



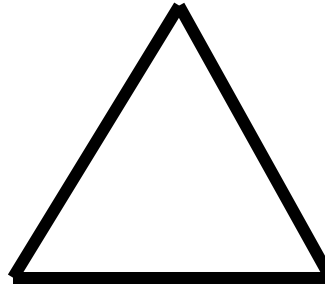
# Autistic Spectrum Disorder

---

Munira Haidermota

# Autistic Spectrum Disorder

## A TRIAD



### Communication of all types

- Inability to understand meaning of gestures
- Facial expression
- Tone of voice
- Impairments in maintaining conversations
- Monotone/accented voice
- Comprehension delays
- Difficulty with metaphors/idioms/jokes
- Body language

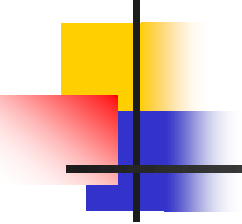
### Social interpersonal relationships

- Aloof
- Indifferent to people
- Lack of appreciation of social cues
- Lack of desire to interact with peers
- Little or no ability to form friendships.

### Cognition

#### Rigidity/imagination/behaviour/thoughts

- Literal understanding
- Tendency to focus on detail
- Difficulty with problem solving
- Sequencing
- Understanding the bigger picture

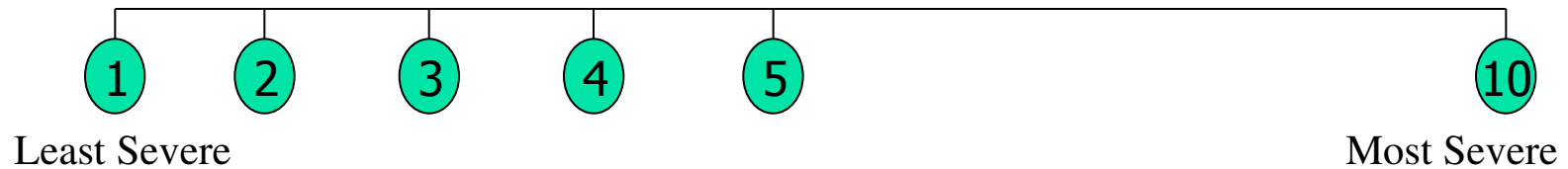
- 
- 
- Repetitive Behaviours
  - Motor Difficulty
  - Resistance to a change in routine
  - Turn Taking
  - Eye contact
  - Special Interest
  - Communication
  - Exploratory play
  - Sensory overload
  - Cope with change
  - Manage anxiety
  - Pleasurable
  - Movement disorder

# Autism/ Aspergers



- Not Stagnant

- Continuum of Difficulty



- 1) Inherent cognitive ability
- 2) Language acquisition
- 3) Interventions
- 4) Perseverance of parents/caregivers



# Incidence

---

- 1 person in 100 has an ASD
- Boys are four times more likely than girls to have autism
- The estimated population of people with Autism Spectrum Disorders in New Zealand is approximately 40 000
- Autism prevalence figures are growing
- Fastest-growing developmental disability; 1,148% growth rate.
- Autism receives less than 5% of the research funding of many less prevalent childhood diseases.
- More children will be diagnosed with autism this year than with AIDS, diabetes & cancer combined.



# The Senses

---

- 5 basic senses – sight, touch, sound, taste and smell  
These respond to external stimuli from the environment
  - Body centered sensory systems
    - interoceptive
    - tactile
    - vestibular
    - proprioceptive
- Operate without conscious thought and we cannot observe them



# Inner Systems

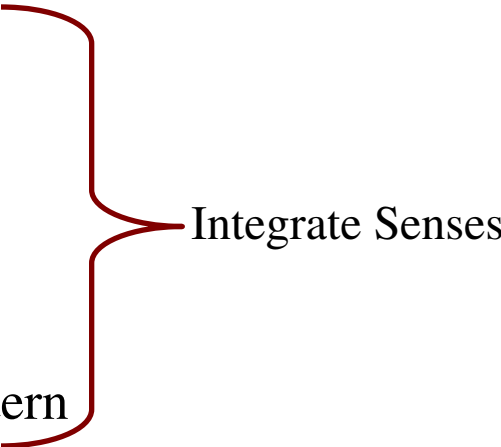
---

- Interoceptive:  
sensory system of the internal organs e.g. heart rate, hungers, digestion, state of arousal, mood
- Tactile:  
sensory information about touch received primarily through the skin
- Vestibular:  
processing information about movement gravity and balance, primarily received through the inner ear
- Proprioceptive:  
processing information about body position received through the muscles, ligaments and joints



