

***SCIENTIFIC  
RATIONALE OF THE  
EARLY START  
DENVER MODEL by  
Dr Mary Mupa  
Madumadu***

# WHAT IS AUTISM

- 9 Autism is a neuro developmental disorder  
( Language social impairments, repetitive behaviours)**

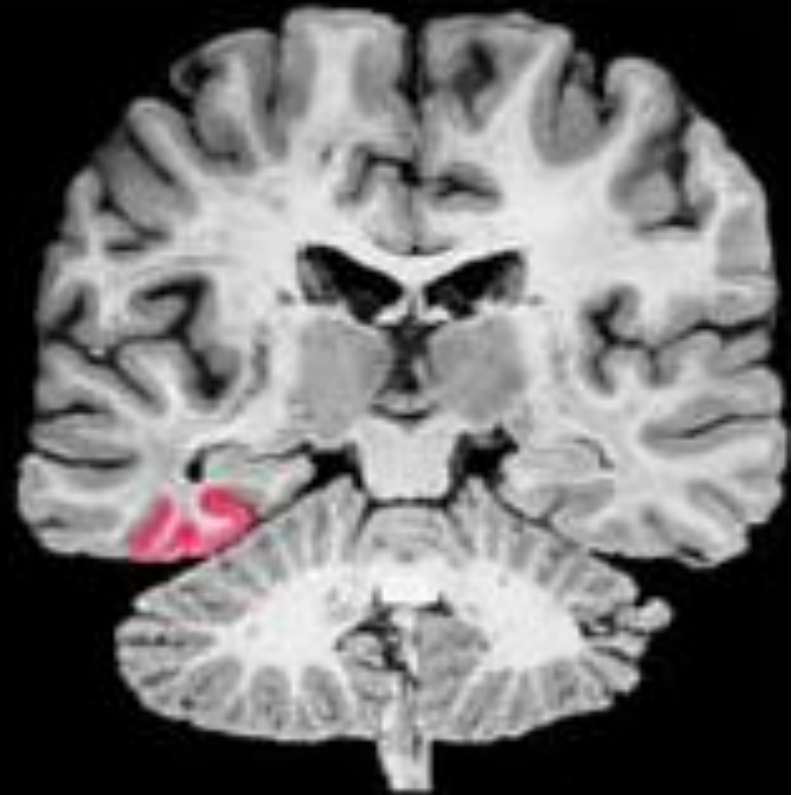
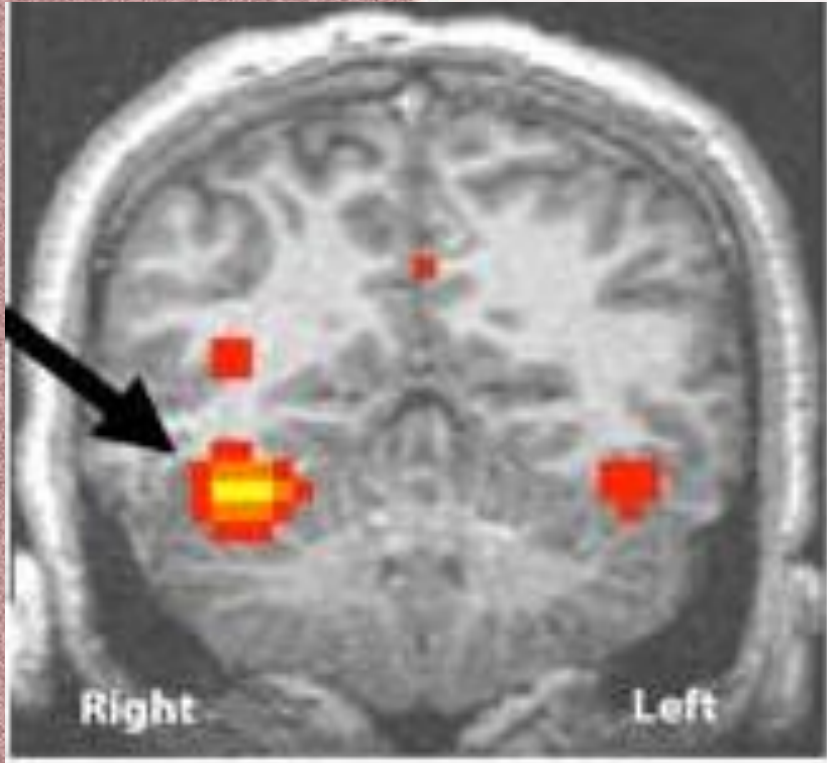
**Different from ADHD**

