Strategies to Support Adults with Autism Spectrum Disorder

Jenny Besenski
Outline

* Autism Spectrum Disorder – What is it?
* Strategies to Support Adults with ASD.
  * Social Interaction.
  * Sensory Processing.
  * Communication Challenges.
  * Visual Supports.
* Resources.
What is Autism Spectrum Disorder?

* [https://www.youtube.com/watch?v=4mh75_uouR8](https://www.youtube.com/watch?v=4mh75_uouR8)
**What is Autism Spectrum Disorder?**

- **Autism Spectrum Disorder (ASD),** is a complex lifelong neurodevelopmental disorder that typically appears within the first three years of life.

- ASD affects one’s brain development and how the brain processes information.

- ASD is considered a *spectrum disorder*. Thus, individuals with same diagnosis of ASD can be vastly different from one another in their intellectual ability, severity of language problem and degree of progress.
What is Autism Spectrum Disorder?

* Individuals with autism will have difficulties in social behaviour, language and communication skills and unusual behaviours and interests.

* ASD touches every aspect of one’s interaction with his or her world, involves many parts of the brain and undermines one’s social responsiveness, ability to communicate, and feelings for other people.

* https://www.youtube.com/watch?v=JnylM1hl2jc
What is Autism Spectrum Disorder?

- Communication Skills
- Restricted Interests
- Repetitive Behaviours
- Social Interaction
What is Autism Spectrum Disorder?

DSM-IV Diagnostic Criteria

Communication Impairment and Developmental Delay
Cognitive-Behavioral Stereotypy
Asperger’s Impairment in Social Interaction
Autism

DSM-IV diagnostic criteria. Diagnostic distinctions between Asperger’s disorder and autism are shown above.
Prevalence of ASD

* ASD is reported to occur across all racial, ethnic, and socioeconomic groups worldwide.

* ASD is almost 5 times more common among boys (1 in 42) than among girls (1 in 189).

* Although girls are less often affected by ASD than boys, when they are affected, they tend to have more severe intellectual impairments.
* Studies in Asia, Europe, and North America have identified individuals with ASD with an average prevalence of about 1%, or 100 per 10,000 individuals. A study in South Korea reported a prevalence rate of 2.6%.

* The Canadian prevalence of ASD is estimated to be as high as 1 out of 93 individuals (according to recent findings from the National Epidemiologic Database for the Study of Autism in Canada).

* Latest CDC stats state 1 in 68 children will be diagnosed as on the Spectrum.
Many causes for the apparent increase in ASD have been proposed – vaccines, mercury, diet, caffeine, antibiotics, allergies, environmental pollutants and electromagnetic radiation – but none have been scientifically substantiated to date.

However, it seems like that most (if not all) of the rise in prevalence is caused by a greater awareness among parents & professionals, a broadening of definition of ASD over the years, greater recognition of milder forms of ASD, changes in diagnostic criteria and categories, diagnostic substitution (the number of children receiving special education under diagnostic categories) and better case-finding methods.
Possible Causes of ASD

* Genetics.
* Problems in Early Development.
* Brain Abnormalities.
Genetic Influence

* Studies have shown that among identical twins, if one child has ASD, then the other will be affected about 36-95% of the time. In non-identical twins, if one child has ASD, then the other is affected about 0-31% of the time.

* Parents who have a child with ASD have a 2%–18% chance of having a second child who is also affected.

* These findings indicate that the heritability of an underlying liability for ASD maybe as high as 90% and suggest that almost all the variance in the expression of ASD can be attributed to inherited genetic factors.
Problems in Early Development

- Health problems during pregnancy or just after birth.
- Older parents have a higher risk of having a child with Autism.
- Premature babies or babies with a lower birth rate have a higher risk of Autism.
- These problems in early development suggest that fetal or neonatal development has been compromised and may be a contributing factor to ASD.
Brain Abnormalities

- Atypical growth of gray and white matter.
- Brain region development at abnormal rates.
Strategies to Support Adults with ASD

- Social Interaction.
- Sensory Processing.
- Communication Challenges.
- Visual Supports.
Social Interaction

Volunteer Please!

