Western Michigan University

Paradigm Shift

"We must move from viewing the individual as failing if s/he does not do well in a program to viewing the program as not providing what the individual needs in order to succeed."

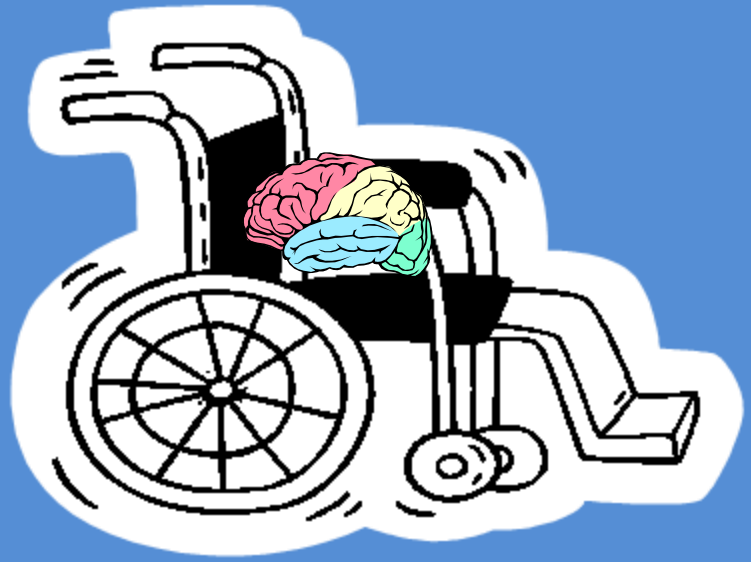
—Dubovsky, 2000

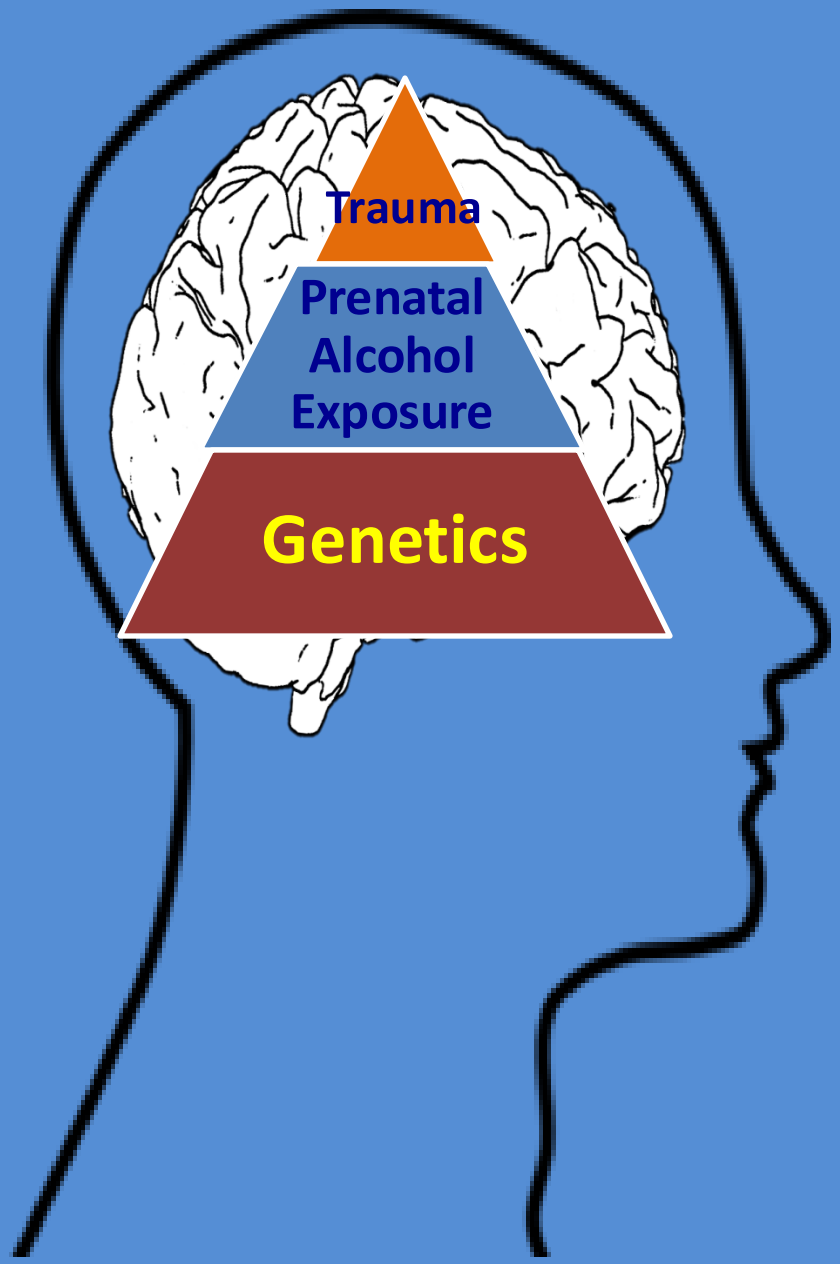
Our Journey at WMU with a transdisciplinary team to understand and assess began in 2003 with training at the flagship at University of Washington.

