

What is Autistic Spectrum Disorder?

Socialization and Communication Are Key in Supporting Individuals with Autism

By Sally Burton-Hoyle, Executive Director, Autism Society of Michigan

Autism (AI), also known as autistic spectrum disorder, is a neurological disorder that impairs socialization and communication and may cause differences in the way an individual processes information. When a child with AI is asked to tell about or show something that is known to interest the child, may seem unable or unwilling to do so. An individual's inability to regulate his or her processing of the environment through the sensory system, including smelling, touching, seeing, and hearing, and sensitivity to external movements, are early characteristics a parent or caregiver may notice. A child may act as if he or she cannot hear or see, or sounds may seem to cause pain to the child's ears. A child may act as if he or she does not want to be touched or held. Touch may appear to cause the child physical pain. A child may not respond to his or her name, or may be in constant motion.

A Spectrum of Symptoms

The effects of AI can range from mild to severe, thus it is considered a spectrum disorder. For some children, socialization and communication difficulties may not be visible until they are older. They might develop language but have trouble playing with and relating to others. Pervasive Developmental Disorder (PDD) was previously considered an "umbrella" term that encompasses a wide array of variations in the symptoms of AI. Asperger Syndrome is commonly defined as a form of the high end of the autism spectrum. Individuals with Asperger Syndrome are often depicted as having high I.Q. but are lacking in social skills.

What Causes Autism?

There is no known cause of AI. One theory suggests that inappropriate responses to people and the environment, by individuals diagnosed within the autistic spectrum umbrella, may be the result of "trauma" to the portion of the brain called the cerebellum (as used here, "trauma" has no connotation of abuse). The cerebellum affects a person's ability to regulate environmental stimuli. Therefore, according to *Understanding the Nature of Autism: A Practical Guide*, by Janice Janzen, trauma to the cerebellum may explain why the use of language is difficult for individuals with AI.

Processing disturbances resulting from AI, the movement of a thought to an action, for example, may take longer. Such a delay in processing does not necessarily mean that a cognitive impairment exists in an individual with AI-it could mean that the person needs additional time or cues in order to process the request. While statistics show that approximately 60% of individuals with autism have cognitive impairment, this figure does not seem to address the movement disturbances and processing delays that individuals with AI experience. Most cognitive tests are given orally, and persons with AI typically learn best through their visual systems rather than their auditory systems.

Communication Socialization Are Key

Regardless of where an individual is on the autism spectrum, it is best to address their socialization and communication skills. Behavior is communication. Therefore, it is imperative for individuals who cannot express themselves through language to develop a communication system. If a person's efforts to communicate are not supported, behavioral difficulties may arise. A very important part of looking at behavior, as communication is to consider each person's right to Communicate, if an individual is unable to "talk," then we must teach communication using pictures, words, or objects. Pictures and other visual strategies are generally successful for teaching individuals with AI.

Emphasize Individual Strengths

If we presume competence in each individual with AI, and provide a way for them to communicate, we will assist individuals with AI toward finding success. To assist persons with AI in achieving their needs-we must also think in terms of that individual's strengths. The following practices are recommended for individuals with AI:

- A sensory processing evaluation by a qualified occupational therapist
- Look at behavior as communication
- A communication system available to each person 100% of the school day
- Presume competence
- Tasks broken down into small increments
- Paraprofessionals support for students where appropriate
- The use of a visual/picture/word schedule
- Educational and vocational instruction in typical environments

If we work with each individual's skills, strengths, and capacities and provide each individual with typical socialization and communication opportunities in his/her neighborhood school, the Michigan schools will surge ahead in supporting persons with autism and their families.

Unraveling the Myths of Autism

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Autism is a neurological disorder that impairs socialization and communication and may cause differences in the way information is processed. The inability of the individual to regulate their processing of the environment as in their sensory system (smell, touch, movement, tactile, visual and auditory) is the first characteristic that a parent or caregiver may see. A child may act as if they cannot hear or see, or sounds that we do not even hear may seem to cause pain to the child's ears. A child may act as if they do not want to be touched or held, because it may seem to cause them physical pain. A child may not respond to their name or may be in constant motion, seeming unable to stop their actions. It is believed that these types of inappropriate responses to people and the environment may come because of "trauma" to the cerebellum. (Trauma does not refer to any one cause, it suggests that the symptoms designate that a trauma may have taken place in utero it has no connotation with abuse) The cerebellum affects the ability of the person to regulate the sensations or the environment and may thus cause the understanding and using of language to be difficult (Janzen, 1996).

Autism also causes processing delays; in that we may ask a child to tell us something or show us something that we know the child is very interested in and yet they seem unable or unwilling to do so. This is because autism and its subsequent cerebellum damage may cause processing disturbances, the movement of a thought or action may take longer with a person who has autism. It does not necessarily mean that the person is cognitively impaired, however I feel that this figure does not speak to the movement disturbances and processing delays that individuals with autism experience, most tests are given orally and persons with autism typically learn best through their visual systems and not auditorially. Pictures and other visual strategies are generally successful in teaching persons with autism. Autism is a spectrum disorder in that its effects can range from mild to severe. Therefore difficulties in socialization and communication may not be visible for some children until they are older, they may have developed language but still have difficulty in playing and relating with others. Regardless of where an individual is on the autism spectrum, it is best practice to address socialization and communication. If an individual has difficulty verbalizing or gesturing to show you what they want, they may act out with inappropriate behaviors in order to communicate.

We say that Behavior is Communication! It is imperative that in lieu of language a communication system be developed for each person. If we do not support a person in communicating then there are quite often behavioral difficulties. A very important part of looking at a person's behavior as communication is that each person has the right to communicate and if they are unable to "talk" then we must teach them how to communicate with pictures, words or even objects. If we presume competence in each individual with autism to achieve their full potential then we must not only address their needs, we must also begin to think in terms of the strength that individuals with autism have.

Best Practices for persons with autism include the following:

- Use of Visual/Picture/Word Schedules
- Sensory Processing Evaluation by a Qualified Occupational Therapist
- Communication System Available to each person 100% of the School Day
- Educational and Vocational Instruction in Typical Environments
- Tasks Broken up into Small Intervals
- Paraprofessional Support for Students where Appropriate
- Seeing Behavior As Communication
- Presuming Competence

If we work with each individual's skills, strengths and capacities and provide each person with typical socialization and communication opportunities in their neighborhood schools then Michigan schools will surge ahead in supporting persons with autism and their families.

What is Autism?

Gail Gillingham Wylie, MSc

This list is an attempt to move away from concentrating on what we see is lacking or inappropriate when defining the condition of autism and focus on the positive characteristics which are common to most people with this diagnosis and which affect how we interact with them positively in the classroom.

A stress free autistic child:

- ▶ Is a happy, well-behaved child.
- ▶ Obeys all rules to the letter.
- ▶ Is a deep thinker.
- ▶ Is highly original creative in his/her thought process.
- ▶ Is hypercritical of his/her own behavior. Will automatically assume that anything that goes wrong is his/her fault.
- ▶ Has a natural wit and humor beyond his/her years.
- ▶ Is intensely curious and eager to learn.
- ▶ Is very independent from an early age.
- ▶ Is very caring and protective of all life forms.
- ▶ Has a one-track mind. Which leads to difficulty in interacting with others who are not on the same track and to our description that they perseverate or fixate on topics or objects that he/she finds interesting.
- ▶ Lives in the present.
- ▶ Is spiritual, often in ways beyond our understanding.
- ▶ May be limited in emotional response to Fear (the emotion that governs their lives if not brought under personal control) and Love (the spiritual celebration of joy for all creation). Emotional reactions displayed are aspects of, or responses to these two basic emotions. Fear gives rise to panic or anger while love becomes a calm peaceful state or is expressed as excitement.
- ▶ Very empathetic to the feelings of others. Often too overwhelmed empathetically to able to express it. So tuned in to the emotional states of others that their “lie detector apparatus” works without physical contact; proximity is all that is necessary. The emotional states of others are often confusing because they do not have personal experience of them.
- ▶ Their responses to expressions of sympathy, greed, jealousy, praise, envy and so on are often considered inappropriate because of this lack of understanding.
- ▶ Is blind to the meaning of facial expressions and body language of others.
- ▶ Needs to be specifically taught what they mean. Does not notice them without a lot of effort.
- ▶ Has only a literal interpretation of language. This leads to a limited understanding of the social use of language or the pragmatic aspects of language.
- ▶ Has only one way to talking to others and speaks to and treats everyone the same. This is often interpreted as being rude or cheeky

- ▶ Does not deliberately lie, but may appear to lie but his/her lack of understanding the relationship between cause and effect, by his/her literal interpretation of language and/or by voicing what he/she wished had happened instead of what actually did or because he/she is trying to meet your expectations by saying what he/she thinks you wish to hear due to past company.
- ▶ Likes people and enjoys the companionship of others, but only for short periods. Has no constant need to be around others and tends to prefer his/her own thoughts and interests for company.
- ▶ Will not deliberately harm others. If he/she accidentally causes harm then he/she will experience intense remorse for a long time after the event although he/she does not show this response immediately. Even harm caused during panic or anxiety attacks will be regretted or produce conflict as the child struggles with concept of who was to blame.
- ▶ Requires almost constant mental stimulation broken only by bouts of intense physical exercise to help calm the mind and release the mental energy when overly mentally stimulated by new knowledge or ideas. Intense physical exercise can also help to reduce stress. Does not deal with waiting or boredom well.
- ▶ If he/she does not have an interest to occupy his mind, mental energy can be converted quickly into mischievous acts. A mischievous twinkle in his/her eye will signal that he/she either is about to do something or has just done it.
- ▶ Is noncompetitive. If involved in sport, it is usually an individual event where his/her focus is on improving his/her own performance rather than on competing.
- ▶ Is an observer rather than a participant in most social or sports activities? May like to participate, but fear pain and/or rejection from experience.
- ▶ Is a night owl- prefers to sleep during the day, especially if photophobic (sensitive eyes).
- ▶ Is a willing helper, but needs to be specifically asked to help. Will interrupt this message literally.
- ▶ Likes to order and sort objects and facts. Plays with toys by lining them up or sorting them into categories. May collect unusual objects.
- ▶ Has poor short-term memory retention or recall but excellent long-term memory skills although long-term memory may lack a temporal component.
- ▶ Regularly talks aloud to him/herself unaware that he/she is vocalizing his thoughts or to assist him/her to think through a problem.
- ▶ Is hypersensitive to stimulation: both sensory and emotional which leads to higher levels of arousal than “normal” people in the same situation, and the need to protect oneself from over stimulation. This leads to:
 - Being hypervigilant to the world around him/her. Protection becomes the focus of the 'one track mind'.
 - Constantly analyses input from the environment trying to make sense out of his/her observations whether of others or his/her own reactions.
 - Needs a well-structured and predictable environment to avoid the fear- response (insistence on sameness).
 - Discomfort while sharing eye contact with another.
 - Development of a variety of repetitive behaviors, which allow him/her, shut down the sensory system when over stimulated or bored.

