

Aggressive and Self-Injurious Behaviors in the Context of Developmental Disability in Children and Adolescents - Clinical Recommendations

Evaluation – Comprehensive Assessment

The investigation into the causes of aggressive behaviors starts with:

- a. Thorough history and physical examination (note IQ, dysmorphology – refer to DD guidelines of AACAP and AAN)
- b. An accurate history (information must be obtained from collateral sources)
- c. Behavioral antecedents
 - A behavioral assessment of the environment to identify triggers and environmental changes
- d. Changes in medical status
 - (e.g. identify and treat infection)
 - Seizures
 - Medication changes and reactions (adverse medication effects warrant consideration as a cause of disruptive behavior)
- e. Once medical and medication-related causes are excluded then consider presence of a psychiatric disorder: ASD, ADHD, PTSD, Psychosis
- f. Safety assessment to determine:
 - Harm to child or others

Diagnosis

- a. Diagnostic tests
 - As relevant to medical work up
- b. Identify most impairing component of presentation
 - Rating scales may be helpful*
- c. Behavior needing immediate attention
 - Refer to behavior therapy
 - Medication
 - Consider hospitalization/refer to ER
 - Refer to specialist if available

Treatment

- a. Aim therapy at most impairing target symptom or diagnosis (e.g. ADHD, aggression, or compulsions)
- b. Define symptom domain behind the aggressive behavior once medical aspects have been ruled out
 - Anxiety disorders (OCD, others), depressive disorders
 - Worries, separation anxiety, crying, sadness, withdrawal, insomnia, compulsive behavior
 - ADHD, other disruptive behaviors
 - Distractibility, hyperactivity, impulsiveness
 - Psychosis, Mania
 - Bizarre statements, pressured speech, erratic behavior.
 - Non-specific aggression

Risk Factors Include:

- Developmentally specific
 - Age (peaks in late adolescence)
 - Male sex
- Comorbid conditions:
 - PDD, anxiety disorder, affective disorder, tic disorder
- Environmental
 - structure, demand on behavior, high/low stimulation
- Communication deficits
 - frustration or boredom
- Developmental Disabilities
 - Risk for aggressive behavior is higher in syndromes associated with lower IQ as in:
 - Prader-Willi, Fragile X, Smith-Magenis, Tuberous Sclerosis Complex, Cri-du-Chat, Down Syndrome

Target Symptoms

- Aggression
- Outbursts/rage
- Self-injury
- Anxiety
- Compulsions
- Hyperactivity
- Inattention
- Irritability
- Sadness
- Oppositionality
- Stereotypy
- Perservation
- Impulsivity

Persistent Aggression/Outbursts/Irritability

- Antipsychotics – Risperidone 1st
- Stimulants (if in context of ADHD)
- Anticonvulsants
- Alpha 2 agonists
- Beta blockers
- Lithium

* See FL Medicaid Drug Therapy Management Guidelines for Children and Adolescents
<http://flmedicaidbh.fmhi.usf.edu>

Monitoring of Risperidone Pending Referral to Specialist

- Parkinsonism, akathisia, dyskinesia, dystonia
- Other side effects, separation anxiety, dulling, depression
- Metabolic
 - appetite, weight, BMI
 - lipid panel, glucose

*The website www.schoolpsychiatry.org lists all screening instruments and whether free access is available on line