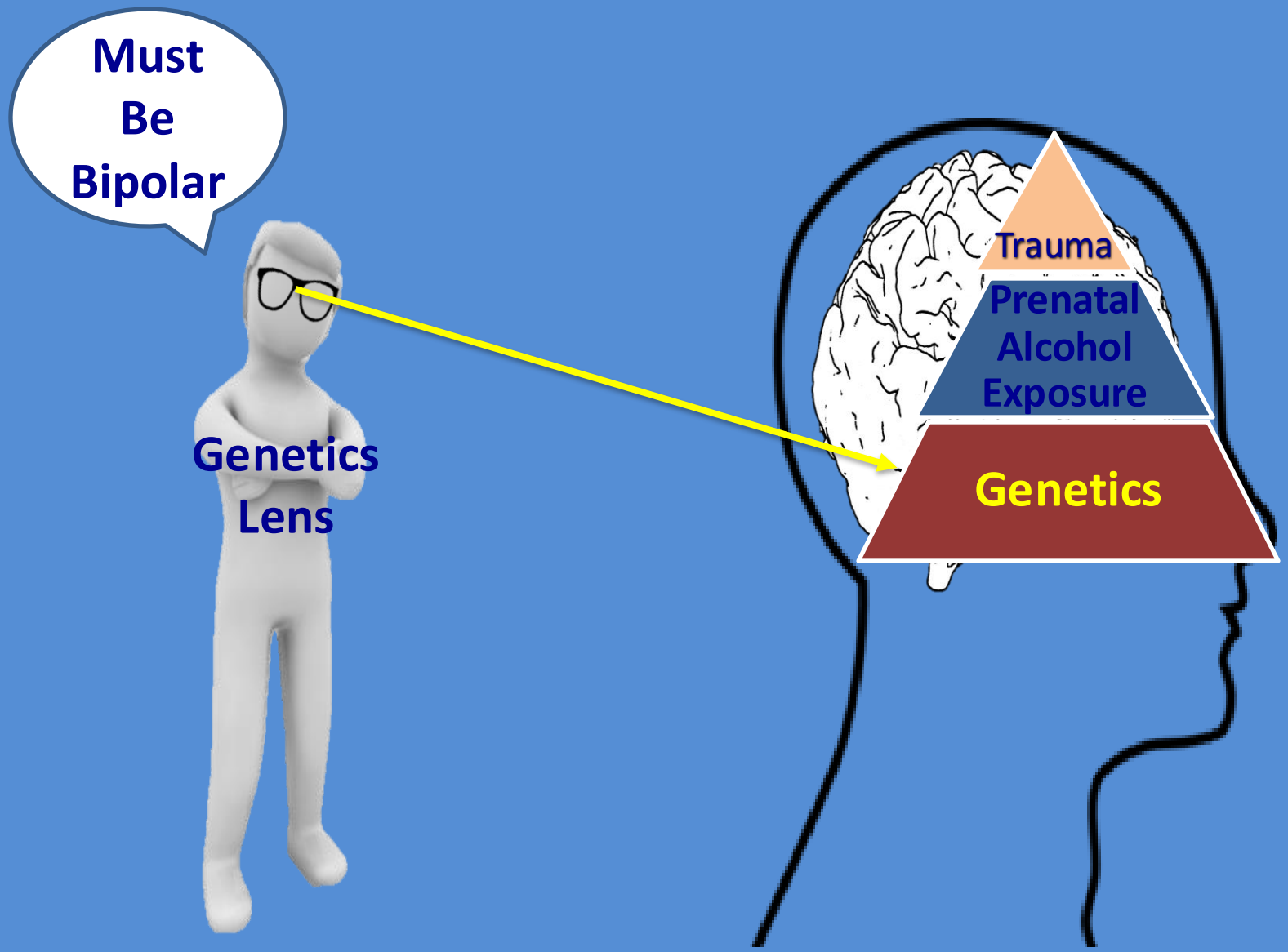
- Over 6,000 FAS/FASD assessment over the past 22 years.