- Extensive fine-motor difficulties due to sensitivity of the fingertips, which makes holding and controlling a pencil or doing other, related tasks extremely difficult and painful.
- May exhibit abnormal fear-responses to every day objects and/or people because of experience. On the other hand shows no fear or panic in dangerous or traumatic situations where these might be expected.
- Has difficulty switching attention so may be slow to respond or fail to hear correctly any verbal requests when his concentration is monopolized by an object or topic.
- May exhibit obsessive-compulsive behaviors.
- May be slow to develop self-help skills due to tactile sensitivity and movement disturbance problems.
- May have difficulty initiating any new activity unless he/she knows precisely what is required or has a model to follow. May appear to be deaf.¹

Note: Portions of this handout have been adapted from a speech prepared and presented by Carolyn Baird, BA (Hons) to the Newcastle-Hunter ADHD Support Group Meeting, and February 16,2000 in Newcastle, New Zealand. Carolyn is a mother of our children who all have characteristics that place them well within the Autistic Spectrum, and had been diagnosed as having autism herself. She is the elected autistic representative on the Autism Mailing List hosted by St. John's University, and the owner of PAN-L, an international list that provides personal emotional support for relatives and individuals with autism or related disorders on the Internet. She is also co-list owner of Autinet (an international general autism discussion list in Ireland), and co-creator of OzAutism List or autism related discussion and support for Australian and New Zealand residents. She developed the list of characteristics of autism based on discussion with people with autism and their families from all over the world. I have pulled the information together from throughout her speech, and added a number of items I have discovered through my years of experience in this field, and/or found documented elsewhere, especially in the area of reactions to sensory stimulation.

Responses to the Behaviors of Children with P.D.D.

Behavior: Person does not move when asked to do something.

Common Responses: Person is non-compliant and stubborn. Person does things only when she/he wants to. Person wants attention.

Autism Interpretation:

The person may not know what is going to happen next, may not have processed the information or may have a delay in processing. The person may not be able to shift attention to the new stimuli, or may not be able to start the motor response. The person may also want to have more choice of when he does things and fewer directives. The person may be expressing refusal and the reason for the refusal must be investigated.

Helpful Responses:

- Allowing processing time. Provide touch cues and or gestures.
- Teach ways to indicate refusal more directly.
- Provide visual schedules to let the person know the order of events.
- Provide visual choices for order of activities, reinforcers and other things about which the person can make decisions.
- Cue the person with objects, gestures, pictures, and written messages, rather than, repetitive and or long verbal messages.
- Do more activities with the person, less directing.
- Cut down on verbal instructions; model and participate more with the person.

Behavior: Person becomes agitated when corrected or when she feels she has made a mistake.

Common Responses: Person is uncooperative, belligerent, and oppositional. Person is too sensitive and difficult to work with; has no manners.

Autism Interpretation: The person is trying to do things the way he or she perceives they need to be done. Correction is often given in the negative and does not let the person know what to do to correct the situation. Sometimes the person perceives the need to have everything in the environment or the task in a certain order and changing it creates anxiety.

Helpful Responses:

- Anticipate as much as possible and give information beforehand in visual, concrete form " to help the person succeed.
- Provide positive feedback for correct steps.
- Provide visual information about how to identify and correct a mistake through written pictured diagram, or modeled form, moving toward self-monitoring.
- Present corrections in a non-threatening, neutral tone and provide choices for correction or for starting over. Reassure the person that everyone makes mistakes, even pointing out your own.

Behavior: Person has a narrow range of emotions, demonstrates few examples of empathy and laughs when others are hurt or in trouble.

Common Responses: Person is selfish and inconsiderate. Person thinks others' mistakes are funny and makes fun of others.

Autism Interpretation: The person isn't able to take the perspective of someone else and often reacts from anxiety rather than emotion. Therefore, laughing can often be a sign of anxiety.

Helpful Responses:

- Interpret emotions and actions accurately to the person. Use key phrases.
- Label and express emotions in consistent ways. Teach and practice specific phrases to express to others when they have problems such as, " Are you okay?"
- Practice expressing social bids and caring expressions.

Behavior: Person talks about a limited number of topics or wants to do limited number of activities.

Common Responses: Person is boring and annoying. All he ever thinks of is himself.

Autism Interpretation: The person continues to do familiar, pleasurable activities due to sensory, social and communication impairments, which limit the repertoire of activities and interests.

Helpful Responses:

- Introduce the person to meaningful activities by doing the activities with the person: modeling and sharing.
- Desensitize his/her to new, unfamiliar activities so the person can have the opportunity to enjoy activities over time. Even when the person is familiar with an activity, it will take time before the individual feels comfortable enough to benefit from teaching and participating.
- Plan times when the person is free to engage in pleasurable, self-selected activities. -Use strengths and interests to expand repertoire. -Start where the person is successful.

Behavior: Person becomes upset when things change: items, places, people, etc.

Common Responses: Person is rigid and it is impossible to control everything for him. He will have to learn to adjust.

Autism Interpretation: The person's anxiety is raised from lack of understanding about what is happening, who to look to for information or where things are located. He becomes confused when the routine is changed.

Helpful Responses:

- Involve the person in the changes by preparing with his/her ahead of time.
- Provide choices for replacement activities when possible.
- Provide visual information about changes and sequences using pictures beforehand as a cue.
- Give person time to process, understand and accept. Teach flexibility through planned experience.
- Desensitize the person to new places, activities, things and people.

Behavior: Person paces back and forth.

Common Responses: Person is trying to get out of what she is supposed to be doing, is disruptive and trying to get all the attention. The person is inattentive and hyperactive.

Autism Interpretation: The person may be feeling "down" or wanting free time, since many people with autism don't know what to do in free or uninstructed time. The person may need an outlet for a high activity level or may be reacting to stressful situations.

Helpful Responses:

- Provide more exercise and movement activities. Identify appropriate time and place to pace.]
- Teach an individualized relaxation routine when the person is calm and practice several times a day.
- Organize the learning steps so the learner knows exactly what, where and how to do each activity.
- Provide the person with choices to help structure free time.
- Try to determine if the person is trying to communicate something and teach direct communication strategies.
- Teach activities that the person can do in free time with others and alone.
- Plan partial participation with shorter sitting times.

Breakdowns That May Contribute to Challenging Behavior

- Students do not understand what is happening or what is expected. Inaccurately interpret what is seen or heard
- Misunderstand/Misinterpret social information or social attempts of others. Delay in processing auditory information hinders ability to participate effectively. Lack of facial expressions, gestures, body language, communication supports. Lack of skills for repairing communication breakdowns causes frustration

Other Factors That May Cause Challenging Behaviors

- Poor Planning for changes and transitions
- Expectations for Behavior/Independence. Behavior of other students
- Options for flexibility
- Nothing for the student to do

How Others May Cause Challenging Behavior

- Not responding to communication attempts. Not responding to sensory needs
- Inappropriate/unrealistic expectations
- Teasing
- Poor modification/accommodations

Medical Conditions Related to Challenging Behavior

- Seizure disorder
- Anxiety disorder
- Depression/Obsessive compulsive Disorder
- Sleep Disorder
- Allergies
- Nutrition Problems
- Vision/Hearing impairments
- Dental needs
- Common illnesses
- Recurring infections

Factors to Consider Regarding Student Behavior or Change in Behavior of Persons with Autism

By Kathy Johnson and Sally Burton-Hoyle

1. Medication Review

- Doctor prescribing: name, location, experience with spectrum disorders
- Dosage of medication
- Supplements: herbal, name of supplements and medications. Side effects?
- Has there been an increase/decrease in weight-how much?

2. Fatigue level

- Is there sleep disturbance
- (Hours of REM)
- Asleep at _____
- Awakes at _____
- Noises (does he/she make noises or talk while in bed?)
- Do slight noises awake the person?

3. Family Home Dynamics

- Changes in family members?
- Is there a change in sibling interaction?
- What would siblings say might be causing difficulties?
- Are there anxiety-increasing events as a family you stay away from?

4. Diet

- Changes in diet?
- Name of diet? Prescribed by whom?
- Has there been decrease/increase in weight?
- If so how long, has new diet been in place?
- What are behavioral changes noticed since new diet?
- Have you spoken with a Registered Dietician?

