

FASD, ARND, FAS, FAE

What does it all mean?

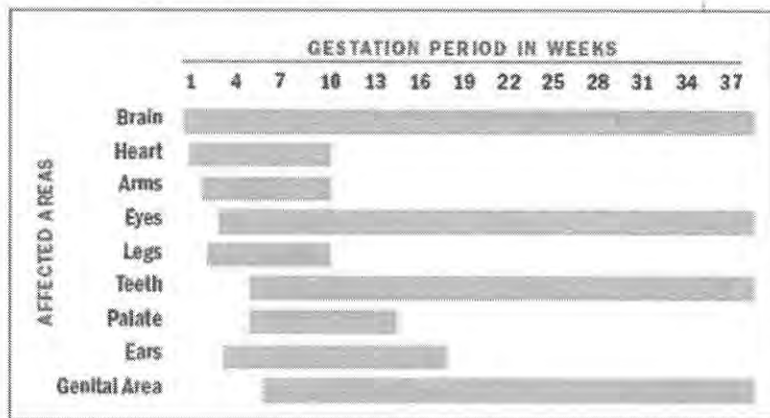
By Arthur Becker-Weidman, Ph.D.

Fetal Alcohol Spectrum Disorder, Alcohol Related Neurodevelopmental Disorder, Fetal Alcohol Syndrome, Fetal Alcohol Effect Explained

Fetal Alcohol Spectrum Disorder is the broad term for a continuum from Fetal Alcohol Syndrome to Fetal Alcohol Effects to Fetal Alcohol Neurodevelopmental Disorder. There is no safe level of exposure to alcohol. Ethanol freely crosses the blood-placenta barrier, and so directly affects the developing fetus. These effects are dependent on dosage and timing. So, for example, early exposure is more damaging than later exposure. Higher levels of exposure are more damaging than lower levels. In addition, type of drinking has differential effects. So, for example, a mother who drinks one or two drinks a day, while still having potentially serious effects on the developing fetus, is less damaging than a mother who binges and has two six-packs of beer on Friday nights.

In the past, a child whose mother drank alcohol during pregnancy, but who had only a few or no physical features of alcohol exposure was said to have Fetal Alcohol Effects. These children usually had some problems in intellectual, behavioral or emotional development. More recently, research has demonstrated that children with FAE have significant structural and functional changes in the brain. The current term for children who have been exposed to alcohol but do not meet criteria in all three diagnostic categories is Alcohol-Related Neurodevelopmental Disorder or Alcohol-Related Birth Defects. FASD is not meant to serve as a diagnostic term. It is a unifying concept to help understand the many ways in which prenatal alcohol exposure can affect development of the child.

Fig. 2 Areas of Developing Fetus Affected During Pregnancy by Prenatal Alcohol Exposure



Fetal Alcohol Syndrome

- Confirmed maternal alcohol consumption
- Growth deficiency prenatally or postnatally in height, weight or both
- Specific patterns of anomalies of facial features
- Central nervous system abnormalities

How prevalent is FASD?

FASD probably occurs in .5 to 1.5 percent of all births. U.S. Health and Human Services in 2007 found that 40,000 newborns a year meet the criteria for FASD. Other studies have found the following: 11 percent of all newborns are exposed prenatally each year to drugs; half of young children placed in foster care have been prenatally exposed to cocaine.

Among internationally adopted children, 15 per 1,000 births have FASD. A study of children from Russian orphanages found 60 percent of children had FASD. The average rate of alcohol consumption among Russians and Eastern Europeans is about three shots of 100-proof vodka per day.

So what can this mean for the developing child?

It is important to realize that many of the effects of prenatal exposure to alcohol and drugs, such as cocaine, meth and others, can be subtle. These effects are most evident in brain development and, therefore, functioning in several important domains:

Attachment

- Impaired capacity to notice and respond to social cues and lead to difficulties in developing a secure attachment to primary caregivers.

Biology

- Sensory integration difficulties and impairments in brain functioning.

Emotional Regulation

- Because of damage to various brain structures, particularly those in the limbic system can lead to poor emotional regulation and such behaviors as temper tantrums and aggressive behaviors when in stressful situations.

Behavioral Regulation

- Impaired cognitive functions can lead to difficulties with cause-effect thinking, judgment and appreciating the consequences of actions.

Cognition

- Memory, learning and other executive functions may be impaired.

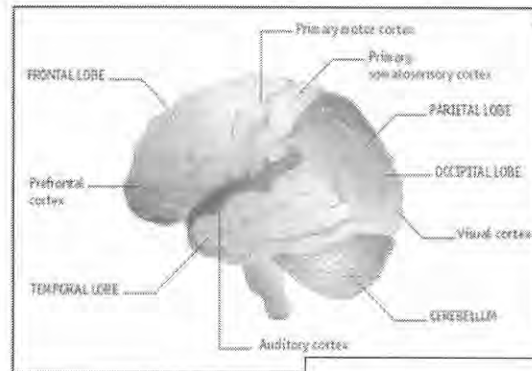
Self-Concept

- As the result of primary and secondary disabilities, the child's self-concept can be damaged.

