



General

Guideline Title

Practice parameter for the assessment and treatment of children and adolescents with tic disorders.

Bibliographic Source(s)

Murphy TK, Lewin AB, Storch EA, Stock S, American Academy of Child and Adolescent Psychiatry (AACAP) Committee on Quality Issues (CQI). Practice parameter for the assessment and treatment of children and adolescents with tic disorders. *J Am Acad Child Adolesc Psychiatry*. 2013 Dec;52(12):1341-59. [156 references] [PubMed](#)

Guideline Status

This is the current release of the guideline.

Regulatory Alert

FDA Warning/Regulatory Alert

Note from the National Guideline Clearinghouse: This guideline references a drug(s) for which important revised regulatory and/or warning information has been released.

- [May 10, 2016 – Olanzapine](#) : The U.S. Food and Drug Administration (FDA) is warning that the antipsychotic medicine olanzapine can cause a rare but serious skin reaction that can progress to affect other parts of the body. FDA is adding a new warning to the drug labels for all olanzapine-containing products that describes this severe condition known as Drug Reaction with Eosinophilia and Systemic Symptoms (DRESS).
- [May 3, 2016 – Aripiprazole \(Abilify, Abilify Maintena, Aristada\)](#) : The U.S. Food and Drug Administration (FDA) is warning that compulsive or uncontrollable urges to gamble, binge eat, shop, and have sex have been reported with the use of the antipsychotic drug aripiprazole (Abilify, Abilify Maintena, Aristada, and generics). These uncontrollable urges were reported to have stopped when the medicine was discontinued or the dose was reduced. These impulse-control problems are rare, but they may result in harm to the patient and others if not recognized.

Recommendations

Major Recommendations

Definitions of the strength of the empirical and/or clinical support ratings (CS, CG, OP, NE) are provided at the end of the "Major Recommendations" field.

Assessment

Recommendation 1. The psychiatric assessment should involve routine screening for unusual movements, stereotypies, tics, and family history of tic disorders. [CS]

Parents and youth should be asked about unusual movements or vocalizations during the initial assessment. Screening for abnormal movements before initiation of any psychotropic medications and assessing previous psychotropic medication exposure/dosage changes is important when evaluating for abnormal movements in children. Many families are unaware that frequent sniffing, coughing, or blinking may be indicative of tics, attributing these behaviors to allergies or visual problems. Careful assessment of the timing, triggers, and characteristics may help differentiate tics from another medical problem. If the clinician is unsure, referral to a pediatric specialist (allergist, pulmonologist, and ophthalmologist) is warranted. Commonly used parent-rated behavioral screening tools such as the *Child Behavior Checklist (CBCL)* and the 90-item version of the *Swanson, Nolan, and Pelham (SNAP)* include tic-specific questions.

Recommendation 2. If screening is positive, a more thorough assessment for tic disorders should be conducted. [CS]

If the clinician's screening receives endorsement of the possibility of tics or the clinician observes tics during the evaluation, a more systematic assessment for tics will be needed, including the age of onset, types of tics, tic frequency, alleviating and aggravating factors, and a family history of tics. Rating scales specific for tics may be used. Parent report rating scales for type, severity and impairment of tics include the *Motor tic, Obsessions and compulsions, Vocal tic Evaluation Survey (MOVES), Tic Self-Report Scale, Tourette's Disorder Scale, Parent Tic Questionnaire (PTQ)* and *Child Tourette's Disorder Impairment Scale-Parent Version*. For clinician-rated tic severity, the most commonly used is the *Yale Global Tic Severity Scale (YGTSS)*, which assesses the nature of motor and phonic tics over the previous week. This scale has excellent clinicometric properties and treatment sensitivity has been documented. The *Tourette Syndrome Severity Scale (TSSS)* contains 5 ordinal scales with differing ranges and item weights that focus on Tourette's disorder (TD)-related social impairment. The *Tourette Syndrome Global Scale (TSGS)* assesses the frequency and impairment of simple and complex tics, as well as common comorbid problems (e.g., behavioral problems, functional impairment). Short, structured videotape protocols have been used to count tics, although issues have been raised with their scoring structures, feasibility, and ease of implementation.

