

Evidence-based guidance for those in Health, Social Care or Education Commissioning Services for children with an Autistic Spectrum Disorder (ASD)



Sensory integration is the most researched Occupational Therapist (OT) intervention for children with ASD¹. Research shows that service commissioners for ASD should plan to meet the needs of 1-2% of the primary school aged population², which means an average-sized Clinical Commissioning Group (CCG) should anticipate service provision for 536-1052 children³. Of this number, up to 90% are likely to have atypical sensory reactivity⁴.

Experienced Occupational Therapists, Physiotherapists and Speech and Language Therapists who have postgraduate training in sensory integration can advise commissioners who wish to develop 'Invest to Save' proposals for presentation to their Boards or Executive Teams. Alternatively contact the SI Network (UK and Ireland) by emailing support@sensoryintegration.org.uk

What is Sensory Integration?

Sensory integration (SI) is the neurological process that organises sensation from one's own body and the environment. It enables everyday life. For most people, sensory integration develops in the course of ordinary childhood activities. For more information please visit:

www.sensoryintegration.org.uk/What-is-SI

The case for using Sensory Integration Therapy with ASD

The following case studies illustrate the cost effectiveness of sensory integration therapy when Ayres' Sensory Integration Therapy[®] fidelity standards⁵ are adhered to including the improved life chances which can be gained for children.

What is Ayres' Sensory Integration Therapy[®]?

Ayres' Sensory Integration Therapy[®] is a specialised treatment approach which meets the criteria for an evidence-based practice for children with ASD⁶. Atypical sensory reactivity can significantly affect adaptive behaviours and everyday functioning such as play⁷, sleep⁸, and family life⁹. When used in suitably equipped settings¹⁰ by therapists with a postgraduate qualification in sensory integration it can improve and increase:

- functional skills, independence, social participation and educational attainment of children with ASD.
- adaptive responses to environmental challenges where there are atypical sensory responses^(11,12,13,14). This can mean a reduction in challenging behaviours for some children.

Case study: Leo

Background:

By the age of eleven Leo lived in his own little world. A once caring child was aggressive, sensitive to noise and demanded a very rigid routine.

He was diagnosed with an intellectual disability and autism. As a teenager, Leo displayed extremely challenging behaviour, and:

- couldn't cope with the journey to school
- had frequent and uncontrollable meltdowns
- threw furniture around the classroom and at other pupils and staff
- made little progress with his learning
- could not be managed at home.

His mother described every day as 'a bad day'.

A long-term out of area residential placement (circa £180k pa) was being considered for Leo's and others safety.



All photos are for illustration purposes only, and not of actual case study subjects

Introducing Ayres' Sensory Integration Therapy®

Before the placement Leo was identified as having significant sensory integration challenges.

He received a comprehensive assessment and weekly term time Ayres' Sensory Integration Therapy® from an Occupational Therapist (51 x 1 hour sessions over 15 months).



Outcome:

Leo has made demonstrable and significant functional gains. He:

- can walk, run and climb stairs
- is still at home where he now helps with chores
- is engaged with learning and attending a local further education college
- is enjoying learning how to manage money
- attends karate classes with his older brother.

Mum now describes Leo as having 'nothing but good days'.

Case study: Brett



Background:

Brett's dad died before he was one year old. By the age of 6 he was:

- physically aggressive at home and at primary school
- showing features of Pathological Demand Avoidance
- permanently excluded from school and moved to a Pupil Referral Unit (PRU)
- fighting with peers at the holiday play scheme on a daily basis, sometimes several times a day.

His mother's greatest fear was that he would end up in the UK judicial system.

The cost of services received by Brett and his mother over 6 years are worth circa:

• PRU	£36,000
• Transport to PRU	£10,533
• Disability Living Allowance	£25,746
• Holiday Play Scheme	£39,600
• Bereavement Counselling (CAMHS)	£2,856
• CAMHS quarterly monitoring	£5,712
Total cost	£120,447

Introducing Ayres' Sensory Integration Therapy®

When Brett was 11 no improvement was in sight. Mum discussed her concerns with an OT at a new local independent Occupational Therapy service offering Ayres' Sensory Integration Therapy®. She took a "leap of faith" and decided to try it.

Assessment:

It was identified that Brett had atypical reactions to sensory information.

Plan:

Brett would attend an hour a week of Ayres' Sensory Integration Therapy® during term times (34 sessions).



Outcome:

After 15 months Brett's mum described a changed child and felt his life had been "turned around".