Genetic Disorder	Aggression and Self-Injurious Behaviors	Treatment
Prader-Willi Syndrome (PWS)	<p>Aggression</p> <ul style="list-style-type: none"> Aggression increases with age, with the highest rate in young adults Aggression is usually described as “temper outbursts”. Physical acts towards others can be seen Aggression more likely to be seen during recommended weight-loss efforts 	<ul style="list-style-type: none"> Risperidone has been used successfully; however, PWS patients are already prone to weight gain. The SGAs with low weight-gain potential (ziprasidone and possibly aripiprazole) may be better choices – but haven’t been studied An alternative to consider would be an anti-epileptic drug with a low potential for weight gain (carbamazepine, oxcarbazepine, lamotrigine) Valproic acid should probably be avoided, due to its tendency to promote weight gain; a similar caution exists for lithium Caveat: No matter which medication are used, low dosing and careful monitoring are a must. PWS patients may be sensitive to adverse effects of medications, may not metabolize them well, and may have paradoxical reactions
	<p>Self Injurious Behaviors</p> <ul style="list-style-type: none"> Self-injurious behavior (skin-picking, with preference for legs, face and arms; other types of self-injury, such as head banging, can be observed) is seen in the majority of PWS patients 	<ul style="list-style-type: none"> As there is a strong compulsive component to the self-injury in these patients, treatment with an SSRI should be considered although worsening of picking behavior related to SSRI should be monitored If the patient fails two reasonable trials with an SSRI, low-dose risperidone (starting at 0.5 mg/d) may help One study of adults with PWS demonstrated a significant reduction in skin picking behaviors with the use of topiramate; its use in younger patients may be considered if other treatments are unsuccessful Topiramate should be divided into twice-daily dosing
Fetal Alcohol Syndrome (FAS)	<p>Aggression</p> <ul style="list-style-type: none"> FAS patients display both verbal and physical aggression They show higher rates of delinquent behaviors, including fighting 	<ul style="list-style-type: none"> Comorbidity is quite common in these patients, with elevated rates of ADHD, anxiety, depression, psychotic-like symptoms, and Intermittent Explosive disorder (IED) Those conditions should be treated first, as their resolution may also diminish or eliminate the aggressive behaviors For non-specific or refractory aggression, use of risperidone may work when other agents have failed For IED symptoms not responsive to other medications, anticonvulsants, lithium, alpha-2 agonists or beta blockers (especially the lipophilic agents propranolol and metoprolol) may be effective Renal disease is present in 10% of those with FAS. Therefore, lithium must be used with caution
Fragile-X Syndrome (FXS)	<p>Aggression</p> <ul style="list-style-type: none"> Similar to FAS in terms of symptoms and psychiatric comorbidities Important difference in FXS patients is there is a risk of seizures in the younger age group (1-5 years), and in about 20% motor tics are present 	<ul style="list-style-type: none"> If aggressive behaviors persist after treating comorbid conditions, risperidone or aripiprazole may be tried
Fragile-X Syndrome (FXS)	<p>Self Injurious Behavior</p> <ul style="list-style-type: none"> Onset of SIB tends to be early in life, and the self-injury has a modest correlation with other problem behaviors Compulsive behavior occurs in 72% of boys and 55% of girls and did not appear to be associated with SIB 	<ul style="list-style-type: none"> These behaviors will usually respond to a combination of adequate pharmacologic treatment of comorbid psychiatric conditions (e.g. ADHD, depression, anxiety) and behavioral interventions

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Smith-Magenis Syndrome (SMS)	<p>Aggression</p> <ul style="list-style-type: none"> Aggression in SMS is thought to be related to ADHD symptoms, which are seen in over 80% of patients SMS patients display more aggressive behaviors than do patients with PWS or mixed intellectual disabilities (IDs) 	<ul style="list-style-type: none"> Treating the hyperactivity with stimulants is not very effective SMS patients have a high rate of seizure activity (and even higher rates of abnormal EEGs, even in the absence of seizures). A preferable first choice may be anti-epileptic drugs with low weight-gain potential (such as carbamazepine) Another option would be an SSRI, especially if there is suspicion that the irritability is related to anxiety seen in SMS patients Although risperidone may reduce aggression, the atypical antipsychotics should probably be avoided, as at least half of patients with SMS have hyperlipidemia Alternative medications include lithium (especially in those with no EEG epileptiform activity) and beta blockers
	<p>Self-Injurious Behaviors</p> <ul style="list-style-type: none"> Tend to increase with age Hand-biting is the most common form of SIB, followed by self-slapping, head-banging, and picking of the skin, toenails and fingernails (to the point of bleeding) Will also stick objects into body orifices 	<ul style="list-style-type: none"> As there are features of stereotypy, and self-stimulation in SMS patients, trials of an SSRI, an atypical antipsychotic, and/or beta blockers, respectively, may be considered
Tuberous Sclerosis Complex (TSC)	<p>Aggression</p> <ul style="list-style-type: none"> Very complex patients, given the high rate of seizure disorders, common occurrence of ADHD symptoms, and cardiac and renal involvement Aggression in TSC is common, shows wide variation in severity, and does not tend to diminish over time (except for the destructive outbursts) 	<ul style="list-style-type: none"> Much of the aggressive behavior in TSC is probably related to the seizure disorder; therefore the first step in management should be maximizing the AED regimen. However, the epilepsy in TSC tends to respond poorly to the AEDs. Psychiatric comorbidity is common. Identification and treatment may decrease aggressive behaviors Risperidone has shown efficacy in reducing problematic behaviors (including aggression) in TSC The use of any medication that may affect cardiac conduction should be delayed until the TSC patient has had a thorough cardiac evaluation. About 1/2 of these patients will have a cardiac rhabdomyoma, and about 20% of those will be associated with arrhythmias
Cri du Chat Syndrome (CdCS)	<p>Aggression</p> <ul style="list-style-type: none"> There is speculation that much of the aggression (towards person and property) seen in CdCS derives from the poor or absent language skills that most of the patients display Hyperactive behavior has been variously reported in these patients, and it seems to diminish with age 	<ul style="list-style-type: none"> If improvement in communication skills does not help to diminish the aggressive behaviors, a cautious trial of stimulants may be indicated
	<p>Self-Injurious Behaviors</p> <ul style="list-style-type: none"> Self-injury is very common in CdCS, most commonly hitting or banging of the head, biting or scratching Stereotypical behaviors (e.g. body rocking, hand waving) are also common, and may share an etiological connection with the SIB 	<ul style="list-style-type: none"> Given the possible SIB-stereotype connection, and also that stereotypes can respond to dopaminergic blockade, treating with low-dose risperidone seems reasonable