Recommendation 3. The assessment for tic disorders should involve a careful examination for general medical condition or substance etiologies. [CS]

A medical workup should be considered for new-onset tics or tic-like movements. Certain clinical features such as the sudden onset of severe tics, atypical tics, or mental status abnormalities suggestive of an organic process (i.e., disorientation, inability to copy figures or to draw a clock) should prompt further medical investigation.

Basic laboratory measures such as a hemogram, renal/hepatic function panel, thyroid panel, and ferritin, along with urine drug screen for adolescents, are reasonable. For new sudden (overnight)-onset or severe symptom exacerbation, the provider may assess for co-occurring infection with diagnostic tests that indicate acute illness (e.g., culture, rapid viral tests).

Electroencephalogram (EEG) and brain imaging are not routinely recommended and are reserved for cases with other neurological findings. In cases with unusual or complex presentations, additional specialty consultation (e.g., pediatric neurology, genetics) may be helpful.

Recommendation 4. The assessment for tic disorders should involve a careful examination for comorbid psychiatric conditions. [CS]

Any assessment of a child or adolescent that reveals the presence of tics should prompt assessment for common externalizing and internalizing psychiatric disorders, and current social functioning along with any developmental delays. Given the frequent comorbidity of chronic tic disorders (CTD) with other psychiatric conditions, incorporating measures for comorbid conditions into the assessment of youth is frequently warranted, depending on the clinical presentation. Although those individuals with uncomplicated CTD are less likely to present with neurocognitive deficits, those with comorbid conditions (especially attention deficit hyperactivity disorder [ADHD]) have significant risk of educational struggles and in most cases should be considered for educational testing. A complete discussion of these comorbid conditions is outside the scope of this paper; thus the reader is referred to the American Academy of Child and Adolescent Psychiatry (AACAP) Practice Parameters for each disorder.

Treatment

Recommendation 5. Education regarding CTD should be provided regarding expectations for course and prognosis, and treatment planning should consider classroom-based accommodations. [CS]

Psychoeducation should be provided to the youth and family regarding tics including common symptom presentations, risks related to co-occurring conditions, the typical course across the lifetime, prognosis (25% with tics into adulthood), and treatment options. The youth's typical exacerbating

(e.g., illness, stress, heat) and alleviating factors (e.g., rest, listening to music) should be reviewed. Families (and clinicians) can find an abundance of information related to CTD that is especially produced for clinicians, parents, youth, or educators (including information on school-based accommodations and local advocacy groups) on the Tourette Syndrome Association website (www.tsa-usa.org) or on the Tourette Syndrome "Plus" website (www.tourettesyndrome.net/).

Classroom accommodations are often necessary to help the child best access his or her curricula, and an Individualized Education Plan (IEP) or 504 plan may be necessary. Parents should be guided to information on tic disorders designed for teachers and school personnel. Approximately 72% of children with tic disorders receive some form of accommodation from their teachers, with the most common being ignoring of the tics and permission to leave the room as needed.

Recommendation 6. Treatment for CTD should address the levels of impairment and distress caused by the tics as well as any comorbid conditions. [CS]

The decision to treat tics is a sensitive one, made in conjunction with the child and family based on the level of impairment and distress caused by the tics. If the tics are mild in severity, there may be no need for intervention after psychoeducation is provided. Often children and families cope well with tics of mild to moderate severity until the child enters the pre-teen age group or middle school, at which time teasing from peers may prompt the child and family to request intervention. Potential adverse events associated with treatment interventions should be carefully weighed.

When establishing the treatment hierarchy, one should begin with the most impairing condition. In many circumstances, it is the comorbid condition, and not the tic disorder, that causes the most impairment in functioning or has the most impact on quality of life. Frequently the initial interventions address target symptoms from a comorbid condition, with only ongoing monitoring of tics.

Recommendation 7. Behavioral interventions for CTD should be considered when tics cause impairment, are moderate in severity, or if behavioral-responsive psychiatric comorbidities are present. [CG]

Behavioral intervention offers a nonpharmacological alternative to tic treatment. The majority of those with tics experience them as somewhat voluntary. In addition, many individuals with tics describe a distinct aversive sensation or a buildup of tension that is relieved by tic expression. Termed a premonitory urge, this pattern of tension buildup and release is similar to the relationship between obsessions and compulsions in obsessive compulsive disorder (OCD), but with a sensory trigger rather than a cognitive one. In a similar manner, tic expression eliminates the aversive premonitory sensation just as completing the compulsion eliminates the obsession, suggesting that tics are maintained, in part, by negative reinforcement (i.e., removal of an unpleasant stimulus).

