Attention-Deficit Hyperactivity Disorder (ADHD)

**EBi Evidence Based Intervention**

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Fast facts

ADHD requires careful assessment as inattention, hyperactivity and impulsivity are developmentally appropriate in young children.

Medication (particularly stimulant medication) is an effective intervention for ADHD. It usually has few serious side effects. Behavioural parent training (such as The Incredible Years, Triple P, or PCIT) is effective at treating mild ADHD, and can enhance the effectiveness of medication by addressing commonly co-occurring aspects such as conduct problems.

New Zealand researchers continue to explore promising new treatments, such as the use of micronutrients.

Interventions that work – at a glance

This table represents a compilation of information from several different sources including Fonagy et al. (2015), Ministry of Health (2001), The Matrix (2015), and Dunnachie (2007) and is designed to provide an overview only. Directly consulting these sources will provide considerable additional information.

<table>
<thead>
<tr>
<th>Gold</th>
<th>Silver</th>
<th>Bronze</th>
<th>Not recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mild ADHD</td>
<td>Behavioural Parent Training</td>
<td>Omega-3 and Omega-6 fatty acid supplements</td>
<td>Exclusion diets.</td>
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<tr>
<td>Moderate to severe ADHD</td>
<td>Medication And/or Behavioural Parent Training</td>
<td>Individual psychological interventions</td>
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The fine print

1. **Parent training approaches**, in conjunction with psycho-education for children, parents and teachers, is an effective intervention for mild ADHD (Fonagy et al., 2015; The Matrix, 2015) and is recommended as the first-line treatment of ADHD symptoms in pre-school children and primary-school aged children (NICE, 2016). Behavioural parent training approaches with a sound evidence-base available in New Zealand include The Incredible Years, Triple P, and Parent-Child Interaction Therapy (PCIT). Several of these have adaptations available for supporting teachers to manage the needs of children with ADHD in the classroom environment.

2. **Stimulant medication** will substantially improve inattention, hyperactivity and impulsivity in around 75% of children with ADHD (Fonagy et al., 2015). And while treatment with stimulants won’t improve prosocial behaviour, it can decrease aggression and defiance in children with ADHD (Fonagy et al., 2015). Research suggests that side effects are not usually serious (i.e. life threatening; Storebo et al., 2015), though “drug holidays” may be required from high doses of stimulant treatment to reduce the possibility of growth impairment (Fonagy et al., 2015). Non-serious side effects include sleep difficulties and suppressed appetite (Storebo et al., 2015).

Other medications which may be helpful in the treatment of ADHD include atomoxetine, and possibly nontricyclic antidepressants (Fonagy et al., 2015). While more studies are needed, clonidine, modafinil, carbamazepine and guanfacine may be helpful treatments (Fonagy et al., 2015). However treatment with medication is not recommended for pre-school aged children with ADHD (NICE, 2016). And it is not recommended as a first-line treatment for all primary-school children, but rather should only be offered to those children with severe impairment, or moderately impaired children whose parents are not able to engage in, or benefit from, non-pharmacological treatment (NICE, 2016). Medication ought to be reviewed and monitored at least every six months (The Royal Australian and New Zealand College of Psychiatrists, 2014).

3. **Behavioural approaches** alone may be less effective than treatment with stimulant medication (Fonagy et al., 2015), but can contribute to the need for lower doses of medication, and improve on-task behaviour and reduce disruptive behaviour. They also improve parenting, and decrease conduct problems (Daley et al., 2014) which
often co-occur with ADHD. Medication and behavioural treatments in combination are likely to be effective (The Matrix, 2015).

4. If children have particular sensitivities (most commonly for children with ADHD this seems to involve chocolate, wheat, and dairy products), excluding specific foods may be useful, but blanket exclusion of additives and colourings does not appear to improve ADHD symptoms (Sonuga-Barke et al., 2013; Fonagy et al., 2015; Ministry of Health, 2001).

5. Providing fish oil supplements, containing high doses of Omega-3 and Omega-6 appears a promising treatment for ADHD, but there are few high quality studies available (Sonuga-Barke et al., 2013; Fonagy et al., 2015). A group of researchers at the University of Canterbury in New Zealand is exploring the use of broad spectrum high-dose micronutrients for the treatment of ADHD in children, and have had promising early results (Gordon et al., 2015) and a larger study is underway.

6. Individual interventions, such as CBT or social skills training may be useful for, and more acceptable to adolescents (NICE, 2016).

**Description and demographics**

Attention-Deficit / Hyperactivity Disorder (ADHD) is characterised by a persistent pattern of inattention alone, or in combination with hyperactivity and impulsivity (American Psychiatric Association, 2013). These difficulties must interfere with the child or adolescent’s functioning or their development to a significant degree to be considered a disorder, and must be present in two or more settings, such as at home and at school. Symptoms of ADHD usually first appear early in a child’s development, but are very similar to characteristics of typical children (i.e. it is common for young children to display hyperactivity, impulsivity and inattention at times), and there is no clear dividing line between the two groups (The Royal Australian and New Zealand College of Psychiatrists, 2014). As such, careful and comprehensive assessment is required by a qualified professional, particularly with younger children.

The Diagnostic and Statistical Manual of Mental Disorders (DSM-5; American Psychiatric Association, 2013) describes three subtypes of ADHD. Predominantly inattentive type (also known informally as “ADD”), predominantly hyperactive/impulsive type, and a combined type where both sets of difficulties are present. ADHD frequently co-occurs with a number of other conditions, such as conduct difficulties, substance use disorders, learning or language difficulties, and anxiety disorders (Pliszka et al., 2007).

Prevalence rates vary according to the criteria and diagnostic system used. DSM-5 estimates the prevalence at around 5% (American Psychiatric Association, 2013). The New Zealand guidelines, while now somewhat dated, report information suggesting that prevalence varies between 1.5% to 12% (Green et al., cited in Ministry of Health, 2001).

A variety of resources for Māori and Pacific peoples have been developed, for example information sheets developed by the ADHD Association and Vaka Tautua in Māori, and pacific languages (see www.vakatautua.co.nz).

**References**


