

# Introduction to FASD Screening and Diagnosis



Ask the Expert Webinar

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Supporting communities to  
give every child a Healthy Start.

Healthy Start EPIC Center

# Webinar Objectives

**By the end of this webinar, participants will be able to:**

- Discuss the effects of alcohol on the developing embryo/fetus.
- Explain the diagnostic framework for fetal alcohol syndrome (FAS).
- Describe the considerations involved in making an appropriate referral for an FAS diagnostic assessment.

# Why Fetal Alcohol Spectrum Disorder?

- **Healthy Start: addressing infant mortality**
  - Risk factors: drinking alcohol during pregnancy

# Why Fetal Alcohol Spectrum Disorder?

- **Top 5 Causes of Infant Mortality in the US (2014):**
  - Birth defects
  - Preterm birth (birth before 37 weeks gestation) and low birth weight
  - Maternal complications of pregnancy
  - Sudden Infant Death Syndrome (SIDS)
  - Injuries (e.g., suffocation).

# Why Fetal Alcohol Spectrum Disorder?

- Children of women who were diagnosed with an alcohol disorder during pregnancy or within a year of giving birth, had **3 times higher risk of dying from SIDS** (O'Leary 2013: <http://pediatrics.aappublications.org/content/pediatrics/early/2013/02/20/peds.2012-1907.full.pdf>)

# Why Fetal Alcohol Spectrum Disorder?

- Individuals affected by prenatal alcohol exposure can have a range of serious, lifelong problems including physical, cognitive, behavioral, and social deficits.



*Photo (used with permission): Children with FAS*

# Public Health Message

- According to the Centers for Disease Control and Prevention (CDC), the following is an ideal prevention message related to alcohol consumption by women of childbearing age:
  - *Women who are pregnant or could become pregnant should not consume alcohol*

# Alcohol Use and Pregnancy

- **Drinking alcohol has immediate effects that can increase the risk of a number of harmful conditions, including:**
  - Unintentional injuries such as traffic injuries, falls, unintentional firearm injuries.
  - Violence such as intimate partner violence, child maltreatment.
  - Risky sexual behaviors such as unprotected sex, sex with multiple partners, increased risk of sexual assault.

# Alcohol Use and Pregnancy

- **50% of non-pregnant women aged 18-44 years report alcohol use**
- **About 10.2% of pregnant women used alcohol**
  - Centers for Disease Control and Prevention. [Alcohol use and binge drinking among women of childbearing age - United States, 2011-2013](#) 2015; 64(37);1042-1046.