The behavioral intervention with the strongest empirical support relies on this formulation and is called habit reversal training (HRT). Typical components of HRT include awareness training, building a competing response and social support. HRT has been shown to have efficacy in youth with moderate or greater tic severity compared to those not receiving HRT. A therapist guide and parent workbooks for HRT are available.

Behavioral treatment may also address less adaptive coping strategies (e.g., avoidance, withdrawal) that develop secondary to tics and contribute to heightened impairment. In some youth, self-concept can become overly centered on having tics rather than focusing on their areas of strength and resilience. The unfortunate consequence of this adaptation to illness (e.g., lingering dependence on parents) can compound the sense of marginalization. Skill-based therapies that target distorted cognitions and avoidance should be beneficial in improving quality of life and reducing sustained reliance on problematic coping mechanisms. There is preliminary support for structured parent training to address disruptive behavior problems in youth with chronic tics.

There are no systematic studies to date comparing HRT to medication or combined therapies in youth. HRT is nonetheless an excellent example of a therapy that offers the advantage of having lower risks compared to metabolic adverse effects of medications. Severe tics or tics whose character interferes with the child's ability to function in school may require medication intervention at an earlier time or combined medication and HRT. In all cases, the treating clinician must balance tic severity and treatment efficacy with the adverse effect profile.

Recommendation 8. Medications for CTD should be considered for moderate to severe tics causing severe impairment in quality of life or when medication responsive psychiatric comorbidities are present that target both tic symptoms and comorbid conditions. [CG]

Large, multi-site, randomized, placebo-controlled trials for the treatment of tic disorders are few in number, especially in pediatric populations (see Table 2 in the original guideline document). Most medication treatment studies target moderate to severe tic severity, resulting in symptom reduction but not remission. Despite the limited number of studies, however, medical treatments for tics should have evidence-based support whenever feasible. The only two Food and Drug Administration (FDA)-approved medications to treat TD are haloperidol and pimozide; however, most clinicians use atypical antipsychotics before these agents (see Table 3 in the original guideline document). Recent reviews provide overviews of pharmacological approaches and suggested dosing. A clinician survey found that the most common medications used to treat tics are risperidone followed by clonidine then by aripiprazole, and another survey found aripiprazole to be most commonly used, followed by clonidine

followed by risperidone.

α -2 Agonists

α -Adrenergic medications have demonstrated an effect size of 0.5 for the amelioration of tics. Some prescribers prefer α -2 agonists as first-line agents over antipsychotic medications because of the adverse effect profile, which is perceived as less serious than with antipsychotic medications. A recent meta-analysis found that trials that enrolled subjects with tics and ADHD demonstrated a medium-to-large effect in reducing tic severity (0.68), whereas trials that excluded subjects with ADHD demonstrated only a small, nonsignificant benefit (0.15). Clonidine activates the presynaptic auto-receptors in the locus ceruleus, thereby reducing norepinephrine release that may diminish tics. The starting dose is 0.05 mg per day with gradual increases up to 0.3 mg per day to control tics often administered in divided doses 3 to 4 times per day. The main adverse effect limiting its use is sedation. A transdermal patch of clonidine is available, as is a sustained release oral formulation that was recently approved for the treatment of ADHD, but has not been studied for use in children and adolescents with CTD.

Compared to clonidine, guanfacine appears to bind more selectively to postsynaptic prefrontal α (2A)-receptors to enhance functioning of prefrontal cortex. A double-blind, placebo-controlled trial showed efficacy for tic severity. A sustained release formulation has been approved for ADHD and trials for CTD are underway.

Antipsychotic Medications

Several conventional antipsychotic medications have been shown to be effective for decreasing tic severity, although these studies enrolled primarily adults. Haloperidol has been shown to be effective in several randomized controlled trials (RCTs); however, up to 84% of patients have experienced adverse events with roughly one-third having extrapyramidal side effects. A haloperidol and pimozide placebo-controlled crossover trial found pimozide to be more effective at reducing total number of tics and to be better tolerated as compared with haloperidol. Although much lower doses are needed when using typical or atypical antipsychotics for CTD than for bipolar or psychotic disorders, a careful risk/benefit assessment and adverse effect monitoring are recommended.

