

# Integrated Movement Therapy™: Yoga-Based Therapy as a Viable and Effective Intervention for Autism Spectrum and Related Disorders

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## Abstract

*Integrated Movement Therapy™ is an individual and group therapy approach that combines speech-language pathology, behavioral and mental health counseling, and Yoga. It is taught by master-degreed therapists who are also certified Yoga instructors. Although this approach has been successfully implemented with children with Attention Deficit Hyperactivity Disorder (ADHD), Learning Disabilities, Pervasive Developmental Delay, Sensory Integration Dysfunction, Dyspraxia, and other specific motor-based disorders, it has had especially consistent and remarkable results with children diagnosed with Autism Spectrum Disorders. Integrated Movement Therapy has six core principles: structure and continuity, social interaction, language stimulation, self-calming, physical stimulation, and direct self-esteem building.*

*The following article will describe Autism Spectrum Disorders in depth and will show how each of the six core principles of Integrated Movement Therapy specifically addresses the characteristics associated with Autism. It will also note specific, documented improvements in all areas addressed based on qualitative ratings scales and parent feedback.*

## Background

“The essential features of Autistic Disorder are the presence of markedly abnormal or impaired development in social interaction and communication and a markedly restricted repertoire of activity and interests.”<sup>1</sup>

According to the DSM-IV-TR (*Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*), an individual must exhibit specific deficits in social interaction and communication skills, as well as stereotyped patterns of behavior, in order to be given a diagnosis of Autism or Asperger’s Disorder. These broad deficits manifest in specific ways, including, but not at all limited to, failure to develop age-appropriate peer relationships, lack of spontaneous seeking to share interests and achievements with others, and lack of social or emotional reciprocity. Other symptoms include marked impairment in conversational skills, stereotyped and repetitive use of language, inflexible adherence to non-functional routines or rituals, and stereotyped or repetitive motor mannerisms and interests.<sup>2</sup>

In the past two decades or so, the term *Autism* has gone from being a fairly obscure medical diagnosis to being nearly a household word. Although it is unknown exactly how many children are affected by Autism Spectrum Disorders, recent studies indicate that as many as 1 in 150 children could have Autism, making the disorder five times as common as Down Syndrome.<sup>3</sup> Even ten years ago, treatment options for this condition were limited and relied heavily upon external reinforcement, “earning rewards,” for reaching arbitrary, often semi-functional goals. Therapy was largely outcome driven and because of its formulaic nature tended to maintain the child at a level sufficient to support basic participation in the world, but not always at a level to support and encourage his or her full potential and participation. Children who showed more moderate expressions of the classic autistic symptoms, such as poor or nonexistent

social interaction skills, intense focus on seemingly random subjects, or delayed or distorted language skills, were not identified as being “different” enough to warrant therapy at all, or, if they were, therapy was geared toward mental health counseling rather than to direct instruction in social or language development. Based on the DSM-IV-TR, the term *Autism* in fact

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applies to a wide variety of individuals, ranging from those who are non-verbal and seemingly totally self-engaged and who require and receive special services to those who are highly verbal yet very socially awkward with poor conversational skills and who even ten years ago would not have received any special accommodations or services, but certainly would have benefited from them. The children in this latter group, who previously may have been regarded as merely “quirky” or marginally disruptive, were eventually recognized as being different enough to require special services and were classified as High Functioning Autistics.

More recently, Autism has become a common diagnosis among children with special needs, and the diagnosis has been expanded and refined. Although the general characteristics remain the same, the diagnostic criteria are such that they allow for a huge spectrum with regard to the expression of the characteristics. A child may, for example, exhibit “poor eye contact” by nerv-

ously averting the eyes while talking, or by completely averting the eyes from any attempt at eye contact, including a verbal request or even a physical cue. The term *Asperger’s Syndrome* was adopted to indicate a specific aspect of differential diagnosis; this label is applied when there has been no delay in the language development of the child, but all other characteristics of Autism are evident.<sup>4</sup>

Treatment options have broadened to some degree, and more “high functioning” individuals are now being recognized as requiring treatment specifically to learn social skills and to increase self-esteem. Unfortunately, most intervention still remains heavily dependent upon external reinforcement, and to meet insurance or other arbitrary bureaucratic standards most therapies remain outcome driven. To make matters worse, it is often unclear exactly who should “treat” these individuals, or how they should be “treated.” Mental health therapists, speech pathologists, physical and occupational therapists, school psychologists, and special education teachers all find these children in their classes and therapy rooms. Because they are often unclear on the most appropriate intervention for the child, each professional ends up providing an intervention for a specific area of deficit related to that teacher or therapist’s own training or needs, rather than providing a holistic therapy that incorporates all modalities of learning and addresses multiple overlapping areas of need in the child.