# Sensory Integration

---

- Neurological Process
  - Organizes various sensations from one's own body and from the environment in order to enable the body to function effectively within the environment
  - Spatial and Temporal Aspects Integration modalities are integrated, associated and unified.
  - Information Processing
  - Brain must –Select  
Enhance  
Inhibit  
Compare  
Associate  
Into a flexible constantly changing pattern
- 
- Integrate Senses





# Sensory Integration

---

- Sensory integration is the most important type of sensory processing
- Information comes to us through our senses
- Allows us to make wholes from the parts  
e.g. orange

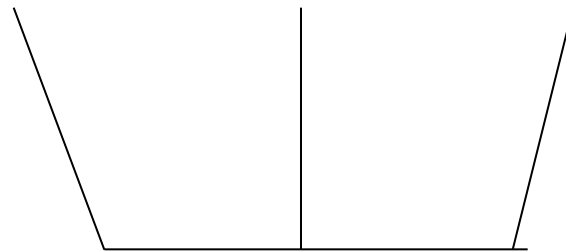


---

BRAIN

TRAFFIC POLICE OFFICER

Interoceptive- Tactile - Vestibular - Proprioceptive



5 Senses



# Brain

---

- 5 main structures
  - Spinal cord, medulla, midbrain, cerebellum, cortex
- Electrical impulses
- Processes information and has the ability to regulate the sensory information to the demands of the environment and its current needs
  
- Modulation
- Inhibition
- Habituation
- Facilitation



# Sensory Integration Disorder

---

- Dysfunction/neurological disorder
- Brain's inability to integrate certain information received from the body's five basic sensory systems



---

Sensory integration dysfunction



Disruption in the process of intake, organization and output of sensory information

Neurological disorganization

1. Brain does not receive messages
2. Sensory messages are received inconsistently
3. Sensory messages do not connect properly with other sensory messages



# Sensory Integration Disorder

---

## Problems or Difficulties

- Attention and Regulation problems
- Sensory defensiveness
- Activity levels
- Behaviours

Lack of emotional stability, social skills deficit, other peoples' reactions difficulty with completion of daily tasks



# What is Autism?

---

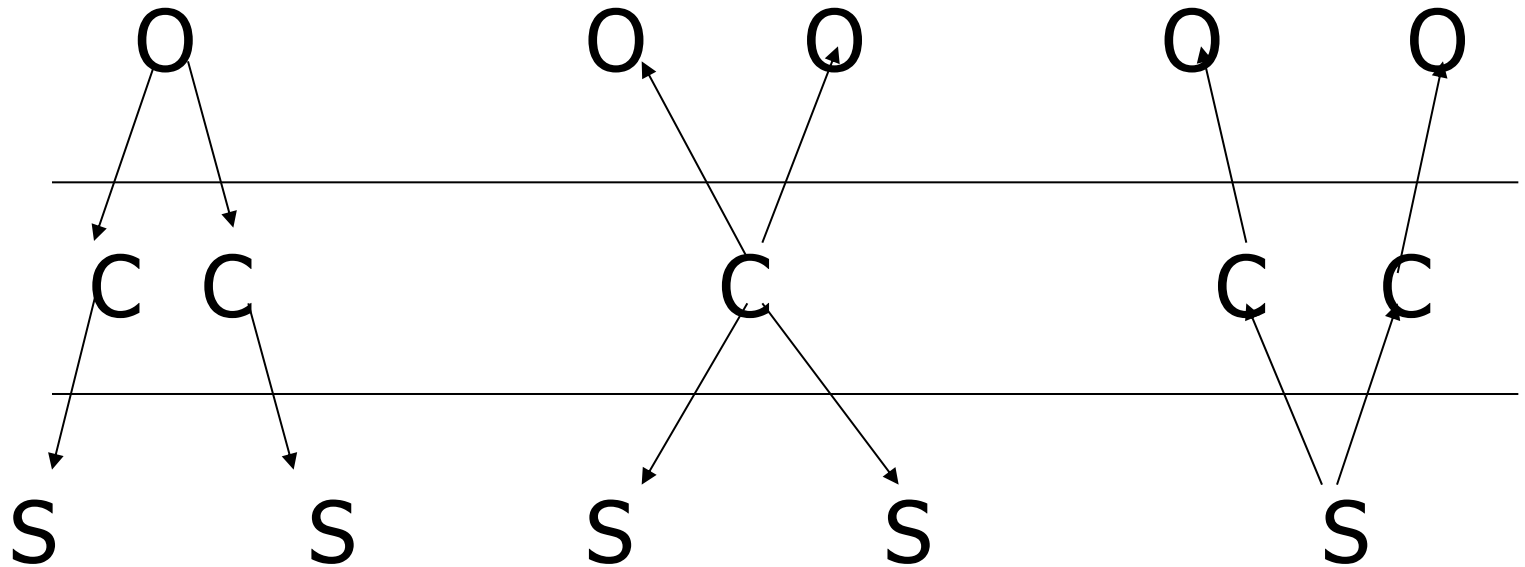
- Biologically based disorder
- Not confined to childhood
- Developmental disorder that lasts throughout life
- Not always characterised by special or “savant” skills
- Found at all IQ levels – accompanied by general learning difficulties
- Severe disorder of communication, socialization and imagination