5. Sensory Disturbances

- Has there been a sensory evaluation done by sensory processing expert? Dates of last evaluation
- Sensory Diet prescribed?
- Is it being followed by home/school?
- Are there new and different sensory challenges since any new medication or diet changes?
- If so what are they?
- Has an M.D. (health professional) been notified of sensory disturbances?
- Is puberty an issue -yes/no -age of person
- Have there been changes in toileting?

6. Peer Interaction

- Does child interact with any typical kids?
- Did child do so previously? When?
- What would typical peers say is causing changes in child's behavior?

7. Movement

- Is there opportunity for movement in a typical meaningful way in class? (pulling wagons does not count).
- Would movement in classroom be aberrant?
- Does movement increase or decrease anxiety?

8. Schedule

- Is there a time in a day that student's anxiety is raised?
- Is there a visual schedule: home/school? Change in schedule?
- Was/is student notified of upcoming changes?
- How is the mode of clarifying changes with the student (oral)?

9. Educational modifications present: . . .

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10. Other factors that may be relevant to behaviors demonstrated: . . .

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10 Things You Can Do to Support A Person With Difficult Behaviors

By David Pitonyak

Supporting a person with difficult behaviors begins when we make a commitment to *know* the person. Sadly, it is often the case that the people who develop an intervention to stop someone from engaging in difficult behaviors do not know the individual in any meaningful sense. Instead, they see the person as someone (or something) that needs to be fixed, or modified. Attacking a person's behavior is usually ineffective and always disrespectful.

Think about someone you know who engages in difficult behaviors. Ask yourself, "What kind of life is this person living?" Consider how you would feel if you lived the person's life. How would you behave?

What follows are 10 things you can do to support a person whose behavior is troubling you. It is not a list of "quick fix" strategies for stopping unwanted behavior. It is a list of ideas for uncovering the real things that a person might need so that you can be supportive.

1. **Get to know the person.**

The first step in supporting a person with difficult behaviors almost seems too obvious to state: *get to know the person!* It is too often the case that people who develop interventions to eliminate unwanted behavior do not know the person in any meaningful sense. They know the person as the sum total of his or her labels, but know little about the person as a "whole" human being.

Make a point of spending time with the person in places that he or she enjoys, during times of the day that he or she chooses. It should be a comfortable place where both of you can feel safe and relaxed (e.g., a quiet room, a nice restaurant, a walking trail in a nearby park).

At a time that feels right (you will have to trust your intuition on this one), tell the person about your concerns and *ask* permission to help (it's rude not to). If the person has no formal means of communication, *ask anyway*. Sometimes people understand what is being said, but they have a difficult time letting others know that they understand. The important point, always, is to *ask* the person for *permission* to stick your nose into their business, even at the risk of seeming silly in front of people who think the person cannot understand up from down (they're usually wrong).

2. **Remember that all behavior is meaning-ful.**

Difficult behaviors are "messages" which can tell us important things about a person and the quality of her life. In the most basic terms: *difficult behaviors result from unmet needs*. The very presence of a difficult behavior can be a signal that something important that the person needs is missing. Here are some examples of the kinds of messages a person may be conveying with his or her behavior:

“I’m lonely.”

Michael’s older brother was invited over to a friend’s house for a sleep over. Michael is never invited to the homes of children because he goes to a “special” school 35 miles from his neighborhood. Michael has no friends to play with.

“I’m bored.”

Roberta’s sister is a doctor at the local hospital. She has her own house and is her parent’s pride and joy. Roberta works all day at a sheltered workshop where she packages plastic forks and knives. She lives at home and is tired of packaging. She wants to get a real job. Roberta’s case manager says she daydreams too much.

“I have no power.”

John likes to sit down on the sidewalk when the bus arrives to take him to school. His mother becomes very angry and tells him that there will be no dessert when he gets home. John laughs when the bus driver threatens him with time out.

“I don’t feel safe.”

Conrad uses a wheelchair and is not able to defend himself adequately from attacks by another man. Conrad worries that he will be hurt and often cries when left alone. Staff thinks he has a psychiatric illness.

“You don’t value me.”

Gloria has a “severe reputation.” People from all over the state have heard stories about her terrible tantrums. No one knows that she is a very caring person who worries about environmental issues. The only part of Gloria people pay attention to is her problem behaviors.

“I don’t know how to tell you what I need.”

June does not know how to use words or sign to let other people know what she was thinking. She lives in an institution where she learned that the best way to get people’s attention was to bite your arms. It hurts, but it is the only thing that “works.”

“My ears hurt.”

Walter hits his ears with his fists. His job coach wants to stop and write a behavior plan for “not hitting.” Weeks later, at a scheduled doctor’s appointment, it was learned that Walter had a low-grade ear infection. Anti-biotic cleared up the infection and Walter has stopped hitting his ears.

Obviously there are many needs that a person may be conveying with her behaviors. A single behavior can “mean” many things. The important point is that difficult behaviors do not occur without reason. All behavior, even if it is self-destructive, is “meaning-full.”

Ask the person (and/or the person’s supporters) what he or she needs to be happy. Find out whom he or she counts on in a pinch. How often does he or she see loved ones and friends? What are his or her favorite activities? Since many people are experiencing physical and/or psychiatric distress, it is also important to know something about the person’s physical and emotional health.

Does the person have a way to let others know what he or she needs and feels? Is the person experiencing physiological or psychological distress? What kinds of medications is he or she taking? Do they help?

Finally, if you are stumped, ask, “Are there times when the person exhibits this behavior frequently?” In addition, “Are there times when the person exhibits this behavior infrequently or not at all?” Answering these two questions can tell you a great deal about the meaning of the person’s behavior. With time, you should be able to see a discernable pattern.

For example, you might find that the person engages in the difficult behavior in the morning hours, but rarely in the afternoon. Ask, “What happens in the morning that might cause the person to behave this way?” or, conversely, “What is happening in the afternoon that causes the person *not* to behave this way?” (Hint: it often has something to do with the things a person is being asked to do, and/or *who* is asking the person to do it).

3. Help the person to develop a support plan.

People who exhibit difficult behaviors are usually subjected to a behavior plan at some point in their lives. It is rare that they are asked if they want a plan, let alone invited to the meetings where one is developed. Instead, strangers (e.g., the agency behaviorist develop a plan who has spent less than two hours “observing” the person)?

Think about how difficult it would be to stop a behavior that a stranger thinks you should stop. It can be difficult enough to stop behaviors we choose to stop (e.g., smoking, excessive eating)!

Instead of a behavior plan to “fix” the person, help the person and the person’s supporters to develop a support plan that reflects a real and authentic life. John and Connie Lyle O’Brien suggest the following questions for building a support plan. Note how different these questions are from those we typically ask, such as “How can we reduce this person’s problem behaviors?” or “How can we manage this behavior?”

1. *How can we help the person to achieve health and well-being?*
2. *How can we help the person to maintain his or her relationships and make new ones?*
3. *How can we help the person to increase his or her presence and participation in everyday community life?*
4. *How can we help the person to have more choices in life?*
5. *How can we help the person to learn skills that enhance his or her participation in community life?*
6. *How can we help the person to make a contribution to others?*

The team can ask, “Is our vision for the person similar to the vision we hold for ourselves and each other? When we think about what the person needs, do we focus on “fixing” deficits or do we think about supporting the person in achieving a *real* life?”

4. **Develop a support plan for the person's supporters**

Just as it is simplistic to treat a person's behavior without understanding something about the life the person lives, it is simplistic to develop a support plan without considering the needs of the person's supporters.

Many of our school and human service delivery systems are based on the idea that a few people with greater knowledge and power should bestow care and skills to a larger number of people with lesser knowledge and power. "Success" is based on compliance or obedience. A person who engages in difficult behaviors presents a real threat to a caregiver or teacher whose competence is being judged by this "compliance/obedience" yardstick. The caregiver often expends great energy trying to suppress the person's behavior in order to maintain "competence" (in many of our workplaces it is acceptable to share knowledge but not to share power).

Punishment or the fear of punishment (coercion) may be the primary means of "motivating" staff. Many approach each day with a mixture of fear and dread. If they make a mistake, they could be "written up," demoted or fired. If they try something new, it may violate a policy or procedure. The unspoken message is "do as you are told" or suffer the consequences. Many of our human service environments are "toxic" with fear.

It is in this context that human service workers are "told" to be supportive. Workers are trained in positive approaches when the underlying organizational message is "maintain obedience." Under the deadening weight of these systems, even the kindest and most respectful of caregivers may begin to exhibit their own difficult behaviors. They become excessively controlling and resistant to change. They begin to believe that individuals are worthy of their labels and "beyond hope." They may even resort to forms of punishment procedures that the average citizen would find repulsive and unacceptable.

Take time with your colleagues to develop support plans for each other. For example, what can you do to increase each other's level of safety and comfort when someone is behaving dangerously? What can you do to have more fun at work? How can you have more control over your schedule and input into decisions? How can managers better support you?

A fundamental question is, "If *you* stopped responding to the person's difficult behavior the way you do now, who would *you* be?"

5. **Don't assume anything.**

It is easy to make the mistake of underestimating a person's potential because of her labels or because she has failed to acquire certain skills. This is a tragic mistake.

I have worked in the field for 15 years and am less confident in my ability to predict how much a person understands with every passing day. Recent developments make clear the folly of making predictions about a person's potential based on diagnostic labels or past performance. Hundreds of thousands of people deemed "unfit" for society have left our institutions and now live in the community. One hundred and twenty thousand people who were assessed

“unemployable” because of the severity of their disability now work and pay taxes thanks to supported employment services.

The very definition of mental retardation itself has changed in recent years. The American Association for Mental Retardation (AAMR) has recently overhauled the definition. Gone are pessimistic predictions that saw little hope for the “severely retarded.” The new definition eliminates such terms altogether and emphasizes the importance of our supports. In short, an individual’s potential depends largely upon the adequacy of his/her supports rather than some inherent flaw or “defect.”