Concerns about adverse effects have led to studies with the atypical antipsychotics for the treatment of TD. The best studied atypical antipsychotic to date is risperidone with 4 randomized controlled trials; however only 1 of the trials was conducted exclusively with children and adolescents, showing risperidone to be an effective treatment. Active comparator trials (clonidine and pimozide versus risperidone) found risperidone at least as effective. In pediatric subjects, common adverse effects were weight gain and mild to moderate sedation. No clinically significant extrapyramidal symptoms in pediatric patients were observed. Effective doses for patients with TD ranged from 1.0 to 3.5 mg per day.

Treatment in Context of Comorbidity

Comorbid OCD

The efficacy of pharmacotherapy for OCD in pediatric populations has been demonstrated in several controlled trials with clomipramine and selective serotonin reuptake inhibitors (SSRIs) (see the National Guideline Clearinghouse [NGC] summary of the AACAP guideline [Practice parameter for the assessment and treatment of children and adolescents with obsessive-compulsive disorder](#)).

Some studies suggest that the presence of tics may yield a less robust response to SSRIs.

Comorbid ADHD

Treatment of ADHD in the context of tic disorders can, at times, be challenging because of concerns of worsening tic severity. For children with ADHD, recent studies have demonstrated that tics are not universally increased by stimulant medication; however, the FDA package insert for stimulants does list tics as a contraindication. No differences were observed in worsening of tics in children with comorbid ADHD and a CTD taking methylphenidate, clonidine, or placebo, with about 20% in each group showing an exacerbation. The presence of tics did appear to limit the maximum dose achieved. Other options are the use of atomoxetine with reported benefits on tic symptoms as well as ADHD; however, occasional reports of tics worsening exist. Guanfacine has been shown to have a clinically relevant effect size for both ADHD and tic symptoms. Tricyclic antidepressants (TCAs) have shown benefit for ADHD with comorbid tics, but cardiovascular risks likely outweigh the benefit of this option. Please refer to the Cochrane Database review for a detailed overview.

Comorbid Mood/Anxiety (Non-OCD)

This area is understudied, but clearly many youth with TD have co-occurring mood and non-OCD anxiety disorders. Currently, the best approach is to use evidence based treatment for the co-occurring mood or anxiety disorder.

Explosive/Rage Symptoms

Anger and rage outbursts are not uncommon among patients with tics, with a survey of clinicians estimating 37% of their tic patients present with anger control problems. In some cases, OCD symptoms or sensory issues (too hot, too noisy) may serve as triggers, and other times anger is due to poor frustration tolerance. Behavioral therapies that address antecedents and anger management may be useful. In clinic-referred tic samples, up to 80% of youth are estimated to have co-occurring disruptive behavior disorders. There are no controlled pharmacological studies in youth with tic disorders and aggressive/anger outbursts. Although there are preliminary data for olanzapine, aripiprazole and risperidone, in reducing disruptive behavior disorder symptoms, these findings should be interpreted cautiously given significant design limitations, small samples, relatively weak effects, and risks associated with these medications. Similarly, a reduction in rage attacks was observed after an 8-week open trial of paroxetine, but the age range was markedly variable (n=45, aged 6-55 years) and self-report was used to assess rage.

Recommendation 9. Deep brain stimulation (DBS), repetitive magnetic stimulation, special diets, and dietary supplements lack empirical support for the treatment of CTD/TD and are not recommended. [NE]

DBS is a surgical treatment approach that may hold benefit for a few treatment-refractory adults; however, few cases have been reported of youth receiving DBS for severe, treatment-resistant tics. At this time, DBS guidelines have advised that this procedure should not be conducted in individuals less than 25 years of age outside of a research setting, because the severity of TD often diminishes in late teen/early adulthood.

An open-label study examining repetitive transcranial magnetic stimulation (rTMS) in youth with TD has been conducted with no reported adverse outcomes. Small studies examining rTMS in the treatment of adults with TD have shown negative results. Very few youth have received rTMS and this treatment option should be considered preliminary until larger blinded studies have resolved issues regarding the safety, ethics, and long-term impact on development. Notably, neurosurgery and neurostimulation should be considered only in refractory cases, and clinicians should carefully weigh the risks and benefits for these experimental procedures before recommending them for use in pediatric patients.

