



Clinical Addiction Research and Education

Alcohol and Pregnancy

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29-year-old female presents after a positive home pregnancy test and asks if it is okay to drink an occasional glass of wine during pregnancy.

She read in a popular pregnancy book that occasional alcohol use was safe.

What do you recommend regarding alcohol use and pregnancy and why?



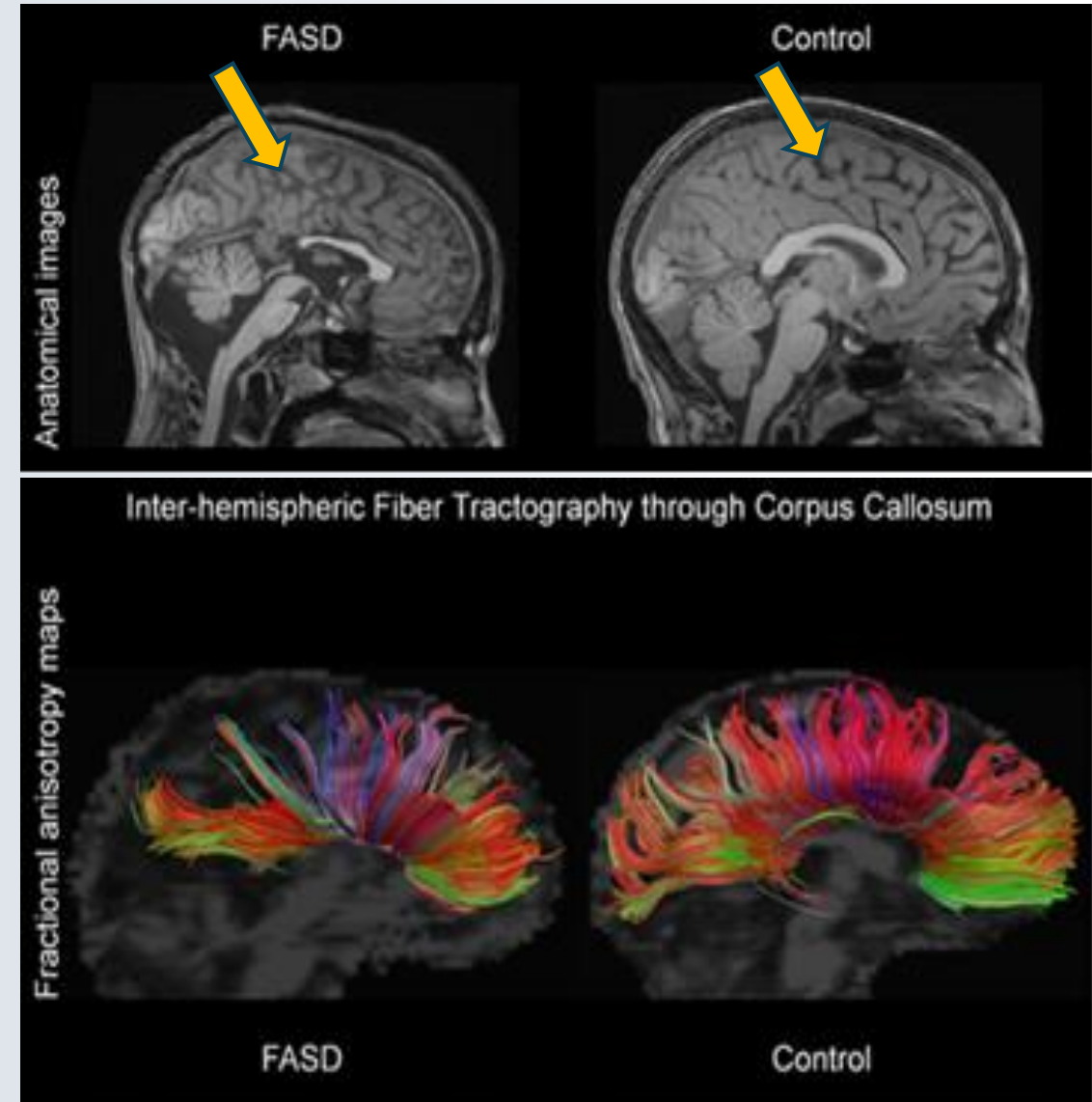
Fetal Alcohol Toxicity

- **Alcohol is a teratogen**
- Prenatal alcohol exposure (PAE) can impair brain development in all stages of gestation
 - Alcohol quickly equilibrates between maternal & fetal compartments rapidly reaching fetus
 - Amniotic sac serves as a reservoir for alcohol, prolonging fetal exposure
- Variables leading to impaired fetal development are complex and interrelated
 - Maternal and fetal genetics, maternal health and nutrition
 - Alcohol dose, pattern and timing of exposure with binge drinking being higher risk