Always remember that people are people first. Labels tell us nothing (in any real sense) about how we can be supportive. We need not forget the person’s problem behaviors, but we must understand that people have gifts and capacities that eclipse our labels (or, as Herb Lovett has said, our “clinical accusations.”) Always remember to speak directly to the person and explain things as clearly as you can, even if the person’s labels suggest that he cannot understand (at the very least the person will understand the tone of your voice). Never speak about the person as if he were not in the room.

6. **Relationships make all the difference.**

Loneliness is the most significant disability of our time. Many people with disabilities, young and old, live lives of extraordinary isolation. Some depend entirely upon their families for support. A brother, sister, mom, or dad are the only source of company. Friends are often absent altogether.

All too often, the only relationships people have are with paid staff. Although staff can offer a great deal, they change jobs frequently or take on new responsibilities. The resulting instability can be devastating to someone who is fundamentally alone.

Remember that there are many people in the community who will benefit from knowing the person. Chances are the person has already made someone’s life fuller. Be confident that she or he will make someone’s life richer again and again.

Learn more about personal futures planning and other person-centered approaches to planning.

7. **Help the person to develop a positive identity.**

John Bradshaw writes, “Our identity is the difference about us that makes a difference.”

Many people with disabilities develop identities as “problem people.” They are segregated into “special” programs where they are treated as people who have little to offer. Soon their “treatment becomes a kind of cage to protect them from themselves and others. The real danger is that if enough people begin to think of the person as a “problem,” she will begin to believe it too. We all need to be needed.

Help the person to find a way to make a contribution. Start when the person is young if you can. Giving is a lifelong endeavor. Things as simple as helping with household chores or helping out at church can teach the person that she *can* make a contribution.

Pore over the newspaper and find the “Volunteers Needed” section. Talk to the person about joining an organization with you or with a friend (e.g., Habitat for Humanity, a local food shelter, an environmental group).

Help the person to learn how to support friends (e.g., an invitation to a sleep over, birthday cards, learning to ask, “How are you doing?” or “What’s new?”).

Remember that it is important to overcome the belief that the person has nothing to share. It takes time and determination to help the person and others to see strength and the capacity to give when deficits were all that anyone ever saw before.

8. **Instead of ultimatums, give choices.**

Choice is a powerful alternative to punishment. If the person’s behavior challenges you, help him to find more desirable ways to express the needs underlying the behaviors. Instead of ultimatums, give choices (e.g., “Bill, I know you’re upset. What would help? Would you like to go for a walk? or take a ride? You need a chance to calm down.”)

Allow the person to make decisions throughout the day. If he has trouble making choices, find a way to help. Make sure there are at least three desirable outcomes to choose from. As Norman Kunc has said 1 option = tyranny; 2 options = a dilemma; 3 or more options = a real choice.

Do not assume that helping the person to have more choice means letting him do whatever he wishes. Limit setting is an important and fair part of any relationship. The real question is who is setting the limits and why. If limits are imposed upon the person without their input, and if the limits are part and parcel of a life in which the person is powerless, even your best advice may even be interpreted as one more statement of “do it my way or else,” You can expect a general disregard for your advice if the person on the receiving end of the advice is “out of power.”

Make a sustained commitment to the person and to “fairness” in the relationship. If the person has been on the outside of power for too long, you may need to bend more often than not for a while. The goal is to teach the person that giving is a two-way street.

9. **Help the person to have more fun.**

Fun is a powerful antidote to problem behaviors. People with significant disabilities often live in ghettos of reward. Indeed, it is often this poverty of reward, not a lack of skills that keeps people separate from other community members. Many must endure reward schedules for good behavior. The very few things that they enjoy are used contingently to reinforce compliance (talk about spoiling a good thing!).

Count the number of things the person enjoys, the number of places she likes to go. Ask yourself, “Is the person having fun? Is she experiencing enough joy? Is this an interesting life with things to look forward to?”

Help the person to add to her list of interesting (and really fun) things to do. Spend time in regular community places where people hang out. If you feel compelled to take data on something, take data on the amount of fun you find. Make fun a goal.

10. **Establish a good working relationship with the person's primary health care physician.**

Mark Durand has said, "People tend to get immature when they don't feel well." How often have you experienced a general decline in your mood or your ability to empathize with the needs of others when you do not feel well? When we are sick, we are not ourselves.

Many people who exhibit difficult behaviors do so because they do not feel well. The sudden appearance of behavior problems may be a signal that the person does not feel well. Illnesses as common as a cold or earache can result in behaviors as inconsequential as grumpiness or as serious as head banging.

It is important to establish a working relationship with a good primary health care physician. Although this is easier said than done, the person will, especially if he has difficulty communication, need a doctor who can help him to stay healthy and well.

Remember that physicians, as many other people who grew up in our "separate" society do not always understand (and may even fear) a person with substantial disabilities.

Do not be afraid of telling the person's doctor that you do not understand a recommendation or finding. It is important to get a clear and straightforward answer to *all* of your questions.

Remember too that it is important to go beyond a concept of health as the absence of a disease or illness. "Feeling well" and "being healthy" involves everything from a balanced diet to a good night's sleep. Help the person to achieve a state of "wellness."

10 Things You Can Do To Support a Person with Difficult Behaviors appeared in the Summer/Fall 1997 issue of The Community Journal.

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Understanding Sensory Sensitivities and Developing Supports and Accommodations

Based on the book

*AUTISM: Handle with Care! Understanding and Managing Behavior of
Children and Adults with Autism*

By Gail Gillingham

Arlington, TX: Future Horizons, Inc.
(817) 277-0727, (800) 489-0727, ISBN#I-885477-14-7

Tactile

What Individuals Who Experience Autism Say ...

I was six months old when Mother noticed that I was no longer cuddly and that I stiffened up when she held me. When I was a few months older, Mother tried to gather me in her arms, and I clawed at her like a trapped animal.

Temple Grandin

I never used to like being picked up and cuddled. I screamed as though I was on a roller coaster if anyone tried to pick me up. I also hated it when my teacher, Mrs. Ingram, tried to make me hold my pencil properly or my parents tried to make me do up my laces or shirt buttons. They had no idea of what was wrong with me at the time. In addition, since I thought it happened to everyone, I did not tell anyone. Nevertheless, I found such treatment excruciating... I do not like pressing my lips on spoons or hard glass either.

Darren White

Indications of Tactile Sensitivity

- Rejection of human touch
- Rejection or discomfort to the touch of clothing.
- Sensitive feet
- Avoidance of games that involve tactile contact such as kicking or catching a ball
- Discomfort when sitting in one place for any length of time.
- Genital manipulation or masturbation. Commonly a sign of lack of quality tactile experiences. .
- Sensitivity to extreme temperature changes. Body temperature water can be almost obsessive.
- The mouth is a very sensitive area.
- The tips of the fingers are also very sensitive. So, watch for problems holding things and doing tasks, especially where a firm grip is needed.
- There also may be difficulty in writing.
- There may be a great desire for cleanliness, a dislike for sticky or dirty hands.

Supports and Accommodations

- Control our impulse to touch those for whom we are providing care
- Do not take others withdrawal personally--it may mean protection for them.
- Explore the use of deep pressure and light touch to reduce "pain"
- Lack of touch may be a way of showing respect

Taste

What Individuals Who Experience Autism Say...

I remember sitting at the table and hating dinnertime - staring at my food knowing that it would make me gag if I tried to eat it and that would make my parents mad. Other people constantly teased me about how I ate my food. Kids are supposed to like chocolate, whipped cream and maple syrup; I did not. I do not like vegetables either. Cheese, creams, sauces, casseroles, salads - nothing. I hate being invited out or over to eat -it's never how I like to eat it. People keep telling me I would grow to like other foods, I'm still waiting."

B. Kirby

There are few foods that I can tolerate eating. Usually the ones can eat are soft textured. Italian seems to be the Limit. Sometimes I think it is a wonder that I am still alive.

Thomas McKean

Indications of Diet Sensitivities

- Refusal to eat certain foods.
- An insistence on eating only a limited number of foods.

Supports and Accommodations

- Respect refusal to eat certain foods {e.g., wheat or milk products)
- High protein diet seems cut down the level of agitation.
- Never limit liquid intake; their bodies need it.
- Vitamin B6 and Magnesium supplements seem to help.
- Keep poisonous substances locked safely away. ,
- Fatty, salty diet, especially in the morning, also seems to work well with some individuals.

Auditory

What Individual's Who Experience Autism Say...

She told me she was much more comfortable, that she no longer heard street noises three blocks away, or people flushing their toilets at the other end of the building, or the blood rushing in her veins she had never been able to blowout the candles on her birthday cake because the sound of blowing had been so disturbing. "It sounded like monsters," she said, as had the puffing noise of the drain in the wall. People's breathing had upset her, especially when several adults were in the room.

Why do you think I have so much trouble paying attention in the classroom? I hear everything that goes on every phone call that the principal makes in her office; every single time an eighteen-wheeler truck gears down on the highway three blocks away. I HEAR IT! I HEAR EVERYTHING! I hear people talking outside the school building, and I can understand their conversations. There are so many noises in my head that I cannot concentrate on what Mrs. Weaver tries to say. I cannot focus and pay attention to the teacher's, spoken words -I'm too distracted. In addition, why do you think I

am so tired all of the time? It takes so much energy to pay attention that I am worn out. I TRY SO HARD AND I JUST CANNOT DO It!