There is an abundance of research with excellent data supporting the relationship between learning and movement, and the positive effects of multi-modal learning (i.e., using more than one communication modality).<sup>5</sup> There is less research,

but much anecdotal evidence, supporting the relationship between learning and Yoga, especially the effects of the breath on all aspects of learning, including increased attention/concentration and enhanced mood. Yoga has successfully been used as an intervention for Attention Deficit Disorder/Attention Deficit Hyperactivity Disorder and depressive disorders. For children with these disorders, for whom a more competitive physical outlet may be an exercise in frustration, Yoga has the advantage of being noncompetitive and providing an optimal environment in which to encourage risk-taking and increase self-confidence—both integral aspects of effective learning.

There appear to be specific areas of the brain responsible for regulating the functions that are defective or deficient in children with Autism. According to *The Traumatic Brain Injury Resource Guide*, the function of the frontal lobe is to regulate consciousness (how we know what we are doing), initiate activity in response to our environment, control our emotional language and our expressive language, assign meanings to words we choose and memory for habits and motor activities, and perform problem-solving functions. The observed problems associated with frontal lobe dysfunction include: inability to plan a sequence of complex movements, loss of spontaneity in interacting with others, loss of flexibility in thinking, persistence of a single thought, inability to focus on a task, mood changes, changes in social behavior/personality, difficulty with problem solving, and an inability to express language.<sup>7</sup> Based on many years of observation and experience with children diagnosed with Autism Spectrum Disorders, we hypothesized that these children may have

specific deficits in frontal lobe functioning. It therefore seemed logical that working directly to improve the *function* of the brain might improve the “observed problem” more efficiently than the more conventional model of focusing only on the problem itself.

Integrated Movement Therapy was developed to capitalize on the positive effects of movement generally and Yoga specifically, and to directly affect frontal lobe efficiency, thereby increasing physical and cognitive functioning and improving therapeutic outcomes in children with Autism Spectrum Disorders.

## Integrated Movement Therapy

Integrated Movement Therapy is the name of the approach we have developed at The Samarya Center and combines the knowledge and experience of professionals with backgrounds and certification in speech-language pathology, mental health counseling, and behavioral support into a Yoga-based therapy.

Integrated Movement Therapy (IMT) has six core principles: structure and continuity, physical stimulation, social interaction, language stimulation, self-calming (attention/concentration/focus), and direct self-esteem building. Each of these principles corresponds to specific areas of deficit associated with Autism and therefore has specific positive effects in the therapeutic environment. Following are the core principles of IMT as they correspond to the diagnostic criteria for Autism (note: the term *Asperger's Syndrome* is applied when there has been no clinical delay in the language development of the child, but all other characteristics of Autism are evident. For this article, the term

*Autism Spectrum Disorders* will include Asperger's Syndrome.) Because many of the characteristics associated with Attention Deficit Hyperactivity Disorder (ADHD) often manifest in children with Autism, ADHD also will be discussed with diagnostic criteria introduced as pertinent.