Ooo! Ooo!
Me! I'll do it!
Pick me!
Deficits in social-emotional reciprocity range from:

- Abnormal social approach.
- Breakdown in normal back and forth conversation.
- Reduced sharing of interests, emotions and affect response.
- Total lack of initiation of social interaction.

https://www.youtube.com/watch?v=_WSQLXVtTQg
Deficits in nonverbal communicative behaviors used for social interaction range from:

* Poorly integrated- verbal and nonverbal communication.
* Abnormalities in eye contact and body-language.
* Total lack of facial expression or gestures.
Deficits in Social Interaction

- Deficits in developing and maintaining relationships, appropriate to developmental level (beyond those with caregivers) range from:
  - Difficulties adjusting behavior to suit different social contexts.
  - Difficulties in sharing imaginative play.
  - Difficulty in making friends.
  - Absence of interest in people.
Individuals with ASD may seem indifferent to others. They may:
* Prefer being alone.
* Resist attention or passively accept hugs.
* Fail to seek comfort.
* Fail to respond to affection or anger in a typical way.

Research suggests that individuals with ASD can form attachments, but their expression of this attachment is unusual and difficult to “read”.
Individuals with ASD are slower in learning to interpret what others are thinking and feeling.
* Social cues may have little meaning to a person with autism (eg. smile, wave, grimace).

Without the ability to interpret gestures and facial expressions, the social world may seem bewildering.
* Always be cognisant of your non-verbal behaviour and social cues.
Individuals with Autism often see things in a very literal sense:

- Break a leg.
- Piece of cake.
- The night falls.
- Time flies.
Individuals with Autism may have difficulty seeing things from another person’s perspective.

- Most people understand that other people have different thoughts, feelings, and goals than they have.

- Someone with ASD may lack such understanding.
- This inability leaves them unable to predict or understand other people’s actions.
Social Interaction

It is common for people with ASD to have difficulty regulating their own emotions.

* They may have a tendency to “lose control”:
  * When in a strange or overwhelming environment.
  * When angry or frustrated.
  * May break things, attack others, hurt themselves.
Ten things you should know about people with Autism

https://www.youtube.com/watch?v=x5m5vqrFZpc
Sensory Processing
Sensory Processing Includes:

* Sight / Vision.
* Sound / Auditory.
* Smell / Olfactory.
* Taste / Gustatory.
* Touch / Tactile.
* Balance / Vestibular.
* Body Awareness / Proprioception.
What is Sensory Processing?

- Take in information
- Interpret information
- Develop a response or action
Breakdown may occur at any point.

* Challenges to the “intake system” are more easily recognized.
* Faulty operation of the “interpretation and integration” of information may be seen as a behavioural issue.

Negative consequences may only make the situation worse.
Sensory Processing

What is your Response to...

* Cold shower?
* Wool clothing?
* Panty hose?
* Sweat pants?
* The sound of birds?
* Bright coloured walls in the bedroom?
* The smell of perfume?
* Roller coasters?
Sensory Processing challenges can influence how people respond to:

* Environment.
* People.
* Tasks/Instructions/Activities.

Understanding these influences leads to the selection of effective interventions.

* Sensory processing difficulties is called **Sensory Integration Dysfunction (SIDs)**.
Sensory Processing - Video

https://www.youtube.com/watch?v=IcS2VUoe12M
Occupational Therapy:
- Brings together cognitive, physical and motor skills.
- The aim of an OT is to enable the individual to gain independence and participate more fully in life.
- Goals are individualized:
  - Social interaction.
  - Learning.
  - Basic life skills.
  - Fine motor skills.
  - Visual perception skills.
Sensory Integration Therapy:
- Designed to identify disruptions in brain processing.
- Does not teach higher-level skills, but enhances sensory processing abilities allowing person to be more available to acquire higher-level skills.
- Done by a certified Occupational Therapist.
### Sight