Nicholas Bober

Indication of Auditory Sensitivity

- The appearance of deafness
- Grimaces when a sound occurs, or perhaps grimaces for no apparent reason.
- Echolalia, or the parroting back of what you have just said.
- Agitation or withdrawal from people, who talk fast, talk constantly or talk loudly.
- Anxiety around people who have unusual vocal tones.
- Yelling on your part, it will lead to tantrums from them.
- Response to sounds you cannot hear.

Supports and Accommodations

- Never assume individuals with autism are deaf.
- Never shout.
- Never insist they listen to sounds they obviously do not like because you consider it necessary for their development.
- Speak as softly and clearly as possible.
- Do not chatter on and on; do not repeat.
- Give the person time to decipher what you have said.
- Create a sound absorbent environment.

Olfaction

Individuals with Autism say...

... "You liked the smell of certain foods, and hated the smell of others, Georgie, but what about people? And animals? How did they smell? " She looked sheepish. I'll still have trouble, with that," she said. ", Dogs and cats. And smells like deodorant and after-shave lotion, they smell so strong to me I can't stand it, and perfume drives me nuts. I cannot understand why people wear perfume, and I can smell hand lotion from the next room.

Annabel & Georgie Stehli

Indications of Sensitivity to Odor

- Stopping up nostrils with the fingers, covering the nose with the hand or constantly waving one's hand in front of the mouth and nose area.
- Agitation in an environment that has a noticeable smell. (noxious or sweet)
- Breathing through the mouth rather than the nose.

Supports and Accommodations

- Concentrate on the environment, not on the behavior (e.g., don't punish for one plugging nose).
- Keep tissues on hand and offer them. Be aware of odors.
- Minimize perfumed products. Keep the environment clean and dry .Use scent-free products for laundry.
- Monitor interactions with strong scents (e.g., feces) as they may over stimulate.

Visual

Individuals with Autism Say...

"Dr. Marek's kitchen was a nightmare. The kitchen had fluorescent lights and yellow walls the worst combinations ever. Even from the doorway, I could see light bouncing off everything. In my tense state everything climbed to hyper, vision included. There were no whole objects in that room, just shiny edges and things that jumped off the yellow walls like sunshine on water. Dr. Marek wanted me to go in there and be blind. Forget it! .

I stood in the doorway looking at the light, my eyes jumping from half object to half object trying to take things in. Maybe I could relax a bit and pay attention to this person I was supposed to meet. She was Mrs. Marek, a face upon which light danced maniacally, turning her into more of a cartoon than a human being. Welcome to Toon Town, Roger Rabbit. I'd like you to enter this torture chamber I call my kitchen and meet my wife, who is a 3-D cartoon. She just wants you to look at her in pieces, say hi whether you mean it or riot, and treat her like a human being.

"I also remember one Christmas when I got a new bike for a present. It was yellow. I would not look at it. Extra red was added to the color making it look orange and it blurred upwards making it look like it was on fire. My favorite colors were those I could see more clearly than others. I also could not see blue clearly, it looked too light and it looked like ice (imagine the sea on a sunny day, it would look frozen over, in spite of the sun). The bike was painted purple, which I liked better because I could see it more clearly. "

Darren White

Indications of Visual Sensitivity

- Apparent blindness.
- Squinting.
- Sleeping problems.
- Closed eyes, or eyes rolled up so only the whites show. .
- Looking past people or seemingly through people. .
- Pointing directly at something while looking off in another direction.
- Looking off to one side rather than straight ahead while walking, watching TV, or doing task.
- Fear of bright shiny objects, mirrors and often certain colors, or of different color combinations
- Attempts to mold the faces of caregivers. .
- Constantly having to touch the environment (e.g., running hands along the wall as walks!)
- Agitation or refusal to comply when exposed to certain colors.
- Long periods of time spent staring directly into a bright light.
- Finger fiddling in front of eyes, spinning objects, fascination with fans or other moving objects.
- Fascination with spinning objects (tops, lids, wheels of toy cars, records and cassette tapes).
- Fear of heights, stairs, dark tunnels, and movement.
- Rubbing, touching or hitting eyes.
- Agitation in environments that are loaded with visual stimuli, especially moving stimuli
- Agitation in room in which fluorescent lighting just used.
- Poor depth perception (getting on elevators, walking down stairs) or walking over objects without apparently seeing them.

Support and Accommodations

- Never assume person is blind or not looking at you, the task.
- Respect peripheral vision.
- Never force person to look directly at a task.
- Monitor for visual over stimulation (neutralize environment)
- Monitor use of bright lights, bright shiny objects.
- Eliminate fluorescent lights (if possible). .
- Consider colors, or color combination of objects, clothing or a room. .
- Monitor clothes they wear, and what you wear (neutral colors, earth tones seem best).
- Monitor colors in the environment (E.g., papered sections of walls in classrooms).
- Monitor background visual distraction during tasks.
- Utilize dimly lit rooms before bedtime to reduce serotonin production. Sleep in pitch black.
- Do not insist on eye contact.
- Allow person to develop a "visual map" of new areas-when only few people present.

Sensory Processing Differences

Traci Diamond, OTR/L and Teresa Bolick, Ph.D

Sensory functioning refers to the process by which our body perceives ("registers"), manages ("modulates"), and organizes ("integrates") incoming information. In addition to the five senses that we all learned about in school, human beings possess two other sensory systems: the vestibular system, which responds to movement; and the proprioceptive system, which tells us where our body and its parts are in space.

A student must perceive, manage and organize sensory input if he or she is going to participate in everyday life. Many students with autism/PDD have sensory processing differences. In other words, one or more of the processes of sensory perception, management, or organization works inefficiently for one or more of the sensory modalities.

An example of a "simple" task is that of writing one's name at the top of a paper while sitting in the classroom. Such a "simple" task is actually quite complex from a sensory standpoint, as outlined below.

- **The visual system** is involved in seeing the paper, finding where to write the name, perceiving what one is writing, adjusting to the lighting (especially the strobe effect of fluorescent lights,) and recalling visual images of what the letters actually look like.
- **The taste (gustatory) system** is probably not used unless the child is chewing/sucking on something while writing.
- **The smell (olfactory) system** may be involved as a result of the odors of leftover snacks in the trash can, pencil shavings in the sharpener, cosmetics of the adult helping the child, the cafeteria aroma, wet jackets hanging on the hooks nearby, or even the classroom hamster.
- **The hearing (auditory) system** allows the student to hear relevant information such as the instructions given by the teacher or paraprofessional. The student will need to ignore sounds such as peers talking, chairs scraping on the floor, teachers talking in the next room, or his/her own breathing.
- **The touch (tactile) system** includes the feel of the pencil and paper in the student's hand. It also may register distracting input such as the feel of the student's clothing, the hair or baggy sweater of the teacher as he/she leans over to help, the contours of the chair, or the brushing touch of a child passing by the desk.

- **The movement (vestibular) system** allows the child to sit upright in the chair and to maintain an appropriate level of arousal/alertness.
- **The proprioceptive (body position) system** allows the child to maintain position in the chair, stabilize the paper with one hand while writing with the other, handle the pencil with sufficient muscle tension, move the pencil against the resistance of the paper, and stabilize the upper body while moving the hand and fingers. It also allows the child to inhibit movements such as tapping feet, wiggling legs, and wagging the tongue.

Obviously, this simple task is far from simple. Youngsters with autism/PDD find such a task even more challenging than do many of their typically developing peers. As the classroom gets noisier, the "aromas" from the lunchroom become more intense, or the need to scratch that itch grows, the student struggles with managing the sensory overload and completing such a "simple" task.

Over the course of your work, you may hear the people talking about the load of the task. "Load" refers to all of the internal (inside the body) and external (in the activity or environment) stimuli that a child has to manage in a given situation. Sensory dysfunction is often a significant aspect of that load.

*N.H. Summer Institute on Supporting Students with Autism/PDD
in General Education Classes -June 25- 28, 2001*

Sensory Integration

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Children and adults with autism, as well as those with other developmental disabilities, may have a dysfunctional sensory system. Sometimes one or more senses are either over- or under-reactive to stimulation. Such sensory problems may be the underlying reason for such behaviors as rocking, spinning, and hand flapping. Although the receptors for the senses are located in the peripheral nervous system (which includes everything but the brain and spinal cord), it is believed that the problem stems from neurological dysfunction in the central nervous system--the brain. As described by individuals with autism, sensory integration techniques, such as pressure-touch can facilitate attention and awareness, and reduce overall arousal. Temple Grandin, in her descriptive book, *Emergence: Labeled Autistic* relates the distress and relief of her sensory experiences.

Sensory integration is an innate neurobiological process and refers to the integration and interpretation of sensory stimulation from the environment by the brain. In contrast, sensory integrative dysfunction is a disorder in which sensory input is not integrated or organized appropriately in the brain and may produce varying degrees of problems in development, information processing, and behavior. A general theory of sensory integration and treatment has been developed by Dr. A Jean Ayres from studies in the neurosciences and those pertaining to physical development and neuromuscular function. This theory is presented in this paper.

Sensory integration focuses primarily on three basic senses--tactile, vestibular, and proprioceptive. Their interconnections start forming before birth and continue to develop as the person matures and interacts with his/her environment. The three senses are not only interconnected but are also connected with other systems in the brain. Although these three sensory systems are less familiar than vision and audition, they are critical to our basic survival. The inter-relationship among these three senses is complex. They allow us to experience, interpret, and respond to different stimuli in our environment. The three sensory systems will be discussed below.

Tactile System: The tactile system includes nerves under the skin's surface that send information to the brain. This information includes light touch, pain, temperature, and pressure. These play an important role in perceiving the environment as well as protective reactions for survival.