PAE and the Brain

- Corpus callosum is under-developed in the child with an FASD
 - The callosum carries information between both sides of the brain and is critical for thinking, learning, memory
- Colored image shows fibers that fan out into the sides of the brain are underdeveloped in the child with an FASD

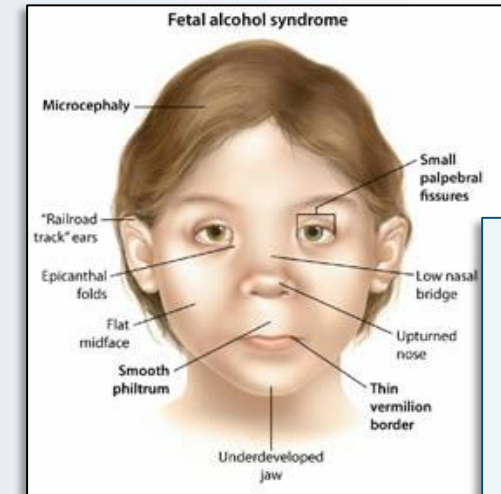




FASDs



FAS: Fetal Alcohol Syndrome



Few people with FASD have these facial features



FASDs



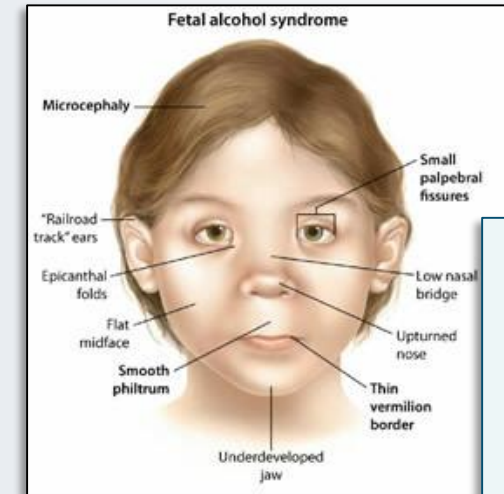
FAS: Fetal Alcohol Syndrome

pFAS: Partial FAS

ARND: Alcohol-Related Neurodevelopmental Disorder

ARBD: Alcohol-Related Birth Defects

ND-PAE*: Neurobehavioral Disorder associated w/ PAE



Few people
with FASD
have these
facial
features

*included in DSM-5 as “conditions for further study.”



FASDs



- FASDs are a range of conditions that include behavioral, learning, and physical problems
- In the US, FASDs are the **most common preventable** developmental disabilities affecting an estimated 1-5% of 1st grade children¹
- FASDs are **permanent**
- FASDs occur in all socioeconomic and ethnic groups²

1. May PA et al. *JAMA*. 2018

2. Popova S et al. *BMC Public Health*. 2019



FASD Manifestations

Physical Manifestations

- Low birth weight & growth
- Problems with heart, kidneys, & other organs
- Brain injury

Behavioral & Intellectual Disabilities

- Learning disabilities
- Hyperactivity
- Difficulty with attention
- Poor communication
- Poor reasoning & judgement
- Impulsivity, distractibility, poor self-regulation
- Poor boundaries

Life-Long Challenges

- School skills
- Social skills
- Living independently
- Mental health
- Substance use
- Employment
- Inappropriate sexual behavior
- Trouble with the law



FASD Prevention Challenges

Non-Pregnant Women of Reproductive Age

- 54% report alcohol use in previous 30 days¹
- 18% report binge drinking in previous 30 days¹

1. Tan CH, et al. *MMWR*. 2015

Unintended Pregnancies

- 49% of pregnancies are unplanned¹
- Pregnancy may not be known for up to 6+ weeks into pregnancy²

