IT IS EASIER TO BUILD STRONG CHILDREN THAN TO REPAIR BROKEN MEN.

Frederick Douglass
Sho-Ban Jr./Sr. High School
Home of the Chiefs!
Healthy Brains for Children

“Preventing Prenatal Exposure to Alcohol”
Learned what I know on reservations.

Educator – the only profession that analyzes the brain function of every child over a long period of time.
If I were to tell you my dad died of lung cancer, what is the first question that comes to mind?
If I were to ask you why so many kids are on Ritalin, diagnosed Autism Spectrum Disorder, in Special Education or requiring additional help in school, or
Why did that 21 year old mentally ill person bring a gun to Sandy Hook and kill all those children?

Was that child or person prenatally exposed to any alcohol?
Meth Babies
Crack Babies
Cocaine Babies
What Can a Mother Put Into Her Body That Damages the Fetus?

Teratogen
Fetal Alcohol Spectrum Disorder

Young girl with classic Fetal Alcohol Syndrome features.
Does alcohol cause all accidents?
Is prenatal exposure to alcohol the only cause?
Conditions for Further Study

Neurobehavioral Disorder Associated With Prenatal Alcohol Exposure
Every drink has the potential to take potential from the unborn child.
STAGES OF PRENATAL EXPOSURE TO ALCOHOL

Stage 0—No alcohol during the entire pregnancy.

Stage 1—Prenatal exposure with no observable loss of potential.

Stage 2—Prenatal exposure to alcohol with observable loss of potential seen through lowered math and reading ability and higher social behaviors.

Stage 3—Prenatal exposure to alcohol resulting in observable loss of potential and social behaviors at levels that may include interrupted school experiences, criminal behaviors, early promiscuity, early entrance into drug and alcohol use, psychological diagnoses without observable physical deformities of prenatal exposure to alcohol.

Stage 4—Prenatal exposure to alcohol resulting in Stage 3 behaviors and observable physical manifestations of damage to the face, body, and organs.

Stage 5—Prenatal exposure to alcohol resulting in death, including miscarriage, stillborn, SIDS, and organ failure.

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Stage 0
No prenatal exposure to alcohol

Stage 1—Prenatal exposure to alcohol resulting in observable loss of potential and social behaviors at levels that may include interrupted school experiences, criminal behaviors, early promiscuity, early entrance into drug and alcohol use, psychological diagnoses without observable physical deformities of prenatal exposure to alcohol.

Stage 2—Prenatal exposure to alcohol resulting in observable physical manifestations of damage to the face, body, and organs.

Stage 3—Prenatal exposure to alcohol resulting in death, including miscarriage, stillborn, SIDS, and organ failure.

Crowe 2010
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Stage 1

Prenatal exposure to alcohol with loss of potential not observable with current tools.
Stage 2

Prenatal exposure to alcohol resulting in detectible lowered academic, social and emotional intelligence.
Stage 3

Prenatal exposure to alcohol resulting in observable exhibitions of brain damage behaviors, which result in academic failure, interrupted school experience, psychological diagnoses, criminal behaviors, depression.
Stage 4

Prenatal exposure to alcohol resulting in physical manifestation and observable exhibitions of Stage 3 academic and social brain damage behaviors.

Stage 4—Prenatal exposure to alcohol resulting in Stage 3 behaviors and observable physical manifestations of damage to the face, body, and organs.

Stage 5—Prenatal exposure to alcohol resulting in death, including miscarriage, stillborn, SIDS, and organ failure.

Crowe 2010

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Prenatal exposure to alcohol resulting in miscarriage, stillborn, SIDS, death due to organ failure damage from prenatal exposure to alcohol.

Stage 5—Prenatal exposure to alcohol resulting in death, including miscarriage, stillborn, SIDS, and organ failure.

Crowe 2010

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4 in 1000?

The Andegooz Study
Study of the Family of Aandegooz

104 Total Family Members
39 no prenatal exposure to alcohol
38 prenatal exposure to alcohol
27 unknown
Partnership Drinking
Partnership drinking
College Success

Successful College by Children with Parents with College Degrees
I have never met:

a parent who

or a child who

......
Visualization of the brain of a normal individual (A) and two with FAS (B,C) shows permanent loss of the white brain matter of the corpus callosum.

Images courtesy of Dr. S. Mattson
These two images are of the brain of a 9-year-old girl with FAS. She has agenesis of the corpus callosum, and the large dark area in the back of her brain above the cerebellum is essentially empty space.

There is no template. The brain damage is dose-related.

When?
How much?
And for how long?
When does the damage occur?