### Structure and Continuity

As students and teachers within the Ashtanga Yoga tradition, we are especially aware of the effect of repetition on the body and the breath. In our own practice, through repetition we observe the body becoming more controlled and the breath becoming

and Related Communication Handicapped Children), “organizing the physical environment, developing schedules and work systems, making expectations clear and explicit, and using visual materials have been effective ways of developing skills and allowing people with Autism to use these skills independently of direct teacher prompting and cueing.”<sup>9</sup> During the Integrated Movement Therapy session, structure and continuity are established through routine and repetition and by the use of visual systems to convey rules for positive behavior and cause/effect relationships. It has been our experience that a high degree of structure and repetition, as characterizes our

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steadier. We also see the mind growing more disciplined and focused. In both adults and children, repetition and structure are key elements to support learning and confidence. In individuals with Autism, the need for routine and repetition is often present to a pathological degree. According to the DSM-IV-TR, children diagnosed with Autistic Disorder have “restricted repetitive and stereotyped patterns of behavior” manifesting in “apparently inflexible adherence to specific, non-functional routines or rituals” and “stereotyped and repetitive motor mannerisms.”<sup>8</sup> This need for routine and repetition can be harnessed to increase continuity within and across therapy sessions, and to ultimately increase learning and independence in the child with Autism.

According to the research and experience of the TEACHH institute (Treatment and Education of Autistic

traditional Ashtanga Yoga classes, allows the individual to safely and appropriately explore the boundaries of his or her own capabilities and effectively learn to use areas of strength to support areas of weakness, both physically and socially/emotionally.

The rules of the Yoga studio, the physical boundary created by the mat, the routine of taking off shoes, and the creation of a schedule all provide sameness and structure that build both confidence and competence. The schedule created with the students at the start of each session allows the class to designate times for movement and times for sitting still. This provides the student with a clear picture of what to expect during the session and also the opportunity to direct the session according to his or her preferred activities, allowing for natural negotiation among the teacher and the students.

Of the 24 kids we currently see at The Samarya Center, all of them have significant difficulties with impulse control, sensory management, and social interaction skills. Many are significantly language impaired. All of the students follow the routine with minimal or no direct instruction and comply with the rules of the studio, including staying on the mat. The repetition and routine established in the Yoga-based therapy session clearly provide each student with the necessary foundation to increase skills across all areas of language learning, social competence, and self-esteem.

### *Physical Stimulation*

Within the field of child development, it is widely accepted that movement increases language learning.<sup>10</sup> Empirically based research indicates that exercise enhances general cognition, and every speech pathologist notices that when a child is engaged in movement, such as in co-treatment with a physical or occupational therapist, more spontaneous and complex speech occurs. Pairing physical movement with language learning appears to enhance recall abilities and stimulate novel, appropriate language. The opportunity for physical movement during an Integrated Movement Therapy session also allows for experiential learning of concepts related to impulse control, the ability to calm the body after activity, and overall self-regulation.

While neither a diagnosis of Autism Spectrum Disorder nor ADD/ADHD necessarily implies any specific physical limitation, it is a general observation that these children lack coordination and body awareness. Sensory Integration Dysfunction is a disorder that very often manifests in children with Autism

Spectrum and related disorders. Sensory integration is the ability to take in information through senses (touch, movement, smell, taste, vision, and hearing) and to put it together with prior information to make a meaningful response. Sensory integration occurs in the central nervous system and is fundamental to coordination, attention, arousal levels, autonomic functioning, emotions, memory, and higher level cognitive functions. Children who exhibit aspects of sensory integration dysfunction may show difficulty with attention and regulation, sensory defensiveness, variable activity levels, lack of variety in play activities, clumsiness, difficulty calming after physical activity, excessive seeking of sensory input, or excessive trepidation around seemingly innocuous physical tasks such as climbing stairs, and behavior problems arising from this poor integration of sensory input.<sup>11</sup>

The physical aspect of the Integrated Movement Therapy session, therefore, not only capitalizes on the positive effects of movement on learning but also uses specific *âsana* and *prânâyâma* practices to encourage sensory integration, body awareness, and appropriate risk-taking behavior and to increase coordination and balance as well as the internal focus needed to be successful in novel physical tasks. We know that the vestibular system, the area of the brain that is responsible for balance, is also responsible for regulating attention/concentration and behavioral stability.<sup>12</sup> We also know that proprioceptive skills, or the ability to know where the body is in space, is crucial to developing both physical and social competence. Much of the physical practice in the IMT session then is focused on increasing vestibular and proprioceptive stimulation to increase sustained attention,

behavioral regulation, and general body awareness.

