Educational Interventions and Support for Children Affected by Prenatal Alcohol Exposure (PAE)
Statement of Conflict of Interest

The presenter has no conflict of interest to disclose.
Since 1980, under the direction of Claire D. Coles, Ph.D., MSACD, has sought to understand and improve the lives of those affected by prenatal exposures and their families.
Objectives

• Discuss selecting interventions based upon the needs of the individual rather than the diagnosis

• Discuss the purpose of interventions to improve an individual’s participation, engagement, and quality of life

• Review evidenced-based interventions for individuals affected by prenatal exposures and from other disabilities
Perspectives from the Field of Developmental Disabilities

• Shifting the focus from deficits to a focus of building skills, strengths, self-advocacy, and improving quality of life.

• Service delivery targets functioning and participation rather than diagnostic labels.

Carmichael Olsen & Sparrow, 2020; Benson & Oakland, 2011
Impact of PAE on Learning, Academics, and School Functioning
### Emory Neurodevelopment Exposure Clinic’s Criteria

<table>
<thead>
<tr>
<th>Exposure</th>
<th>ICD-10-CM Codes</th>
<th>Diagnosis</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prenatal Alcohol Exposure</td>
<td>P04.3 Prenatal Exposure to Alcohol Only</td>
<td>• Documented evidence of exposure during pregnancy (not hearsay)</td>
<td>• Life-long</td>
</tr>
<tr>
<td></td>
<td>Q86.0 Fetal Alcohol Syndrome or Partial Fetal Alcohol Syndrome</td>
<td>• Growth delays at birth or currently &lt;10th percentile (rule out from other causes)</td>
<td>• Medical issues (e.g., congenital heart defects; vision problems)</td>
</tr>
<tr>
<td></td>
<td>F88 Neurodevelopmental Deficit Associated with Prenatal Alcohol Exposure (ND-PAE)</td>
<td>• Dysmorphia (changes to the physical features, checklist with cut score of 10)</td>
<td>• Decreased intellectual abilities</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Range of delays in cognitive abilities, adaptive functioning, learning, attention, behavioral regulation (developmental/cognitive testing)</td>
<td>• Problems with learning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <strong>FAS or PFAS Must be diagnosed by a trained physician, geneticist or developmental pediatrician (MD)</strong></td>
<td>• Poor adaptive skills</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• <strong>ND-PAE may be diagnosed by a licensed clinical psychologist or medical provider</strong></td>
<td></td>
</tr>
</tbody>
</table>
Neurobehavioral Traits Associated with Prenatal Alcohol Exposure (PAE)

**Neurobehavioral Traits**

**Neurocognition**
- Global cognitive impairments (IQ scores <70) or
- Specific cognitive deficits in executive functioning, working memory, visuospatial abilities, memory, and processing speed

**Self-Regulation**
- Emotional/behavioral regulation
- Attention deficits
- Poor impulse control

**Adaptive Functioning**
- Language or communication deficits
- Social interactions/social communication
- Daily living skills
- Motor skills

Deficits in one or more areas

Adapted from Kable et. al., 2016
PAE and Academics

- Academic Underachievement (Howell et al., 2006; Glass et al., 2017)
- Challenges learning preacademic skills (Coles, et al., 1991)
- Lower scores on academic achievement measures of reading, including word reading and comprehension (Streissguth et al., 1994)
- Poorer performance in spelling when compared to children without effects from PAE (Glass et al., 2015)
- Poor oral and written language skills (Doyle et al., 2018; Kippen et al., 2021; Millians, Kable, Coles, & Mattson, in review)
- Poor functional handwriting (Duval-White, Jirikowic, Rios, Dietz, Carmichael Olsen, 2013)
- Deficits in Mathematics (Streissguth et al., 1994; Kable, Coles, & Taddeo, 2007; Woods et al., 2018)
PAE and School Functioning

• Observations of longer periods of passive or disengaged behaviors in a classroom when compared to nonexposed peers (Olswang, Svensson, & Astley, 2010)

• Show many prosocial skills and engaged in the classroom for shorter durations that nonexposed peers (Olswang, Svensson, & Astley, 2010)

• Teachers reported more impulsive, unpredictable and possibly aggressive behaviors in children with PAE (Streissguth, 1997)