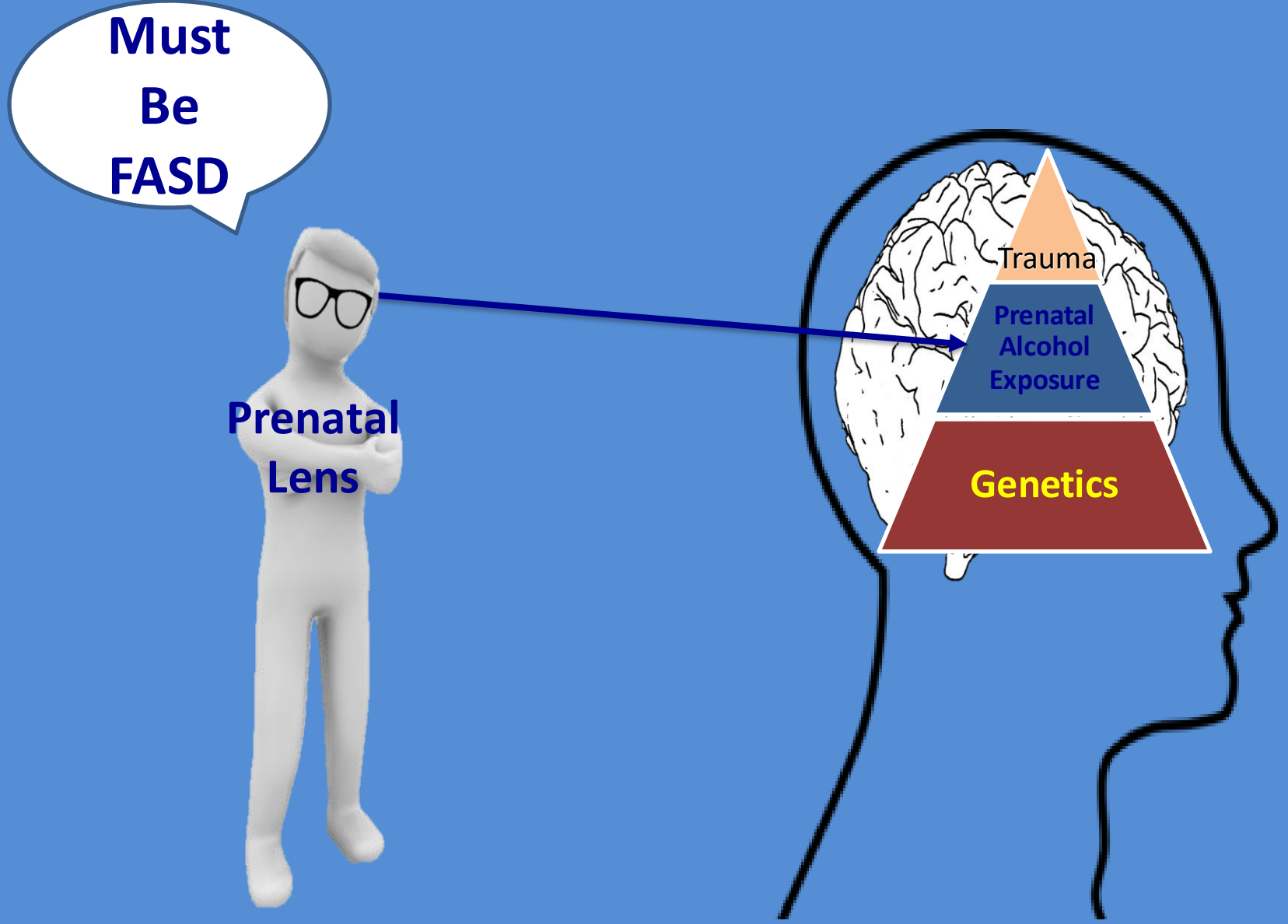
- Embracing Complexity

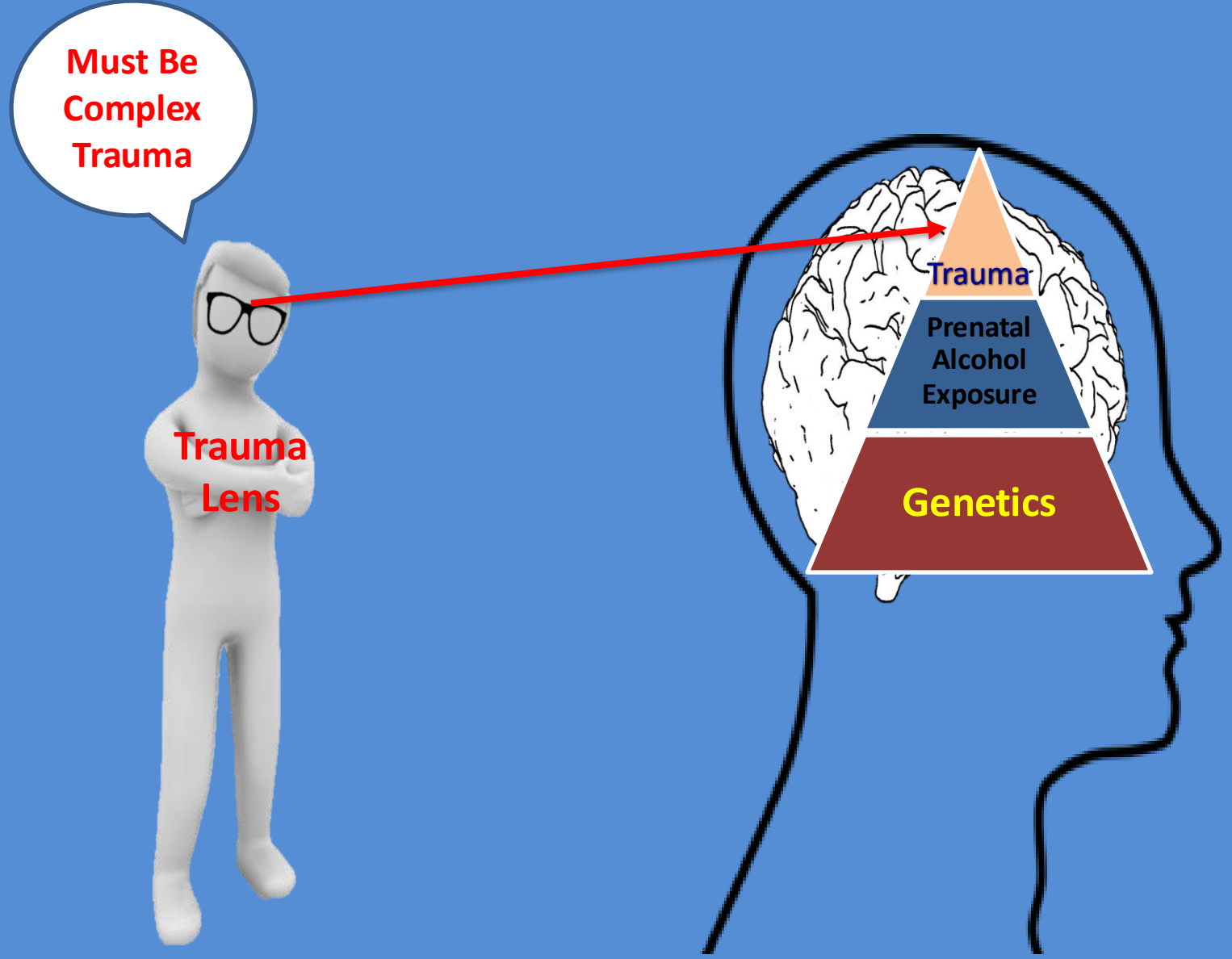
How differently would we treat one another if the harm could be seen on the outside?

