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FETAL ALCOHOL SPECTRUM DISORDERS (FASD)

BACKGROUND

1. **HISTORY:** Cultural beliefs that intrauterine exposure to alcohol is harmful to the fetus can be found as far back as biblical times. We have known this for better than 2000 years, and yet...
2. **TERMINOLOGY:** The original name used was Fetal Alcohol Syndrome (FAS). There were three criteria for the diagnosis: 1) physical growth deficiency, 2) physical abnormalities observable primarily in the face, and 3) some evidence of Central Nervous System (CNS) malfunction. For children who were exposed to alcohol in the womb but did not demonstrate all three criteria, the term, Fetal Alcohol Effects (FAE) was used. This division into categories has created confusion and has most probably led to children with alcohol-based deficits being missed altogether because they didn't manifest all the criteria. Eventually, FAS and FAE were combined into the term, Alcohol Related Neurodevelopmental Disorder (ARND). More recently this has been replaced with Fetal Alcohol Spectrum Disorder (FASD) to communicate that alcohol-based deficits come in a variety of forms that lie along a spectrum similar to a number of other psychiatric conditions (AD/HD for example).
3. **DIAGNOSIS:** FASD is most commonly misdiagnosed as AD/HD. This likely is the result of FASD children frequently exhibiting problems with sustained attention and hyperactivity. While AD/HD can co-occur with FASD, co-occurrence probably accounts for a minority of the AD/HD like behavior that FASD children display. The majority of this behavior, like most things with FASD, is a product of the diffuse organic damage. This is reflected in the varied and unpredictable results of using stimulant medication with FASD children- individual children's responses are quite idiosyncratic. To the degree they are helpful, stimulants reduce hyperactivity but rarely have any meaningful impact on attention or distractibility.
4. **STATISTICS**
 - 44% of children with FASD are in the mentally retarded range (mean IQ = 66). FASD is the leading cause of mental retardation in the United States, outpacing the second cause, Down's Syndrome, 2:1.
 - 32% have prominent craniofacial abnormalities; and therefore, 68% don't.
 - 30% of FASD children live with one or both birth parents and another 10% live with some other family member. 30% are in the foster care system. 25% are in adoptive homes. 5% are in some form of institutional care. Those raised in foster and adoptive homes have fewer social problems compared to those who remain within the biological family system.
 - 90% have mental health problems of varying kinds.
 - 70 % have experienced physical or sexual abuse or both (increases the likelihood of inappropriate sexual behavior by a factor of 4).
 - 60 % have been suspended, expelled, or dropped out of school.
 - 45% have had difficulties with inappropriate sexual behavior.
 - 50% have had some form of legal involvement.
 - 50% above age 12 have either experienced inpatient psychiatric or substance abuse treatment or legal incarceration.

- 30% above age 12 develop alcohol or drug problems.
- 20% above age 21 achieve full self-sufficiency as adults.
- 40% of mothers with FASD drink during at least one of their pregnancies.

5. **INTERNATIONAL:** Germany has the highest national average per capita intake of alcohol. Of any country for which statistics are known. In excess of 1% of infants are born to alcoholic mothers. These infants do not find their way into the U.S. because Germany is an insignificant source of international adoptions. Russia, on the other hand, has been a leading source of international adoptees and Russia has the highest rate of alcoholism of countries for which the statistic exists. Alcoholism is the most frequent reason for removal of children from their mothers in Russia, and hence Russian adoptees are at greater risk of having FASD.

6. **PHYSIOLOGY:** Autopsies of children with FASD reveal multiple errors in neuronal migration as a result of the presence of alcohol in the developing brain. This is the primary cause of the neurological deficits of FASD children. The majority of children along the FASD spectrum do NOT exhibit the craniofacial symptoms, of which the three most common are: 1) thin upper lip, 2) flattened or missing philtrum, and 3) shortened palpebral fissures. FASD also affects the body’s metabolic capacities and growth hormones. As a result, children with FASD often grow very slowly and, as a result, are short in stature and petite in build. They are often below the tenth percentile in height, weight, and head circumference. This can look like conventional failure to thrive, but it isn’t. Such a growth pattern should raise the diagnostic possibility of FASD. Height often does not catch up to norms as FASD adults are often below the twenty-fifth percentile. The petite build however, usually disappears with weight gain in adolescence; and a subset, primarily girls, become significantly overweight.