- 9 Early diagnosis is vital to early initiation of management.**

**Imagery; future most objective diagnostic tools in autism.**

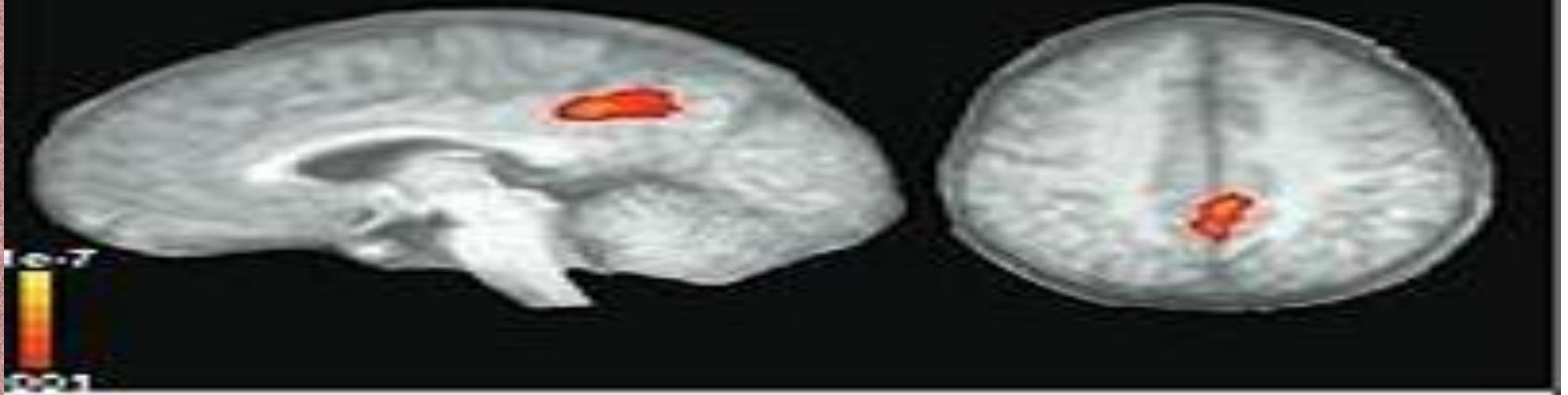
- 12. Prolonged ABR was consistent in infants and children with ASD, suggesting it can serve as an ASD biomarker at infancy**

# IMAGERY

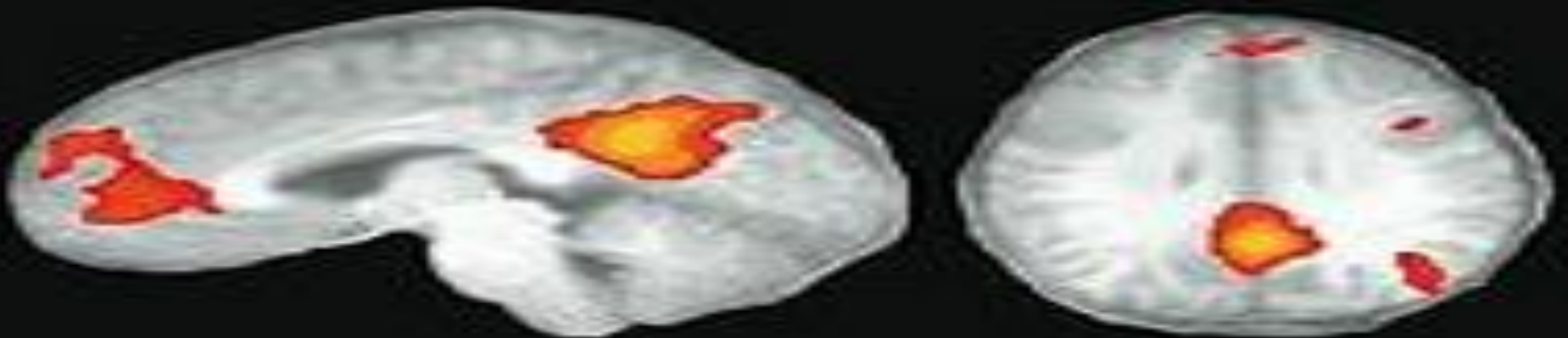


# IMAGERY

**AUTISM**



**NORMAL**



# IMAGERY

**FMRI, Pierce et al 2001,**

- fusiform gyrus (FG), inferior temporal gyrus, middle temporal gyrus and amygdala (weak or no activation in FG in ASD)**
- significantly reduced activation in the inferior occipital gyrus, superior temporal sulcus and amygdala.**

# IMAGERY

<sup>9</sup>.PET imaging not indicated in autism evaluation,

PET e.g. 18F-fluorodeoxyglucose brain positron emission tomography (PET) as an ancillary investigation can provide corroborative information and increase the diagnostic confidence for the same.

