

Flinders Early Intervention Program at Flinders Therapy House

Navigating the many advertised treatments for children with autism spectrum disorder (ASD) can be difficult for families wishing to provide the best intervention for their child. Though a variety of interventions are marketed, there are extreme variations across the evidence base supporting the use of different treatments for this population. At present, Early Intensive Behavioural Intervention (EIBI) based in Applied Behaviour Analysis (ABA) techniques remains the intervention with by far the greatest documented evidence for its ability to improve outcomes for children with ASD. A recent review by Reichow (2011) found that four large meta-analyses concluded that these interventions have a positive effect compared to control conditions, and a growing number of authors have concluded that there is an evidence base sufficient to support its use (Eldevik et al., 2009; Howlin, Magiati, & Charman, 2009; Peters-Scheffer, Didden, Korzilius, & Sturmey, 2011; Rogers & Vismara, 2008). While other types of intervention may be of use for individuals with ASD, they have insufficient evidence to draw sound conclusions at this stage.

The benefits of EIBI based in ABA are widely documented for children with ASD and cover a number of areas of functioning. A variety of goals related to child development may be targeted with ABA. For example, evidence has shown that ABA based interventions are able to decrease symptom severity, and increase IQ, learning rate, language skills, visual-spatial skills, social skills and adaptive behaviour (Cohen, Amerine-Dickens, & Smith, 2006; Eldevik, et al., 2009; Howard, Sparkman, Cohen,

Green, & Stanislaw, 2005; Reichow & Wolery, 2009; Remington et al., 2007; Smith, Groen, & Wynn, 2000) compared to other treatments or no treatment. Schooling outcomes (academic and social) are also improved when ABA based interventions are commenced prior to starting school (e.g. Smith, et al., 2000), providing strong evidence that this intervention will contribute to immediate and future social participation and later economic contributions.

Factors influencing outcomes of ABA based interventions

Though ABA based interventions are currently recognised as the gold-standard for autism intervention (Rogers & Vismara, 2008), the extent to which the treatment is successful does vary across individuals. A recent review summarised the factors associated with efficacious treatment for young children who are at risk of, or have, autism (Wallace & Rogers, 2010):

1. Individualised approach to the program (considering the child's needs and development)
2. Hours and length of intervention (short, infrequent treatments were considered less effective)
3. Parental involvement in the delivery of the intervention
4. Supervision of implementation of the program to ensure fidelity

Inclusive Directions has a number of packages available for children with autism, and each addresses the core components listed above. Each child is allocated an experienced case manager who provides initial consultation to structure the program specifically for the child's needs and developmental level. The case manager then continues to provide supervision of the implementation of the program and is able to assist families, and those working with the families in progressing through programs and challenging areas. Our trademark packages each begin with a two week intensive period (three hours/day, five days/week). This provides the child and family with a strong start to the intervention and allows for some of the more challenging behaviours that may be a barrier to learning, to be quickly reduced. Numerous options are available to families with various amounts of case management and therapeutic support provided over the subsequent 10, 15 or 20 weeks.

Essentially, our program use table-based, ABA learning techniques administered by trained and experienced therapists. It targets impairments and patterns of behaviour that characterise ASD. At the beginner level, the behaviours targeted include eye contact, social smiling, response to name, receptive and expressive language skills, pre-academic skills (such as matching and counting), self-help skills, turn-taking and imitation. The program follows developmental progression and covers early primary school skills such as writing, reading and mathematical skills.

The packages available at Inclusive Directions are varied as we recognise that each family's needs are different. However, as the evidence suggests that the frequency with which intervention is delivered plays a role in its efficacy, we do recommend that

the child does as many hours as possible. Parental involvement with the program is sometimes able to increase the hours of intervention provided to the child but, regardless of whether parents act as therapists or not, their involvement in the program is vital. Parental understanding of how the program works and its basic principles allow for a consistency of approach to be present across the child's day and ensures that the child progresses as best they are able.

Factors such as age at intake (Harris & Handleman, 2000) have also been shown to impact the outcome of intervention. Inclusive Directions therefore recommends that treatment start as soon as ASD is suspected, to improve developmental trajectory. Promisingly, due to increased brain plasticity in infants and early childhood, it has been suggested that commencing the intervention as soon as possible may influence the physiology underlying the core deficits associated with autism (Dawson, 2008) and recent work confirms that early behavioural intervention is associated with normalisation of brain activity in children with ASD (Dawson et al., 2012).