7. **SCHOOL:** In the preschool and primary elementary grades, academic concerns predominate. Achievement is marked by lapses in learning; and material once learned, can disappear only to reappear unpredictably at a later time. While attributing poor performance to lack of effort has some surface appeal, it fundamentally misses the point. By later elementary grades or middle school, behavioral concerns usually trump academic problems and partly as a result of increasing academic frustration. It is not uncommon for children with FASD to reach an academic ceiling of achievement somewhere between seventh and ninth grades.

Special Education Statistics K-12

States that keep an educational census of FASD students:	0
States that recognize FASD as an educational disability:	0
States which list FASD on IEP’s:	0
States with any kind of specific programming for FASD:	3
States with no idea of the extent of FASD in the state:	24
States that do not define FASD as a problem:	28
States with no mechanism for identifying FASD:	31
States that provide no inservice training in FASD:	35

8. **PEER RELATIONSHIPS:** FASD children are generally able to initially make friends easily. Their difficulty lies in keeping them due to making repeated social mistakes, not realizing it, and therefore not seeking to make amends.

9. **DEVELOPMENTAL TIMELINE:** Children with FASD manifest an array of strengths and delays which can differ significantly between individuals. The strengths can obscure the delays, leading others to develop unrealistic expectations of an FASD individual. Below are listed the average developmental ages, in different skill areas, of an eighteen year old with FASD.

- Receptive language- 6.
- Emotional regulation- 6.
- Social skills- 7.
- Time and money management- 8.
- Personal care skills- 11.
- Reading skills- 16.
- Physical maturity- 18.
- Expressive language- 20.

10. **ADULTHOOD:** If adults with FASD often reach financial independence, they often do not do so until around thirty. Maintaining employment is typically a challenge and ongoing coaching / mentoring is an essential resource. Money management skills are generally insufficient to the task as FASD adults tend to be overly generous. As parents, they can be quite affectionate, but lack the judgment to provide the necessary structure for their children. Too often, women with FASD give birth to children with FASD. As with employment, ongoing mentoring is critical.

DYNAMIC CHARACTERISTICS

1. **STIMULUS FILTERS:** FASD impairs the capacity to filter out incoming stimulation. This, combined with a reduced capacity to process stimulation, leaves FASD children very vulnerable to states of stimulus overload. Turning away of the face or the entire body or backing up / moving away are all common signals of approaching overstimulation. They should be understood as such and not misinterpreted as defiance or oppositionalism. Stimulus overload reliably spawns emotional escalation and behavioral deterioration and reinforces the fragmentation of the child's nervous system.
2. **ATTENTION / EXECUTIVE FUNCTIONS:** FASD compromises both the maintaining and shifting of attention which produces distractibility. In addition, self-monitoring skills, part of executive functioning, are generally minimal. Risk assessment is likely to be faulty, resulting in FASD children putting themselves in danger with no recognition they are doing so. Cognitive functioning as a whole deteriorates extremely rapidly under stress. Taken together, these factors make children with FASD look a lot like children with AD/HD, and they are often misdiagnosed solely as AD/HD and the larger FASD component is missed.
3. **VISUOSPATIAL PROCESSING:** Children with FASD have weaknesses in their perception of spatial relationships between objects. Thus, they have difficulty organizing space and are prone to misplacing objects or inaccurately remembering their location.
4. **LANGUAGE PROCESSING:** FASD commonly causes deficits in language processing. Receptive language is often more severely affected than expressive language. This is because the encoding of verbal material into memory is erratic with FASD. On the other hand, the expressive language of FASD children is often quite age appropriate. This can mislead others into overestimating the child's true overall language processing and cognitive skills. The danger here is twofold: 1) the FASD child's weaker receptive skills get overtaxed by adults offering more verbal input than the child can truly handle, and 2) the adults incorrectly believe the child understood more than is really the case. This can lead to a language-induced overload with consequences similar to that of stimulus overload.
5. **TEMPORAL PERCEPTION:** Typically there is a lack of a continuous sense of time that runs from the past, through the present, and out into the future. Instead, time is experienced as a series of

disconnected moments; and hence, children with FASD mostly live in the present moment. They tend not to think either about the past or the future. This has a number of ripple effects. Learning from experience usually does not occur because there is no reference to the past. Possible future consequences, of a behavioral choice in the moment, are not invoked to guide behavior in the present. Connections that must be made across time, such as triggers > behaviors > consequences, go unmade. Cause and effect reasoning founders as this requires connecting the cause, through intervening time, to the effect. This all results in a common pattern, with FASD children, of repeating the same mistakes over time.