# Effects of Alcohol on Developing Embryo/Fetus

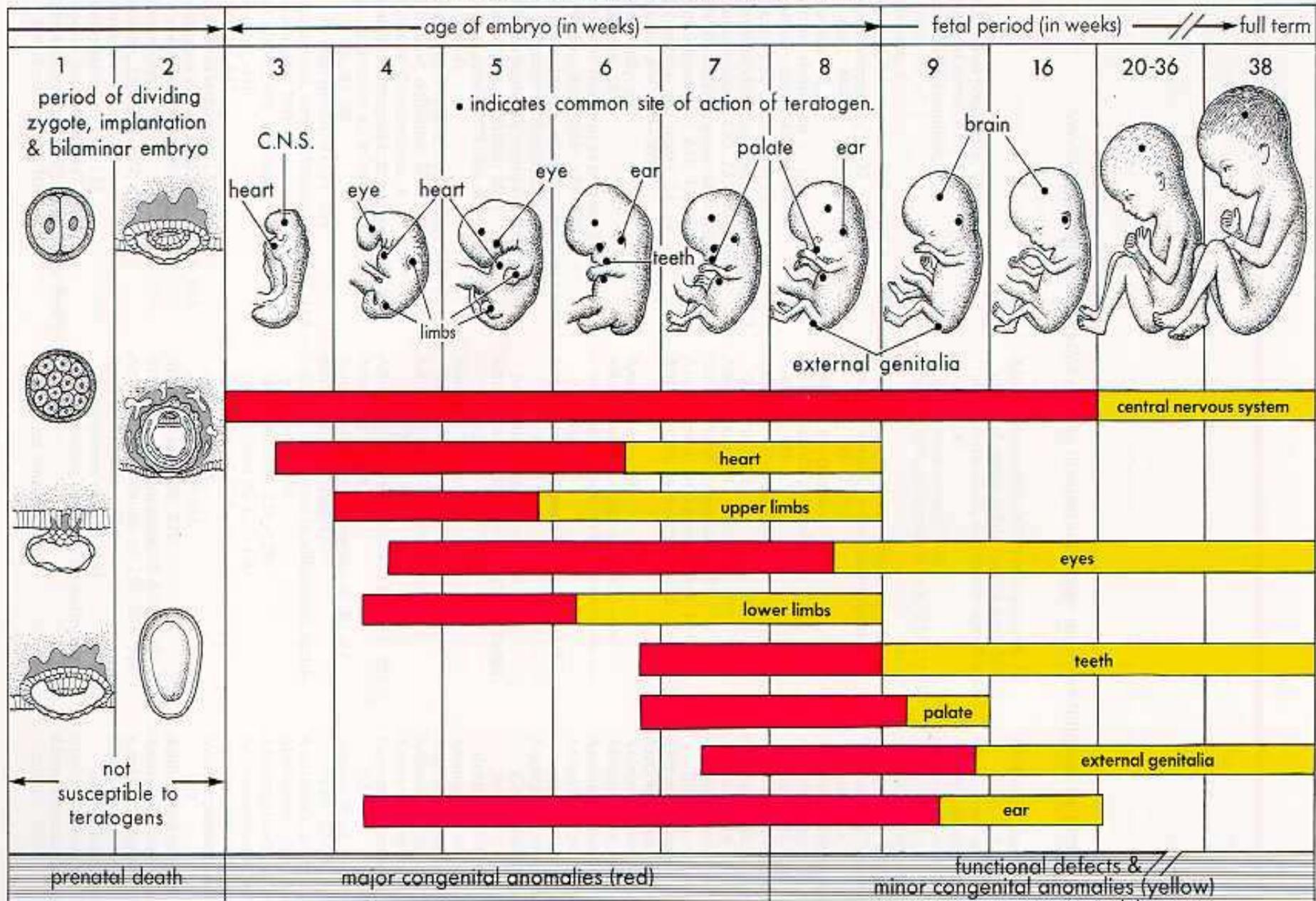
- Alcohol readily crosses the placenta:
  - Fetal liver/organs unable to fully metabolize alcohol
  - Embryo/fetus exposed to similar BAC (blood alcohol concentrations) levels as mother
- Specific manifestations of prenatal alcohol exposure are affected by timing, dose, and other fetal/maternal factors
- Some “catch-up” in fetal growth and development may be possible if drinking stops at any time during pregnancy

# Timing of an Exposure

- There are multiple critical periods associated with prenatal alcohol exposure:
  - **1st Trimester Drinking:** risk for major morphological abnormalities, characteristic facial features, growth retardation, and neurological effects
  - **2nd Trimester Drinking:** risk for spontaneous abortion, growth retardation, and neurological effects
  - **3rd Trimester Drinking:** risk for growth retardation and neurological effects



## CRITICAL PERIODS IN HUMAN DEVELOPMENT\*



\* Red indicates highly sensitive periods when teratogens may induce major anomalies.

# Critical Period

Scientific studies have shown that prenatal alcohol exposure can affect the development of the fetus at any point during gestation.