The inverted position is significant in potentiating vestibular and proprioceptive awareness. According to research cited by Ann Brownstone, M.S., O.T.R., "There exist specific physiological events during total body inversion responsible for the therapeutic effects. The inverted position was found to activate the cilia of the vestibular system in such a way as to increase tone, or muscle extension, in the postural muscles . . . this mechanism of increased extensor tone in the spine and chest challenges the hypotonic (low tone) effect of grief, depression, and other negative affective states."<sup>13</sup> Therefore, inverted positioning is also a fundamental aspect of the Integrated Movement Therapy session.

Handstands, as well as more moderate inversions, such as *ardha-*

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*candrâsana* and *trikonâsana*, appear to have an especially positive therapeutic effect, as they stimulate the vestibular and proprioceptive systems and also have a significant effect on the child's self-confidence by increasing strength, coordination, and courage, while encouraging appropriate risk-taking behaviors. Inversions have the added benefit of toning the core and curbing hyperactivity by calming the nervous system.<sup>14</sup> The repetition and routine of movement sequences, including *sûrya-namaskâra*, increase the child's ability to carry out motor plans and

again capitalize on the need for structure and repetition.

*Prânâyâma* is introduced, both to accompany and enhance *âsana* practice, but also as a practice in and of itself to harness energy and increase attention/concentration. With regard to specific breath tech-

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niques, it is our experience that children can be taught to practice simple *ujayî* breath; short, simple inhale and exhale retentions; and 1:2 inhale-exhale ratios. Alternate-nostril breathing, as well as alternate movement patterns, or patterns that cross the midline, such as *parivritta-trikonâsana* and variations, stimulate the parasympathetic nervous system, or the calming part of the nervous system, through integration of the right and left sides of the brain.<sup>14</sup> Even our children who show the most extreme deficits in attention/concentration and sensory integration are able to slow and calm their breath with direct instruction, and to use control of the breath to control superfluous and unwanted movement of the body and mind.

In the almost two years that we have been developing the Integrated Movement Therapy approach, we have seen, and have had confirmed by parents and teachers, that these children love coming to their Yoga class, which is not always the case when kids are coming to “therapy.” Our students show significantly increased balance and coordination, as observed by therapists, teachers, and parents, and show increased

self-esteem and social communication skills. Students in the Integrated Movement Therapy program show a significantly improved ability to follow motor patterns and to create and follow motor sequences. We observe reduced sensory and tactile defensiveness; increased ability to transition from high to low activity levels; increased attention, concentration, and focus; and the courage and willingness to attempt physical tasks, from seemingly simple activities such as stair-climbing to more obviously challenging activities such as hand-standing. These observations, made in the context of the IMT session, are reported by parents and teachers to be highly generalized to both academic and social settings.

### **Social Interaction**

Key diagnostic indicators of Autism Spectrum Disorder include “the presence of markedly abnormal or impaired development in social interaction” and “lack of social or emotional reciprocity.”<sup>15</sup> Not surprisingly, children with ADD/ADHD also have impaired social skills as a result of their difficulty sustaining attention in tasks or play activities. According to the DSM-IV-TR, the ADHD child, by definition, “often blurts out answers, has difficulty awaiting turn, and often interrupts or intrudes on others.”<sup>16</sup>

In a recent *Yoga Journal* article, Fernando Pagés Ruiz writes, “Children with ADD frequently miss out on physical education—not because of physiological limitations but because their inability to ‘play by the rules’ makes them . . . unpopular with their peers. . . . Therapists often recommend martial arts for their ADD patients because it offers a disciplined, athletic outlet without the pressures of a team sport. Yoga,

though, goes one step further, providing physical fitness without competition. The relative safety of Yoga allows [students] to explore [their] bodies and gain a sense of physical self-confidence, thus shedding feelings of awkwardness [they have] suffered most of their lives.”<sup>17</sup> Because children with Autism, by definition, may have both “failure to develop peer relationships appropriate to developmental level” and “lack of varied, spontaneous make believe play,”<sup>18</sup> they too frequently miss out on physical education, thus missing out on both the physical stimulation and the opportunity to interact socially and physically as part of a team. Competitive sports and physical activities that exceed the capabilities and comfort zones of children with Autism Spectrum Disorders often serve to aggravate and elicit the negative behaviors associated with these disorders.