## Levels of Explanation



# Biological, Cognitive & Behavioural

---







# Autism – Part of a Continuum?

---

- behavioural - maybe yes
- biological - certainly different
- cognitive – quite distinct



# Autism – Cognitive Level

---

- Triad of difficulties
  - Socialization : inability to share / direct attention
    - specific problem with imitation
    - impaired recognition of affect
  - Communication : striking range of difficulties
  - Imagination : absence of spontaneous pretend or symbolic play



# Causes

---

- Genetic Predispositions
- Pre, Peri and Postnatal CNS insult
- Viral Infections
- Structural and or functional brain abnormalities
- Abnormal biochemistry of the brain
- Dysfunctional immune system
- Others



# Theory of Mind

---

- Dr Simon Baron-Cohen – Mind blindness
- Dr Uta Firth – Scientific American TOM
  
- Other people have their own plans, thoughts and points of view
- Unique to those with Autism
- Independent of Intelligence
  - Aspergers to a Lesser Degree
- Difficulty comprehending when others do not know something
- Problems in understanding other peoples thoughts/ideas

↓

Problems socially and communicating with other people

↓

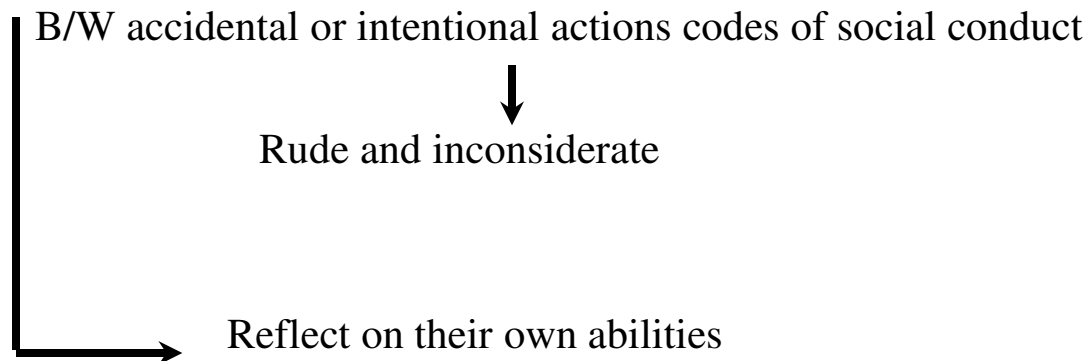
Inability to anticipate what people will do in various situations



# Theory of Mind

---

- Makes them appear egocentric, self-centered
- Specific cognitive inability to view others as intentional agents
- Usually develops before age 3 – 4
- Mind Blindness





# Theory of Mind

---

- Absence of pretend play
- Leslie – 2 types of representations
  - Primary representations
  - Metarepresentations.



# Meta-representations

---

Agent - Informational relation – referent – expression

e.g. mother – pretends – of this banana – it is a telephone

- Mind blind - inability to attribute mental states in order to understand behaviour.
- Experiments on lack of theory of mind through the Sally Ann task



# Theory of Mind

---

- Explains the handicaps of autism as well the preservation of some functions.
- Primary representations are unimpaired
- Absence of gestures which normally influences mental states





# Autism - Like 3 Year Olds?

---

- 4 years of age – development of skills to pass the false belief tasks
- Number of differences
  - Understanding of true beliefs and mental world
  - Pretend Play - Distinguish between real and pretend entities
  - Experiments – able to attribute a false belief



# Unanswered Questions

---

- Some autistic children have passed the theory of mind test
- Non theory of mind strategy – task specific
- Delay hypothesis
- Second order theory of mind tasks
- Task success, age and intelligence



# Theory of Weak Central Coherence

---

- Uta Firth and Fransesca Happe (1994)
- Ability to draw together diverse information into a meaningful whole

Whole is greater than the sum of its parts

- 3 Research Designs
  - Figure/Ground
  - Block Design
  - Reading Sentences
  - Good with Attention to detail

Which details are important?



# Impaired Cognitive Functioning

---

- Sally Ozonoff and Bruce Pennington (1991)
- James Russel (1997)
- Specific Structures within the brain – cognitive abilities
- Prefrontal Cortex
  - Planning
  - Organization
  - Shifting Attention
  - Working Memory
  - Impulse Control
  - Initiation
  - Perseverance
- Read text in mind vs recalling spoken instructions



# Assessment

---

- Comprehensive assessment model
- Assess multiple areas of functioning
- Collect information from a variety of settings
- Provide a single coherent view
- Provide implications for adaptation and learning
- Liaison with schools and other agencies to support implementation of recommendations.