<table>
<thead>
<tr>
<th>Hyposensitive</th>
<th>Hypersensitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objects appear dark or lose some of their features</td>
<td>Distorted vision: objects and light may jump around</td>
</tr>
<tr>
<td>Central vision is blurred but peripheral vision is quite sharp</td>
<td>Images may be fragmented</td>
</tr>
<tr>
<td>A central object is magnified but things in peripheral are blurred</td>
<td>Easier and more pleasurable to focus on a detail rather than the whole object</td>
</tr>
<tr>
<td>Poor depth perception – problems with throwing and catching; clumsiness</td>
<td></td>
</tr>
</tbody>
</table>
Sight - Strategies

* Brighten or dim lights.
* Sunglasses.
* Different coloured paper.
* Different sized font.
* Snoezelen room.
<table>
<thead>
<tr>
<th>Hyposensitive</th>
<th>Hypersensitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>May only hear sounds in one ear at a time, the other ear having only partial hearing or none at all</td>
<td>Noise can be magnified and sounds become distorted and muddled</td>
</tr>
<tr>
<td>May not acknowledge particular sounds</td>
<td>Particularly sensitive to sound and can, for example, hear conversations in the distance</td>
</tr>
<tr>
<td>Might enjoy crowded noisy places or bang doors and objects</td>
<td>Inability to cut out sounds – notably background noise, which often leads to difficulties concentrating</td>
</tr>
</tbody>
</table>
Volunteers please!

https://www.youtube.com/watch?v=MPb5WPvpsU8
Sound - Strategies

* **Hyposensitive:**
  * Music – iPod, ear buds.
  * Hearing Aids.

* **Hypersensitive:**
  * Give warning of environmental changes.
  * Avoid loud noises and/or crowded places.
  * Have an escape plan.
  * Ear plugs.

* Snoezelen room.
Some people have no sense of smell and fail to notice extreme odors (this can include their own body odour)

Smells can be intense and overpowering. This can cause toileting problems

Some people may lick things to get a better sense of what they are

Dislike people with distinctive perfume, shampoo, etc.
Smell - Strategies

* **Hyposensitive:**
  * Bathing schedule / routine.
  * Substitute licking with suckers, popsicles, other.
  * Social stories / Comic strips.

* **Hypersensitive:**
  * Masks.
  * No scent policy.
## Taste

<table>
<thead>
<tr>
<th>Hyposensitive</th>
<th>Hypersensitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Likes very spicy foods</td>
<td>Finds some flavours and foods too strong and overpowering because of very sensitive taste buds. Has a restricted diet</td>
</tr>
<tr>
<td>Eats everything – soil, grass, feces</td>
<td>Certain textures cause discomfort; some people will only eat smooth foods like mashed potatoes or ice-cream</td>
</tr>
<tr>
<td>This is known as PICA</td>
<td></td>
</tr>
</tbody>
</table>
* Hyposensitive – Pica:
  * Make harmful ingestible items unavailable.
  * Be diligent!
  * Consult a doctor: there may be a deficiency or high level of lead in blood.

* Hypersensitive:
  * Offer choices.
  * First ____________ then __________.
<table>
<thead>
<tr>
<th>Hyposensitive</th>
<th>Hypersensitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holds others tightly – needs to do so before there is a sensation of having applied any pressure</td>
<td>Touch can be painful and uncomfortable; people may not like to be touched and this can affect their relationships with others</td>
</tr>
<tr>
<td>Has a high pain threshold</td>
<td>Dislikes having anything on hands or feet</td>
</tr>
<tr>
<td>May self-harm</td>
<td>Difficulties brushing and washing hair because head is sensitive</td>
</tr>
<tr>
<td>Enjoys heavy objects (weighted blankets) on top of them</td>
<td>Only likes certain types of clothing or textures</td>
</tr>
</tbody>
</table>
Touch - Strategies

* Hyposensitive:
  * Weighted vest, weighted blanket.
  * Big hugs.
  * Squish them with a large ball – squeeze machine.
  * Fidget toys.
  * Massage therapy.