6. **EGOCENTRISM:** FASD brings with it a very egocentric stance in the world. This is not emotionally-based self-centeredness. The egocentrism of FASD is an aspect of thinking and perception itself, more like the egocentrism of preschool children. Children with FASD often don't even realize there is a "bigger picture alternative" to their egocentrism. Self-centeredness is simply "the way things are". This egocentrism introduces fantasy elements into thinking beyond what is typical for a child of the age. Fantasy is not recognized as fantasy however, so reality testing suffers as a result. Egocentrism also leads to a generalized obliviousness to the impact of their behavior on others, often with negative consequences for relationships. FASD children also lack an understanding of others' motives which sets them up to be fairly easily victimized.
7. **LITERAL THINKING:** FASD imparts a very literal bias to the thinking process. Abstract and higher level conceptual thinking is usually limited. Symbolic language, such as metaphors, are typically lost on the FASD child. So saying "six of one, a half dozen of the other" may lead to a search for six of "what" and a half dozen of "what else". There is absolutely no awareness of the misinterpretation on the child's part. Obviously, this can create a lot of social difficulties that are both mystifying and painful to the FASD child. Weakened higher level thinking skills sabotage FASD children's attempts to proactively organize their environment and to interpret the meaning of overall situations. Impaired conceptual thinking interferes with generalization, for much of generalization rests on being able to distill out principles and then apply them across situations. The collective results of this literal thinking bias is a major reason that clear external structure is necessary to support the functioning of FASD children.
8. **RIGID THINKING:** Once they settle on an idea or plan of action, children with FASD wed themselves to it. They are apt to be highly resistant to any alternative information. This characteristic undercuts effective problem-solving and can make novelty, transitions, changes in routine, or surprises problematic to the point that a behavioral meltdown ensues. The meltdown isn't oppositionalism per se, but more of an attempt to stave off a disorganizing change.
9. **BOUNDARIES:** Children with FASD frequently have a limited concept of interpersonal boundaries. They invade others' personal space with no sense that they have caused an affront. They can be physically intrusive, again with no awareness of their social blunder. They usually have trouble with the concept of personal ownership of things and so they appropriate others' things without asking. They may take things outright, more as an impulsive "crime of opportunity", and not understand it as theft. As FASD children mature into the prepubescent and pubescent years, their lack of boundaries leads them into sexual transgressions that they do not initially see as inappropriate. All of this produces repeated social rejection that can be painful and mysterious to them.
10. **PERSONAL RESPONSIBILITY:** A sense of personal responsibility is minimal to absent in children with FASD. This, like egocentrism, is more of a cognitive lack of awareness rather than a rejection of responsibility that they realize they should have. Predictably, the outcome is a blaming of external

factors or other people for events. This blaming hides the destructive underlying sense that they can't effectively influence events in the world.