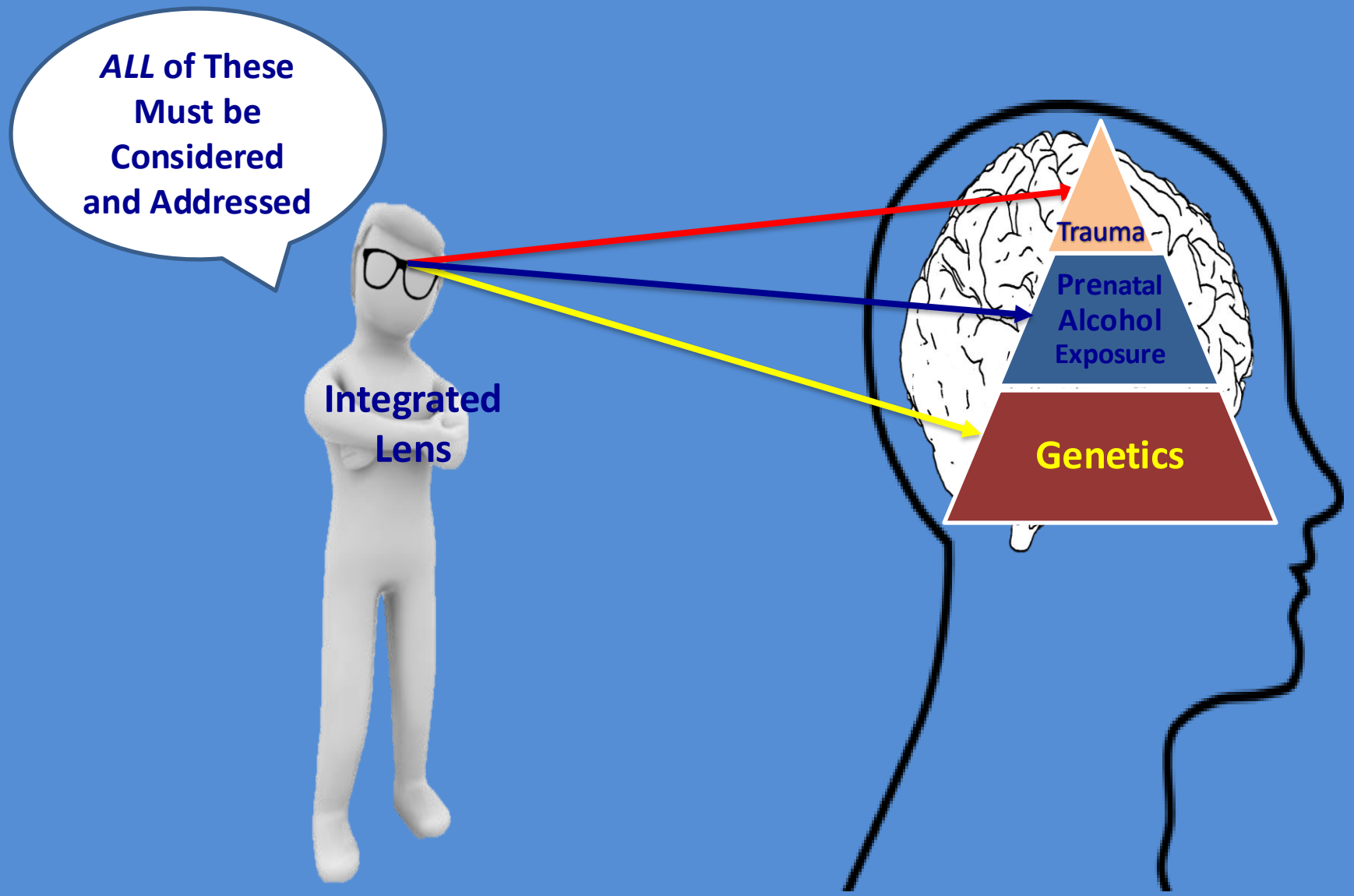



Trauma
Prenatal
Alcohol
Exposure
Genetics


Must
Be
Bipolar
Genetics
Lens
Trauma
Prenatal
Alcohol
Exposure
Genetics


Must
Be
FASD
Prenatal
Lens
Trauma
Prenatal
Alcohol
Exposure
Genetics


Must Be Complex Trauma
Trauma Lens
Trauma
Prenatal Alcohol Exposure
Genetics


ALL of These Must be Considered and Addressed
Integrated Lens
Trauma
Prenatal Alcohol Exposure
Genetics

Effects of Alcohol on the Developing Embryo and Fetus

- No known safe amount of alcohol during pregnancy
- No safe type of alcohol
- No safe time to drink during pregnancy
- Alcohol interacts with the developing central nervous system through multiple actions

Scope of the Issue

- Prenatal exposure to alcohol is harmful to the fetus. Can result in:
  - Physical malformations
  - Growth problems
  - Abnormal functioning of the central nervous system (CNS)

Potential Brain Risks

- Motor skills
- Language
- Cognition
- Memory
- Attention
- Dysregulation
- Adaptation
- Mood

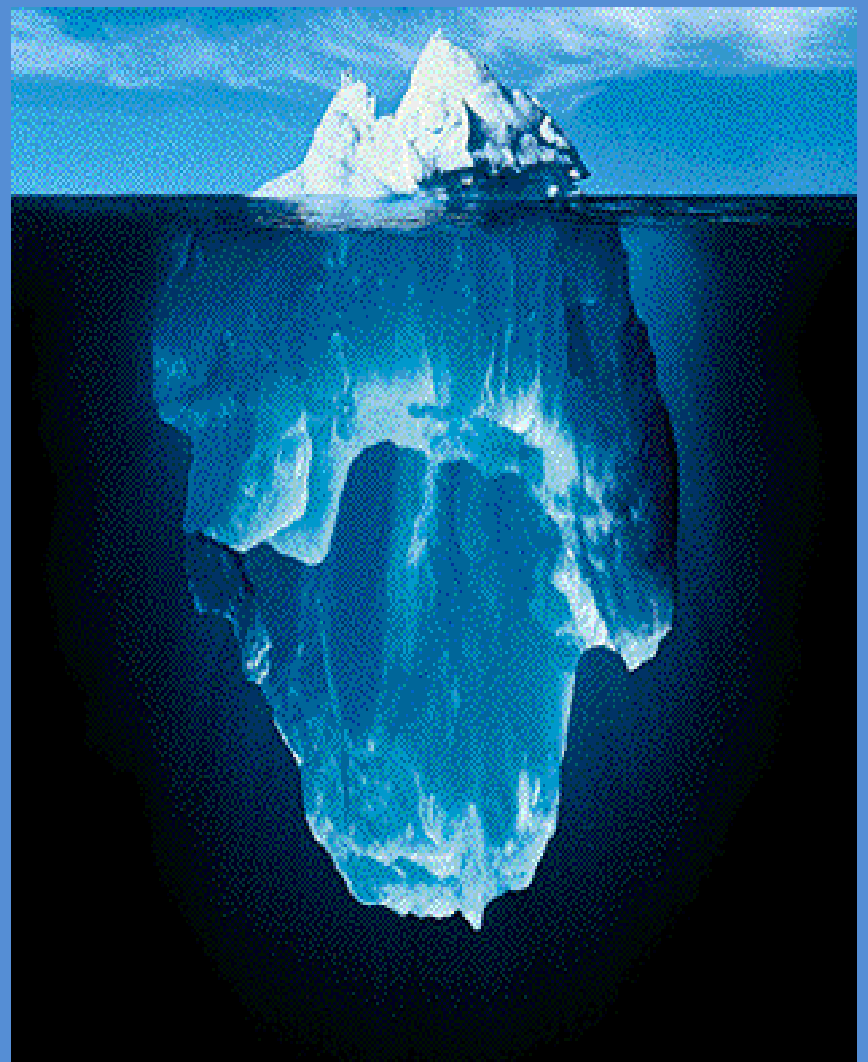
May et. al; 2025

- Even when meeting developmental norms, children with PAE exhibited trends of poorer growth and cognitive/behavioral traits than children without PAE. These findings support the notion that abstinence during pregnancy is best. (J Pediatr 2025;281:114327).

Faitaka et al. 2025

- In an Australian study of adverse childhood experiences (ACEs), stressors, and outcomes of 211 young people diagnosed with FASD, 40 % of study participants had contact with the CLS, and rates of criminal legal involvement were positively correlated with total ACE scores (especially exposure to domestic violence; Tan et al., 2022)

FAS: only the tip of the iceberg!



Fetal Alcohol Spectrum Disorders (FASD)

- **Fetal Alcohol Syndrome**
- **Alcohol-related Neurodevelopmental Disorder (ARND)** ("mild-moderate" FAS)
- **Prenatal Exposure to Alcohol** (clinically suspected to have FAS but appear ***physically normal***)