Many parents have found purported therapies (e.g., special diets, supplements, brushing) via the Internet or support groups. Although many patients with tic disorders do use complementary and alternative medical therapies, support for this practice is not currently at the evidence based level. Some therapies, such as high-dose vitamin B6 or St. John's wort, have the potential for adverse outcomes or interactions with psychoactive medications and are not recommended until studied appropriately in children.

Definitions:

Strength of the Empirical and/or Clinical Support

- Clinical Standard [CS] is applied to recommendations that are based on rigorous empirical evidence (e.g., meta-analyses, systematic reviews, individual randomized controlled trials) and/or overwhelming clinical consensus.
- Clinical Guideline [CG] is applied to recommendations that are based on strong empirical evidence (e.g., non-randomized controlled trials, cohort studies, case-control studies) and/or strong clinical consensus.
- Clinical Option [OP] is applied to recommendations that are based on emerging empirical evidence (e.g., uncontrolled trials or case series/reports) or clinical opinion, but lack strong empirical evidence and/or strong clinical consensus.
- Not Endorsed [NE] is applied to practices that are known to be ineffective or contraindicated.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Chronic tic disorders (CTD), including:

- Tourette's disorder (TD)
- Persistent motor or vocal tic disorder

Guideline Category

Counseling

Diagnosis

Evaluation

Management

Screening

Treatment

Clinical Specialty

Family Practice

Neurology

Pediatrics

Psychiatry

Psychology

Intended Users

Advanced Practice Nurses

Nurses

Physician Assistants

Physicians

Psychologists/Non-physician Behavioral Health Clinicians

Social Workers

Guideline Objective(s)

To guide the practice of medical and mental health professionals that assess and treat youth with tic disorders including Tourette's disorder (TD)

Target Population

Children, adolescents, and young adults with tic disorders including Tourette's disorder (TD)

Interventions and Practices Considered

Assessment

1. Psychiatric assessment including routine screening for unusual movements, stereotypies, tics, and family history of tic disorder
2. Assessment using formal rating scales for tic disorders
 - Motor tic, Obsessions and compulsions, Vocal tic Evaluation Survey (MOVES)
 - Tic Self-Report Scale
 - Tourette's Disorder Scale
 - Parent Tic Questionnaire (PTQ)
 - Child Tourette's Disorder Impairment Scale-Parent Version

- Yale Global Tic Severity Scale (YGTSS)
 - Tourette Syndrome Severity Scale (TSSS)
 - Tourette Syndrome Global Scale (TSGS)
3. Careful examination for general medical condition or substance etiologies
 4. Careful examination for comorbid psychiatric conditions

Treatment

1. Chronic tic disorders (CTD) education (expectations for course and prognosis, and treatment planning)
2. Treatment addressing levels of impairment and distress
3. Behavioral interventions
4. Medications
 - α -2 agonists
 - Antipsychotics
5. Pharmacotherapy of comorbid conditions (obsessive-compulsive disorder [OCD], attention deficit hyperactivity disorder [ADHD], mood/anxiety disorders, explosive/rage symptoms)
6. Deep brain stimulation (DBS), repetitive magnetic stimulation, special diets, and dietary supplements (not recommended)

Major Outcomes Considered

- Improvement in symptom severity as measured by Tourette Syndrome Global Scale (TSGS), Tourette Syndrome Severity Scale (TSSS), or Yale Global Tic Severity Scale (YGTSS)
- Side effects of treatment

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Information and treatment recommendations used in this Parameter were obtained by using the terms *Tourette's Disorder*, *Tourette syndrome*, or *Tic Disorder*, *English Language*, and *Human Studies* to search MEDLINE, PubMed, PsycINFO, and Cochrane Library databases and by iterative bibliographic exploration of articles and reviews. Beginning with more inclusive and sensitive searches using the search terms noted above, multiple free text and relevant medical subject headings (MeSH terms), and the time period from January 1, 1965 to March 29, 2013, yielded 3,764 citations in MEDLINE, 3,172 in PsycINFO, and 3 reviews in the Cochrane Library. The search was narrowed to the following designations: *Meta-Analysis* (11 all, 2 child), *Practice Guideline* (5 all), *Review* (811 all, 296 child). The original search was also narrowed to the following designations: *Treatment and 0-18* (1206), and *Treatment and 0-18 and RCT* (87). The guideline developers selected 149 publications and 25 randomized controlled trials (RCTs) that enrolled pediatric subjects with an effective $N \geq 20$ for careful examination based on their weight in the hierarchy of evidence, the quality of individual studies, and their relevance to clinical practice.