11. **MEMORY / INTEGRATION / GENERALIZATION**: As FASD fragments a child's sense of time, it also tends to fragment thinking and memory as a whole. It has been said that FASD children wake up into a new world every day. Sometimes the problem is storage, meaning that incoming information is stored in some erratic manner. Sometimes the problem is retrieval, meaning that the children cannot find information they have or they find it one day only to lose it the next and then rediscover it two days later. Sometimes the problem is application, meaning that information that has been retrieved is not properly applied. Consequently, information / learning usually does not generalize across situations, circumstances, people or time, but is limited to the immediate situation in which the learning occurred. What occurs in therapy may not leave the office. Behavioral discussions at home disappear when the child arrives at school. Social skills in the context of interacting with one peer may not be applied to any other peers. Change one or two details in a situation, and to FASD children, it may well appear to be an entirely new situation to which no knowledge they have is relevant. All of this serves to impair learning from experience.
12. **LYING**: FASD children do consciously lie for self-serving reasons as do all children (and adults for that matter). However, much of what looks like "lying" really emerges out of their various cognitive weaknesses and the inaccuracies these weaknesses introduce into perception and reporting of events.
13. **EMOTIONAL REGULATION**: The emotional regulatory skills of children with FASD are extremely weak. Thus, it takes very little emotional stimulation to light a fast-burning fuse of emotional escalation that is likely to ignite a behavioral meltdown.
14. **BEHAVIORAL REGULATION**: These skills are also typically impaired in children with FASD. The two primary manifestations are hyperactivity and impulsivity, which can also lead to FASD being misdiagnosed as AD/HD. Combine these vulnerabilities with weaknesses in emotional regulation, poor filtering of incoming stimuli, and language processing deficits, and FASD children's proneness to states of overload and behavioral deterioration is easily understandable.
15. **BEHAVIORAL OUTBURSTS**: Along with their multiple vulnerabilities to overload, children with FASD commonly have very low resiliency in the face of stress. Thus, behavioral outbursts can be frequent. The most common triggers to such outbursts are insufficient attention from others, too much environmental stimulation, too little environmental structure, and internal confusion in the face of novelty. The behavioral outbursts of children with FASD are not so much controlling as they are protective. Outbursts are fundamentally a primitive attempt to generate some distance between the child and some source of overload to prevent becoming overwhelmed. It is not necessarily emotional closeness that is feared, but nervous system overload. The goal here is to maintain some inner balance and organization rather than to avoid intimacy per se. Unlike attachment disordered children, children with FASD frequently feel and express remorse after they have settled from an outburst. Such outbursts are best viewed as indicators of the limits of the child's functioning at that point in time, limits that the adults need to learn to work within. While it is certainly true that FASD children can be oppositional, the majority of their behavior problems are matters of compromised ability rather than outright defiance.
16. **MOTIVATION**: Children with FASD tend to be motivated to do well and to please adults. When these are not in evidence, it is generally a reflection of repeated frustration with their functional weaknesses rather than a manipulative attempt to prove adults can't make them achieve. However, their motivation may be minimal or absent with tasks whose rewards are out in the future. Such tasks do

not provide immediate / concrete results, and such results are the stock and trade of FASD children. In their absence, FASD children are apt to have no meaningful reason for effort.

17. **ATTACHMENT**: FASD children can attach to varying degrees, depending upon their pattern of neurological vulnerabilities. What they typically cannot do is sustain the attachment over time. Emotional connections get temporarily undone during periods of overload, but can be repaired after the outburst has passed. What parents need to avoid is being a frequent source of overload, for FASD children are susceptible to viewing those who provoke states of overload as persecutors. This has obvious troubling implications for attachment going forward.

FASD AND ATTACHMENT DISORDER (AD): SIMILARITIES AND DIFFERENCES

If a baby is born with FASD, some degree of AD is a near certainty because FASD typically impairs one or more of the systems that are necessary for the development of attachments. AD is thus secondary to the preceding and primary FASD. The FASD must be addressed first or its effects will continue to undermine efforts to work on the attachment difficulties.

SIMILARITIES

1. **TEMPORAL PERCEPTION**: FASD and AD children both live in the present without much regard for past or future. As a result, both groups have poor cause and effect reasoning. The sense of time is organically impaired with FASD, while AD children live in the present mostly out of their anxiety and need for ongoing hypervigilance.
2. **GENERALIZATION**: Both FASD and AD children's thinking is fragmented. This leads them to see their experience in a fragmentary way and hence they do not generalize across different aspects of their experience.
3. **RIGID THINKING**: The thinking of FASD and AD children tends to be rigid. For FASD children this emerges out of organic impairments while the rigidity of AD children reflects their emotional need for control.
4. **TOLERATING POSITIVE FEELINGS**: FASD children may become overstimulated by positive feelings and behaviorally meltdown as a result. AD children deteriorate out of distrust of positive experiences and belief that they don't deserve them.
5. **PERSONAL RESPONSIBILITY**: Both FASD and AD children typically externalize all personal responsibility resulting in a pattern of blaming others or circumstances for events. The FASD basis is again, primarily organic while AD children externalize as a tool for sustaining their sense of power and invulnerability.
6. **VIEW OF ADULTS**: Both FASD and AD children are prone to viewing adults as misleading them or setting them up. With FASD, this emerges out of literal, rigid thinking; and with AD, this stems from an emotionally-based distrust of adults.
7. **INDISCRIMINATE FRIENDLINESS**: Like AD children, FASD children can appear indiscriminately friendly. The indiscriminate friendliness of FASD children emerges out of their naivete and is not primarily manipulative as it is with AD children.