Structured Program for Early Childhood Therapists working with children with Autism (SPECTRA)

Inclusive Directions follows the Structured Program for Early Childhood Therapists working with children with Autism (SPECTRA; Young, Partington & Goren, 2009) which directly targets the core deficits areas of ASD that are often delayed or absent in the child. In line with evidence regarding improving outcomes (Wallace & Rogers, 2010), it is recommended that SPECTRA be implemented at least 15 hours per week, though recommendations for optimal number of hours are generally around 30 hours per week (Reed, Osborne, & Corness, 2007; Smith, et al., 2000). The efficacy with which SPECTRA can improve outcomes for young children with ASD has been studied over the past 12 years at the Flinders Early Intervention Research Program. Results demonstrate positive outcomes for many of the children involved, in addition to a significant reduction in parental stress following commencement of the program. Results are currently being disseminated for publication following the cessation of the research study.

School Readiness Program at Flinders Therapy House

In a separate, but related offering, we are very excited to start a new School Readiness program in South Australia. The program is free to children with a diagnosis of autism or developmental delay and who are enrolled to start school in 2016. The program runs for four months in total, with the initial three months delivered in a (small) mock classroom setting and the final month including school-based support to support the transition. The program has been written by Dr Anna Moffat and A/Prof Robyn Young at Flinders University and is designed as an adjunct to the Structured Program for Early Childhood Therapists working with Children with Autism (SPECTRA; Young et al, 2009). It targets practical school skills as well as social and pre-academic skills.

School Readiness is the term used to describe how prepared a child is to enter schooling (which usually occurs at age five in Australia). Readiness to learn depends on a combination of individual factors such as approach to learning, language development, cognitive, social and emotional development and physical health. In addition practical skills that are relevant to the school environment such as helpfulness, ability to take turns, accept change and disruption to routine and regulate anger are important. In fact, many experts think that these practical components are more important than any pre-academic skills in determining a child's readiness to start school. Educational research considers ensuring school readiness in children to be of utmost significance, as much evidence suggests that readiness to learn at entry is predictive of later success at school, both academically and socially. However, despite the fact that research and anecdotal reports suggest that children with autism and

other developmental delays sometimes struggle at school, there is little support available to assist in the initial transition to school. Ensuring that all children are the most prepared they can be for this important transition is extremely important.

We have two cohorts commencing in 2015 and enrolment will depend on the availability of places and when your child is starting transition to school (while most will commence in January, some schools still offer second semester start or orientation for which the earliest round may be best). Assessments will take place over the course of the program for tracking children's progress and to assist in evaluating the efficacy of the program. The detailed collection of information related to the child's progress also allows for the school to be as best prepared as they can be, which is also vital for children's success.

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Though provision of services for children with autism is a focus of Flinders Therapy House, we are also committed to interventions for children with other developmental delays. The majority of the literature published in relation to treatment of developmental disorders, relates to autism spectrum disorders, specifically. However, a smaller stream of literature has assessed the efficacy of treatments for developmental delay, mainly with a focus on reducing maladaptive behaviours that may occur in this population. A notable study by Roberts and colleagues (2003) concluded that

interventions, particularly those that involve parents and are based on applied behaviour analysis techniques, can reduce problematic behaviours in young children with developmental disabilities. Importantly, this reduction may improve cognitive and social function as children are better placed to engage with academic and social pursuits following a reduction in aggression. A more recent paper by Brosnan and Healy (2011) also reviews a large number of papers that suggest ABA can reduce challenging behaviours for children with a range of developmental disabilities, including intellectual disability.

The literature also notes the importance of providing treatment options for young children with developmental delays that provide ongoing social and emotional support for children with developmental delays and their families. Webster and colleagues (2008) found that 85% of families with children who had a diagnosis of global developmental delay or language impairment had stress levels that were clinically significant, highlighting the importance of empowering families in interventions for their children. Further, Roberts et al. (2003) also noted that the reduction in problematic behaviours as a result of ABA based interventions was often seen to reduce family stress.

Consistent with the work on autism alone, research finds that for those with intellectual impairment, the impact of behavioural interventions improves with intensity of the intervention (Eldevik, Eikeseth, Jahr, & Smith, 2006) and therefore, is beyond the expectation of informal networks. Clearly, social and economic goals of an individual are dependent on an ability to manage problematic and aggressive

behaviours, and engage socially and academically. Each of these things have been shown possible via ABA-based interventions for this population. As with all ABA interventions, there is a requirement to target the program to the specific needs and goals of the individual, while working within the framework of the theoretical and evidence base provided by the intervention type.

It is clear that while the evidence that is available for treatment for global developmental delay supports the use of ABA and intensive behavioural interventions to reduce problematic behaviours and improve academic and social outcomes, there remains room for further work in this area. Inclusive Directions is committed to continuing research to increase the evidence base for interventions for this population.

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