awareness of joint position and movement, along with coupling of visual and proprioceptive sensations, and uses proprioception to motor plan (Blanche & Schaaf, 2001; Lephart, Riemann, & Fu, 2000). Many of these functions are also influenced by vestibular and tactile processing. For example, postural control is influenced by vestibular and proprioceptive processing, and motor planning can be influenced by tactile, visual, and proprioceptive processing (Ayres, 1972, 1989).

Review of current research on proprioception in the rehabilitation and movement sciences reveals various evaluation tools focusing on specific abilities linked to proprioceptive reception, such as the detection of joint movement and the perception of position in space. Some of these tools can be incorporated in an SI evaluation. In adults, measurements of proprioceptive or kinesthetic functions include the ability to match visual and proprioceptive information (Wycherley et al., 2005), the ability to discern joint motion through the detection of passive movement (Swanik, Lephart, & Rubash, 2004; Xu, Hong, Li, & Chan, 2004); and the perception of movement and joint position (Roberts, Ageberg, Anderson, & Friden, 2003; Swanik et al., 2004). In children, the evaluation of proprioception focuses on the perception of passive movement, proprioceptive memory, and the matching of visual and proprioceptive sensations (Laszlo & Bairstow, 1980; Sigmundsson, Ingvaldsen, & Whiting, 1997). Although existing tests assess isolated aspects of proprioceptive functioning, there is no comprehensive measure of proprioception, making it difficult to correlate the results obtained from various tests. For example, tests focusing on joint position in space do not correlate with other tests of proprioception (Grob, Kuster, Higgins, Lloyd & Yata, 2002). In an SI evaluation, the lack of congruence between tests of proprioception are common, as noted in the difficulty correlating the results obtained in the Kinesthesia Test of the SIPT (Ayres, 1989) with clinical observations of proprioception. This lack of congruence illustrates the need for the creation of a comprehensive measure of proprioceptive abilities.

For the purpose of an evaluation of sensory processing, the following abilities need to be addressed as related to proprioception: Motor programming, timing, fluidity of movement, spatial organization of movements, obtaining feedback from the outcome of the motor command, joint stability, conscious estimation of muscle force, and orientation of body segments or body scheme (Ferrel et al., 2004; Gandevia, Refshauge, & Collins, 2002; LaRue et al., 1995). Observations can be made under structured or unstructured conditions. Table 1 on page CE-3 summarizes these observations and their relationship to sensory processing.

Proprioception is also linked to arousal regulation, which is evaluated with parent surveys and unstructured observations. Typically, analysis of the overuse of proprioception as a regulator is made when excessive behaviors of pulling on others, jumping, crashing, and climbing are noted. The arousal regulation function of the proprioceptive system is seldom described outside occupational therapy, and thus clinicians need to continue assessing these functions by using traditional methods of observation.

In summary, proprioception is an important component in the evaluation of sensory integrative functions, as well as in the evaluation of other disorders addressed in occupational therapy. The dearth of standardized protocols assessing proprioception in clinical practice and the expanded role of proprioception in functional performance justify the use of a variety of methods to collect information about the impact of proprioception on a child's performance. Table 1 on page CE-3 lists the observations that are linked to proprioceptive processing.

OBSERVATIONS LINKED TO VESTIBULO-PROPRIOCEPTIVE FUNCTIONS

In many areas, proprioceptive and vestibular processing functions can't be easily differentiated. Skills such as postural control and feedforward mechanisms are influenced by both proprioceptive and vestibular processing functions. In those situations, the examiner needs to carefully analyze task-specific problem areas. For example, when using the Pediatric Clinical Test of Sensory Interaction for Balance (P-CTSIB) to assess postural control with eyes open or closed, poor postural control with eyes closed suggests difficulties related to vestibular-proprioceptive processing (Deitz, Richardson, Atwater, Crowe, & Odiorne, 1991). When assessing postural control with eyes closed on a hard surface or a soft surface, poor performance on a soft surface suggests poor vestibular processing because the child can't rely on proprioceptive or visual information to maintain his or her balance, and thus needs to use proprioceptive cues.

Feedforward mechanisms have been linked to disorders in bilateral integration and sequencing and to vestibulo-proprioceptive functions (Fisher, 1991). Feedforward can be evaluated by asking the child to throw or catch a ball, as in

the standardized test battery for the assessment of clumsy children (Gubbay, 1973). In this test, the examiner asks the child to throw a tennis ball in the air and clap twice before catching it. According to this test, 9-year-old children should be able to catch the ball.