# Dose (Amount of Exposure)

**Threshold Effect:** There is no known safe level of alcohol use during pregnancy

- **Dose-Response Rate:** The higher the BAC level and the longer the exposure, the greater the risk alcohol poses to developing embryo/fetus



# Impact of Alcohol on Pregnancy Outcomes

- **Premature Birth**
- **Pre- and Postnatal Growth Retardation**
- **Physical Malformations**
- **Microcephaly**
- **Cognitive and Behavioral Problems**

# The “Spectrum” in FASD

- **Fetal Alcohol Spectrum Disorders (FASD):** an umbrella term describing the range of effects that can result from prenatal alcohol exposure—but is not a diagnostic term
- **Fetal Alcohol Syndrome (FAS):** medical diagnosis, usually made by a dysmorphologist, clinical geneticist, or developmental pediatrician

# The “Spectrum” in FASD

Four Diagnoses under the Umbrella of FASD					
Diagnosis		Growth	FAS Face	Brain	Alcohol
1. <b>FAS</b>	Fetal Alcohol Syndrome	growth	face	severe	alc
2. <b>PFAS</b>	Partial FAS		face	severe	alc
3. <b>SE/AE*</b>	Static Encephalopathy / Alc Exposed			severe	alc
4. <b>ND/AE</b>	Neurobehavioral Disorder / Alc Exposed			moderate	alc

\* Also referred to as:

- Alcohol Related Neurodevelopmental Disorder (ARND) or
- Neurodevelopmental Disorder Prenatal Alcohol Exposed (ND-PAE)

<https://depts.washington.edu/fasdpn/htmls/fasd-fas.htm>

# Why Fetal Alcohol Spectrum Disorder?

- Down syndrome 1.2/1000 births
- Cleft lip+/-palate 1.2/1000 births
- Spina bifida 1/1000 births
- Autism: 12.5-14/1000
- FAS: 6- 9/1000
- All FASDs: 24 -48/1000

(May 2014)

# Why Fetal Alcohol Spectrum Disorder?

- Race/Ethnicity differences and disparities
- Increased prevalence among children in child welfare (Lange, 2013)
  - FAS: 60/1000 children (6%)
  - All FASD: 169/1000 children (16.9%)



# Diagnostic Framework for Fetal Alcohol Syndrome (FAS)

# Considering a Referral for FASD Diagnosis

**Impetus for considering a referral for diagnosis depends on the individual context, but may include:**

- Physical/ Facial abnormalities
- Growth delay
- Developmental concerns
- Behavioral concerns
- Prenatal alcohol exposure