<sup>9</sup> Findings; diffuse bilateral temporal hypo metabolism.

<sup>10</sup>. Brain-imaging results, abnormalities in the superior temporal sulcus (STS) are highly implicated in ASD.<sup>10</sup>. (decreased grey matter concentration,rest hypo perfusion and abnormal activation during social tasks.)

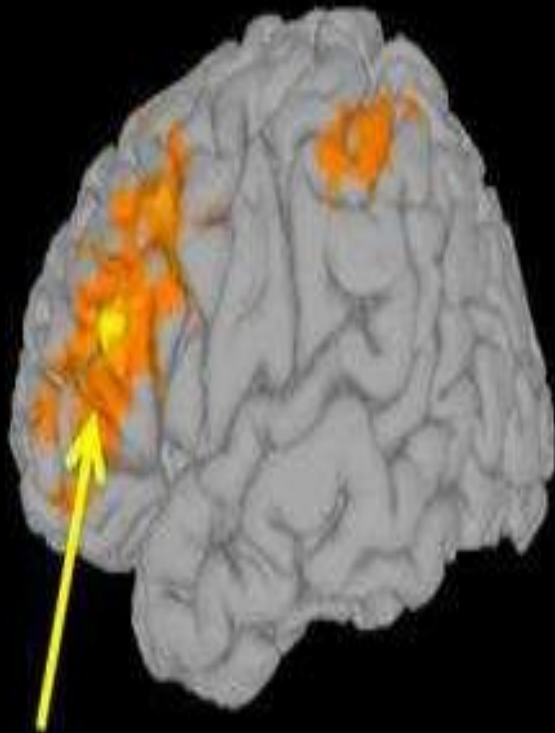
# THERAPY & THE BRAIN

3. **individual-specific, scattered activation seen in asd vs highly consistent FG activation; normals, experiential factors play a role in the normal development of the FFA. Therapy like the ESDM can contribute to these experiential factors**

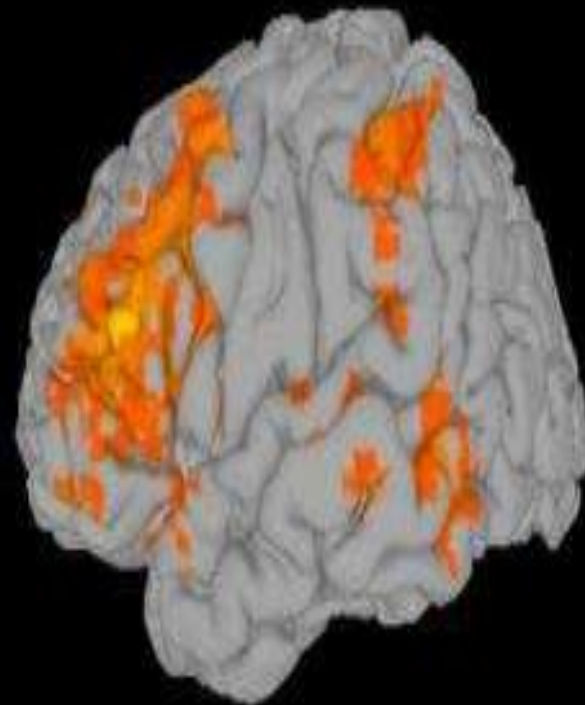
# THERAPY & THE BRAIN

Before intervention

After intervention



10 weeks



Broca's area



# AUTISM THERAPY

Autism therapy; long and expensive affair.

## POOR OR NO SCIENTIFIC AUTISM SUPPORT SYSTEMS IN KENYA

15. Identifying effective, community-based specialized interventions for young children with autism spectrum disorder is an international clinical and research priority

# ESDM THERAPY RCT

A RCT published in 2009; 48 children with ASD (18-30 months); either ESDM or a community intervention for two years (Dawson et al, 2010).

ESDM; improved 17.6 standard pts VS community 7.0 pts

ESDM maintained rate of growth in adaptive behaviour compared with a sample of typically developing children, while the comparison group showed greater delays in this area.

ESDM likely change in Dx from ASD to PDD NOS, than the comparison group (Dawson et al, 2010)

# ESDM CONSTRUCTS

- Communication-receptive and expressive
- Social skills
- Imitation
- Cognition
- Play
- Fine Motor & Gross Motor
- Behaviour
- Activities of Daily Living

# KEY ISSUES

- 20 HOURS A WEEK
- INVOLVE PARENTS esp IN KENYA TO GET TO THIS GOAL
- INITIAL RCT 15 PROFESSIONALS AND 5 PARENTS

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