The adjacent picture illustrates how the different domains interact and are integrated by the brain. Alcohol can significantly disrupt these pathways and impair the healthy integration sensory input with memory formation and recall, and then decision making, judgment, planning and other executive functions.

Prenatal exposure to alcohol has damaging effects of several important brain structures. For example, the hippocampus connects sensory input to motor output and is vital for the formation, retention and recall of memory. Damage to the hippocampus interferes with the child's using sensory information, such as vision, and connecting that information to a motor activity. In addition, impairment in the formation, retention and recall of information leads to learning and memory problems. For example, asking a child to take a note to the teacher often leads to the child taking the note to school, but not recalling what to do with it when the child gets there. Another example might be that you spend Saturday helping your child learn the multiplication tables, which the child seems to do. However, come Monday's test, the child fails and acts as if he or she never studied at all. In fact, it is most likely that the information moved from working to short-term memory but never made it to long-term memory. Or, the stress of the test made recall impossible.

Other alcohol-induced structural changes in the brain can occur in the corpus callosum, the section of the brain that permits the two major halves of the brain to share

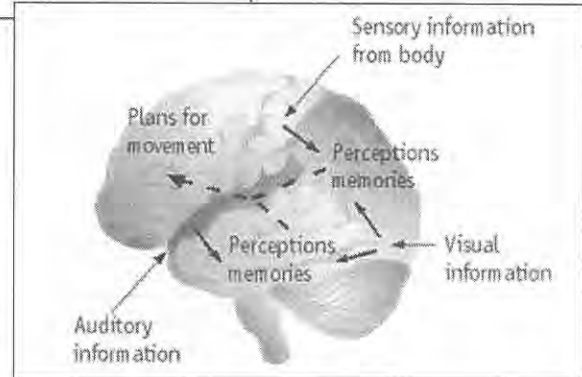


information. Children prenatally exposed to alcohol often have a thinned corpus callosum. This impairs communication within the brain. If this communication is impaired, then some types of information can never reach consciousness. For example, a child may be able to recite the rules for good behavior in the school lunchroom, but then cannot control or regulate his or her behavior in accordance with the rules. The thalamus receives input from all over the body and sends it to the cerebral cortex, the area of the brain responsible for cognition, executive functions and learning. The thalamus helps organize behavior related to survival — fighting, feeding, fleeing. This is why children with ARND often get a look of panic in their eyes when faced with a sudden change, threat or overloaded with information. Parents describe the children as “not there.” Also, the child does not learn from experience. Parents describe the child as “stubborn,” but the connections between past instructions or experience and current behavior just don't exist.

Cognition

Four areas of information processing can be affected:

- Input (taking in and recording)
- Integration (interpreting the input and connecting it with other relevant information)
- Memory (storing for later usage)
 - Memory functions also involve the movement of information from working memory, to short-term memory to long-term memory to permanent memory. Prenatal



exposure to alcohol can cause significant impairments in the person's capacity to move information along this continuum. As a result, it can sometimes appear that the child is “acting dumb” when it is more likely that the child actually has not moved the information from working to short-term to longer-term memory.

- Output (involving retrieval and appropriate use of language and motor skills).

Children with FASD often have a variety of primary and secondary disabilities. More than 90 percent of children with FASD have mental health problems and about 50 percent of those older than 12 have disrupted school experiences, trouble with the law, which is frequently severe enough to require confinement. They also engage in relatively high rates of inappropriate sexual behavior and a significant number have alcohol and drug abuse problems.

Children with FASD often have lower IQ scores and significant variability in the sub-scales. They frequently have impaired reading, spelling and math skills. These children often function at significantly lower levels of adaptive functioning than their chronological age or IQ would suggest. Other

areas of concern include sensory integration dysfunction. They are often overly sensitive to sensory input, bright lights, loud noises, shirt tags and seams, certain food textures, and other difficulties.

Other areas of dysfunction:

Memory Problems

- Working memory: A central issue for children with FASD is working memory and processing speed issues.
- Multiplication: This is a red flag. Children

The objective is for parents to attain higher levels of parenting competence and experience decreased stress, the child's exhibiting appropriate sensory responsiveness, with a resulting enhancement of parent/child attunement.

with FASD often have significant difficulty remembering their math facts. No matter how hard they try and whatever memorization methods are used, they just don't seem to keep the math facts in working memory. Accommodations must be provided to help in this situation. Charts and calculators are two examples of such accommodations.

- Time sequencing: These children can often not tell time.

Information Processing Problems:

- Do not complete tasks or chores and may appear to be oppositional.
- Have trouble determining what to do in a given situation.
- Do not ask questions because they want to fit in.
- Say they understand when they do not.
- Have verbal expressive skills that often exceed their level of understanding.
- Misinterpret others' words, actions or body movements.
- Have trouble following multiple directions.