* Hypersensitive:
  * Being creative with clothing – cut off tags, loose/ tight, type of fabric.
  * Avoid unnecessary touch, ask permission to touch.
  * Brushing Protocols.
Balance

Situated in the inner ear, our vestibular system helps us maintain our balance and posture, and understand where and how fast our bodies are moving.

<table>
<thead>
<tr>
<th>Hyposensitive</th>
<th>Hypersensitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>A need to rock, swing or spin to get some sensory input</td>
<td>Difficulties with activities like sports, where we need to control our movements</td>
</tr>
<tr>
<td>May include visual stiming</td>
<td>Difficulties stopping quickly</td>
</tr>
<tr>
<td></td>
<td>Car sickness</td>
</tr>
<tr>
<td></td>
<td>Difficulties with activities where the head is not upright or feet are off the ground</td>
</tr>
</tbody>
</table>
Balance - Strategies

* Hyposensitive:
  * Movement breaks – walking, moving, bending, jumping.
  * Swinging.
  * Rocking chair.
  * Therapy balls as chairs.
  * Treadmill.

* Hypersensitive individuals need gentle experiences and support as they become more comfortable:
  * Linear, calm, slow, controlled movement.
  * Railing or arm to hold on to.
  * Movement breaks.
The vestibular system is a “Power Sense”.
The brain needs vestibular input in order to function.
Movement can change an individual’s attention, arousal and alertness in the shortest period of time.
The effects from vestibular input can last longer than any other input.
Movement and activity may be the input the person needs in order to maintain behaviour and concentrate.
# Body Awareness

<table>
<thead>
<tr>
<th>Hyposensitive</th>
<th>Hypersensitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stands too close to others because they cannot measure their proximity to other people and judge personal space</td>
<td>Difficulties with fine motor skills: manipulating small objects like buttons or shoe laces</td>
</tr>
<tr>
<td>Hard to navigate rooms and avoid obstructions</td>
<td>Moves whole body to look at something</td>
</tr>
<tr>
<td>May bump into people</td>
<td></td>
</tr>
</tbody>
</table>
Proprioception is the sensation we feel from our muscles and joints and is tolerable of unending stimulations.

These sensations provide information to the brain indicating where each part of the body is in space and how it is moving.

When these sensations are not received and organized properly in the brain, the person may display disorganized and sensory seeking behaviours.

Proprioception is another “power sense”.
Activities to Provide Proprioceptive Input

- Joint compressions.
- Heavy work.
  - Jumping / Trampoline.
  - Stacking chairs.
  - Weight lifting.
  - Chewing gum / hard candy.
  - Pretzel hugs.
- Move furniture.
- Carry in groceries.
- Climb stairs.
Some people with Autism remain non-verbal throughout their lives; although the majority develops spoken language and all can eventually learn to communicate in some alternative way.
Individuals with Autism who speak may use language in unusual ways:

- Unable to combine words into meaningful sentences.
- Speak only single words.
- May repeat same phrase over and over.
- Echolalia – repeat (parrot) what they hear.
Some individuals with Autism may have great difficulty in starting, or stopping a conversation or staying on topic.

The give/take of normal conversation may be hard.

They may often carry on a monologue on a favorite subject, giving others little opportunity to comment.
They may have the inability to understand body language and tone of voice of others.

Their facial expressions, movements, and gestures may not match what they are saying.

Their tone of voice may fail to reflect their feelings.
Without meaningful gestures or the language to ask for things, people with autism are less able to let others know what they need. As a result, they may simply scream or grab what they want. Until they are taught better ways to express their needs, people with autism do whatever they can to get through to others.

It is important for them to learn *Alternative Communication Systems* such as PECS or sign language.
Communication Strategies

- Use short concise statements.
- Use concrete terms.
- Be aware of your non-verbal body.
- Use gestures and symbols.
- Gentle reminders and patience.
- Social stories / Comic strips.
- Speech-Language Therapy.
- VISUALS.
Why do individuals with ASD need visual supports?