Dysfunction in the tactile system can be seen in withdrawing when being touched, refusing to eat certain 'textured' foods and/or to wear certain types of clothing, complaining about having one's hair or face washed, avoiding getting one's hands dirty (i.e., glue, sand, mud, finger-paint), and using one's finger tips rather than whole hands to manipulate objects. A dysfunctional tactile system may lead to a misperception

of touch and/or pain (hyper- or hypo sensitive) and may lead to self-imposed isolation, general irritability, distractibility, and hyperactivity.

Tactile defensiveness is a condition in which an individual is extremely sensitive to light touch. Theoretically, when the tactile system is immature and working improperly, abnormal neural signals are sent to the cortex in the brain, which can interfere with other brain processes. This, in turn, causes the brain to be overly stimulated and may lead to excessive brain activity, which can neither be turned off nor organized. This type of over-stimulation in the brain can make it difficult for an individual to organize one's behavior and concentrate and may lead to a negative emotional response to touch sensations.

Vestibular System: The vestibular system refers to structures within the inner ear (the semi-circular canals) that detect movement and changes in the position of the head. For example, the vestibular system tells you when your head is upright or tilted (even with your eyes closed). Dysfunction within this system may manifest itself in two different ways. Some children may be hypersensitive to vestibular stimulation and have fearful reactions to ordinary movement activities (e.g., swings, slides, ramps, inclines). They may also have trouble learning to climb or descend stairs or hills; and they may be apprehensive walking or crawling on uneven or unstable surfaces. As a result, they seem fearful in space. In general, these children appear clumsy. On the other extreme, the child may actively seek very intense sensory experiences such as excessive body whirling, jumping, and/or spinning. This type of child demonstrates signs of a hypo-reactive vestibular system; that is, they are trying continuously to stimulate their vestibular systems.

Proprioceptive System: The proprioceptive system refers to components of muscles, joints, and tendons that provide a person with a subconscious awareness of body position. When proprioception is functioning efficiently, an individual's body position is automatically adjusted in different situations; for example, the proprioceptive system is responsible for providing the body with the necessary signals to allow us to sit properly in a chair and to step off a curb smoothly. It also allows us to manipulate objects using fine motor movements, such as writing with a pencil, using a spoon to drink soup, and buttoning one's shirt. Some common signs of proprioceptive dysfunction are clumsiness, a tendency to fall, a lack of awareness of body position in space, odd body posturing, minimal crawling when young, difficulty manipulating small objects (buttons, snaps), eating in a sloppy manner, and resistance to new motor movement activities.

Another dimension of proprioception is praxis or motor planning. This is the ability to plan and execute different motor tasks. In order for this system to work properly, it must rely on obtaining accurate information from the sensory systems and then organizing and interpreting this information efficiently and effectively.

Implications: In general, dysfunction within these three systems manifests itself in many ways. A child may be over or under responsive to sensory input; activity level may be either unusually high or unusually low; a child may be in constant motion or fatigue easily. In addition, some children may fluctuate between these extremes. Gross and/or fine motor coordination problems are also common when these three systems are dysfunctional and may result in speech/language delays and in academic under-achievement. Behaviorally, the child may become impulsive, easily distractible, and show a general lack of planning. Some children may also have difficulty adjusting to new situations and may react with frustration, aggression, or withdrawal.

Evaluation and treatment of basic sensory integrative processes is performed by occupational therapists and/or physical therapists. The therapist's general goals are: (1) to provide the child with sensory information which helps organize the central nervous system, (2) to assist the child in inhibiting and/or modulating sensory information, and (3) to assist the child in processing a more organized response to sensory stimuli.

For further information, contact: Sensory Integration International,
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Sensory Processing in the Autistic Population: Identifying Problems and Applying Theory

What is Sensory Integration?

Sensory integration is the brain's ability to interpret and organize information from the senses-vision, hearing, taste, smell, touch, balance gravity, position and movement. Problems in sensory integration may result *in* learning problems, hyperactivity, distractibility, poor coordination, poor balance, and behavior problems, and may contribute to difficulties at school, at home, at work and in play. (from: the mission statement of Sensory Integration International)

RATIONALE FOR USE OF SENSORY INTEGRATION TO IMPROVE PERFORMANCE IN EDUCATION

1. The use of sensory integration is theoretically an appropriate technique to enhance learning and behavior in autism.

Autistic children may demonstrate over reactions to sensation such as finding some sounds or touch painful. Other children may have difficulty with registering movement as demonstrated by repeated spinning of themselves without getting dizzy or not responding to pain as seen with self injurious behavior (SIB). All learning is through sensation, whether it be the visual sense for reading, processing auditory directions, or using the sense of touch to guide a pencil for writing.

2. Autism and sensory integration have a neurobiological basis.

Dysfunction in processing of sensory input has long been recognized as a symptom in autism. (1) Sensory disturbances are required diagnostic criteria for eligibility for special education services under the autistic category. (2) Recent findings from magnetic resonance imaging (3,4) and positron emission tomography scans (5) support an organic basis for autism. Sensory integrative treatment is an approach, which has a neurobiological theoretical base.

3. Sensory integrative treatment seeks to fulfill sensory drives that create a lack of goal directed activity (self stimulation) in autistic children.

The central nervous system may be craving certain types of sensory input due to neurobiological problems. Rather than engaging *in* activity a child with autism may rock. This would be considered as a drive for linear vestibular (movement) input, and the therapist would find ways to satiate the need. This would improve both functional performance and ability to engage in goal-oriented activity. Some types of activity indicate the child is over stimulated and calming activity such as deep pressure could be initiated.

4. Recent evidence has validated the view of the nervous system as a constantly changing system, which is influenced by the environment. (6)

The sensory integrative approach strives to provide a just right environmental challenge to the child. Studies have demonstrated that patients recover at greater rate and to higher levels when they are engaged in motivating activity rather than those involved in a typical exercise program with repetition. (7) Also, plasticity is greater when the individual is in a state of homeostasis, or calm. (8) Sensory

integrative treatment is important in calming, so that changes in the autistic child's function are easier to make. Plasticity is greater in the sensorimotor stage of development or in children ages seven and under.

5. Some studies support the use of sensory integrative treatment procedures with autistic children to improve behavior.

Ayres and Tickle (9) studied a group of autistic children. They found children who were hypersensitive to input to be responsive to sensory integrative treatment. Temple Grandin (10), diagnosed as autistic in preschool years stated that tactile and vestibular stimulation had helped her calm her over reactive responses to environmental stimulation. A case study of M (11), an autistic child who began sensory integrative treatment at age 3.5 years, slept only 5-6 hours per night and spent hours screaming and throwing tantrums. After two years of sensory integrative treatment, tantrums disappeared and her skills had improved in self-care, coordination, language and social responsiveness. An autistic child observed during occupational therapy sessions had increased speech sounds with self initiated vestibular stimulation. (12) After a year of therapy, a 14 year old autistic/retarded teenager had a 50% decrease in head banging, hitting, plate throwing and hair pulling. (13) A 13-year-old non-verbal autistic boy with severe mental retardation exhibited continuous self-injurious and self-stimulatory behaviors. During the observation periods when the adolescent received deep pressure from the woven elastic bandages he wore on his extremities, he exhibited less self-stimulatory behavior, no self-injurious behavior and an increase in the number of interactions with others. Deep pressure, tactile and vestibular stimulation appeared to have a more marked effect in calming on days when the SIB and self-stimulation were the highest. (14) Case studies of autistic children support the effectiveness of treatment based on sensory integration theory. Improvements noted include improved sleep patterns, decreased screaming, improved self-care, improved coordination, increased language sounds, decreased self-stimulation and decreased SIB.

Sandra D. Glovak 10/31/96 Sensory Systems Clinic, P.C.

SENSORY DIET

Prepared by Christy E. Yee, OTR

Definition of Sensory Diet: "The daily total of sensorimotor experiences needed by a person to adaptively interact with the environment." -Hanschu-

Purpose of the Program: To assist child *in* self-regulation. Unusual behaviors may be a result of poor regulation from the nervous system.

Goal: To utilize sensorimotor strategies to attain an appropriate state of readiness (calm alert state) to learn during the day.

Types of input utilized: Vestibular, Proprioceptive, Oral Motor, and Tactile

DEFINITIONS:

1. VESTIBULAR:

The vestibular system affects balance, muscle tone, equilibrium responses, the ability to use both sides of the body together, coordination of the head, neck and eye movements, auditory language, and plays a role in arousal. Vestibular stimulus involves the movement of head through space and can include linear, angular, orbital, or rotary directions.

Considerations: Input typically lasts 12-14 hours after 15 minutes of movement. Never force vestibular input; enable individual to control speed, direction of input, and stopping. Peripheral vision is alerting. Watch for undesirable side effects such as flushed face, nausea, decreased balance.

2. PROPRIOCEPTION:

The proprioceptive system gives the nervous system input on the position of muscles, joints and tendons. This is important as it provides the person with information on how far to reach, how much pressure, where we are in space, and what our body scheme is. Proprioceptive stimulus involves movement, compression, or stretching at a joint.

Consideration: Special care for individuals who have poorly articulated joints, joint deformities, or arthritic joints; give extra support and stop if there is pain or discomfort. For individuals who have low tone or too much slack in joints give slow stretch or alternate compression and stretch in rhythmic pattern and avoid quick changes of joint position. Pay attention to proper joint alignment. Be aware of poor reflex integration and lack of protective responses. The strongest, fastest, and most dramatic affects are activities which involve the spine, head/neck, or hip joints. Heavy work tasks are great for proprioceptive input; add weight, promote reaching and stretching during these activities.

3. ORAL MOTOR:

Oral motor skills are used to regulate state of arousal. Infant and toddlers use sucking as a way to fall asleep or calm down; children and adults may use the oral motor area to concentrate (chew gum, suck through straw or bite nails), and comfort (foods).