It is our belief, substantiated by observation and experience with both children and adults, that increasing body awareness (labeling body parts and developing the awareness to recruit specific musculature) is crucial to developing social skills. Ann Brownstone, M.S., O.T.R., notes, “The critical relationship between the emotions and muscle tone is well known to practitioners of Yoga. All aspects of Yoga practice encourage development of awareness of the relationship between the nervous system and somatic activity and thoughts and feelings. With increased awareness and training of the mind, inhibition of unwanted responses becomes possible.”<sup>19</sup> Through direct training with specific *âsana* and *prânâyâma* techniques, students in the IMT program show significantly increased proprioceptive and tactile awareness. This increased awareness ultimately increases social skills by helping the

children to maintain and respect appropriate personal spatial boundaries. The consistency of the sessions, including the well-established and consistently reinforced rules, supports the students in developing the internal control needed to inhibit impulsive responses. The combination of cognitive and physical activities and feedback from the group allows each student to develop awareness of feelings, thereby increasing self-confidence. Lisa Slède, M.A., and Rachel Pomerantz summarize the positive effect of Yoga on social interaction by stating, “Overall, [these are] the benefits of Yoga: rebalancing the body biologically, reinforcing the ego (i.e., developing a greater sense of self-acceptance), diminishing pathological defenses, increasing feelings of autonomy, improving capacity for contact with others, increased attention span, better handling of emotional reactions, and greater tolerance for frustration.”<sup>20</sup> Each of these aspects promotes increased social competence, and in the IMT session encourages interaction and trust within the group.

The natural social connections developed in the IMT session are a clear departure from the contrived and highly facilitated interactions of a more conventional “social skills group,” the primary therapeutic intervention for older children with Autism Spectrum Disorders. Just as we see in a regular adult Yoga class, the children are coming together for a common goal, not specifically related to deficit, and are developing relationships based on that goal. They learn to work within a group, notice the accomplishments of others, and identify areas for development in themselves and their peers. Encouraged in this more natural and noncompetitive context, the students develop skills for commenting

and critiquing, working in pairs and groups, using each other’s names in conversation, asking for help from peers, identifying attributes that make another individual appealing as a friend, and increasing basic

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nonverbal skills such as eye contact and appropriate facial expressions and expression of emotions. They learn to take on roles as both leader and follower and accept imperfections in abilities.

#### *Language Stimulation*

Although children with Autism and related disorders have widely variable language skills, one of the key diagnostic categories for Autism is a “qualitative impairment in communication.” Based on the DSM-IV-TR, the more specific manifestations of this impairment include “delay in, or total lack of, the development of spoken language, . . . marked impairment in the ability to initiate or sustain a conversation with others, stereotyped and repetitive use of language, and lack of varied, spontaneous make believe play or social imitative play . . .”<sup>21</sup> Within the IMT session, there are multiple opportunities for improving social-communication skills and direct language learning. Depending on the age and language level of the students, different aspects of language development are emphasized. While the older and more conversationally competent

students are instructed in rules for conversation, problem solving, and brainstorming, younger students are provided with age-appropriate opportunities for language learning through imaginative play. Sessions for these children focus on the basic foundations for language, including turn-taking, motor and verbal imitation, social-communication games, motor sequencing, and developing communicative intent.

In both the individual and group sessions, the children learn vocabulary, grammatical constructs, word associations, and story sequencing. The repertoire of poses, categorized in terms of animals/objects, body positioning, Sanskrit names, and level of difficulty all allow for both spontaneous and directed brainstorming activities, as well as games involving describing and guessing from cues. The latter provides strong consistent practice of more advanced meta-linguistic skills in a naturalistic context, always while capitalizing on the positive effects of movement on learning, especially on retaining and generalizing of information. Activities that focus on the ability to both provide and follow very specific instructions, as when directing peers into specific *âsanas*, encourage and develop the problem-solving and language clarification skills that students with high functioning Autism lack. Additionally, having students with Autism comment and interact on a common third point of reference, such as their Yoga class, elicits: spontaneous commentary; asking for help, praise, and attention from and for others; and qualifying of emotions—all areas of social interaction that are by definition lacking or deficient in the autistic child’s social repertoire.