# Considering a Referral for FASD Diagnosis

## Many points of initiation:

- Clinician
- Parent/foster care provider
- Social services provider/educator

# Components of an FASD Evaluation

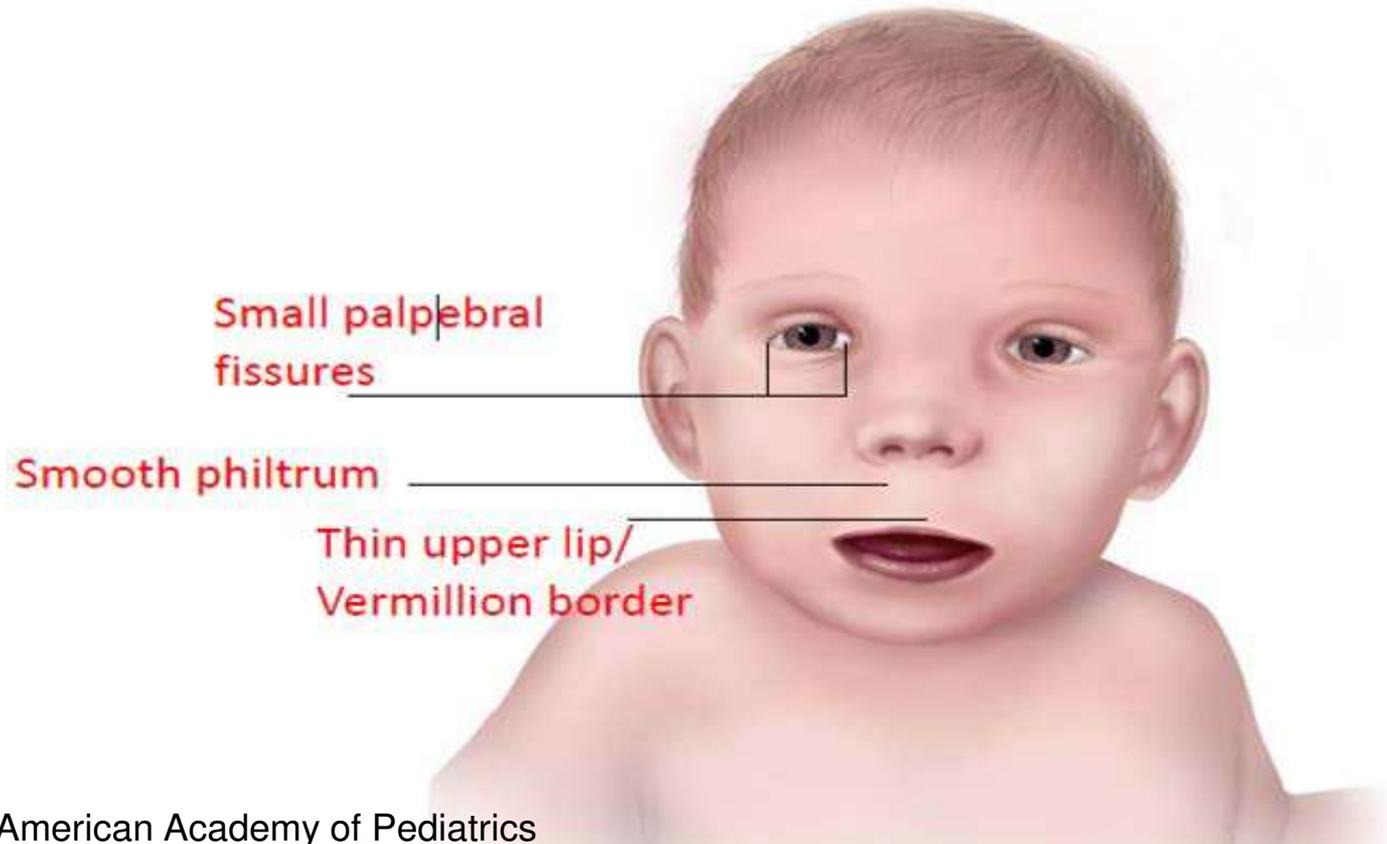
- **Comprehensive history**
- **Clinical interviews**
- **Physical assessment**

Diagnosis can be made only by a physician;  
optimally as a member of an interdisciplinary  
team

# What are diagnostic criteria for an FAS?

## Physical Features

- Specific facial anomalies



Source: American Academy of Pediatrics

# Considering a Referral for FASD Diagnosis

## Physical features

- Specific facial anomalies
- Growth deficits
  - Pre- and/or Postnatal Growth Retardation
    - Height and/or weight at or below the 10th percentile

# What are diagnostic criteria for an FAS?

## Physical features

- Specific facial anomalies
- Growth deficits
- Occasional findings
  - Eye
  - Cleft palate
  - Heart defects
  - Vertebrae
  - Kidneys
  - Limbs

# What are diagnostic criteria for an FAS?

## Physical features

- Specific facial anomalies
- Growth deficits
- Occasional findings
- CNS structural abnormalities
  - Microcephaly
  - Clinically significant structural brain anomalies on imaging

# What are diagnostic criteria for an FAS?

## Physical features

## Central nervous system abnormalities

- **GLOBAL:** Performance substantially below that expected for an individual's age, schooling, or circumstances --or--
- **FUNCTIONAL:** Deficits in three or more specific domains