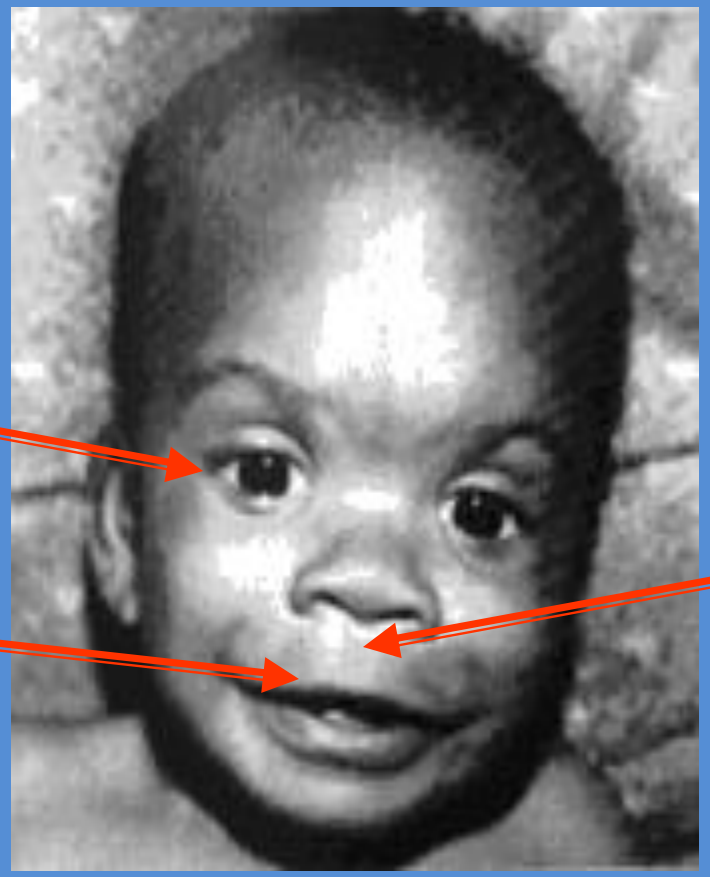
Adaped from Streissguth

Growth	Face	Brain				Risk	
Significant	Severe	Definite				High	
Moderate	Moderate	Probable				Some	
Mild	Mild	Possible				Not Known	
None	Absent	Unlikely				No risk	

FASD: Critical Facial Abnormalities

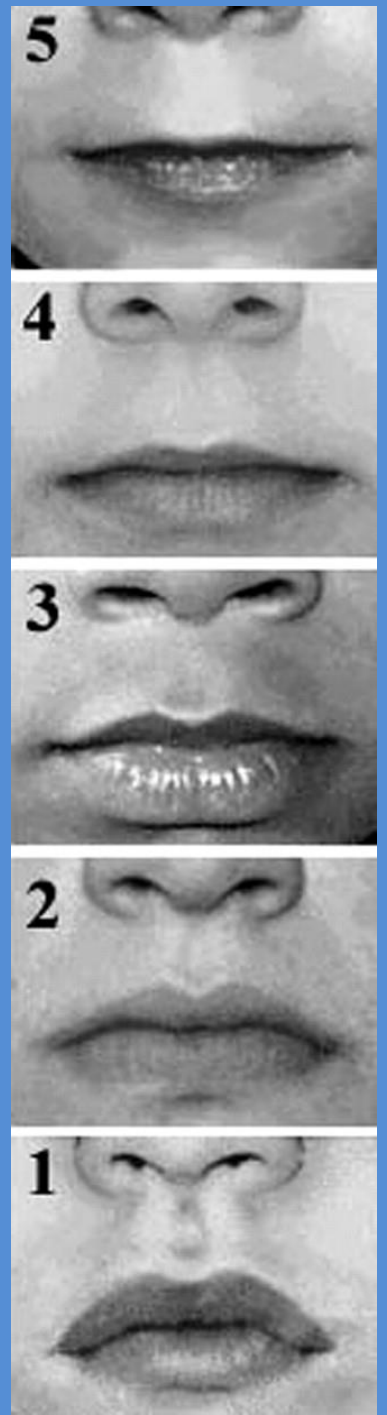
↓ Palpebral fissure (small eyes)