• Poor quality of play (Pearton, Ramugondo, Cloete, & Cordier, 2014; Molteno, Jacobson, Carter, & Jacobson, 2010)

• Studies show skills to initiate friendships but challenges to maintain them (Laugeson, Paley, Schonfeld, Carpenter, Frankel, O’Connor (2007)

• Poor adaptive functioning that cannot be explained by cognitive ability (Ware et al., 2012; Doyle et al., 2018)
### Other Factors Influencing Learning, Behavior, and School

<table>
<thead>
<tr>
<th>Adverse Childhood Experiences (ACEs)*</th>
<th>Other Challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional, physical, and/or sexual abuse</td>
<td>Chaotic homelife</td>
</tr>
<tr>
<td>Witnessing domestic violence</td>
<td>Harsh, over-authoritarian parenting</td>
</tr>
<tr>
<td>Caregivers’ continued substance abuse</td>
<td>Social/economic disadvantage</td>
</tr>
<tr>
<td>Household member with mental illness</td>
<td>Mental Health Conditions</td>
</tr>
<tr>
<td>Neglect, deprivation</td>
<td>Medical Conditions</td>
</tr>
<tr>
<td>Multiple foster home placements</td>
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<tr>
<td>Racism/Discrimination</td>
<td></td>
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</tbody>
</table>

*Individuals affected with PAE experience high rates of early adversity

Mukherjee et al., 2019; Flannigan et al., 2021
Possible Barriers to Educational Interventions

- Stigma (social, caregiver, and self-stigma)
- Lack of understanding of range of impact of PAE on learning
- Lack of accessibility to resources
- Challenges explaining the educational needs
- Unaware of available interventions

Flannigan et al., 2017; Roozen et al., 2020; Skorka et al., 2020
Considering Intervention Needs

ICF-CY and FACT Tool
World Health Organization
International Classification of Functioning, Disability and Health-Children and Youth (ICF-CY)

• Uses a common language to talk about “ability” and “disability”
• “Ability” refers to engagement and participation in an activity
• “Disability” refers to impairments that restrict participation
• Emphasizes building skills in relation to “participation”
• “Functioning” refers to body functions, activities, and participation
• Environmental factors can refer to barriers or supports that influence functioning
• Target to improve quality of life

FACT gives a way to talk about what individual can do and how to increase their participation

- **Classifies what an individual can do**
- **Analyzes interactions between abilities and environments**
- **Behaviors are a symptom rather than an outcome**
- **Examines barriers**
- **Includes the individual and their preferences**
- **Guides the development of goals and supports to increase individual’s involvement in their environment**
- **Can be completed by a therapist, psychologist, special education teacher, clinician**

**Limitations and Reservations**
- Needs to be put through validation
- Subjective
- Relies on accuracy of records
- Needs to adjust and define some categories

**The Functional Abilities Classification Tool (FACT)**

Developed by Klein & de Camargo, 2018

Based on the ICF-CY
FACT Tool for Intervention Planning

FUNCTIONAL ABILITIES CLASSIFICATION TOOL (FACT)

LEVELS OF CLASSIFICATION OF PARTICIPATION
- Level 1: Participates adequately for age (within typical range)
- Level 2: Participates with lower frequency or less involvement than expected
- Level 3: Participates with lower frequency and lower involvement than expected
- Level 4: Does not participate significantly (very low or none)

DISTINCTIONS BETWEEN PARTICIPATION LEVELS
- Level 2 is distinguished from Level 1 by decreased frequency or quality of involvement of participation.
- Level 3 is distinguished from Level 2 by decreased frequency and quality of involvement of participation.
- Level 4 is distinguished from Level 3 in that participation is vastly different in involvement compared to typical peers, as well as very infrequent or non-existent.