The majority of his diagnostic symptoms and presenting challenges had been resolved. The family's quality of life has improved beyond measure and they can enjoy a normal lifestyle and everyday living. Brett has since earned a first aid qualification and volunteers locally.

Useful links

Find a therapist



To find an appropriate therapist for your requirements, visit:

www.no1therapist.com

Sensory Integration Network



t: 0118 324 1588

e: support@sensoryintegration.org.uk

w: www.sensoryintegration.org.uk

Supplementary information:

- DSM-5 states the diagnosis of ASD should include hyper- and/or hypo-reactivity to sensory input or unusual interest in sensory aspects of environment¹⁵.
- NICE states the sensory sensitivities of each child should be assessed¹⁶ and SIGN supports the use of occupational therapy to reduce the impact of sensory sensitivities¹⁷.
- Initial investment in specialist training and equipment for providers will be required.
- The introduction of Fidelity Standards has advanced the rigor, quality and outcomes of research conducted in recent years.

Footnotes:

¹Bagatell N. & Mason A. (2015). Looking backward, thinking forward: Occupational therapy and autism spectrum disorders. *OTJR: Occupation, Participation and Health*, vol 35,1, p34-41.

²Newschaffer C.J., Croen L.A., Daniels J., et al (2007). The epidemiology of autism spectrum disorders [PDF]. *Annu Rev Public Health* vol;28 p235–58. doi:10.1146/annurev.publhealth.28.021406.144007.

³Based on an average of 53,611 children aged 0-14 years / CCG in England (n=211). NHS England - CCG Allocations 2014-15; 2015-16 Gateway Ref No: 01356.

⁴Tomchek S.D. & Dunn W. (2007) Sensory processing in children with and without autism: a comparative study using the short sensory profile. *American Journal of Occupational Therapy* vol 61,2 p190-200

⁵Parham L.D., Roley S.S., May-Benson, T.A., et al (2013). Ayres' Sensory Integration Therapy® Intervention Fidelity Measure©. Revised from 2012 unpublished instrument.

⁶According to The National Professional Developmental Centre on ASD; The Council for Exceptional Children Guidelines for Identifying Evidence based Practices in Special Education; and the U.S Preventative Services Task Force Guidelines for Evidence Reviews.

⁷Bodison S. (2015) Developmental Dyspraxia and the Play Skills of Children With Autism. *American Journal of Occupational Therapy* vol 69,5 p6.

⁸Reynolds S, Lane S & Thacker L(2011) Sensory Processing, Physiological Stress, and Sleep Behaviours in Children with and without Autism Spectrum Disorders. *Occupational Therapy Journal of Research: Occupation, Participation and Health* vol 32,1 p 246-257

⁹Bagby M.S., Dickie V.A. & Baranek G.T. (2009) How Sensory Experiences of Children With and Without Autism Affect Family Occupations. *American Journal of Occupational Therapy* vol 66,1 p78-86.

¹⁰Parham I.D., Roley S.S., May-Benson T.A., et al (2011) Development of a fidelity measure for research on the effectiveness of the Ayres Sensory Integration intervention. *American Journal of Occupational Therapy* vol 65,2 p133-42

¹¹Pfeiffer B.A. (2011) Effectiveness of sensory integration interventions in children with autism spectrum disorders: a pilot study. *American Journal of Occupational Therapy*. vol 65,1 p76-85

¹²Schaaf R.C., Benevides T., Mailloux Z., et al (2013) An Intervention for Sensory Difficulties in Children with Autism: A Randomized Trial *Journal of Autism and Developmental Disorders*. vol 44,7p 1493–1506.

¹³Case-Smith J., Weaver L.L. & Fristad M.A. (2014) A systematic review of sensory processing interventions for children with autism spectrum disorders. *University of York. Centre for Research and Dissemination (Pubmed)*

¹⁴Koenig, K. P., & Rudney, S. G. (2010). Performance challenges for children and adolescents with difficulty processing and integrating sensory information: A systematic review. *American Journal of Occupational Therapy* vol 64 p 430– 442

¹⁵American Psychiatric Association (2013). *Diagnostic and Statistical Manual of Mental Disorders* (Fifth ed.). Arlington, VA: American Psychiatric Publishing.

¹⁶National Institute for Health and Care Excellence (2013) *Autism: The management and support of children and young people on the autism spectrum*. Clinical Guideline 170, www.guidance.nice.org.uk/cg170