Number of Source Documents

149 publications and 25 randomized controlled trials (RCTs)

Methods Used to Assess the Quality and Strength of the Evidence

Rating Scheme for the Strength of the Evidence

The strength of the empirical evidence is rated in descending order as follows:

- [rct] Randomized, controlled trial is applied to studies in which subjects are randomly assigned to 2 or more treatment conditions
- [ct] Controlled trial is applied to studies in which subjects are non-randomly assigned to 2 or more treatment conditions
- [ut] Uncontrolled trial is applied to studies in which subjects are assigned to 1 treatment condition
- [cs] Case series/report is applied to a case series or a case report

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

The strength of the empirical evidence is rated in descending order (see the "Rating Scheme for the Strength of the Evidence" field).

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

American Academy of Child and Adolescent Psychiatry (AACAP) Practice Parameters are developed by the AACAP Committee on Quality Issues (CQI) in accordance with American Medical Association policy. Parameter development is an iterative process between the primary author(s), the CQI, topic experts, and representatives from multiple constituent groups, including AACAP membership, relevant AACAP Committees, the AACAP Assembly of Regional Organizations, and the AACAP Council. Details of the Parameter development process can be accessed on the AACAP website. Responsibility for Parameter content and review rests with the author(s), the CQI, the CQI Consensus Group, and the AACAP Council.

The AACAP develops both patient-oriented and clinician-oriented Practice Parameters. Patient-oriented Parameters provide recommendations to guide clinicians toward best assessment and treatment practices. Recommendations are based on the critical appraisal of empirical evidence (when available) and clinical consensus (when not), and are graded according to the strength of the empirical and clinical support. Clinician-oriented Parameters provide clinicians with the information (stated as principles) needed to develop practice-based skills. Although empirical evidence may be available to support certain principles, principles are primarily based on clinical consensus. This Parameter is a patient-oriented Parameter.

Rating Scheme for the Strength of the Recommendations

In this Parameter, recommendations for best assessment and treatment practices are stated in accordance with the strength of the underlying empirical and/or clinical support, as follows:

- Clinical Standard [CS] is applied to recommendations that are based on rigorous empirical evidence (e.g., meta-analyses, systematic reviews, individual randomized controlled trials) and/or overwhelming clinical consensus.
- Clinical Guideline [CG] is applied to recommendations that are based on strong empirical evidence (e.g., non-randomized controlled trials, cohort studies, case-control studies) and/or strong clinical consensus.
- Clinical Option [OP] is applied to recommendations that are based on emerging empirical evidence (e.g., uncontrolled trials or case series/reports) or clinical opinion, but lack strong empirical evidence and/or strong clinical consensus.
- Not Endorsed [NE] is applied to practices that are known to be ineffective or contraindicated.

Cost Analysis

A formal cost analysis was not performed and published cost analyses were not reviewed.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

This Parameter was reviewed at the Member Forum at the American Academy of Child and Adolescent Psychiatry (AACAP) Annual Meeting in October 2011.

From December 2012 to January 2013, this Parameter was reviewed by a Consensus Group convened by the Committee on Quality Issues (CQI).

This Practice Parameter was approved by the AACAP Council on July 29, 2013.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Recommendations are based on the critical appraisal of empirical evidence (when available) and clinical consensus (when not), and are graded according to the strength of the empirical and clinical support.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate assessment and treatment of children, adolescents, and young adults with tic disorders

Potential Harms

- Despite potential reduction of tics and co-occurring symptoms, the risk of weight gain and metabolic effects suggests that olanzapine should not be the first line medication for chronic tic disorder (CTD).
- The most common adverse effects in a recent open-label trial with aripiprazole were hypersomnia (37.5%), nausea (20.8%), and headache (16.6%). In open trials of youth with CTD, tic improvement was observed at lower doses with mean weight gain of 2 to 5 pounds.
- See the "Major Recommendations" field for further information on side effects of pharmacological therapies.

Contraindications

Contraindications

For children with attention deficit hyperactivity disorder (ADHD), recent studies have demonstrated that tics are not universally increased by stimulant medication; however, the Food and Drug Administration (FDA) package insert for stimulants does list tics as a contraindication.

