Every child is different and intervention options for supporting a child with an Autism Spectrum Disorder (ASD) are also many and varied. Deciding on the best approach can be difficult for both professionals and parents because there are so many choices. Some interventions are vigorously promoted through the mass media and the internet, and while these sources make information very accessible, some of it lacks credibility. Significant differences in opinion – even controversy – surround particular types of interventions and the effectiveness they have on autism.

The characteristics of autism and lack of definitive evidence about its cause contribute to autism being ‘a fad magnet for off-the-wall treatments’ (Matson, 2007, p. 208). Diagnosis of autism can be devastating for parents of children with autism who are likely to be ‘highly motivated to try any promising treatment, rendering them vulnerable to promising ‘cures’ (Herbert, Sharp, & Gaudiano, 2002). As stated in a recent review, ‘(t)he history of autism treatment has been plagued with fad therapies which waste parents’ and children’s time, energy, and money’ (Miller et al, 2012, p. 87).

As a result there is an increasing need for parents and professionals to critically evaluate potential interventions when deciding on which approach(es) to use. Critical evaluation of approaches necessitates consideration of evidence supporting or refuting a particular approach. This process is often referred to as evidence-based practice.

**What is evidence–based practice?**

Evidence-based practice involves the conscientious and explicit use of current best evidence in making decisions about the care, education and medical treatment of an individual. We need to ask ourselves:

‘Am I doing the right thing in the right way with the right person at the right time in the right place for the right result – and am I the right person to be doing it? … and, is it at the right cost?’ (Cusick, 2001, p. 103).

For professionals (e.g. doctors, therapists, teachers) this involves considering the evidence available in conjunction with their professional assessment of the needs of the individual and their family. For both parents and professionals it is important to have a broad understanding of the range of approaches available, the evidence for or against their use and an understanding of which children on the autism spectrum are most likely to benefit from the intervention.

**Why is evidence important?**

Some treatments have been shown to be harmful for children with autism. It is also critical that resources are used in the most effective way for a particular child – this ensures the best possible outcomes for the child and family. Evidence is important to inform understanding of the causes and characteristics of autism. This will have a direct impact on the type of intervention chosen.

Having accurate information is crucial because widely held, yet inaccurate views, can lead to unhelpful and even dangerous practices. For example, if the community believes autism is caused by possession by ‘devils’, exorcism is likely to be the treatment of choice. Needless to say, there is no evidence to support either the cause or the cure in this example, however lack of evidence has not prevented such treatment occurring in our time. Another example of the dangers of armchair hypothesising and a lack of scientific evidence is psychoanalytic explanation of autism (widely accepted between 1950 and the 1970s) which maintained autism was caused by uncaring ‘refrigerator mothers’. Psychoanalytic treatment was typically ineffective and many children with autism were institutionalised during this period.
What is evidence and is it all created equal?

Evidence is factual information about the effectiveness of an approach. At best, evidence is the result of robust research methods that are reliable, representative and free of bias. Not all research methods are of equal value and as a result there are several levels of evidence (Perry & Condilac, 2003). Research can be placed on a continuum from anecdotal or testimonial research, which is the weakest kind of evidence (yet often very emotionally persuasive), through to randomised, double-blind, placebo-controlled trial, which is the strongest type of evidence.

**Strong**

1. Systematic review of all relevant randomised control trials
2. Randomised, double-blind, placebo-controlled trial (e.g. participants are randomly assigned to treatment and control groups, neither the participants nor the researchers know which group the participants are in)
3. Cohort study (e.g. a study that measures the impact of an intervention by contrasting the results of a group of people who have the treatment and a group who do not)
4. Multiple-case study (e.g. study that reports the effects of an intervention on a number of individuals)
5. Single-case study (e.g. study outlining the improvements one individual made with an intervention)
6. Expert opinion
7. Anecdotal/testimonial evidence (e.g. recommendation from another parent or professional)

The higher up this hierarchy/level of evidence, the more reliable and free from bias the results are, with level 1 being the most reliable level of evidence.

Understanding research methodology can be difficult and it may help to make contact with your State/Territory's autism association or consult other reliable sources such as the Australian Government's review (Roberts & Prior, 2006; Prior et al., 2011) and websites such as the 'Raising Children with Autism' website and the UK-based Research Autism website for information about research into different interventions and the strength of the evidence.

Guidelines for considering the quality of evidence regarding an approach include:

Be careful if research is conducted by the same people who have designed the treatment approach or those who stand to profit from its success.

Be very wary of approaches claiming to cure autism.

Remember that short-term improvements seen in a research study may not equate to long-term improvements.

