

1st Meeting “What Is Autism?”

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LECTURE 1:

What is Autism?

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LEARNING OUTCOMES

- Understand what ASD means.
- Introduce the neurobiological basis of ASD
- Understand the basic cognitive processes in ASD



WHAT IS AUTISM?

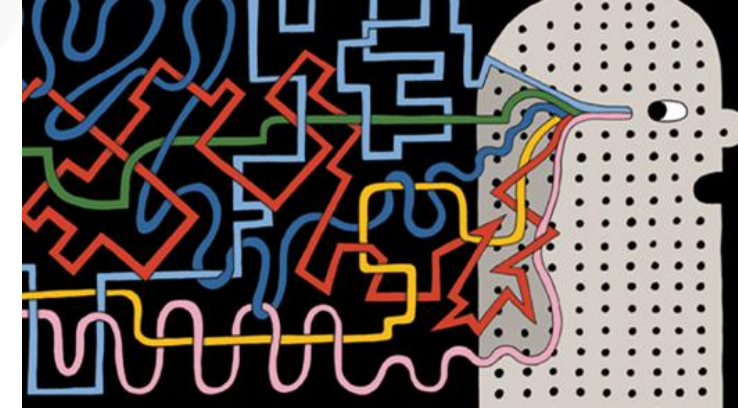
- a **neurodevelopmental** disorder
- affecting **verbal** and **nonverbal communication** and **social interaction**, and
- presenting with **repetitive movements** , interests or **behaviours** , and
- **unusual responses** to sensory stimuli.

- usually evident before age 3

- disordered or **delayed acquisition** of important developmental milestones, with respect to : communication, social interaction, identification and expression of feelings, perception and response to sensory stimuli.

- There is **no known cure for autism, yet**,

- The **available interventions** and support possibilities aim at improving an **autistic person's quality of life and well being**, as well as that of their family, along with **promoting social inclusion** and **fighting stigma**.



WHAT IS AUTISM?

- The precise neurobiological mechanism that causes autism is still unknown, so the primary method for determining if a child has autism is through the **observation of behavioural characteristics**.
- Early diagnosis, followed by appropriate and intensive intervention may substantially improve the global development of the child .
- **Every child with autism and their family is unique and differs from any other!**



AUTISM SPECTRUM DISORDERS

- In the past, other diagnostic terms such as Childhood autism, Childhood disintegrative disorder, Pervasive developmental disorders , Asperger's syndrome etc were used for different forms of autism, as considered by previous diagnostic classifications and criteria.
- Your child might have acquired one of these diagnoses in the past.
- **At present the term that we use is “autism spectrum disorders” or autism.**



Autism Spectrum Disorders or CONDITIONS:

MAIN CHALLENGES

- **Impairment in Social Interaction**
- **Impairment in Communication**
- **Restricted repetitive patterns of behaviour, interests, or movements activities**



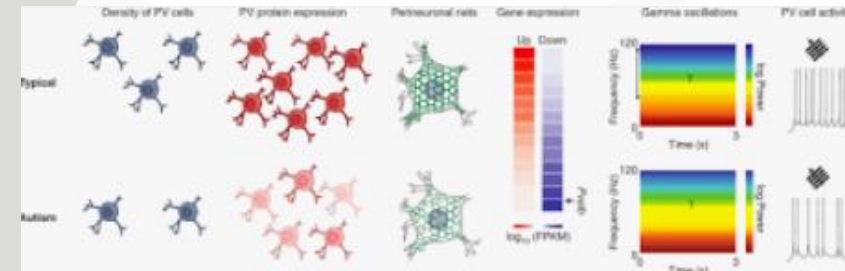
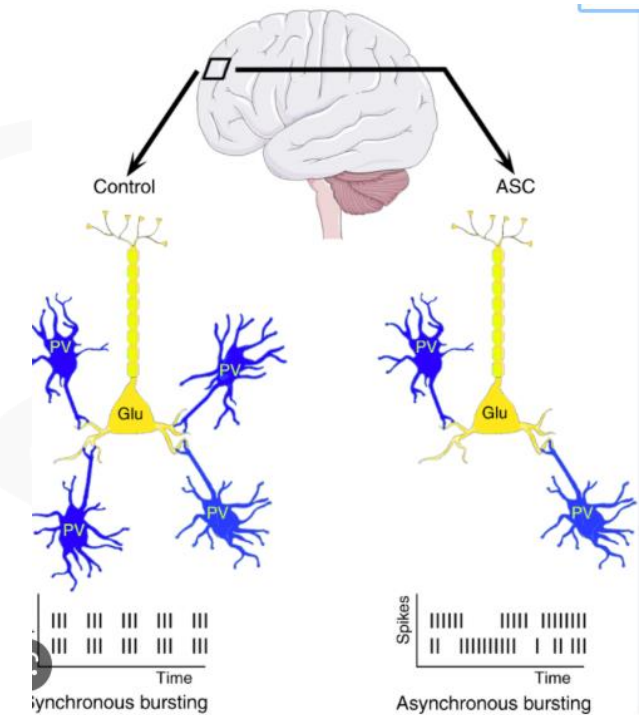
BRAIN RESEARCH