SCHOOL PARTICIPATION ACTIVITY DOMAINS
- Individual work (reading, writing, math)
- Project (or multistep task)
- Student directed group work
- Teacher directed group instruction (e.g. circle time, question and answer)
- Group unstructured (e.g. lunch)
- Group unstructured physical (e.g. recess)
- Group structured physical (e.g. physical education)

LEVELS OF FUNCTIONAL ABILITIES CLASSIFICATION
- Level 1: Allows participation in a typical environment for age without special supports
- Level 2: Allows participation with partial involvement or intermittently in typical activities without special supports; intermittent support would be expected to facilitate participation within typical limits
- Level 3: Allows child to participate with partial involvement for a minority of time; child would require intensive or frequent support to facilitate participation in typical activities
- Level 4: Even with continuous, intensive support does not allow meaningful participation in intended activities in a typical environment (i.e. significant modification of activity or environment expected)

Benjamin Klein & Olaf Kraus de Camargo, 2018
Clinical Information for EG

Background Information
• 14-year-old female
• Prenatally exposed to alcohol, opiates, and tobacco
• One prior placement before adoption at age 5
• Repeated kindergarten
• Private occupational therapy and speech and language therapy through middle school, released from services

Testing Summary
• Scores on measures of cognition, verbal, spatial, nonverbal reasoning, language, and memory fell in the Very Low to Low Average Range.
• Overall abilities in the Very Low range.

Clinical Diagnoses (ICD-10 Codes)
• Q86.0 Fetal Alcohol Syndrome
• F88 Neurodevelopmental Disorder associated with Prenatal Alcohol Exposure
EG’s Educational Program and Progress

Current School

• 9th grade, public school
• All instruction in co-taught or inclusion classes; No other supports
• Academic curriculum is on grade level
• Grades are D’s and lower; except in PE and in Drama
• Retakes about 80% of tests and quizzes to get a minimal passing grade
• Needs frequent adult or peer assistance to complete classwork and homework
• Attempts to engage in class
• Interacts well with classmates and teachers
EG’s Functional Abilities Classification

1. Ability in Typical Range with No Supports
2. Expect Intermittent Support
3. Expect Continuous Intensive Support
4. Expect Significant Modification

*CMath was added, not part of the FACT

Cognitive Processes and Academic Skills
EG’s Participation Classification

1. Typical range with no supports
2. Low frequency or low quality
3. Low frequency and low quality
4. Very low or none

*In the inclusion or general education setting for core academics
EG’s Input

Environmental Supports
- Peer Tutoring
- Special Education
- Instructor for support

Environmental Stressors
- Classes move too fast
- Reading material too difficult
- Frequent assignment due date changes
- Needs help on most assignments
- Virtual learning – cannot follow the lessons

Personal Factors
- Prefers small group settings
- Check-in person to review schedule, due dates, and assignments
- Enjoys acting in Drama class
Discussion with Instructional Team

Summary:
- Academic expectations and current placement in core content classes are beyond her range of learning, limiting her meaningful participation and building of skills
- Limited meaningful participation in the inclusion classes even with the instructional supports
- EG’s says she learns better in a small group class
- Demonstrates full participation in unstructured and structured non-academic settings with intermittent supports.
- Strengths in her skills modulate arousal levels
- Interacts well with her classmates and instructors
- Motivated
Adjustments to EG’s Educational Program

Setting

• Small group, special education setting for academic classes
• Participation in general education classes for electives with daily special education support
• General education setting for nonacademic and unstructured settings

Program

• Goal is to build her academic skills to use them independently – instruction on her learning level
• Direct intervention/remedial instruction to address deficits in reading and mathematics
• Pre-vocational training
• Continued participation in Drama and other activities where she thrives
Adjustments to EG’s Educational Program

Instructional Interventions

• Functional Academics
• Direct instruction to build everyday reading, math, and writing skills
• Training to improve use of problem-solving strategies

Instructional Strategies

• Specific instructional strategies from the University of Kansas Strategic Instruction Model
  https://sim.ku.edu/learning-strategies
• Errorless Learning
  http://projectlearnet.org/tutorials/errorless_learning.html
• Edmark Reading – to bypass phonetic decoding, build sight word knowledge and word associations
• Tutoring from a trained learning specialist to remediate reading and mathematical skills
• Assistive technology evaluation
• Multiple accommodations and modifications
Evidenced-Based Interventions

Overview of Some Interventions for Individuals with PAE
Elements of Intervention Planning

- Based upon each child’s developmental, cognitive, and/or learning profile
- Target building skills to improve participation, functioning, and quality of living
- Embed specific skill training within a context for application
- Interventions need to be on the individuals’ developmental and/or learning level
- Consistent Monitoring