In addition to clinical observations, parent surveys, and the SIPT, standardized tests not designed to assess sensory functions may address functions related to vestibulo-proprioceptive processing. For example, the Movement Assessment Battery for Children (Henderson & Sugden, 2007) and the Bruininks-Oseretsky Test of Motor Proficiency (Bruininks & Bruininks, 2005) include items that measure feedback and feedforward- related motor planning skills, such as catching a beanbag or ball; jumping on squares, inserting pegs in a board, and tracing lines within designated boundaries. Similarly, the Developmental Test of Visual Motor Integration (Beery, Buktenica, & Beery, 2004) motor coordination subtests could be used to provide information on motor planning and spatial awareness. Incorporating the results of these tests into the evaluation of vestibulo-proprioceptive functions requires integrating this information to all other areas assessed in order to establish whether the motor difficulties are related to sensory processing.

CONCLUSION

The evaluation of children requires consideration of multiple factors influencing their participation in daily activities. Factors related to functional performance include the environmental conditions, the task's difficulty, and the child's personal difficulties. After the child is compared to other children of similar age, and it is established that the child's difficulties are the ones hindering performance in daily participation, the examiner will need to consider whether difficulties in sensory processing need to be addressed in the intervention. At that point a careful evaluation of the child's sensory processing will require collecting information from several sources: parent interviews, standardized testing, and structured and unstructured observations. This article reviews the complexity of analyzing clinical observations and the need to consider multiple interpretations. As with all assessment tools, the need to understand the underlying theory is pivotal. ■

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Final Exam **Article Code CEA0908**

The Use of Clinical Observations To Evaluate Proprioceptive and Vestibular Functions • September 22, 2008

Learning Level: Intermediate
Target Audience: Occupational therapist and occupational therapy assistant
Content Focus: Category 2: Occupational Therapy Process, Evaluation and Intervention

1. Which of the following is the main reason to use clinical observations when assessing children in different environments?
   A. To help clinicians distinguish different patterns of sensory integration (SI) dysfunction
   B. To supplement the information provided by standardized testing
   C. To group meaningful clusters of behaviors that are indicative of a pattern of dysfunction
   D. All of the above

2. Who are better candidates to be evaluated with structured observations?
   A. Children who are able to follow verbal instructions
   B. Children diagnosed with autism spectrum disorder
   C. All children, regardless of age or diagnosis
   D. Children with cerebral palsy

3. Which three observations in sensory integration are mostly related to vestibular functions?
   A. Diadochokinesis, sequential finger touching, supine flexion
   B. Prone extension, stabilization of the visual field, neck co-contraction
   C. Balance, slow ramp movements, grading force during fine motor tasks
   D. All of the above

4. Which skills are mostly related to vestibular-proprioceptive processing?
   A. Feedforward-related motor planning skills, postural control, activity level
   B. Fine motor coordination, tremor, antigravity extension
   C. Tendency to crash and lean on others, joint hypermobility, feedback-related motor planning
   D. Arousability, tremor, neuromotor deficits

5. Poor extensor tone, decreased postural control, and a decreased post-rotary nystagmus can be interpreted as:
   A. Proprioceptive processing dysfunction
   B. Somatosensory processing dysfunction
   C. Vestibular processing dysfunction
   D. Neuromotor deficits

6. The multifaceted functions of the vestibular system can be divided as:
   A. Vestibulo-spinal functions influencing postural control and extensor tone
   B. Vestibulo-ocular functions influencing oculomotor skills and visual stability
   C. Vestibulo-perceptual functions influencing spatial orientation, spatial memory, and navigational skills
   D. All of the above

7. Signs of proprioceptive processing dysfunction include:
   A. Low muscle tone, increased response to vestibular input, fluctuating level of arousal
   B. Low tactile tolerance, decreased ability to maintain a stable visual field, tendency to lean on others
   C. Inappropriate grading of force, tendency to push, need of visual input when copying simple body movements
   D. None of the above

8. To which diagnoses has proprioceptive processing not yet been linked?
   A. Motor coordination disorders
   B. Asperger syndrome
   C. Schizophrenia
   D. Cognitive impairments

9. The following test can be used to assess vestibular and proprioceptive functions.
   A. Post-Rotary Nystagmus Test
   B. Standing and Walking Balance Test
   C. Kinesthesia Test
   D. Visual Motor Integration Test

10. Which of the following signs is indicative of hyporesponsiveness to vestibular input?
    A. Difficulty maintaining neck stability in antigravity positions, poor extension against gravity, decreased response to vestibular input
    B. Poor motor planning, decreased response to proprioceptive input, tendency to push and pull others
    C. Signs of gravitational insecurity, fear when moved in space, decreased ability to climb equipment
    D. All of the above

11. Which of the following clinical observations are useful tools to assess proprioceptive functions related to motor planning skills?
    A. Forearm alternating movements, sequential finger touching, jumping jacks
    B. Sequential finger touching, moving the child back in space, postural tone
    C. Jumping jacks, moving feet off the ground, protective reactions
    D. All of the above

12. Standardized tests not necessarily designed to assess SI are useful because:
    A. They provide information about sensory-related skills
    B. They provide information about the child's functional level in comparison to other children
    C. They supplement the information provided by other measures
    D. All of the above

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