Central Nervous System

Eyes
Weeks 3 1/2 to full term

Ears
Weeks 4 1/4 to 20

Heart
Weeks 2 1/2 to 9

Teeth
Weeks 6 3/4 to full term

Lower limbs
Weeks 3 to 9

Palate
Weeks 6 ¾ to 16

External genitalia
Weeks 7 to full term

Upper limbs
Weeks 2 1/2 to 9

Jody Allen Crowe 2010
Comparing Physical Deformities in Humans and Animal Research

- Narrow forehead
- Short palpebral fissures
- Small nose
- Small midface
- Long upper lip with deficient philtrum
Comparing Facial Deformities
Impulse Study using Rats
Frontal Lobe Damage/Executive Functions

Shocking device
Impulse Study using Rats
Frontal Lobe Damage/Executive Functions

Shocking device
Policy Driven Discipline
Executive Functions of the Frontal Lobes

- Judgment
- Regulation of emotion
- Verbal self-regulation
- Reasoning
- Self-Monitoring
- Impulse control
- Focused Attention
- Inhibitions
- Problem solving
- Moral Compass
- Connecting an action to a consequence
- Empathy
- Regulation of Sexual Urges
- Regulation of Sexual Urges
Emotional Intelligence

Emotional age does not match chronological age.

Brain damaged adolescents flooded with hormones.
Alcohol Added to Unhatched Eggs

Sulik et al
Fetal Alcohol Effected Chick Detour Learning Task
With this Global Brain Damage, you might see:

- Violences/threats of violence/hurting
- Hurting animals/setting fires
- Stealing without reason
- Urinating/defecating in strange places or situations
- Manipulation
- Sexual perpetration/promiscuity
- Lying without reason
- Hoarding/unhealthy focus on particular items
General Intellectual Performance

Neuropsychological Performance

Mattson, et al., 1998
Executive functioning deficits

Move only one piece at a time using one hand and never place a big piece on top of a little piece.

Starting position

Ending position

Rule Violations

Group

Mattson, et al., 1999
Maternal Behaviors
Fetal Alcohol Effected Mother Mice
Fetal Alcohol Effected Mother Mice
The fastest FAE mother mouse took 18 times longer than a normal mouse. Some FAE mothers left all their babies out of the nest and sat amongst them confused and disoriented.
CELLS THAT SHOULD FORM MIDLINE STRUCTURES OF THE BRAIN AND FACE ARE KILLED BY ALCOHOL

A close-up view of an alcohol-exposed mouse embryo shows cells killed by alcohol that have taken up a dark blue stain.

Mouse embryo (viewed from the front) at a stage corresponding to a 22-23 day old human.
ALCOHOL KILLS SPECIFIC CELLS IN THE DEVELOPING BRAIN

Arrows surround a portion of the brain of a mouse embryo (viewed from the back) that is at a developmental stage corresponding to a 22-23 day human.

Cells killed by alcohol in the brain of a mouse embryo (at a comparable stage of development to that on the left) have taken up a dark blue stain.
ALCOHOL KILLS SPECIFIC CELLS IN THE DEVELOPING BRAIN

The pattern of cell death varies with the stage of development.

Cells killed by alcohol have taken up dark blue stain.

A cut made through the area outlined by arrows provides a view of the inside of the brain of a 10 day mouse embryo (corresponding to a 28 day human).
Ultrasound

Dr. Peter Hepper, Belfast University Fetal Behavior Unit
We think they think the way *we* think they should think.

We have to change how we think they think.
Profiles of Prenatal Exposure to Alcohol
Examples of Variability from Brain Damage
Examples of Variability from Brain Damage
Examples of Variability from Brain Damage
Our court system is looking at this adolescent through this lens.
When functionally, we should be looking at this.....
Stage 3 or 4
Missouri University Researchers Identify Differences in Facial Characteristics of Children with Autism Compared to Typically Developing Children
Seeing-Eye Brain
Of all the mitigating factors the life of a brain damaged child or adolescent, what can you control?
Environment
Food
There is no ‘Silver Bullet.’
There are no ‘Standard Operating Procedures.’
There is no template.

But,
there are commonalities and
there are ‘Best Practices.’
Kari Fletcher

karifletcher@nacac.org
So we ask ourselves.
Most will be able to identify consequence when prompted or after the fact. Many have an immediate impulsive response without considering consequence. Some can’t make a connection between parts of the brain that link an action to a consequence.

Is this behavior Willful Disobedience or Brain Damage Behavior?
Arguing with an adolescent is like mud wrestling with a pig. You both get dirty and the pig loves it.
If you want to change a student’s behavior, you have to change your behavior.
What Can You Do?

Always think brain damage first.