Thin upper lip



Smooth philtrum

Assessment of FAS:
Lip-Philtrum guides

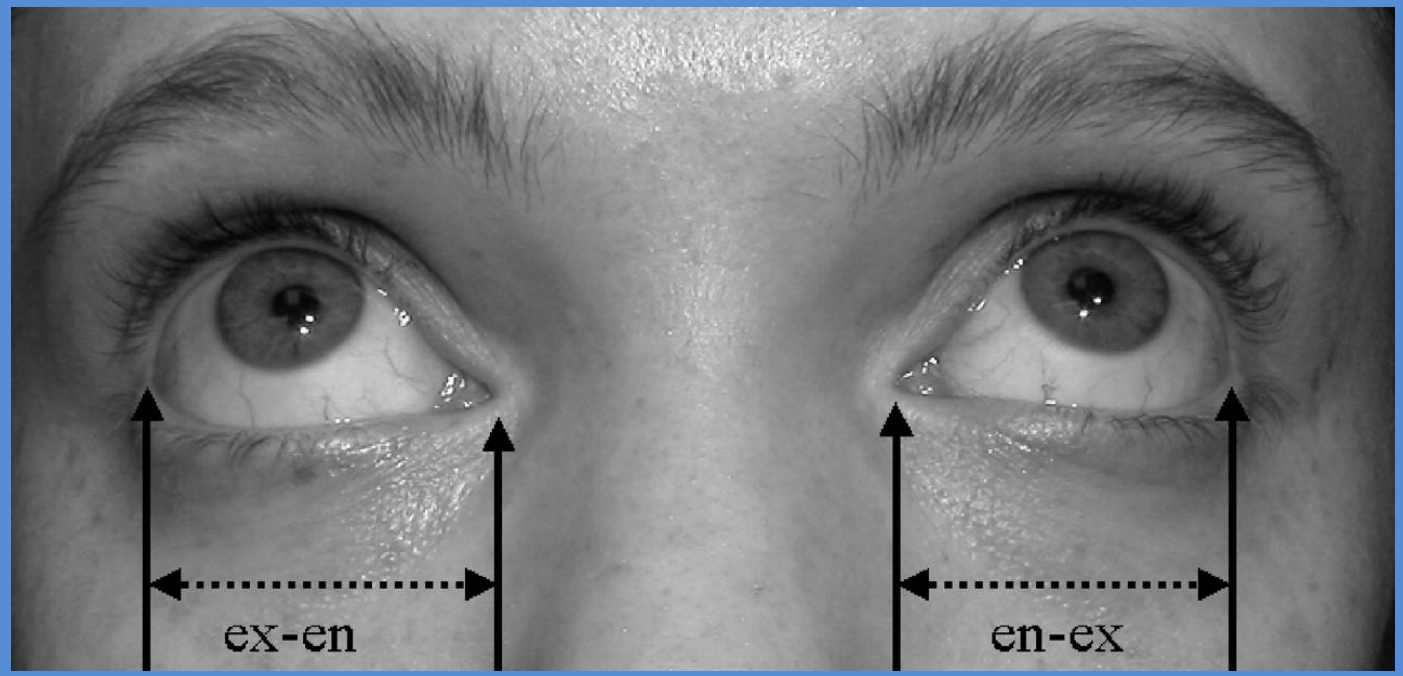


Hoyme, H. E. et al. Pediatrics 2005;115:39-47

Measurement of palpebral fissures in FAS

Hoyme, H. E. et al. Pediatrics 2005;115:39-47

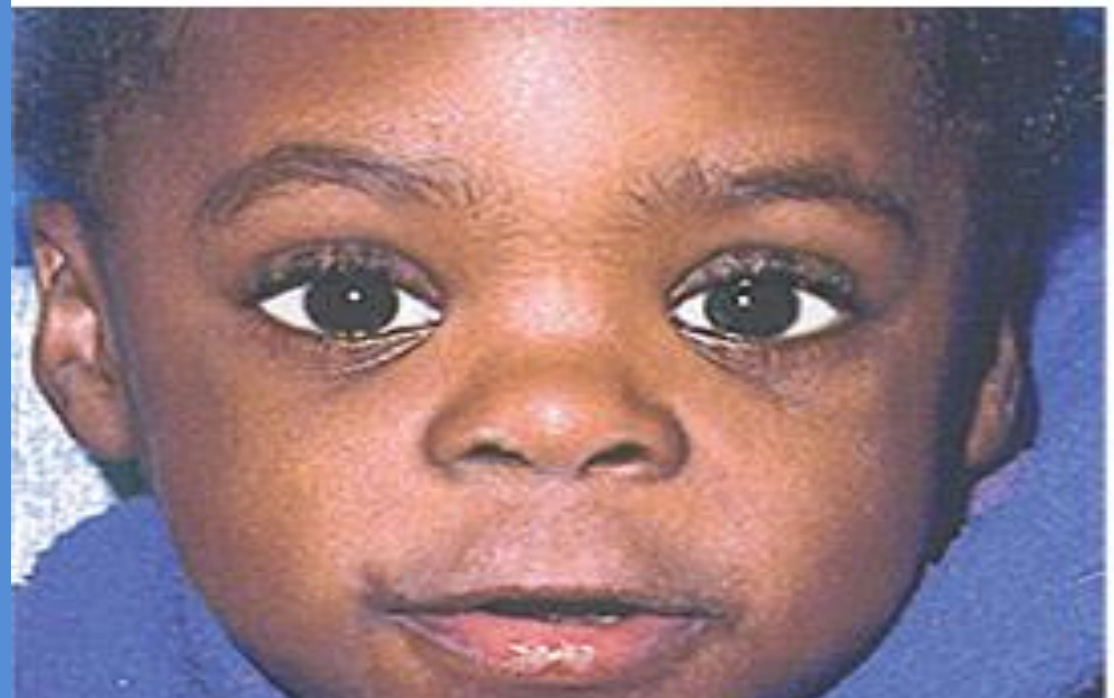
FAS Assessment:
Measuring palpebral fissure length