DIFFERENCES

Relative to FASD children, AD children typically:

- 1 Can filter out incoming stimuli and are not so susceptible to sensory overload.
- 2 Have better expressive AND receptive language processing and are not as vulnerable to language overload from verbal input.
- 3 Can think more conceptually and are not so literal in their thinking.
- 4 Are less motivated to achieve or please others.
- 5 Have a more pervasive lack of remorse.

TREATMENT

1. **PROTECTIVE FACTORS:** A number of protective factors that lead to relatively better outcomes have been identified. In order of the strength of their positive impact they are:
 - Living in a predictable and supportive home environment for 3/4 of life (primarily reduces odds of institutionalization).
 - Being diagnosed prior to age 6- occurs in about 11% of cases (primarily reduces odds of being institutionalized and increases chances of living as a self-sufficient adult).
 - If placed in more than one caretaking arrangement, spending at least 2 ¾ years in each placement.
 - Establishing eligibility for services through the state's Developmental Disabilities Administration.
2. **MEDICATION:** The use of medications must be very closely monitored, and dosages individually adjusted across a wider than normal range, due to FASD children's highly idiosyncratic responses to most psychoactive medicines. Children with FASD also tend to have a higher rate of adverse reactions. The data that exists suggests that stimulant medications impact hyperactivity but have little effect on attention. Expect a longer than usual period of trial and error with different medicines and different dosages to get the optimal response. Reliable communication between home, school, and physician is essential in sorting this out.
3. **THERAPY / MENTORING / COACHING:** Children (and adults) with FASD tend to do better in one-on-one situations vs. group or programmatic contexts because the environment can be more effectively managed and the consistency of dealing with the same person.
4. **BUFFERED ENVIRONMENT:** Due to FASD children's multiple pathways to overstimulation (language processing, emotional / behavioral regulation, stimulus filters, rigid thinking) and their low resiliency, prevention of states of overload is a key component to working successfully with them. Increased experience of being in a calm state is essential for the nervous system to learn to relax and for the child to get a glimmer of the difference between feeling "calm" and "overloaded". Buffering the environment is key to creating more experience of "calm". Without this, both nervous system and child come to define "overloaded" as the default condition of life. Most simply put, buffering the environment means removing as many environmental sources of overstimulation as possible. This can involve any of a number of things: reducing light levels, lowering noise levels, restricting access to electronics, keeping the number of choices limited, avoiding surprises, avoiding inducing language overload, and avoiding certain places or activities are all examples. Tasks should be divided into manageable segments that are not overwhelming to the child with FASD. Overall, what is necessary is determining the sources of overload for an individual child and then systematically reducing or eliminating as many as possible. The child's nervous system then gets greater opportunity to operate in a relaxed state.
5. **LANGUAGE:** It is critical that the adults interacting with an FASD child monitor their use of language to prevent language overload and behavioral meltdown. The amount of language at any one time needs to always be limited. Get to the point without the explanation. In addition to limited amounts of language, adults need to keep their language simplistic and concrete- no metaphors or other symbolism,

and the vocabulary should remain basic. In line with these recommendations, directions should be clear, succinct, and concrete (generally single-step). Adults usually do not do an adequate job of contouring their use of language with FASD children, and end up unintentionally provoking behavioral eruptions.