# What are diagnostic criteria for an FAS?

**Physical features**

**Central nervous system abnormalities**

**Maternal alcohol exposure**

- Not essential in making the FAS diagnosis, but becomes so for other prenatal alcohol-related disorders.
- Record exposure as
  - Confirmed prenatal alcohol exposure
  - Unknown maternal alcohol exposure

# Confirmed Maternal Alcohol Exposure

## Document alcohol use patterns:

- Clinical observation/positive blood alcohol levels
- Self-report
- Reports by reliable informant
- History of alcohol treatment
- Legal or medical problems associated with alcohol use/abuse

# Unknown Maternal Alcohol Exposure

Neither the presence nor absence of exposure can be confirmed. Examples include:

- Adoption where no prenatal records are available
- Birth mother may have an alcohol use disorder, but confirmed evidence is lacking
- Conflicting reports between reliable informants

# Differential Diagnosis

Physical features

Central nervous system abnormalities

Maternal Exposure

No single feature of FAS is unique to prenatal alcohol exposure

# Differential Diagnosis

Four Diagnoses under the Umbrella of FASD					
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# Providing Feedback for Family

- Provide emotional support to family  
Outline methods of evaluation used
- Report results of evaluation and recommended interventions
- Outline other contributing factors
- Educate family about FASDs and on navigating the educational and social services systems
- Develop a treatment plan for the child

# Considering a Referral for FASD Diagnosis

## Issues to consider include:

- Lack of information about maternal alcohol exposure/ Difficulty asking
- Potential stigmatization/criminalization
- Lack of information about where to refer
- Referral resources not available
- Lack of information about services available if a child/individual receives a diagnosis

# Initiative to Address Alcohol and Substance Exposed Pregnancies

- **Discussion Groups:** Thank you for participating! Please sign up for the second ones to continue our discussions
- **Training and technical assistance offerings:** Keep an eye out for relevant topics
- **Opioid and Behavioral Health Resources: Quick Start List:** New resource
- **Advisory Group:** If you are interested in serving on an advisory committee, please let us know





*Questions?*  
**Thank You!**

**Hannabah Blue & Janet Van Ness**

# Wrap Up and Reminders

Check out these three resources in the Healthy Start Evidence Based Inventory:

- ✓ AAP's FASD Toolkit (<http://healthystartepic.org/resources/evidence-based-practices/aap-fetal-alcohol-spectrum-disorders-toolkit/>)
- ✓ ACOG's FASD Prevention Program (<http://healthystartepic.org/resources/evidence-based-practices/acog-fetal-alcohol-spectrum-disorders-fasd-prevention-program/>)
- ✓ Tip 58: Addressing FASD – SAMHSA's Treatment Improvement Protocol (<http://healthystartepic.org/resources/evidence-based-practices/tip-58-addressing-fetal-alcohol-spectrum-disorders-fasd/>)
- ✓ TWEAK scale for screening: <http://healthystartepic.org/resources/evidence-based-practices/tweak-tolerance-worry-eye-opener-amnesia-cut-down/>
- ✓ Archived webinars
  - ✓ (February 21, 2017: Addressing FASD in the Context of Healthy Start (<http://healthystartepic.org/event/ask-the-expert-addressing-fetal-alcohol-spectrum-disorders-in-the-context-of-healthy-start-what-do-we-need-to-know/>))
  - ✓ April 13, 2017: Using SBIRT in Healthy Start: Destigmatizing Addiction and Cultural Considerations) (<http://healthystartepic.org/event/using-sbirt-in-healthy-start-destigmatizing-addiction-and-cultural-considerations/>)

## Upcoming webinars:

**June 6: 3-4:30pm ET** - Six months of HS Screening Tools Implementation: Best Practices, Barriers, and Resolutions Administering the HS Screening Tools

**June 22: 3-4:30pm ET** - Healthy Living Series Kick- Off Webinar