Qualifying Statements

Qualifying Statements

American Academy of Child and Adolescent Psychiatry (AACAP) Practice Parameters are developed to assist clinicians in psychiatric decision making. These Parameters are not intended to define the sole standard of care. As such, the Parameters should not be deemed inclusive of all proper methods of care nor exclusive of other methods of care directed at obtaining the desired results. The ultimate judgment regarding the care of a particular patient must be made by the clinician in light of all of the circumstances presented by the patient and his or her family, the diagnostic and treatment options available, and other available resources.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Patient Resources

Staff Training/Competency Material

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Living with Illness

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

Murphy TK, Lewin AB, Storch EA, Stock S, American Academy of Child and Adolescent Psychiatry (AACAP) Committee on Quality Issues (CQI). Practice parameter for the assessment and treatment of children and adolescents with tic disorders. *J Am Acad Child Adolesc Psychiatry*. 2013 Dec;52(12):1341-59. [156 references] [PubMed](#)

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2013 Dec

Guideline Developer(s)

American Academy of Child and Adolescent Psychiatry - Medical Specialty Society

Source(s) of Funding

American Academy of Child and Adolescent Psychiatry

Guideline Committee

American Academy of Child and Adolescent Psychiatry Committee on Quality Issues (CQI)

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Financial Disclosures/Conflicts of Interest

Disclosures: Tanya K. Murphy, M.D. receives research funding from National Institutes of Health/National Institute of Mental Health (NIH/NIMH), Centers for Disease Control and Prevention (CDC), Otsuka Pharmaceuticals, NARSAD, IOCDF, Ortho-McNeil Janssen Pharmaceuticals, Shire Pharmaceuticals, Pfizer, Inc. and Indevus Pharmaceuticals. She has received travel support from the Tourette Syndrome Association and honorarium from grand rounds lectures. Adam B. Lewin, Ph.D. serves as a consultant for Otsuka America Pharmaceutical and ProPhase, Inc. He receives grant support from International Obsessive Compulsive Disorder Foundation; National Alliance for Research on Schizophrenia and Depression; University of South Florida Research Foundation, Inc. He has received travel support from University of South Florida Research Foundation, Inc. Eric A. Storch, Ph.D., serves on the advisory board for the International Obsessive Compulsive Disorder Foundation. He serves as a consultant for Otsuka America Pharmaceutical, Inc. and ProPhase Inc. He receives grant support from Centers for Disease Control; National Institutes of Health; Ortho-McNeil Neurologics; Transportation Security Administration. He has intellectual property with Springer and Taylor and Francis. He serves on the speakers bureau for International Obsessive Compulsive Disorder Foundation. Sandra Stock, M.D. has received research funding from Glaxo-SmithKline and served as a sub-investigator in studies funding by Forest Research Institute, Merck/Schering-Plough, Supernus, Bristol-Myers Squibb, AstraZeneca and Boehringer-Ingelheim. She also has served on the expert panel consulting to the Florida Medicaid Drug Therapy Management Program for Behavioral Health. Oscar Bukstein, M.D., M.P.H., co-chair, has served as a consultant with PRIME CME and EZRA Innovations, and has intellectual property with Routledge Press. Heather Walter, M.D., M.P.H., co-chair, has no financial relationships to disclose. Disclosures of potential conflicts of interest for all other individuals named above are provided on the American Academy of Child and Adolescent Psychiatry (AACAP) website on the [Practice Information page](#)

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: Available from the [American Academy of Child and Adolescent Psychiatry \(AACAP\) Web site](#) .

Availability of Companion Documents

The following is available:

- Practice parameter for the assessment and treatment of children and adolescents with tic disorders. Continuing medical education (CME). 2013 Dec. Available to subscribers from the [Journal of the American Academy of Child and Adolescent Psychiatry Web site](#)

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Patient Resources

The following is available:

- Tics. Facts for families. Washington (DC): American Academy of Child and Adolescent Psychiatry; 2012 May. Available from the [American Academy of Adolescent and Child Psychiatry \(AACAP\) Web site](#) .

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NGC Status

This NGC summary was completed by ECRI Institute on November 14, 2014. This summary was updated by ECRI Institute on May 24, 2016 following the U.S. Food and Drug Administration advisory on Olanzapine. This summary was updated by ECRI Institute on May 31, 2016 following the U.S. Food and Drug Administration advisory on Aripiprazole (Abilify, Abilify Maintena, Aristada).

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