6. **COMPREHENSION**: Due to FASD children’s receptive language delays, their comprehension of verbal information should almost never be taken for granted. Regular comprehension checks in which the child plays back what was heard, are essential. Simply asking the child if she understands is ill-advised, as children with FASD often don’t know that they didn’t understand.
7. **STRUCTURE**: FASD children need clear external structure and schedules to support their optimal functioning. Depending upon the structure, the situational environment serves as either a therapeutic tool or a sabotaging influence. Making schedules unvarying reduces the demands on the FASD child’s compromised memory skills. Automatic repetition can replace “remembering”. In addition, clearly designed structure, because it comes from outside, can usefully intrude on the egocentrism of the child with FASD and make them more aware of the external world.
8. **SUPERVISION**: Supervision is clearly closely related to structure. FASD children generally need intensive supervision, beyond what an average child of the age needs, to keep them functioning in constructive ways. Their own ability to police themselves comes very slowly and it is easy to overestimate their ability to do this.
9. **RULES**: Behavioral rules need to be specific, clear, and phrased in behavioral language that states what the child needs to do vs. not-do or stop doing. The rules need to be stated proactively because the unconscious mind does not process negatives. Thus, negatively stated rules actually increase subconscious focus on the behavior being prohibited. This increases the future chances that the undesirable behavior will reoccur. The rules need to be communicated with the expectation that they will be learned and followed. This is best conveyed with a matter-of-fact tone of voice that is free of any emotional edge. *Example*: “You will go to your room right after dinner and do your homework.” Thanking the child in advance for his cooperation can improve compliance. The interaction should be broken off after the parent expresses gratitude for expected compliance. In addition, establish the ground rule ahead of time and always in play, that the FASD child needs to ask what the rules might be for anything that has never been discussed before. This removes ignorance as an escape route, from the FASD child's repertoire.
10. **PREVENTION**: With situations that have been repeatedly problematic, remind the FASD child, in advance of the situation’s next occurrence, not to engage in the problematic behavior specific to that situation. Influencing thinking ahead of time can help the FASD child not lapse into an egocentric perspective from which problem behaviors are more likely (Example: Problem taking things from others’ houses. Before the next playdate, tell the child he is expected not to take anything while there).
11. **SAYING “NO”**: When responding negatively to an FASD child’s request, a limited no is preferable to an absolute no. An absolute no is simply stating “no” with no indication of when the answer might become a “yes”. With FASD children’s limited perception of time, this is easily interpreted as “no forever” and a outburst of disappointment and frustration is a probable result. A limited no is in the spirit of “not now” and includes a concrete reference (such as, after the toys are cleaned up) to when the request would be possible. This reference should not be vague, such as “later” or based on a time period like “in an hour”. To the FASD child, these are also apt to sound like forever.

12. **THINKING CONNECTEDLY:** Because of their multiple neurological vulnerabilities, children with FASD tend to perceive the world as a fragmented place in which things are discrete, separate, and random rather than connected. They need ongoing instruction in making connections of all types. FASD children need to be taught, over and over, that behavior is connected to triggers on the front end, to choices in the middle, and to consequences on the back end. The same is true of feelings; they need to learn that feelings are connected to triggers on the front end, to some form of expression (bodily, behavioral, or verbal) in the middle, and to outcomes on the back end. They need to be taught to make connections across time, across situations (generalization), and in social interaction. All of this instruction must be concrete and specific.
13. **THINKING REALISTICALLY:** FASD children can easily incorporate fantasy elements into what they say without realizing it. This reflects their weak fantasy / reality boundary. In instances where reality and fantasy can be separated, point out to the child the aspects they made up that were inaccurate to bring more awareness to this.
14. **TEACHING / LEARNING:** Given their neurological weaknesses, FASD children learn best through observation, rote repetition, and practice, whether it be an academic skill, a behavioral skill, a social skill, hygiene skills, etc. Verbal instruction by itself, is typically the least effective way to teach children with FASD. Adults need to bring a healthy reservoir of patience to their work with FASD children. Progress comes, but slowly, and adult frustration only retards the progress further.
15. **SOCIAL INTERACTION:** Children with FASD need to be overtly taught about the impact of their behavior on others, for their egocentrism blinds them to this. Role playing, props such as dolls or puppets, and drawing can all supplement verbal explanation. This teaching needs to be specific and based on real situations- no hypotheticals. Comprehension checks should be included. Repetition and reminders are to be expected.
16. **VISUAL AND SPATIAL CUES:** FASD children tend to process and retain information more thoroughly if its presentation involves visual and / or hands-on elements. Additionally, pictures or colors or other visual symbols can be used to define the purpose of particular locations (play vs. work spaces for example) and can also be used to illustrate schedules (a picture / symbol for each activity). It can be useful to demarcate spaces with tape or some other physical object. Limiting the number of objects in the environment and items on the wall, particularly in the child's room and the classroom, is advised as well. When doing homework or other paperwork, there should be only one piece of paper and materials for only one task on the work surface at a time. Worksheets should have whitespace and not be cluttered with too much printed matter. All of these tips support internal organization for the FASD child.
17. **TEMPORAL PERCEPTION:** To make time more meaningful to FASD children, represent it visually. An hourglass is particularly useful as it visually depicts both the time that has already passed and the time that remains. Numbers are completely removed from the process. Having several hourglass timers of differing periods of time, for different situations, is ideal. Another option is the use of time lines, either drawn or laid out with ribbon. Events, going forward and backward can be placed along the time line. In terms of teaching the skill of telling time, digital devices are a necessity. Even these can be difficult, but an analog clock requires conceptual and spatial thinking that is likely to make the task overwhelming. The addition of an intervalled alarm can assist by bracketing time periods.
18. **CONSEQUENCES:** Due to the poor temporal perception of FASD children, consequences should be imposed expediently relative to the problematic behavior. A delay weakens, if not obliterates, any possible learning. Consequences should also be relatively short-term as children with FASD are very