*Effective interventions may be more about the approach, rather than the program.*

Ylvisaker et al., 2005; Carmichael Olsen & Sparrow, 2020
## Parent Training and Coaching

<table>
<thead>
<tr>
<th>Authors</th>
<th>Program/Skill</th>
<th>Sample</th>
<th>Treatment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gurwitch et al. 2009</td>
<td>Parent Child Interaction Therapy (PCIT)</td>
<td>46 Children, ages 3-7</td>
<td>Child and parent therapy to improve relationship, increase use of prosocial skills, reduce defiance, and use positive discipline</td>
<td>Improved child behavioral problems. Decreased parent stress. Overall, no group differences between those who received PCIT and those who received other therapy</td>
</tr>
<tr>
<td>Carmichael-Olsen et al (in Bertrand, 2009)</td>
<td>Families Moving Forward</td>
<td>52 US Children, ages 5-11</td>
<td>Positive behavioral support and parent training</td>
<td>Parents reported improved parenting skills and reduced problematic behaviors in their children</td>
</tr>
<tr>
<td>Petrenko et al., 2017</td>
<td>Families on Track Integrated Preventative Intervention</td>
<td>30 children with FASD or PAE, ages 4-10</td>
<td>Self-regulation, self-esteem, and anxiety</td>
<td>Improved emotional and behavioral regulation in children, decreased disruptive behavior and anxiety</td>
</tr>
</tbody>
</table>
Links for Programs

Families Moving Forward Program
FASD Intervention, Training & Research

Families Moving information may be found at the website http://familiesmovingforwardprogram.com/

Information about PCIT may be found at www.pcit.org
## Arousal Regulation, Attention, and Behavior Interventions for Children with PAE

<table>
<thead>
<tr>
<th>Authors</th>
<th>Program/Skill</th>
<th>Sample</th>
<th>Treatment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coles, Kable, Taddeo, &amp; Strickland, 2015</td>
<td>GoFar</td>
<td>30 children, ages 5-10</td>
<td>Metacognitive training using a computer game and direct parent training to improve adaptive functioning</td>
<td>Improved self-regulation, sustained attention, and behavior, and adaptive functioning</td>
</tr>
<tr>
<td>Kerns et al., 2010</td>
<td>Computerized Attentional Control Training - CPAT</td>
<td>10 Canadian children, ages 8-15</td>
<td>Attentional control training using a computer game with 1:1 coaching</td>
<td>Improved selective and sustained attention, and spatial working memory. Improvements in reading and mathematics fluency</td>
</tr>
<tr>
<td>Riley et al., 2003</td>
<td>Cognitive Control Therapy</td>
<td>Children 8-9 years</td>
<td>Instruction to improve children’s skills to recognize their actions, self-monitor, and reflect</td>
<td>Improved behavioral and adaptive skills reported at school.</td>
</tr>
</tbody>
</table>
### Arousal Regulation Interventions for Children with PAE

<table>
<thead>
<tr>
<th>Authors</th>
<th>Program/Skill</th>
<th>Sample</th>
<th>Treatment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wells et al., 2012</td>
<td>Alert Program</td>
<td>78 US children, ages 6-11</td>
<td>Self-regulation, attention</td>
<td>Improved executive functioning, problem solving, and emotional regulation</td>
</tr>
<tr>
<td>Soh et al., 2015</td>
<td>Alert Program</td>
<td>65 Canadian children, ages 8-12</td>
<td>Self-regulation and attention</td>
<td>Improved scores on the BRIEF and NEPSY-II related to executive functioning. Increased gray matter</td>
</tr>
<tr>
<td>Wagner et al., 2017</td>
<td>Alert Program</td>
<td>27 Australian children, k-7th grades</td>
<td>Self-regulation</td>
<td>Modified protocol for aboriginal community. Reported positive feedback</td>
</tr>
</tbody>
</table>
Links for Programs

GoFAR
Access the computer game and other materials at https://do2learn.com/

Alert Program
Information about the program is https://www.alertprogram.com/
## Social and Emotional Skills for Children and Youth with PAE