2. Green PP, et al. *MMWR*. 2016

Pregnant Women

- 13.5% report alcohol use in previous 30 days³
- 5% reported binge drinking in previous 30 days³

3. Gosdin LK et al. *MMWR*. 2022



Reasons for Alcohol Use During Pregnancy

4 Themes Theme 1: *Influence of individual beliefs about alcohol*

- Beneficial properties
- Harmful only in specific types and quantities
- Less harmful than other prenatal exposures (e.g., smoking)

Theme 2: *Influence of culture*

- Social acceptability and pressure
- Part of tradition and custom
- Influenced by personal/peer experiences in the community



Reasons for Alcohol Use During Pregnancy

4 Themes Theme 3: *Influence of knowledge and advice*

- Consumed alcohol for other health conditions (e.g., nausea)
- Lack of awareness/knowledge of the adverse impacts of alcohol on the fetus
- Insufficient or mixed advice from medical practitioners

Theme 4: *Influence of pregnancy circumstances*

- Consumed alcohol as a coping mechanism for adverse events during pregnancy
- Unplanned or unwanted pregnancy
- Alcohol use disorder



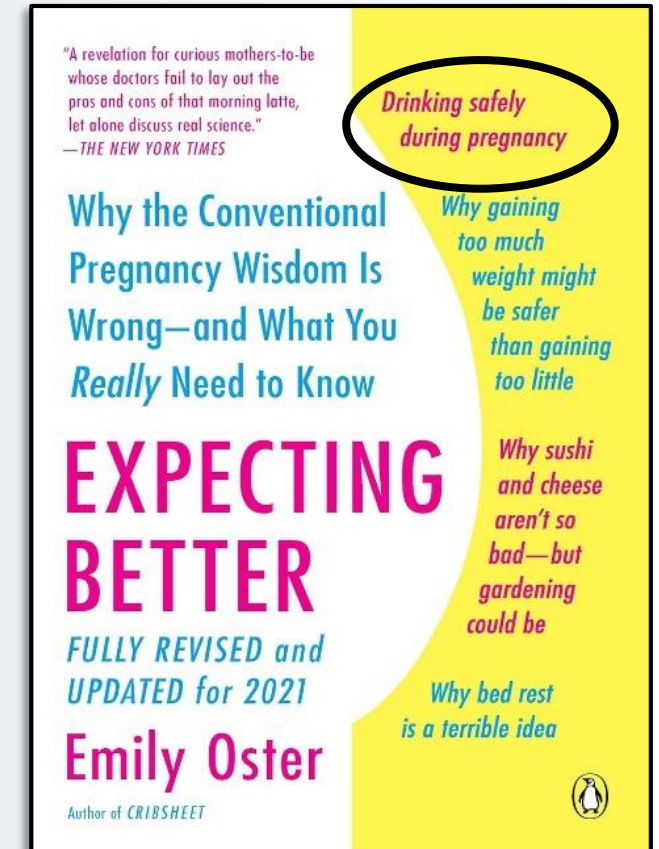
Education Gaps & Mixed Messaging

- **Lack of education and awareness among health care providers**
 - Only 16% of pregnant persons with known past 30-day alcohol use were advised by a health care provider to quit or reduce their alcohol use (Luong J, et al. *MMWR* 2023)

Mixed messaging... —————→

“more than the occasional drink is likely perfectly fine,...Specifically, 1 to 2 drinks a week in the 1st trimester, and up to a drink a day in the 2nd and 3rd trimester, is likely safe”

Expecting Better by Emily Oster





29-year-old female presents after a positive home pregnancy test and asks if it is okay to drink an occasional glass of wine during pregnancy.

She read in a popular pregnancy book that occasional alcohol use was safe.

What do you recommend regarding alcohol use and pregnancy and why?

“Because alcohol is a teratogen, the safest choice is to avoid alcohol when trying to become pregnant and when pregnant.”

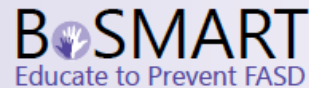
“There is no known safe amount of alcohol, type of alcohol, or time of alcohol use during pregnancy or while trying to become pregnant”



Thanks!



Alcohol and Pregnancy: The More You Know



Fetal Alcohol Spectrum Disorders (FASDs) are the most common preventable developmental disability in the US; however, they are more often than not under-appreciated and under-recognized.