Considerations: Oral motor activities must be constantly and consistently monitored for safety. Be aware of food and non-food allergies when considering oral motor activities.

4. TACTILE:

The tactile system is designed to alert us to threats, gives us body boundaries, and combined with proprioception, gives us our basis for body image.

Considerations: Light touch is easily misinterpreted as pain and can cause the nervous system - to go onto a state of fight or flight (autonomic nervous system; sympathetic). Always provide deep pressure when in contact with the child.

GENERAL GUIDELINES:

1. HOW TO KNOW WHEN IT IS APPROPRIATE TO GIVE VESTIBULAR INPUT:

Vestibular input can be placed in two different categories **calming and excitatory**.

Vestibular input that is calming is most often utilized when a child is over-aroused (decreased attention, moving around the room with little or no purpose, unable to follow simple and familiar directions, self-abusive behaviors, self-stimulating behaviors). Vestibular input that is calming are those that provide linear (back and forth) movements on suspended equipment or those that provide a slow rocking motion. Proprioceptive activities can be used with calming vestibular activities to further help the child to calm.

A therapist most often utilizes excitatory vestibular input when a child appears under aroused. (i.e. listless, floppy, unmotivated). Vestibular activities that are excitatory are those that involve fast movements on suspended equipment and may include quick changes of direction and speed; as well as those activities that have a rotary or orbital movement component.

Contradictions to excitatory vestibular input:

It is with extreme caution that excitatory input is imposed on a child by a therapist. Some children who appear under-aroused are actually in a nervous system state known as **shutdown**. These children are so over-aroused that their nervous systems, as protection, have turned them “off” to input and they appear quiet, listless, and unmotivated. Excitatory input at this stage can cause deeper levels of shutdown. For the purpose of this sensory diet, **imposed excitatory vestibular input should never be given.**

Excitatory vestibular that is driven by the child should be monitored carefully for the following:

1. Is this a child that needs excitatory input or is he or she already too excited to follow directions?
 - If already too excited -impose proprioception
 - If child-driven excitatory input is appropriate monitor child for symptoms of over load:
-Nausea/vomiting - Pupils dilated - Dizziness - Flushed or pale skin

Stop activity at first sign of above symptoms and give calming proprioceptive input.

A child that is truly under-aroused and not seeking child-driven excitatory input to increase arousal state should be allowed to bounce on a ball or trampoline quickly to help alert.

Stimulating environment with lights on and upbeat music will also help to increase arousal level. Also, consider increasing the volume and speed of your voice and your own arousal level to help stimulate the child.

2. HOW TO KNOW WHEN IT IS APPROPRIATE TO GIVE PROPRIOCEPTIVE INPUT:

Much like vestibular input, proprioceptive input can also be excitatory or calming. Excitatory proprioceptive activities are activities that have an excitatory vestibular component (like fast bouncing on a ball to increase muscle tone) or proprioceptive activities that are done in an excitatory (stimulating) environment. For example, one child jumping on a trampoline can be calming; three children jumping together on a trampoline can be excitatory. Excitatory proprioceptive activities should be utilized for an under-aroused child that is not seeking child-driven excitatory vestibular input (as previously mentioned under General guideline #1).

Remember:

1. If you are unsure if a child is in shut down or truly under-aroused give calming input first.
2. If the child continues to be inactive move to more excitatory proprioceptive: activities.
3. If child becomes excited by calming proprioceptive activities, they are moving out of shutdown into over aroused, continue to impose calming activities until the child is in a state of calm, alert, and ready to work.
4. Most proprioceptive activities are calming and should be imposed if a child is over-aroused (decreased attention, moving around the room with little or no purpose, unable to follow simple and familiar directions, self-abusive behaviors, and self-stimulating behavior).
5. Calming proprioceptive input and calming vestibular input can be utilized together or independently.

3. HOW TO KNOW WHEN IT IS APPROPRIATE TO GIVE ORAL MOTOR INPUT:

As previously mentioned, oral motor activities help children and adults to calm, focus, and concentrate, and can be utilized either immediately before fine motor task or during fine motor tasks to help the child come to midline and concentrate.

Experience has taught that oral motor activities (like lollipops) may also become a distraction (as the child pulls the lollipop in and out of mouth usually with dominant hand and therefore stops the fine motor activity). If food is the oral motor activity of choice, choose foods that remain in the mouth to help decrease distractions.

4. HOW TO KNOW WHEN IT IS APPROPRIATE TO USE TACTILE INPUT:

Tactile input can also be **excitatory** or **calming**. Generally speaking, light touch (including tickle, itch, scratch) is excitatory, especially to a sensory defensive child, and should be avoided at all times.

Tactile input that is calming involves firm pressure touch and is commonly called "brushing" or "Wilbarger Technique." *It is highly recommended that you learn this technique directly from Patricia Wilbarger or a professional trained by Ms. Wilbarger.*

Activities that have a tactile component are frequently utilized in therapy as part of a "multisensory approach." By bringing in a tactile component, a child is more likely to remember and sequence the activity more efficiently. Media's like shaving cream, rice, finger paint, can also help a child with decreased attention to concentrate. Making letters in shaving cream is more motivating, for example, than familiar pen and paper activities and most times a more effective learning tool. However, a child with sensory defensiveness may not tolerate these tactile activities and instead they can over excite the child. Follow a child's lead with tactile activities. If not tolerated, a firm pressure touch protocol should be utilized first, to help reduce sensory defensiveness.

SUMMARY:

1. Assess the child's current state of arousal, by observing motor behaviors: Under-aroused, over-aroused, or calm alert. Calm alert is used to refer to the optimal state of arousal to perform work. .

- If under-aroused (not shutdown) impose excitatory proprioceptive activities, monitor child-driven excitatory vestibular input, provide a stimulatory environment.
- If over-aroused, provide calming proprioceptive activities and/or calming vestibular activities and/or firm pressure touch protocol.
- If in shut down, impose calming proprioceptive and/or calming vestibular input.

Remember, if unsure if child is under-aroused or in shutdown impose calming activities first and then reassess the state of the nervous system.

2. If calm alert, child is ready to perform fine motor tasks, sequencing/praxis activities, and new learning can occur.

3. Usually gross motor activities lead into fine motor activities.

ACTIVITIES:

The following is a list of vestibular, proprioceptive, oral motor and tactile activities that can be used throughout the day to help prepare a child's nervous system for work. It is by no means a complete list of activities and not all activities may be appropriate for all children or for a particular environment. Use what experience has taught you works for the child and his or her environment, add, and delete activities as needed.

Some activities have components of more than one sensory input (bouncing for example has both a vestibular component and a proprioceptive component). You may find an activity duplicated under two or more sensory inputs. In most cases, an activity will be found under that sensory input that is its biggest component per discretion of the author.

Excitatory vestibular activities will not be listed as it is not appropriate for this sensory diet to impose such activities (please see General Guidelines #1 for more information).

1. CALMING VESTIBULAR ACTIVITIES (V)

- V-1 Rock in rocking chair
- V-2 Scrub floor (real or pretend)
- V-3 Run/Jog
- V-4 Ride bike
- V-5 Dance
- V-6 Do yard or house work
- V-7 Stretch/shake body
- V-8 Rolling (make sure head is uncovered and clear)
- V-9 Swinging- platform, hammock, net, horse, inner tube, tire, glider, playground swing in linear direction
- V-10 Scooter board in linear direction
- V-11 Wagon rides
- V-12 Bounce on mini trampoline, cushion, mattress (with supervision)
- V-13 Marching
- V-14 Imitate head movement
- V-15 Movement activities/exercise
- V-16 riding on moving equipment (wheelchair, elevator, car)
- V-17 Climbing up and down steps
- V-18 Therapy ball/hippity hop ball- bounce, lay over it and roll (with supervision)
- V-19 Roller skating/blading
- V-20 Sledding
- V-21 Lie on couch or chair with head down and look up at the ceiling. Pretend the ceiling is the floor!
How calm and clean it looks! (Having head lowered calms - having the head erect alerts.)
- V-22 Slide and climb on playground equipment
- V-23 Jump rope
- V-24 Log rolling on carpet, grass, flat surfaces, or down inclines
- V-25 Pretend swimming on carpet or floor mat with textures trying to pull or push self around

2. PROPRIOCEPTIVE ACTIVITIES (P)

Remember proprioceptive activities can become excitatory when coupled with a strong vestibular component or a stimulating environment.

P-1 Steam roller, roll large ball over and back of child, or another person roll over top of back (gently)

P-2 People sandwich: children lying on top of each other can add blankets or furniture cushions or pillows or bean bags to the sandwich.

P-3 Play catch with large ball or heavy ball

P-4 Horseback riding

P-5 Snow angel- begin this exercise by lying down on the floor. Keep your toes pointed toward the ceiling as you slide your legs out to the side. Do not let your legs roll so that your feet point out to the side. Now pull your legs together (but do not let them roll so your feet point in.)

P-6 Hand pressed together

P- 7 Table pushes

P-8 Chair pushups

P-9 Chair pushes

P-IO Wall pushes with shoulders

P-11 Wall push with back

P-12 Wall push with arms

P-13 Theraband stretches

P-14 Therapy putty or modeling clay

P-15 Neutral warmth -such as snuggling in a blanket

P-16 Slow back stroking with firm pressure or constant firm pressure on back with no movement.

P-17 Weighted backpack, fanny pack, wrist weights, or weighted vest at 20-30 minute intervals.

P-18 Heavy work activities -vacuum, moving furniture, digging in the garden

P-19 Pushing or carrying heavy objects -wagon, shopping cart, grocery bags, laundry basket, books, etc.