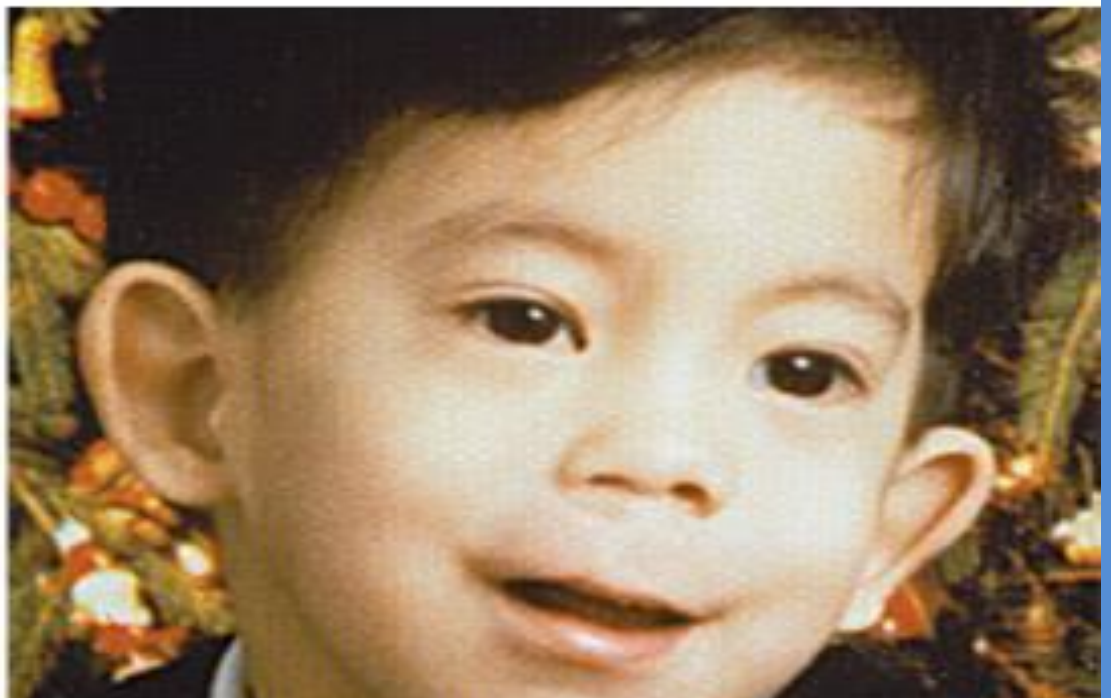


Chudley, A. E. et al. CMAJ 2005;172:S1-21S

CMAJ·JAMC

…and this!…clinical examples of FAS: transcending race



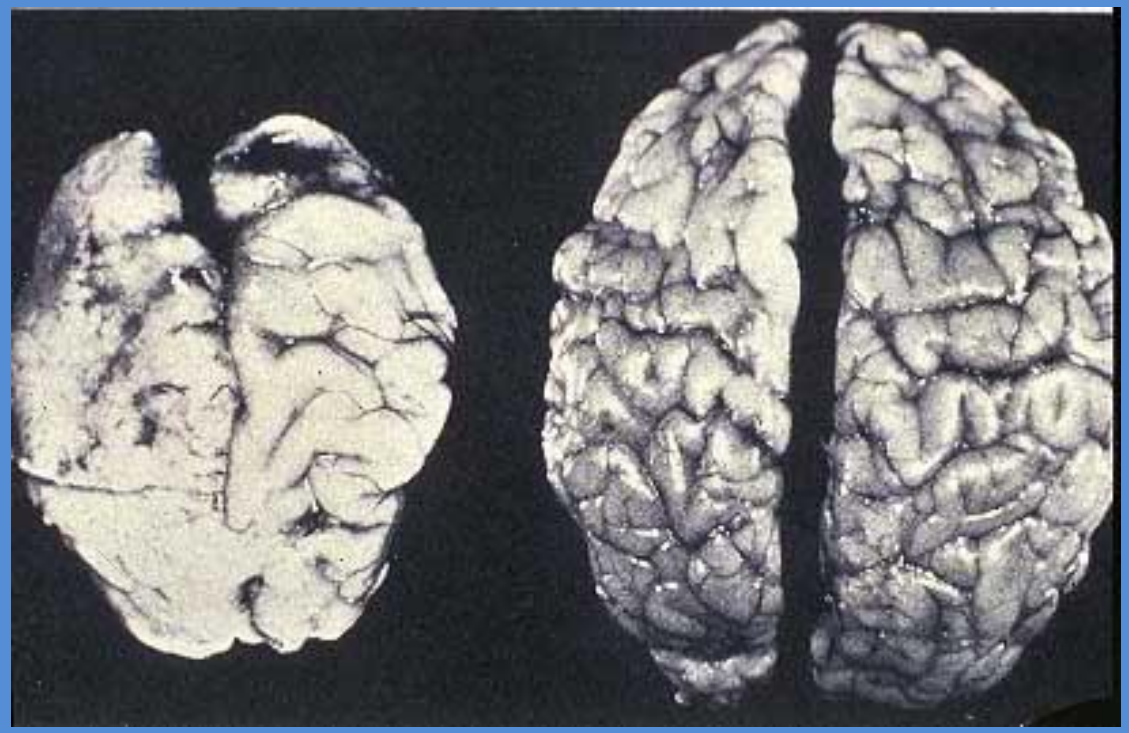


NORMAL

FAS

Severe brain damage caused by prenatal alcohol exposure

Severe FAS

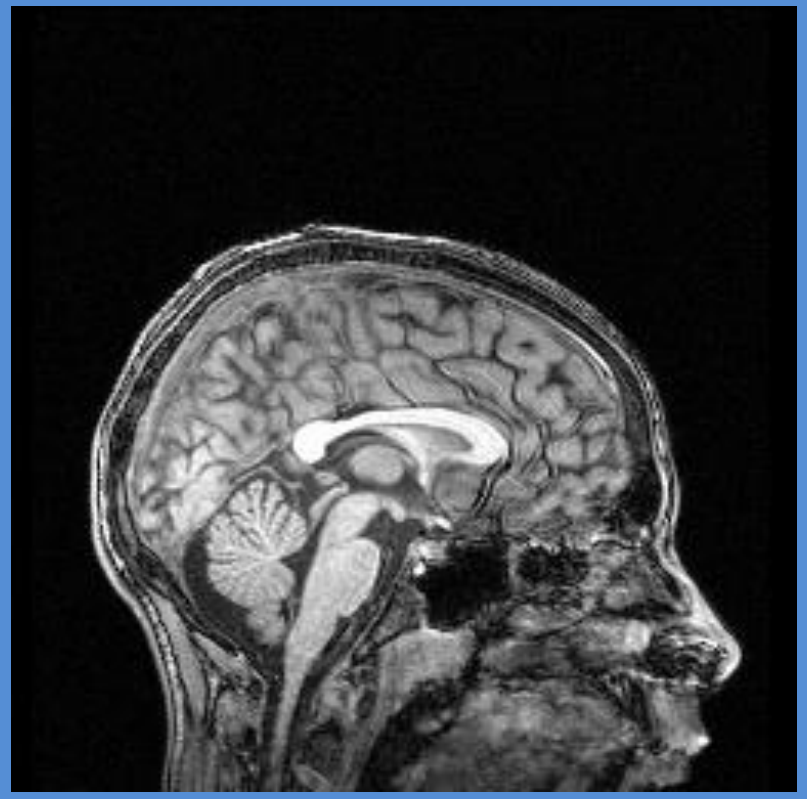


Normal Brain

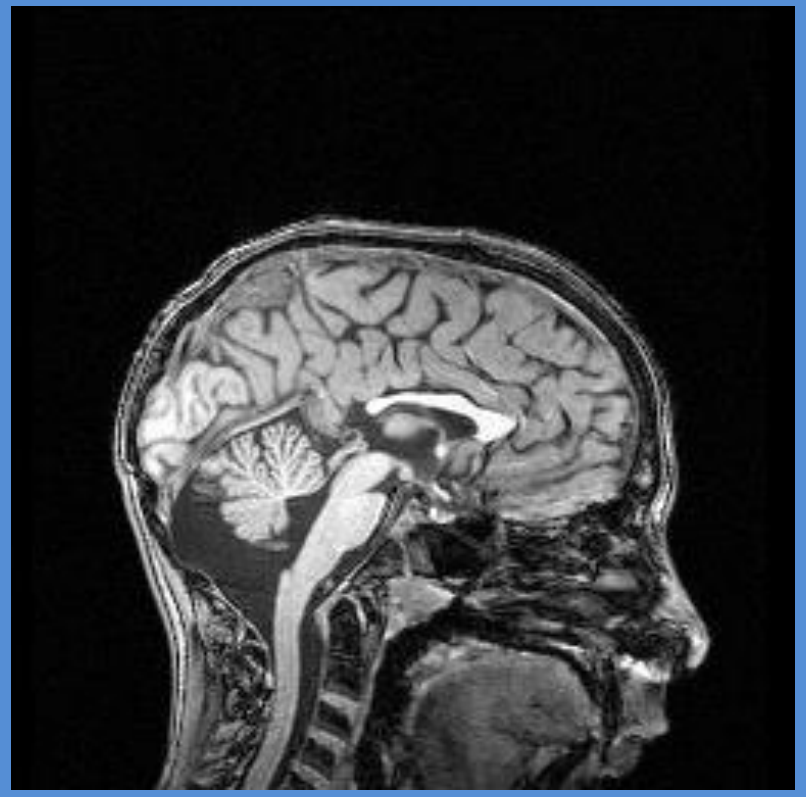
5-day old infants

photo: Clarren, 1986

Gross structural abnormalities in FAS
(12 year old male subjects)