- Postmortem and MRI studies have shown that many major brain structures are implicated in autism
- Neurodevelopmental differences between people with ASD and people not on the spectrum.
- **Atypical brain** development impacts the “executive functioning” capabilities of people on the spectrum. This has direct implications for the supports necessary to assist people with ASD to be successful in various environments.

What does this mean exactly?

- The brain of individuals diagnosed with ASD are “wired” differently than those of individuals who are not diagnosed.

- Other research focuses on the role of **neurotransmitters** such as **serotonin**, **dopamine** and **epinephrine**.
- Evidence also points to **genetic**, **epigenetic** and **environmental factors**
- **Cortical studies:** brain laterality, prediction of case–control status, and anatomical heterogeneity



Contractor A, Ethell IM, Portera-Cailliau C. Cortical interneurons in autism. Nat Neurosci. 2021 Dec;24(12):1648-1659. doi: 10.1038/s41593-021-00967-6. Epub 2021 Nov 29. PMID: 34848882.

The following theories have been formulated in order to approach the understanding of the cognitive processing in people with autism:

○ Impaired Theory of Mind

Theory of Mind expresses the ability to attribute subjective mental states to oneself and to others. This ability is crucial for the understanding of one's own and other people's behaviour or intentions and social circumstances.

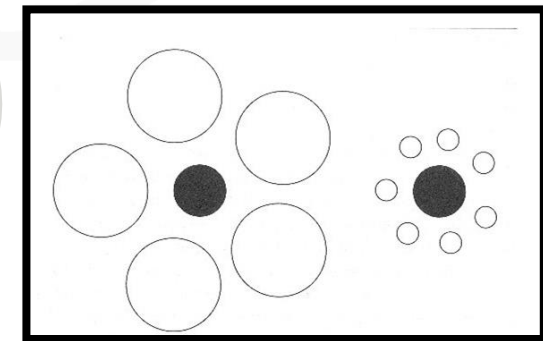
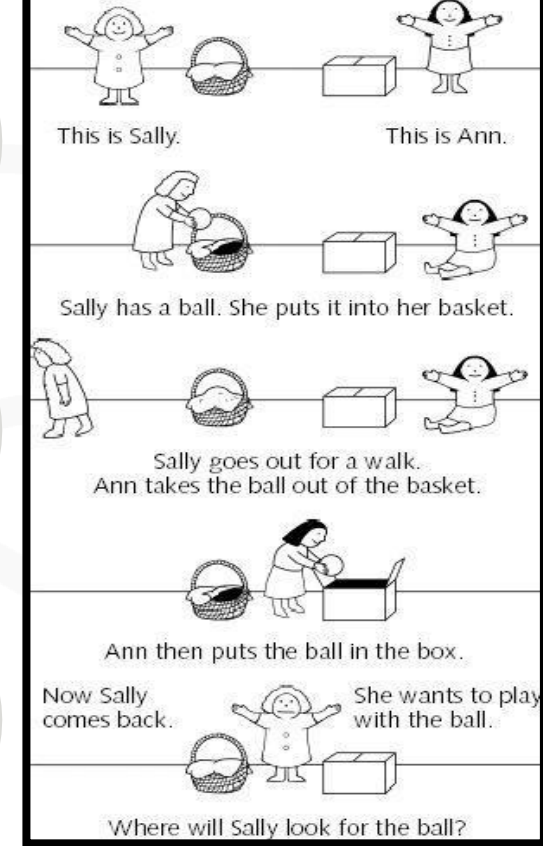
○ Weak Central Coherence

○ inability to experience the whole without full attention to the separate constituent specific parts, failure to use context in reading

○ Impaired Executive Functions

Difficulty in organizing thoughts, accessing and integrating information in order to make it useful. Deficits in skills such as inhibiting inappropriate responses, organizing, planning, making decisions and sustaining attention.

- All these theories are interrelated, and explain some mechanism of cognitive thinking in autism, such as intersubjectivity



References and Resources

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