



RESEARCH BRIEF

Evidence for Occupational Therapy using Ayres Sensory Integration®

*Prepared by
Roseann Schaaf, PhD, OTR/L, FAOTA & Kelly Auld-Wright, OTD, OTR/L,
The Collaborative for Leadership in Ayres Sensory Integration®*

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PURPOSE

The purpose of this research brief is to summarize the current evidence for Ayres Sensory Integration®. We hope this will be useful for you, as you communicate about the evidence for Occupational Therapy using Ayres Sensory Integration®.

(Please note that acronyms are not used to ease communication across professions and groups. We recommend that you do not use acronyms when communicating with others about Occupational Therapy using Ayres Sensory Integration®)

TAKE HOME MESSAGE

There is ample evidence that Occupational therapy using Ayres Sensory Integration® results in measurable improvements in individualized goals for autistic children in randomized control trials, and preliminary evidence from one single-subject research design school-based study that focused on non-autistic children with sensory integrative challenges. As with most interventions, additional studies are needed to expand the evidence to a wider age range, varied clinical settings, and diverse groups.

Occupational Therapy using Ayres Sensory Integration® is now rated as an evidence-based intervention for autistic children ages 5-9 years of age. It meets the criteria as an Evidence-based Intervention on three evidence-based practice organizations: The National Clearinghouse on Autism Evidence and Practice (<https://ncaep.fpg.unc.edu/>), The Council for Exceptional Children's Standards for Evidence-Based Practices in Special Education (<https://journals.sagepub.com/doi/10.1177/0040059914531389>), and the U.S. Preventative Services Task Force Guidelines for Evidence Reviews <https://www.ncbi.nlm.nih.gov/books/NBK43437/>.

As of this writing, there are seven published randomized-controlled trials of Ayres Sensory Integration®. Five of these specifically evaluate Occupational Therapy using Ayres Sensory Integration® (Miller, et al, 2007; Pfeiffer, et al., 2011; Schaaf, et al., 2014; Omairi, et al., 2022; Randell, et al., 2022) and follow the Ayres Sensory Integration® Fidelity Measure, although the first two did not measure fidelity (instrument was not available at the time of the study). All of these studies found that the children randomized to the Occupational Therapy using Ayres Sensory Integration® intervention performed significantly better on their individualized goals (measured using goal attainment scales or other methods for rating goal attainment). These findings reached statistical significance. The Schaaf and Omari study also found statistically significant improvements in independence in the areas of Daily Living Skills and Socialization on the Pediatric Evaluations of Disability Inventory (Haley, et al, 1992, 2018). The Randell study was a cost effectiveness trial. Although it did not find that Occupational Therapy using Ayres Sensory Integration® was cost-effective in comparison to usual care (usual care = occupational therapy that did not meet the Ayres Sensory Integration® Fidelity Measure principles), they did find that the Occupational Therapy using Ayres Sensory Integration® group had statistically significant improvements in individualized goals. Further, parents, children and teachers were

highly satisfied with the intervention. Many commented on the positive changes in the child's everyday life.

Two other randomized trials (Iwanaga, et al., 2014 and Kashefimehr, et al., 2017) also found statistically significant improvements in the Ayres Sensory Integration® intervention groups but did not indicate if the intervention was occupational therapy. The Iwanaga study showed significant improvements in the Ayres Sensory Integration® group in comparison to the control group (group activities therapy) on the Japanese version of the Miller Assessment for Preschoolers. The Kashefimehr study found statistically significant improvements in the Ayres Sensory Integration® group on the Turkish Short Child Occupational Profile. Both followed the principles of Ayres Sensory Integration® but did not use the Ayres Sensory Integration® Fidelity Measure. Finally, a recent single –subject research design study (n =3) found that all participants met or exceeded their goals and showed improvement on functional regulation and active participation.

It is best to use these randomized trials to support the evidence rather than the existing systematic reviews in the literature as many of these systematic reviews are contaminated by including studies that do not meet the fidelity criteria for Ayres Sensory Integration® (i.e. they include interventions that report on sensory-based interventions or sensory stimulation). Two exceptions are the reviews by Schoen, et al, 2018 and Schaaf, et al, 2018 as they include only studies reporting on Ayres Sensory Integration®. One review by Novak and Honan (2019) used the Grading of Recommendations Assessment, Development and Evaluation System and the Evidence Alert Traffic Light System to rate interventions. Unfortunately, they did not include “individualized goals” as a targeted outcome, and missed that Occupational Therapy using Ayres Sensory Integration does improve participation in activities and tasks as measured by individualized goals.

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