<table>
<thead>
<tr>
<th>Authors</th>
<th>Program/Skill</th>
<th>Sample</th>
<th>Treatment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>O’Connor et al., 2006; Keli et al., 2010</td>
<td>Social Skills</td>
<td>100 children in US 6-12 years of age</td>
<td>Bruin Buddies (aka. Best Buddies) social skills training (<a href="http://www.bestbuddies.org">www.bestbuddies.org</a>)</td>
<td>Parent report - improved social skills/reduced problem behaviors; less hostile attributions in social settings</td>
</tr>
<tr>
<td>O’Connor et al, 2012</td>
<td>Social Skills</td>
<td>85 children in US 6-12 years of age</td>
<td>Children’s Friendship Training</td>
<td>Improved prosocial behavior. Parent report-improved social skills</td>
</tr>
<tr>
<td>Keightley et al, 2018 reported in Flannigan et al. 2020</td>
<td>Social and emotional skills</td>
<td>Youth</td>
<td>Intensive theater-based training</td>
<td>Improved self-confidence, peer interactions, social communication</td>
</tr>
<tr>
<td>Katz et al., 2020, reported in Flannigan et al, 2020</td>
<td>Emotional and well being</td>
<td>113 School-aged children, 52% identified as having FASD</td>
<td>School-based mental health using the 1. “Brain Unit” mental health literacy program, 2. DBT behavioral skill-building</td>
<td>Intervention group made gains with emotional regulation, interpersonal interactions, tolerating distress and coping</td>
</tr>
</tbody>
</table>
Links for Programs

Best Buddies International  https://www.bestbuddies.org/

Children’s Friendship Program at UCLA

https://www.semel.ucla.edu/socialskills/research/childrens-friendship-program
## Adaptive Functioning and PAE

<table>
<thead>
<tr>
<th>Authors</th>
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<th>Sample</th>
<th>Treatment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coles, Strickland, Padgett, &amp; Belmoff, 2011</td>
<td>Fire and street safety</td>
<td>32 children in US 4-10 years of age</td>
<td>Virtual reality game (<a href="http://www.do2learn.com">www.do2learn.com</a>)</td>
<td>Immediate knowledge of street crossing safety and fire safety</td>
</tr>
<tr>
<td>Connolly et al., 2016</td>
<td>Improve adaptive behavior and social communication</td>
<td>1 child, age 3</td>
<td>Applied Behavioral Analysis</td>
<td>Improvements in functional communication skills, adaptive behaviors, parent reported emotional behavioral regulation. Teacher reported increased in rule-breaking</td>
</tr>
<tr>
<td>O’Connor et al, 2016</td>
<td>Reduce alcohol consumption in teens with FASD</td>
<td>54 teens in US Mean age 15 years</td>
<td>6-60 minute clinical sessions and caregiving training</td>
<td>Teens in treatment group more likely to refrain from alcohol use</td>
</tr>
</tbody>
</table>
# Building Academic Skills for Children with PAE

<table>
<thead>
<tr>
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<th>Treatment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gryiec et al., 2004</td>
<td>Spelling</td>
<td>7yr. old with FAS</td>
<td>Spelling instruction using “cover, copy, and compare”</td>
<td>Increased number of words spelled correctly</td>
</tr>
<tr>
<td>Kable, Coles, Taddeo, 2007; Coles, Kable. Taddeo, 2009; Kable, Coles, Taddeo, and Strickland, 2015</td>
<td>Learning readiness and mathematics</td>
<td>55 US children, ages 3-10</td>
<td>One-on-one mathematics instruction that embedded Focus/plan, Act Reflect. Parent education</td>
<td>Increases in math scores that remained more than 6 months after the intervention. Improvements in behavior and self-regulation</td>
</tr>
<tr>
<td>Adnams et al., 2007</td>
<td>Language and Literacy</td>
<td>65 children, 9-10 years with PAE (South Africa)</td>
<td>Intervention to improve phonological awareness, letter knowledge, word recognition, decoding, and spelling</td>
<td>Improvement in the skills trained</td>
</tr>
<tr>
<td>Millians &amp; Coles, 2014</td>
<td>Saturday Cognitive Habilitation Program</td>
<td>Case Study, 5 children, 4 with FAS, 1 with ADHD, 10-15 yrs.</td>
<td>12-weeks of one-on-one tutoring in either reading or mathematics. All taught mental management techniques</td>
<td>Increases of at least 1 SD on standardize measure of reading or 4 students. 3 out of 5 showed significant increases of at least 1 SD in nonverbal reasoning</td>
</tr>
</tbody>
</table>
Links to Programs