Genetic Disorder	Aggression and Self-Injurious Behaviors	Treatment
Autistic Spectrum Disorders (ASD)	Aggression <ul style="list-style-type: none"> In one study 78% of aggressive patients had mood disorders that were not recognized Recommendations were made to reduce or eliminate atypical antipsychotics and to maximize treatment of mood disorders with antidepressants or mood stabilizers 	<ul style="list-style-type: none"> In the absence of a clearly defined mood disorder, risperidone is the agent of choice to treat aggression in children with autistic disorder, and perhaps with other ASD In smaller studies: <ul style="list-style-type: none"> Ziprasidone and aripiprazole also demonstrated reductions in aggressive symptoms Olanzapine was ineffective Quetiapine increased aggression
	Self-Injurious Behaviors <ul style="list-style-type: none"> In one study of autistic children 50% had SIB, and almost 15% had severe SIB, defined as producing “functional or life-threatening lesions.” Younger chronologic age, associated perinatal conditions, higher degree of autism and a higher delay in daily living skills were risk factors for SIB 	<ul style="list-style-type: none"> Risperidone has been found to reduce SIB in people with autistic disorder; the other AAs may also be helpful in this regard Risperidone limitations: <ul style="list-style-type: none"> Although SIB frequency is reduced in autistic patients, duration and severity of SIB may not be significantly altered Another concern is AA-related weight gain and obesity, which is a risk factor for the development of the metabolic syndrome In the event that the SIB in autistic patients doesn’t respond to the AAs, or the medications are not tolerated, a trial of the opioid antagonist naltrexone may be beneficial
Down Syndrome (DS)	Aggression <ul style="list-style-type: none"> At least 10% of DS patients can present as oppositional and aggressive New onset behavioral disturbances (including aggression) in DS patients could be related to medical issues, including: <ul style="list-style-type: none"> Recurrent hospitalization Pre-existing/active seizures Hearing/visual impairment GERD Pain (ENT, dental, GI, skeletal, menstrual) Primary sleep disorder Obstructive sleep apnea Hypo- or hyperthyroidism New-onset behavioral disturbances (including aggression) in DS patients could be related to psychiatric issues, including: <ul style="list-style-type: none"> Pre-pubertal <ul style="list-style-type: none"> ADHD ODD ASD Post-pubertal <ul style="list-style-type: none"> Depression OCD Psychosis 	<ul style="list-style-type: none"> For physical aggression or destructiveness, the first choice would be an AA, followed by a mood stabilizer or beta-adrenergic antagonist For agitation-anxiety-irritability, the first choice would be a mood stabilizer or SSRI, followed by an AA For defiance, either buspirone or bupropion may be tried