* They are:
  * Concrete.
  * Organized.
  * Predictable.
  * Ordered.
  * Patterned.
  * Static.
* They can be manipulated.
* They can be faded.
Visual Supports

* Enhance Expressive Communication Skills.
* Support Language Comprehension.
* Teach appropriate requesting.
* Give choices.
* Help broaden interests.
Visual Supports Can Consist Of:

* Real Objects.
* Miniature Objects.
* Photographs.
* Logos.
* Pictographs.
* Line Drawings.
* Written Words.
Manual Signs

- STOP
- DO NOT ENTER
- Reading
- Book
- Hand gesture
Picture Exchange Communication System

PECS™
The Picture Exchange Communication System

[Image of a child using a PECS communication board]

[Image of a PECS visual schedule with various items like Tide, Bounce, etc.]
Choice Boards

I want

big wheel

big wheel
golf

trampoline

bubble blower

sand and water table

sidewalk chalk

What do you want for lunch today?

pizza

sandwich

sandwich
Cue Cards
Break Card / Wait Card / Help Card

- Break, please.
- Wait
- Help
Visual Schedules

* Must be a working tool.
* Involve individual in the process (e.g. assembly).
* Make it a motor activity (use non-verbal prompts).
* Include a social activity into every schedule.
* Embed reinforcers.
* Follow the schedule as it is laid out.
* Add changes as they occur.
Visual Schedules

- 7:00: Wake up
- 8:00: Breakfast
- 2:30: Lunch
- 3:00: Snack
- 3:15: Homework

- 4:00: TV Time
- 5:00: Outside Play
- 5:30: Get Table
- 6:00: Dinner
- 8:30: Bedtime

My Morning Schedule:
1. Go to the bathroom
2. Wash my hands
3. Get dressed
4. Eat breakfast
5. Brush my teeth
6. Wash my face
7. Put on my clothes
8. Get my jacket
9. Get my backpack
10. Go to school

To Do
1. 2
2. 3
3. 4
4. Brush teeth
5. Go to school

Done
Mini Schedules
Calendars
Social Stories

* Short stories written according to specific guidelines that describe a situation, concept or social skill and teach the child socially acceptable behaviours.

* 4 types of sentences.
  * Descriptive.
  * Directive.
  * Perspective.
  * Control.
Usually, people eat meals at the table. They stay at the table until their meal is finished.

This makes it easier to eat neatly and safely.
I will try to sit at the table when I am eating.

I will try to eat from my own plate.

If I want more food, I may ask for it.
Most people are careful when they eat.

I will try to keep my food on my plate or in my mouth. I can do this by using my fork and spoon.

Mom likes it when I eat at the table.
I can't dance.

Scream!!

I can't dance.

Confused

Teacher's feeling

Unhappy

My feeling

I missed the class.
I'm sad.

Sad

Other students' feeling

Sad

I have to go out class

Sad

Teacher's feeling
Assistive Technology

Voice Output Communication Aids – VOCA.

* Tap to talk.
* Kindle Fire, Nintendo DSi, Web PC or MAC, Android Phone or Blackberry PlayBook.
Assistive Technology

- iPad and iPod.
  - Apps for both expressive and receptive language skills.
  - Proloquo2go App.
Resources

* Autism Services of Saskatoon
  * www.autismservices.ca
  * iTechnology Lending Program

* Abilities Council
  * Reg Bartsch adaptivetechnology@abilitiescouncil.sk.ca

* Autism Speaks
  * www.autismspeaks.org
Resources

* Autism Canada Foundation
  * www.autismcanada.org
* Autism Research Institute
  * www.autism.com
* Approach, Treatment, Education
  * www.autismsocietycanada.ca
* Talking about Curing Autism Now
  * www.tacanow.com
* Educational Resources for Special Needs
  * www.do2learn.com
* Software: BoardMaker, Picture It, Visual Essentials
  * www.silverliningmm.com
* Sensory Processing
  * www.sensoryprocessing.com
* First Signs of Autism in Children
  * www.firstsigns.org