skilled at habituating to things not in their immediate environment (out-of-sight / out-of-mind). Repetitive smaller consequences are much more effective than searching for some “nuclear” consequence, for the repetition is a key element in teaching FASD children.

19. **LONGER TERM INCENTIVES:** Again, given poor temporal perception, for FASD children, longer term incentives that require earning something over a few days or longer, are likely to seem either unattainable or meaningless, and will therefore not affect motivation. Longer-term incentives should be bridged with smaller incentives that can be earned on a daily basis for incremental steps towards the larger goal.
20. **SEXUALITY:** Pre-adolescents and adolescents with FASD need repeated concrete instruction regarding people being the owners of their own bodies; and therefore, others don't have the right to “trespass” on the FASD child's body, nor he on theirs. This instruction should begin before any problems have occurred, and this often necessitates discussion in advance of what parents would normally do. The key concept is that the FASD child touches another only with permission- no exceptions. This should be supplemented by defining categories of whom it is fine to touch with permission and whom it is never alright to touch. When this is clear, then basic teaching of private vs. non-private parts should be added. This teaching should be combined with very tight supervision of the FASD adolescent in interpersonal contexts. It can be a risky proposition to leave an FASD adolescent alone with others of the same age or younger, including family members. It may be useful to alert the school, depending upon circumstances. Incarceration amplifies the sexual behavioral problems of those with FASD for they are frequently sexually victimized in prison.
21. **RESIDENTIAL TREATMENT:** Sometimes due to behavioral crisis, children with FASD should properly be placed in residential care primarily out of safety considerations. This should not be viewed as the primary mode of treatment, but as an intensive interim. Unfortunately, specialized residential resources for children with FASD are scarce. FASD children typically do not fare well in conventional RTC's because the level of supervision is often too low while the level of stimulation is too high. The need for enhanced structure is what renders the commonplace Behavioral Level System, that is the backbone of most standard Residential Treatment Programs, ineffective for FASD children. They may well make progress at lower levels where the structure is more intensive. This progress allows them to rise up through the levels with their increasing freedom from structure. Eventually, the structure becomes inadequate to support functioning and deterioration ensues. Essentially, success sets up failure. The National Organization for Fetal Alcohol Syndrome (NOFAS) maintains a state by state listing of specialized treatment resources on its website: NOFAS.org.

RESOURCES

The Challenge of Fetal Alcohol Syndrome. Ed.: Ann Streissguth Jonathan Kanter. 1997.

Fetal Alcohol Syndrome: A Guide for Families and Communities. Ann Streissguth. 1997.

National Organization on Fetal Alcohol Syndrome. NOFAS.org 800-666-6327.

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