Executive Function Problems

- Go with strangers.
- Repeatedly break the rules.
- Do not learn from mistakes or natural consequences.
- Frequently do not respond to point, level

or sticker systems.

- Have trouble with time and money.
 - Give in to peer pressure.
 - Cannot entertain themselves.
 - Trouble shifting from task to task.
 - Attention issues.
- ##### **Self-Esteem and Personal Issues**
- Function unevenly in school, work and development.
 - Experience multiple losses.
 - Are seen as lazy, uncooperative and unmotivated.

- Have hygiene problems.
- Do not accurately pick up social cues.

Often misdiagnosed with:

- Attention Deficit Disorder
- Attention Deficit/Hyperactivity Disorder
- Oppositional Defiant Disorder
- Reactive Attachment Disorder
- Learning Disability
- Speech and language delay
- Pervasive Development Disorder
- Developmental Receptive Language Disorder
- Sensory Integration Dysfunction
- Conduct Disorder, Seriously Emotionally Disturbed
- Borderline Personality Disorder
- Antisocial Personality Disorder
- Autism, Aspergers

What to do and what works?

- Stable home
 - Early diagnosis, before age 6
 - No violence against oneself
 - Recognized disabilities
 - Diagnosis of FAS/FASD
 - Good quality home from ages 8 to 12
 - Basic needs met for at least 75 percent of the person's life.
 - Receiving early intervention
- Children from birth to 5 years of age are

best treated by an integrated approach that includes dyadic therapy, parent education and support, and sensory integration therapy for the child. The objective is for parents to attain higher levels of parenting competence and experience decreased stress, the child's exhibiting appropriate sensory responsiveness, with a resulting enhancement of parent/child attunement. These factors will result in improved behavioral and emotional regulation for the child and better quality parent/child interactions, which are mutually reinforcing and initiate a cycle of progress in both domains.

In working with school-aged children, a key element to treatment is understanding that children with ARND can be considered to have brain injury. From treatment experience of individuals with traumatic brain injury, it is known that psychological intervention strategies for brain injury are quite different from any other form of psychological treatment. In addition to psychotherapy aimed at helping affected individuals adjust to a new life and process the trauma of their injury, treatment also is aimed at neurocognitive rehabilitation and family education. For children with ARND, brain injury occurred before they had any life experience or education, but they have brain injury all the same. Thus, therapeutic interventions for school-aged children are based on a neurological rehabilitation approach.

Neurologically-based treatment most often includes a combination of approaches: speech/language therapy, specialized education, occupational therapy, social skills training, memory training, behavioral therapy and individualized training in various forms of cognition. These interventions are put into place through repetition and rehearsal, role-playing, real life experiences, problem solving, group experiences, sensory approaches and simple teaching.

Children with ARND respond best to an approach and parenting that includes structure, supervision, simplicity, steps and context. Teaching skills in the context

of where they are to be used is necessary because these children do not generalize to other settings.

Other strategies and methods:

- Yellow stickies.
- What did your child do well today?
- Bilateral stimulation to keep something in memory.
- Individualized Education Plan at school to accommodate this as a brain-based issue due to permanent impairment from fetal alcohol exposure.
- External memory reminders
- A list of steps with pictures to reinforce what is to be done and in what order.
- Use checklists that break down tasks into tiny component tasks for the child to follow. For example:
 - Get the vacuum, plug it in, turn it on and
 - Vacuum the living room rug.
 - Get the broom and dust pan from the hall closet,
 - sweep the dust and dirt from under the couch and
 - around the four edges of the room,
 - Check the rug and floor to see if it is all done.
 - Unplug the vacuum, wind the cord, and

- Put the vacuum away in the hall closet.
- Put the broom and dust pan back in the hall closet.

Professional Assistance.

Medications can be helpful. Research suggests that neuroleptics (risperdone, for example) are more helpful than stimulants.

Parent-Child Interaction Therapy, a structured 12-16 session program can be helpful. PCIT is an empirically supported intervention consisting of behavioral parent

program. It is a short-term intervention lasting approximately 12-16 sessions.

For more information on assessment and treatment, contact Dr. Arthur Becker-Weidman at the Center For Family Development at has offices in Western New York and New York City.

Arthur Becker-Weidman, Ph.D., is an internationally acclaimed speaker, workshop leader, author of six books and many articles. He is a certified therapist, consultant

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training to effect significant behavior change by the child. PCIT seeks to enhance the parent-child relationship, increase appropriate social skills, reduce inappropriate behaviors, and institute a positive discipline

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Kacy is a psychotherapist in New York City who specializes in working with themes of adoption including issues around identity, loss, grief, control, multiculturalism and attachment. Kacy provides a free phone consultation. Call or email for a consultation or for more information about her practice.

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