Whenever confronted by behaviors that are characteristics of prenatal exposure to alcohol, ask yourself if this is a result of brain damage.
Instruction

- Computer assisted instruction – immediate feedback – the computer never gets frustrated or angry with wrong response
- Good educational software programs will keep the attention better than a worksheet or book.
- Academic progress for students with secondary disabilities including truancy can be managed with good software.
- Waterford, SuccessMaker, Read 180, Plato
A Different Way of Teaching
Environment
HOMEWORK CAUSES BRAIN DAMAGE
Environment

Will a change in environment change the behavior?

Review all incidents to see if adults contributed to the student behavior.

Is the behavior a result of the inability to habitate?
   Inability to adjust to stimuli.
      (sounds, light, hot, cold, smell)

Interaction, proximity to others, language used by others.
Environment Control Strategies

Minimize chaos.

Minimize transitions.

Check to see that reading levels of displayed posters and reading materials are at the level of the clients.

Minimize unexpected sensory inputs as much as possible.

Understand behaviors brought on by inability to habituate sensory inputs.
What is learned in one environment may not transfer to another environment.
Communication

It's not only what you say, it is how you say it.

The brain damage may have interfered with the brain's ability to process information quickly.

The brain may be coping with what you are saying without noticing the nonverbal communication, or may be trying to decipher the nonverbal without being able to follow the verbal communication.
Nonverbal communication

Do not assume the child or adult can read non-verbal communication.

Many prenatally exposed brains struggle with reading non-verbal communication.

If you use non-verbal communication for behavioral management, teach before using.

Check for understanding.
Be Careful using Figurative Speech in a conversation with a Concrete Thinker

Hyperbole-exaggeration
*I have told you a million times today*
*I’ll get to you in a second.*

Metaphor
*Did I throw you a curve?*
*Did that throw you for a loop?*

Sarcasm- verbal irony
*where the intended meaning of a statement differs from the meaning that the words appear to express.*
*I need this like a hole in the head!*
*Don’t let the door hit you on the way out.*
Sequence of Directions

A common difficulty is following sequenced directions.

Give one direction at a time.

Provide visual cues for a sequence of directions.
Shaming and Blaming Language

Why don’t you act your age?

You don’t remember. Yes, you do. We just did that yesterday!

How many times do I have to tell you?

What do you think I am? A bookstore?

Remember, your behavior might be the trigger event. Shaming and blaming language may push the damaged brain into actions that lead to trouble for the child.
Responses to behaviors

Become the “Seeing Eye Brain” for the brain damaged child.
Healthy Brains for Children\C&C -- copy this folder to
Attitude

Be positive rather than punitive.
Be supportive and respectful.
Encourage healthy, respectful behaviors rather than look for behaviors to punish.

Watch what behavior you model.
Responses, cont.

Use Consequences With Care

Consequences must be concrete and simple and must be applied immediately and consistently.

Remember, the student may not learn, or may not remember due to the brain damage and make the same mistake again.

Adapt consequences to the child’s functional age rather than actual age.
No Shame
No Blame

Jody Allen Crowe
The Theory turned into Practice
School wide Behavioral Management System

- Non-Shaming, Non Blaming Common language
- Ask questions to bring the brain back to focus
- Never try to argue or use logic when the adolescent is raging
- When the adolescent is coming down from a rage, explain the expectations to another adult without talking directly to the child
- Agree to step in when another adult is not using the common language or is confrontational
Questions
Define and clarify each question before using system

- Was that noise?
- Was that out of place?
- Was that physical contact?
- Was that off task?

Use of questions designed to give brain a prompt to move back into appropriate behavior pattern.
Behavior Chart

Questions
Is that out of place?
Is that noise?
Is that off task?
Is that physical contact?

Trigger event

Do not argue!
Use only direct statements. Using logic does not work.

Ask questions three times before changing to statement.

Normal behavior
Behavior Modification

- **Use self analysis tool**
  - **Determine increments of time**

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<th>Score</th>
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<th>0</th>
</tr>
</thead>
<tbody>
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<td>Student</td>
<td>G</td>
<td>P</td>
<td>G</td>
</tr>
<tr>
<td>Teacher</td>
<td>G</td>
<td>P</td>
<td>P</td>
</tr>
</tbody>
</table>

Increase increments of time as the student shows the ability to analyze and manage their own behavior.
Thoughts

- Understand medication does not cure, but in many cases creates a better learning experience.
- Understand every child is at a different spot on the Spectrum.
- Always think ‘Brain Damage’.
- Understand academic difficulties are real and a source of secondary disabilities.
Always remember this is lifelong brain damage.

Understand the damaged brain, when under stress or in unfamiliar circumstances, may revert to the illogical thinking that brought him/her into this setting in the first place.
BEAM
Behavior Environmental Adaptation Model

The 15 BEAM Rules of FASD Behavior Management

Also known as the Fasstar Trek Model

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Thank you

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