For information and the materials, please email molly.n.millians@emory.edu

For a variety of learning activities and support for children with FASD and other developmental disabilities, www.do2learn.com
Interventions Found Effective in Other Disciplines

https://intensiveintervention.org/tools-charts/overview
### Examples of Interventions Found Effective for Other Disabilities

<table>
<thead>
<tr>
<th>Domain</th>
<th>Intervention</th>
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</thead>
<tbody>
<tr>
<td>Academics</td>
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<tr>
<td>Handwriting</td>
<td>Handwriting without Tears <a href="http://www.hwtears.com">www.hwtears.com</a></td>
</tr>
<tr>
<td>Expressive Writing</td>
<td>Self-regulated Writing Strategies <a href="https://www.thinksrsd.com/">https://www.thinksrsd.com/</a></td>
</tr>
<tr>
<td>Mathematics</td>
<td>Dyscalculia.org <a href="http://www.dyscalculia.org">www.dyscalculia.org</a>; Skill Boosters <a href="https://mathandteaching.org/">https://mathandteaching.org/</a></td>
</tr>
<tr>
<td>Reading</td>
<td>International Dyslexia Association <a href="https://dyslexiaida.org/">https://dyslexiaida.org/</a></td>
</tr>
</tbody>
</table>
Examples of Other Interventions Found Effective for Other Disabilities

<table>
<thead>
<tr>
<th>Domain</th>
<th>Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attention, Behavior, Learning</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Attention/Executive Functioning</strong></td>
<td>Harvard Center on Developing Child, Executive Functioning</td>
</tr>
<tr>
<td></td>
<td><a href="https://developingchild.harvard.edu/science/key-concepts/executive-function">https://developingchild.harvard.edu/science/key-concepts/executive-function</a></td>
</tr>
<tr>
<td><strong>Positive Behavior Interventions</strong></td>
<td>Range of ways to support positive behavior at school</td>
</tr>
<tr>
<td></td>
<td><a href="https://www.pbis.org/">https://www.pbis.org/</a></td>
</tr>
<tr>
<td><strong>Learning Strategies</strong></td>
<td>The Strategic Instruction Model University of Kansas</td>
</tr>
<tr>
<td></td>
<td><a href="https://sim.ku.edu/learning-strategies">https://sim.ku.edu/learning-strategies</a> (including how to self-advocate)</td>
</tr>
</tbody>
</table>
Various Assistive Technology Supports

Information: http://dyslexiahelp.umich.edu/tools/software-assistive-technology

Electronic Worksheets

Talking calculators (www.independentliving.com/)

Organizational aids

- Applications such as Evernote (apps)
- Vibrating Watching (watch minder www.watchminder.com)
- Notetaking
  - Smartpens (https://www.livescribe.com/site/livescribe-2/echo)
  - Graphic Organizers (https://popplet.com/)
- Reusable Notebooks such as Rocketbook

Electronic Readers and Speech to Text

- Readers (https://learningtools.donjohnston.com/product/)
- Speech to Text/Voice Recognition. Many computers and devices feature built in
- Audiobooks
  - Learning Ally (https://learningally.org/)
  - National Library Services for the Blind and Print Disabled (information available at https://www.loc.gov/nls/about/eligibility-for-nls-services/talking-books-reading-disabilities/)

Spellers

- Phonetic Spelling Software (https://www.ghotit.com/ghotit-for-kids)
Transition to Adulthood

National Technical Assistance Center on Transition: The Collaborative (NTACT:C)
Supporting you to improve opportunities and outcomes for students and youth with disabilities.

More About Us

https://transitionta.org/
Conclusion

- Individuals with PAE are at risk for lifelong challenges
- Often risks are compounded by environmental and other factors
- Interventions need to be based upon what a child can do in relation to participation and functioning. Goals are to build skills, self-determination, and independence
- With appropriate interventions individuals with PAE can lead fulfilling lives