The DSM-IV-TR lists “lack of spontaneous seeking to share enjoyment, interests, or achievements

with other people,” and “lack of social or emotional reciprocity”<sup>22</sup> as two possible manifestations of an impairment in social interaction. Because social interaction, or the desire to communicate for more than just having specific needs met, is a critical aspect of language development, therapists working with a nonverbal child must find ways to motivate and engage the child to develop spoken language. Because children are motivated by physical interaction, rather than the demand for spoken language on a reward contingent basis, the IMT approach is ideal for working with nonverbal children as well. It has been successfully implemented with this population and has resulted in significant improvement within the therapy session in as few as six sessions. Specific examples of improvements include carrying out of routine, following a visual schedule, verbal identification of poses from picture cards, motor imitation of picture cards and of therapist, initiating of and engagement in social interactive play routines involving turn-taking and direct eye contact, increased time with activity, and imaginative and symbolic play, all of which are crucial building blocks to developing functional communication and increasing expressive and receptive language skills.

### **Self-Calming**

Yoga, according to the great sage Patanjali, happens when “there is stilling of the movement of thought.”<sup>23</sup> From a neurological standpoint, the prefrontal cortex is the area of the brain responsible for working memory, a brain function associated with inhibition. Working memory enables behavior to be guided by ideas and concepts, rather

than by knee-jerk responses.<sup>24</sup> Studies show that in children with ADD, the right prefrontal cortex appears to be underdeveloped, perhaps accounting for the difficulty these children show with inhibition and concentration.<sup>25</sup> Current research also has shown significant functional deficits in the prefrontal cortex of children with Autism Spectrum Disorders.<sup>26</sup> Just as adults can be taught in a typical Yoga class, children can be taught to have more body awareness and be encouraged to use internal techniques to increase focus and calming.

A Yoga-based therapy approach is ideal for teaching self-calming techniques for several reasons. First, the Yoga studio provides a calm, peaceful setting unlike any the child has experienced before, creating a space in which the child senses an atmosphere of serenity, but also a space in which making typical responses is less fitting. The child has no idea what “the rules” of this new environment might be and so is more thoughtful in his or her immediate response to the environment. The structure and continuity established and maintained within and across therapy sessions provides predictability and clear boundaries that support calmness and trust. There are no toys, fluorescent lights, or busy waiting rooms to overstimulate the sensory-defensive child. By definition, Yoga-based therapy encourages increased body awareness and so provides a natural setting to explore the capacity for control over the body. *Prânâyâma* techniques can be taught and practiced.

By finishing every session with *shavâsana*, students learn that they can take time out and rest in response to somatic sensations without these breaks being interpreted as punitive. In fact, in our experience, although most students resist the

idea of resting when it is first introduced, nearly every one eventually asks for *shavâsana*, sometimes as soon as they come into the Yoga room, indicating that they are not only aware that they feel tired or agitated, but also that they know what might make them feel better. We have found that using eye pillows, blankets, and music increases the length of time and the degree to which the students will fully rest.

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Students also respond well to visualization techniques and progressive relaxations. Practicing balancing poses incorporating *prânâyâma* and the use of *drishti*, or gaze, increases students’ ability to focus and maintain concentration by stimulating the vestibular system and the systems of the brain that control eye movements. Both of these areas of the brain are involved in regulating focus and concentration.<sup>27</sup>

Because children with Autism Spectrum Disorders often have “stereotyped and repetitive motor mannerisms (e.g., hand or finger flapping or twisting, or complex whole-body movements)” as well as “apparently inflexible adherence to specific nonfunctional routines or rituals,” they are easily aroused or highly agitated by changes in routine and, as described earlier, may also have sensory defensiveness. This aroused state, resulting from sensory overload or lack of predictability, often elicits or exaggerates repetitive motor mannerisms, also called self-

stimulatory behaviors, such as hand flapping or mouthing of objects. Providing students with the ability to recognize low levels of agitation, as well as a variety of options for self-calming, is an essential aspect of increasing both social competence and general well-being. According to reports of parents and teachers, as well as the experience and observation of therapists, once students have learned and successfully used the techniques in the therapy session, they are able to generalize them and use them outside the Yoga setting and show increased self-mastery, confidence, and positive self-image.