# Multidisciplinary Assessment

---

- Developmental History
- Cognitive / Developmental / Behavioral
- Diagnostic Assessment
- Speech, Language and Communication
- Sensory and Motor Skills Assessments
- Medical Evaluations
- Neuropsychological, Academic and Vocational



# Instruments

---

- Asperger Syndrome Diagnostic interview (ASDI)
- Asperger Syndrome Screening Questionnaire (ASSQ)
- Australian Scale for Asperger syndrome (ASAS)
- Autism Behaviour Checklist (ABC)
- Autism Diagnostic Observation Schedule (ADOS) and ADOS-G
- Autism Screening Questionnaire (ASQ)
- Autism Spectrum Quotient (AQ)
- Autistic Diagnostic Interview (ADI, and also ADI-R)
- Childhood Asperger Syndrome Test (CAST)
- Childhood Autism Rating Scale (CARS)



# Instruments (contd)

---

- Child Communication Checklist (CCC)
- Checklist for Autism in Toddlers (CHAT)
- Diagnostic Interview for Social Communication Disorders (DISCO)
- Gilliam Autism Rating Scale (GARS)
- Parent Interview for Autism
- Pervasive Developmental Disorders – mental retardation (PDD-MR)
- Social Response Scale (SRS)
- STAT
- TEACCH checklist
- Wing Autistic Disorder Interview Checklist





# The Role of Cognitive Assessments

---

- Cognitive assessments should be used to supplement behavioral scales and developmental checklists.
- While a diagnosis of autism cannot be made based on cognitive functioning alone, individuals with autism do demonstrate a typical pattern of performance deficits on intelligence tests
- They can provide standardized information about the overall cognitive functioning of a child, the presence of specific deficits, or in rare cases, the presence of superior splinter skills, which may go undetected during behavioral observation.
- Selection and interpretation of cognitive measure will depend on a no of factors



# Things to Consider

---

- What population has the tool been validated on?
- Is the tool applicable to a New Zealand setting? Can the tool be used without modification with Māori, Pacific and Asian individuals?
- How long does it take to administer the tool?
- How many professionals are needed to administer the tool?
- What is needed to make the tool available in New Zealand? Training? Qualifications required? Where can training be accessed? What is the cost of training? Ongoing costs – royalties?



# Challenges for Psychologist'

---

- What evidence is there that the tool leads to earlier or more accurate diagnosis?
- What is realistic for Clinical and Educational Psychologists with their service and time constraints?
- When should you refer to a specialist?
  - What will a specialist assessment accomplish?



# Specialist Assessment

---

- **ASD Specific Diagnostic History**

1. Autism Diagnostic Interview – revised (ADI-R).
2. Diagnostic Interview for Social and Communication Disorders (DISCO)
3. Developmental, Dimensional and Diagnostic Interview (3di)

- **ASD Specific Clinical Observations and Assessment**

1. Childhood Autism Rating Scale (CARS)
2. Autism Diagnostic Observation Schedule–Generic (ADOS-G)

- **Individual Profiling**

1. Neuropsychological, adaptive, cognitive functioning

- **Biomedical Investigations**

- **Comorbid Conditions**



# NZ Guidelines

---

- ASD in NZ is a disability, not a mental health problem.
- Emphasis on MDT (suggestion of specialist teams within adult mental health services).
- And on the use of “valid” instruments (? “Gold standard” issue).
- Development of formal pathways for diagnosis (developmental services coordinators in place).
- Assessment of cognitive and adaptive skills should be considered and formally assessed if appropriate.



# CAMHs Services

---

- Most classic autism is identified in child health and child development services before school age.
- CAMHS frequently do ASD diagnoses, sometimes as a formal process.
- School age children often have complex presentations with attentional difficulties, behavioural rigidities and emotional dysregulation.
- Common use of diagnostic labels complicates assessment process.
- Anxiety
- Diagnosis, management and referral to NASC services may all be required.



# Adult Mental Health Services

---

- May be required to make formal diagnoses (when it is not an interest or particular skill of clinicians).
- Emphasis on developmental history in the diagnoses and absence of good information about early development.
- Differential diagnosis.  
Veneer of social competence in some individuals.
- In some regions there are issues about whether management falls under mental health or disability services (especially for dually diagnosed).
- A related issue is about getting a referral accepted by NASC services.



# Treatments

---

- Biomedical Approaches
- Neurosensory Approaches
- Psychodynamic Therapy
- Interactive Approaches
- Behavioural and Educational Approaches
- Cognitive Approaches
- Language and Communication.





# Is There a Cure?

---

There is no medical detection or cure for autism



# Neurotypicality

---



# Comments

---