

Efficacy Ratings for Interventions
Prepared by Subcommittee of the Vermont Autism Task Force
 (updated as of 3-12-06)

Intervention	Consensus	Explanation
Pivotal Response Training (PRT)	<i>Level 2</i>	The review of the research demonstrated that there are both a number of single subject studies and case studies, which document and demonstrate the effectiveness of PRT over no treatment. There is also a research example of a between group study which demonstrates that children with ASD who receive PRT have better outcomes than those who did not have PRT. There is an Intervention Manual to support the intervention. However, this intervention does not receive a Level 1 rating because the existing literature does not contain a large number of studies that compare PRT to other interventions, nor are there two or more examples of between group designs.
Social Stories Intervention Strategy	<i>Level 2</i>	<p>While there are no examples of group design research studies which support the efficacy of social stories and no single subject design studies which compare the effectiveness of social stories with other interventions, there are a large series (5+) of case study and single subject design studies which demonstrate the effectiveness of Social Stories in reducing problematic behaviors and frustration and increasing communication among children with ASD.</p> <p>Three studies, Kuoch, Kuttler and Ivey, had strong experimental designs, clearly described participants and assessed social stories as the sole intervention. Two demonstrated reduction in problem behaviors using social stories. One showed an increase in independent behavior in novel situations. Two other studies, Thieman & Goldstein and Barry & Burlew, had strong experimental designs, clearly described participants, but used social stories together with other interventions. There is a manual describing this intervention.</p>
Floor Time Intervention Strategy	<i>Level 3</i>	Recently, Floor Time has been tested in a single subject design study, which will require replication but it is showing some initial promise. There is also some evidence in the form of chart reviews, which suggest the potential for Floor Time to be effective. There are no group design studies or more than one single subject design that document the effectiveness of Floor Time or compare the effectiveness of Floor Time with other intervention approaches. In order to receive a higher rating, further research is needed to demonstrate the effectiveness of Floor Time

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		either in comparison to no intervention or different interventions. Further, research by multiple investigators is needed.
Discrete Trial Teaching	<i>Level 1</i>	There are currently 2 or more examples in the literature which document research conducted using between group designs which demonstrate that children with ASD who received DTT performed better on a variety of measures in comparison to those who receive no intervention, those who received different interventions and those who received less intensive interventions. There are also a series of single subject studies that demonstrate the efficacy of DTT for children with ASD. A recent replication of the UCLA early intensive behavioral treatment program resulted in 48% of the children showing rapid learning, achieving average scores on measures of cognitive, language, adaptive and social skills and succeeding in regular education classrooms.
Sensory Integration Therapy	<i>Level 4</i>	Therapy is currently an unsupported intervention technique. While there is a body of literature that has been used to support SI, much of it is characterized by poor research design. Anecdotal reports do suggest SI may show promise, but as an intervention for children with ASD, SI is not yet objectively substantiated through the rigors of good science.
Wilbarger Protocol	<i>Level 4</i>	There are currently no research studies (either single subject or group design) that measure the efficacy of the Wilbarger Protocol. Anecdotal evidence from parents and therapists suggest that children have responded positively to this technique, but scientific research is needed to further evaluate and determine the appropriateness of this intervention strategy.
Picture Exchange Communication System	<i>Level 2</i>	When it is applied appropriately as a technique to increase mands, it works well and this is well documented. Three studies using single subject designs (Charlop-Christy, Ganz & Simpson, and Kravits) had good experimental designs and clear participant descriptions showed increases in communication skills using PECS. All use the PECS procedure manual.

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Peer Mediation Intervention Strategy	<i>Level 2</i>	While this approach does not have a variety of controlled group studies, it is very well described, has a number of strong case studies, and uses a clear procedure that appears to have a direct effect.
Relationship Development Intervention (RDI)	<i>Level 4</i>	While this approach intuitively makes sense it is not, at this point, tested. The author makes reference on his web page to an article “in press” in the Journal of Autism and Developmental Disabilities, but a review of this journal did not reveal his article. This study was said to compare 17 children receiving RDI with 14 children receiving other interventions. The RDI group demonstrated significantly greater improvement in their scores on the Autism Diagnostic Observation Schedule, diagnostic classification and classroom placement (Gutstein, 2005). This was based upon a retrospective study of a small sample of children with methodological limitations.
Applied Behavioral Analysis	<i>Level 1</i>	ABA continues to offer the broadest amount of supporting peer reviewed research as a method to both improve symptomatology associated with ASD and to support individual’s successful development of adaptive skills (individually defined). ABA is a method through which many other approaches can be applied, including such methods as DRI, peer mediation, PECS, and RDI.
Auditory Integration Training (AIT)	<i>Level 4</i>	While it can receive broad testimonial support, this approach lacks any systematic or methodologically sound review of its efficacy at this time. A couple of studies and review chapters have been conducted, essentially indicating that AIT makes no difference. One author suggested that the only proponents of AIT are those who stand to benefit economically from it. There are also questions of validity and appropriate controls in the studies that have been done.
Visual Therapies (VT)	<i>Level 4</i>	Visual therapies are untested and unsupported at this time beyond testimonials. There was more evidence that VT had no effect than that it had any effect at all.
Alert Program	<i>Level 4</i>	This is an untested intervention.
Video Modeling	<i>Level 2</i>	At least five case studies with strong experimental designs and clear participant descriptions demonstrating positive effects of video modeling to increase social or functional life skills. No procedural manual.

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<p>Nutritional Supplements & Vitamin Therapy</p>	<p><i>Level 3 for B6 & Magnesium</i></p> <p><i>Level 4 for DMG</i></p>	<p>A placebo controlled study reported that low dose pyridoxine (B6) and magnesium failed to benefit 15 patients (Tolbert et al., 1993). Study by Findling et al., (1997) reported an inability of HDPM (high dose pyridoxime and magnesium) to provide therapeutic response for children with ASD and, according to the authors, “adds to a body of evidence that has questioned the efficacy of this intervention.” Pfeiffer et al., (1995) analyzed the results of 12 published studies of B6 and magnesium treatment. They reported, “overall, results of the current research suggest that B6-Mg may be a promising adjunct in the treatment of autism.” The authors suggested further research to explore the long-term effects of treatment.</p> <p>Anecdotally, parents have reported beneficial results. Only one study with small sample size and possibly too low a dosage to support or refute efficacy of DMG.</p>
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