### ***Self-Esteem Building***

Clearly, encouraging a sense of belonging and predictability, increasing physical awareness and competency, increasing language and social-communication skills, and providing tools and techniques for self-regulation and calming all contribute to enhanced confidence and general well-being. It is our belief that developing and encouraging the individual's self-esteem is the single most important factor in increasing skills in all areas of language, learning, and social competence. To this end, the IMT session specifically addresses self-esteem

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building, not just as a natural by-product of increased competence in other areas, but through direct instruction and awareness of individual self-worth. Students are actively encouraged to try new things and accept imperfections in abilities.

They learn to accept roles as both leader and follower and are taught to identify and articulate their own areas of strength as well as areas for development. They are guided and encouraged to both give and accept compliments and critiques. All sessions end with an opportunity for children to name their own best attributes. It has been our experience that as children learn to recognize and articulate their own areas of strength, they develop a strong sense of self-worth that they are able to maintain even through difficult social, physical, or academic situations. As they become more adept at identifying areas of strength in their peers, they are able to make better choices with regard to friendships and also to internalize the attributes that make them appealing as friends to others.

### **A Yogic Perspective for Therapy: Divinity vs. Pathology**

At its most deconstructed level, Integrated Movement Therapy works because it addresses each aspect of the individual with Autism, using an empirically sound, highly structured, multi-modality teaching method. There is, however, another integral aspect to this approach that,

in the end, is truly the heart of this therapy and why it works. "Yoga-based therapy," by definition, should have a spiritual and philosophical bent that separates it from conventional clinical interventions, that is, a focus on the divine being that exists

within each child, no matter how distracting the external manifestations of the "diagnosis" might be. A clinical approach, and the way most of us in this field were trained in graduate school, would have us take all the pathological aspects of the child and work diligently at decreasing them, thereby delivering to the parents a more "normal" child as a result of our therapy. Therapy goals that "decrease unwanted behaviors" are easier to both write and to show change for, thereby satisfying the bureaucracies paying for the therapy. However, this only serves to reinforce for both the child and the parent how different and disabled the child is and how much he or she needs to be fixed. Conversely, the IMT approach works on the principle that encouraging and developing the self-esteem of the individual is the single most important factor in increasing skills in all areas of language, learning, and social competence. To this end, in our therapy we focus on what is *right* about the child, the goodness or divinity of the individual, and we write our goals and develop specific therapy programs to increase these positive aspects.

### **Summary**

As Autism Spectrum Disorders are becoming more commonly diagnosed, it is crucial that specialists working with this population develop therapeutic interventions that address the whole child, including social and language deficits, sensory integration difficulties, physical problems associated with poor motor coordination and body awareness, and general self-esteem and overall well-being. Therapy should help these children not only maintain a functional level, but it should also

encourage and expect development and expression of each child's full potential. The therapies that are currently available to these children tend to be incomplete and splintered. They fall short in exploring and developing all aspects of the child's development, especially in helping the child to develop skills that can be internalized and generalized, leading to greater independence and feelings of self-sufficiency and self-worth. Integrated Movement Therapy, a holistic Yoga-based therapeutic intervention, has been successful in addressing each of the areas associated with a diagnosis of Autism Spectrum Disorder. The six core principles of IMT, based on combined expertise in the areas of speech-language pathology, mental and behavioral health, and Yoga allow for direct instruction and development in all areas of deficit found in the child with Autism Spectrum Disorder.

Yoga is inherently, in its fullest expression, a discipline that encourages total personal development, encompassing physical, emotional, intellectual, spiritual, and social growth. Combining the power of movement, breath, and body awareness that is the core of a physical Yoga practice, the empirically based evidence of the positive relationship of movement and learning, and the expertise and clinical experience of speech-language pathology and men-

tal health counseling, IMT offers a Yoga-based intervention that would intuitively seem effective, especially with children with Autism Spectrum Disorders at any level of linguistic, physical, and social competence. It has been our experience, and great pleasure, to see this intuition borne out consistently in practice.

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