Be wary if evidence relies heavily on anecdotal information or testimonials. These can often be quite emotionally compelling but may not show the variety of results obtained by all those who have undergone an intervention.
Be mindful of the quality of facts and figures. Sometimes evidence that is poor quality can seem legitimate because of the type of language used or the presentation of ‘statistics’ or other numerical scores showing improvement. Check what these figures actually mean and determine if they show a change that would be meaningful for a child with an ASD.

Be aware that just because a lot of people are using an approach does not necessarily mean there is evidence to support its use.

Be sure to check who participated in the research and if your child/student fits into this group. For example research with children with ADHD will not necessarily be applicable to children with autism; similarly research into Autistic Disorder may not be applicable to children with Asperger syndrome.

**What evidence exists in the field of autism?**

The field of autism research is growing world-wide and can be considered in two categories:

- Research that evaluates specific programs – evidence of this nature allows us to evaluate outcomes for a particular approach/program/intervention.

- Research that identifies the characteristics/underlying causes of autism – tells us about the strengths and challenges experienced by individuals with autism – which then informs practice. For example, research showing that individuals with autism have strong visual-spatial skills has informed the extensive use of visual support strategies for people with an ASD.

While the evidence base is growing, there are numerous challenges in identifying and applying evidence- based practice. Firstly, there are still gaps in the evidence and the quality of evidence is patchy. Further to this, the heterogeneity of the autism population means that some approaches are appropriate only to some children with an ASD. This diversity also makes it challenging to apply the evidence available to a particular child on the autism spectrum. ‘That someone has autism will not tell you exactly how to treat that person or what or how to teach them, but it will give a signpost to where one can look’ (Jordan, 2001, p. 6).
# How do I decide on a particular approach?

Invest time to find out as much as you can about the range of interventions available. Ensure you have the most accurate and up-to-date information about outcomes. Below are some good guidelines:

## Risk management approach to choosing interventions

Adapted by Autism Queensland from Associate Professor Roger Hughes & Damian Shield. Griffith University (2006).

<table>
<thead>
<tr>
<th>1. Do no harm</th>
<th>• Does the intervention compromise the individual’s physical/emotional/social behavioural status?</th>
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<tr>
<td>2. Costs</td>
<td>• What are the financial, social and emotional costs to the family?</td>
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<td></td>
<td>• Costs of lost opportunities?</td>
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<tr>
<td>3. Benefits</td>
<td>• Is there evidence of the benefit?</td>
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<td></td>
<td>• Anecdotal or measurable?</td>
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<td></td>
<td>• Do benefits outweigh costs/risks?</td>
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<tr>
<td>4. Duration</td>
<td>• Is this change/intervention required for a short period or forever?</td>
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<tr>
<td>5. Plausibility</td>
<td>• Is there a rational basis for the treatment?</td>
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<tr>
<td>6. Practicality</td>
<td>• Is there a protocol?</td>
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<tr>
<td></td>
<td>• Can the change/intervention be implemented and sustained?</td>
</tr>
<tr>
<td>7. Content</td>
<td>• Are you aware of what changes are being made?</td>
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<tr>
<td></td>
<td>• Do you know what is in the product or what the course of intervention entails?</td>
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</table>

## What about approaches without evidence?

Many people think there is no harm in trying a new approach or one that has limited evidence. This, however, is not always the case. Some unproven approaches have been shown to have negative repercussions. It is important to remember the potential for harm. This may be direct harm to the child (e.g. side effects or toxic reactions to particular treatments) or harm to the family (e.g. in the case of the use of facilitated communication where parents were falsely accused of abusing their children with autism).

‘It is important to consider whether the unproven treatment is consistent with theories and principles associated with effective treatments’ (Perry & Condilac, 2003, p. 9). It is worth checking any program against factors considered essential for effectiveness. These ‘essentials’ have been agreed upon by authors including Roberts & Prior (2006), Dawson & Osterling (1997) and Iovannone et al., (2003), and include:

- individualised supports and services
- systematic instruction and generalisation strategies
- highly structured and supportive learning environment
- ASD-specific curriculum content
- supported transition between settings
- functional approach to behaviour management
- family involvement
Where do I access information about the evidence available for a particular approach?

- Research Autism (www.researchautism.net)
- Cochrane Reviews available from the Cochrane Collaboration (www.cochrane.org) explore the evidence for and against the effectiveness and appropriateness of treatments.
- Parents and professionals can search on PubMed or similar databases (through libraries or professional organisations) to identify research articles on particular approaches.
- Contact your local autism association which can provide information about approaches and direct you to appropriate sources of information.
REFERENCES