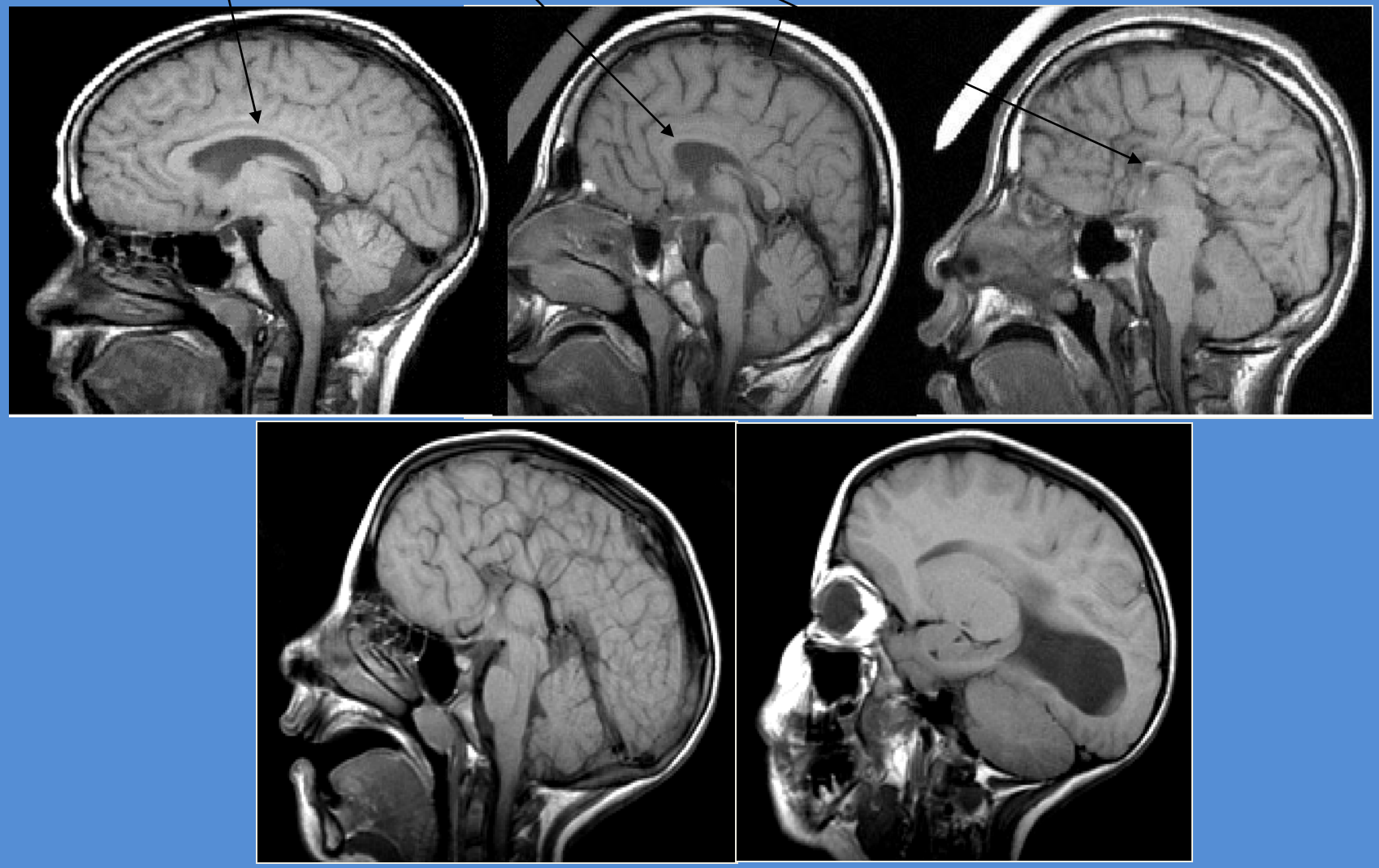


Normal Development



Fetal Alcohol Syndrome

Corpus callosum abnormalities in FASD



Mattson, et al., 1994; Mattson & Riley, 1995; Riley et al., 1995

- Fetal alcohol exposure changes the development and structure of the brain, so that affected children may have significant impairments with understanding and using conceptual thinking, memory, problem solving and generalization of concepts, time orientation, and motivation (Coles, 2003; Riley, 2001, 2003, 2005; Streissguth, 1997).

Flannagan, Pun, et.al, 2025

- There is also growing awareness that interpersonal and intergenerational trauma experiences are prevalent among people with FASD (Flannigan, Kapasi, et al., 2021), as well as within incarcerated populations (Wolff et al., 2014). Undoubtedly, the need for strengths based and trauma-informed practices in the FASD field are mirrored in the CLS (Branson et al., 2017).

Faitaka et al. 2025

- In an Australian study of adverse childhood experiences (ACEs), stressors, and outcomes of 211 young people diagnosed with FASD, 40 % of study participants had contact with the CLS, and rates of criminal legal involvement were positively correlated with total ACE scores (especially exposure to domestic violence; Tan et al., 2022)

FASD impact on neurodevelopment:
The CTAC experience

- ***37%*** of our traumatized child welfare sample (6-15 y/o) have been diagnosed with FASD
- CTAC first to describe ***additive impact*** of trauma + FASD on neurodevelopment (Henry, Sloane, & Black-Pond 2007)
- CTAC has not had much experience with ***non-traumatized*** FASD children
  - This FASD population: a ***critical*** research question

CTAC Population

- 92% had moderate to major attention deficits
- 88% had moderate to major memory problems
- 80% had moderate to major receptive language problems

2011 – 2021 WMU Sample Data

- Completed Trauma Screening Checklists 1460
- Endorsed for prenatal alcohol/SU/MS 1010
- # with Sentinel Facial Findings 48
- # Static Encephalopathy 88
- # Neurobehavioral Disorder 120
- No findings SFF or SE 252

- Exposure to marijuana in utero has been shown to have a detrimental effect

on many aspects of cognitive development, behavioral repertoire and lifestyle outcomes. These results come mostly from 3 prospective studies that have followed groups of mothers and children over long periods of time. These include the Ottawa Prenatal Prospective Study (OPPS:Fried, 1982; Fried, 1995) in Canada, the Maternal Health Practices and Child Development Project (MHPCDP; Goldschmidt et al., 2000; Day et al., 1994) in the US and the Generation R study in Europe (El Marrounet al., 2011; Jaddoe et al., 2012).

- Marijuana Meta Analysis Studies (Metz et. Al, 2015)

  Most significantly, at 6 years of age, children exposed prenatally to marijuana showed more impulsive and hyperactive behaviour (Fried et al., 1992; Leech et al., 1999). This continued into adolescence and was accompanied by problems in abstract and visual reasoning, as well as visuo-perceptual functioning (Goldschmidt, 2008).

The Risk of Labeling

- 1) An FASD label is something that I can’t change. What does that to self esteem and self worth.
- 2) An FASD label communicates I have brain damage.
- 3) An FASD label communicates that I am higher risk for multiple problems including criminality.

- More education on FAS
- More /FAS screening
- More awareness of FAS/FASD Assessment Processes
- More strategies to help those with FAS/FASD to be successful especially in the Criminal Justice System