P-20 Bar on playground that he/she can hang from

P-21 Stacking chairs at the end of the day

P-22 Weight bearing activities, i.e. working over a chair or wedge while on stomach

P-23 Animal Walks

A) Frog jump -Squat on the floor, placing hands on floor in front of you. Move both hands forward, then bring feet up to hands in jumping motion (remain in squatting position)

B) Bear Walk -With hands and feet on floor, move right arm and leg forward simultaneously, then move left arm and leg. If this is too difficult, try it on hands and knees.

C) Inchworm -Squat on floor with hands in front. Keeping feet stable, walk hands forward as far as you can so that you are stretched out. Then keep hands stable and walk feet up to hands back to squatting position.

D) Elephant walk -Bend over with arms dangling toward floor. Clasp hands together to form trunk. Maintain position while walking, swinging trunk from side to side.

E) Kangaroo jump -Squat on floor, hands at sides, raise up and jump forward, sinking back into squatting position as you land.

F) Crab walk -Lean back and put hands on floor (supine with buttocks off floor) walk backwards, using hands and feet alternately.

G) Duck walk- Squat on floor with hands at sides. Remain in position while walking (waddling) forward.

P-24 Cooking- making ice cream with a hand crank, churning butter, kneading bread. The planning as well as the activity are good for organizing and sequencing, and the end product is very rewarding

P-25 "Stack em up and knock em down"

Use taped up cardboard shoeboxes, used spice containers, cereal boxes, wood, or plastic blocks. Have child stack blocks from various positions i.e. standing, side sit, half kneel, cross leg sit, kneel stand, side laying, hand and knees, squat, prone on elbows, sitting on small ball or adult's lap.

Find various sizes and weights of balls to throw and kick to knock down "tower" using the different positions listed above.

Add sand to some of the boxes to add variety and challenge.

Have child stack from biggest to smallest box and heaviest to lightest box.

P-26 Gardening is a great sensory experience. Some may enjoy covering seeds with dirt, digging, using a watering can, or moving dirt in a wheelbarrow from one place to another.

P-27 Car wash -all you need for this is a bucket of water and a sponge. Your child can help wash/wipe (good for range of motion and coordination) your car or bike/kiddy car, etc. Let them try operating the nozzle on the hose to rinse.

P-28 Wash table, chairs, blackboard

P-29 Hot dog game -Have the child *lie* on stomach: rub arms, legs, back. Roll the child up snugly in a blanket, and then rock gently with one hand on child's shoulder, other on hip. You can hum or sing with rhythm of the movement.

P-30 Wheelbarrow walk -hold you child's legs securely while they walk on their arms.

P-31 Jump up and down in place. Jump rope.

P-32 Play wrestling.

P-33 Play Rock of Gibraltar by getting down on all fours position next to each other and trying to push each other over.

P-34 Martial arts with appropriate discussion with teacher.

P-35 Tug-of-War.

P-36 Crawling (army crawl or on "all fours" through and/or over an obstacle course

P-37 Playing in a ball pit

P-38 Pushups -Lie down on your stomach with your body *in* a straight line and your hands flat on the floor next to your shoulders. Push down and lift you body up with you arms, Try to keep your body stiff as you do this. If you can't do a pushup with your body stiff, then lift your shoulders first, or bend your knees as you come up so you end up on your hands and knees.

- P-39 Bear hugs (full body)
- P-40 Squeeze toys
- P-41 Sanding wood
- P-42 Sit on hands or feet
- P-43 Climbing rope, suspended ladder, or stairs.
- P-44 Swimming
- P-45 Tap toe, heel, foot, in sitting
- P-46 Therapy ball/hippity hop ball for bounce
- P-47 Scrub floor (real or pretend)
- P-48 Joint compressions as part of Wilbarger technique -firm pressure touch protocol
- P-49 Vibration- Vibration runs on the same pathway in the nervous system as conscious proprioception and therefore can be calming, However, vibration has an element of light touch that can be noxious to the sensory defensive child. Let the child lead vibration activities, Vibration activities include:
 - A) Vibrating hand held toys
 - B) Massagers/pillows
 - C) Electric toothbrush
 - D) Vibrating pens and electric scissors
 - E) Vibrating games (“Cut it out” and “Bed Bugs”)

CONTRAINDICATION FOR VIBRATION: Low vibration: can be nauseating-keep batteries charged and replace frequently.

3. ORAL MOTOR ACTIVITIES (O)

- 0-1 Blowing bubbles
- 0-2 Blow Ping-Pong or cotton ball across table with straw.
- 0-3 Tugging/biting washcloth, therapy tubing.
- 0-4 Crunchy snacks.
- 0-5 Blow toys, i.e. windmills, Kazoos, whistles
- 0-6 Blow up balloons
- 0-7 Chewing gum
- 0-8 Vibrating toothbrushes
- 0-9 Resistive sucking- i.e. sports bottle, drink boxes, straw, crazy-straws, thicker liquids
- 0-10 Foods: popcorn, crackers, bagel, beef jerky, fruit rollups, tootsie rolls, starburst fruit chews, and pretzels
- 0-11 Chewing crushed ice, fruit (non-sugar) Popsicles, frozen bananas
- 0-12 Chew on coffee swizzle sticks
- 0-13 Suck on sugarless hard candy
- 0-14 Suck on sugarless gummy candy
- 0-15 Suck on sugarless jawbreakers
- 0-16 Slow, deep breaths; about twenty

REMEMBER: Monitor for safety and always check for food and non-food allergies.

4. TACTILE ACTIVITIES (T)

T -1 Rub child's body all over "With towels.

T -2 Rub lotion or powder on child while identifying body parts.

T -3 Pretend to paint body with clean paintbrush, then rub part off with towel.

T-4 Water play -pouring water on child.

T -5 Find hidden shapes and objects (i.e. small game pieces, coins, buttons) in dry beans or rice in a tub or container

T -6 Playing with foam soaps in bathtub.

T -7 Blowing bubbles and "popping them".

T-8 Papier-mâché

T-9 Make collages using fabric pieces, yarns, and papers

T-10 Squeeze cheese in can dispensers~ squeeze in fingers and eat.

T-11 Feely-Meely game- use bag or box filled with a variety of objects, then reach in and try to identify.

T-12 Chalkboard: cover with chalk, and then rub out objects, numbers, letters, and shapes. One could also use chalk on carpet squares -then "erase" with hands for additional tactile input.

T-13 Soap paint on body (available at children's toy stores).

T-14 Sandbox play -May also use container of dried beans, peas, macaroni noodles and Styrofoam packing balls.

A) Hide toys throughout box and have child find them, i.e. parts to a puzzle, game pieces, stacking rings, pop beads, then have child complete the task, game puzzle, etc.

B) Place cups, bowls, and spoons in box and have child scoop, pour, and spoon sand from one container into another. Add water to double the challenge and fun.

C) Allow child to play in sandbox "With only shorts on to get good tactile input all over body. Encourage weight bearing positions on hands/knees, prone on elbows, kneel stand to give additional tactile stimulation.

T-15 Pudding and Finger Painting or shaving cream

- Tack white trash bag to ground or table

- Place child in swimsuit on a warm day.

- Place various colors of water-soluble finger paint or pudding on plastic surface and let your child go to it.

- Encourage making lines, circles, squares, faces, houses, etc.

- Add dried beans, rice, sand, and noodles to vary texture

- Make finger or feet prints on paper

- Wash off outside with water hose or sprinkler

T-16 Coloring with crayons on sandpaper

T -17 Shaving cream on bathtub wall

T-18 Dot spot-put "dots" of powder or chalk on child and have him/her rub it off

T-19 Wilbarger Technique -Firm pressure touch

T-20 Fidget with a Koosh ball or other small tactile toys.

T-21 WATER PLAY

- A) Identify body parts when rinsing sand off you.
- B) Just sit and play at the waters edge. Just letting the waves come up and cover your legs, watching the water rush back to the lake is not only fascinating but a great tactile experience.
- C) Swimming or pre-swimming motions are excellent for building up muscles as well as maintaining range of motion and overall endurance. This also helps the child learn to coordinate both sides of the body.
- D) Playing motorboat is fun and good for those children who need to strengthen their trunk muscles; support child several ways i.e. one arm under the child's armpits and the other under his/her hips, both hands on each side of the child's underarms. Place the child on the surface of the water on back or tummy and move through the water in circular movements, as the child feels more comfortable, you may hold his forearms or hands and pull through the water. (Blow "raspberries" to make a motor sound while doing this.)
- E) Ball or Frisbee is also fun in the water and good exercise for the shoulders and arms.
- F) Try throwing stones or shells into the water.
- G) Playing at sink in cold or cool water. Look for hidden objects -pretend you are at the North Pole. Use variety of objects, such as textured dish scrubbies, "octopus" soap holders.

T -22 PLAY DOUGH ACTIVITIES

- A) Pinch off small pieces between thumb and index finger
- B) Roll out long snakes on the table or between palms.
- C) Make different size balls of play dough on the table, between two palms, between two fingers in one hand.
- D) Use rolling pins and cookie cutters to cut out shapes.
- E) Place pegs, beads, blocks, and puzzle pieces to pick out and complete.
- F) Add objects to add texture i.e.: raisins, nuts, and rice.
- G) Make bracelets and rings to place on hands and feet.

PLAY DOUGH RECIPE 1-cup flour 1-cup water

1 cup flour
½ cup of salt
2 tsp. Cream of tartar

1 cup water
1 Tbsp. Cooking oil
Food coloring

Mix all ingredients and stir constantly over medium heat. While stirring, add food coloring to desired color. Mixture will quickly turn into dough-like substance and form a ball. Take out of pan and knead with fingers. Store in an airtight container or plastic bag.