

# HABIT DISORDERS

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## Introduction

Habit disorder is the term used to describe several related disorders linked by the presence of repetitive, yet relatively stable behaviors that seem to occur beyond the awareness of the person performing the behavior. As with other disorders, these behaviors cause impairment and result in negative physical and/or social consequences (Woods, Flessner & Conelea, 2008).

The first group of habit disorders is tic disorders (TDs). Tics are involuntary movements, sounds, or words that are “sudden, rapid, recurrent, nonrhythmic” (American Psychiatric Association [APA], 2000). Diagnosis varies, depending upon the particular kind of tic-related habit disorder:

1. a vocal tic (e.g., repeated throat clearing);
2. a motor tic (e.g., repeated blinking, arm movements);
3. a simple tic (e.g., a short, brief noise or movement); or
4. a complex tic (e.g., a vocalization or noise that appears to take effort, like a spoken word, complex sound, or raising one’s arm up over one’s head).

Tourette syndrome (TS) is the most well-known habit disorder, largely because of its depictions in movies and television shows, but it is relatively uncommon. Children with TS have both vocal *and* motor tics, as opposed to one or the other.

In addition to TDs, body-focused behaviors, such as recurrent hair pulling (trichotillomania [TTM]) and skin picking (SP), are also included within the habit disorder umbrella (Woods, Flessner & Conelea, 2008). Some studies suggest that there are two subtypes of pulling: automatic pulling, which occurs largely outside of the individual’s awareness, and focused pulling, which is a deliberate response to an urge, unpleasant emotion, or sensation (Woods, Piacentini & Himle, 2007). SP is not included in the APA’s *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)* (2000) but, given its similarities to TTM and its inclusion in research on other habit disorders, it is included here. While tics, TS, TTM, and SP are all different behaviors, there is reason to believe they represent the diverse manifestation of a common underlying mechanism. Because of this, the term “habit disorders” will be used throughout this section to discuss this group of disorders, and the specific disorder names (e.g., “trichotillomania” or “Tourette Syndrome”) will be used when those individual disorders are referenced.

## Categories

The *DSM-IV* defines several habit disorders which youth experience; these are outlined in Table 1. It should be noted that all tic disorders require an onset before age 18, TTM excepted. Again, as previously noted, SP is not included in this Table because it is not a *DSM-IV* diagnosis.

Table 1

**DSM-IV Habit Disorders Affecting Children & Adolescents**

Disorder	Description
Transient Tic Disorder	Single or multiple vocal and/or motor tics occurring multiple times daily or almost daily for more than four weeks and under a year.
Chronic Motor Tic Disorder	Single or multiple motor tics occurring multiple times daily or almost daily for more than one year.
Chronic Vocal Tic Disorder	Single or multiple vocal tics occurring multiple times daily or almost daily for more than one year.
Tourette Syndrome (TS)	Concurrent vocal and motor tics for a period of over one year.
Trichotillomania	Recurrent pulling out of one's own hair, resulting in noticeable hair loss in response to an increase in tension satisfied by pulling.

Source: APA, 2000.

**Causes and Risk Factors**

Underlying causes for the development of habit disorders are not well understood. However, as with many psychological disorders, the evidence suggests that numerous factors, such as genetic vulnerability, learning and environment, which may contribute to the development and maintenance of these disorders. Studies of families suggest the presence of genetic underpinnings in the development of TTM and TDs. For example, relatives of individuals with TS are 10 to 15 percent more likely to have TS, and 15 to 20 percent more likely to have another TD. These risk levels are significantly higher than in the general population, and studies of the human genome have identified specific genes thought to be related to TS (Woods, Flessner & Conelea, 2008). Further, family studies of individuals with TTM have uncovered elevated levels of psychological problems, including obsessive-compulsive disorder (OCD), sub-clinical obsessive-compulsive symptoms, pathological grooming behaviors (such as SP), and substance, mood, and anxiety disorders (Franklin, Diefenbach, Anderson & Meunier, 2008; Woods, Flessner & Conelea). These findings suggest that genetics may contribute to the development of habit disorders.

There is also reason to believe that learning and environmental factors are significant in the development and maintenance of habit disorders. For example, it is possible that youth develop urges to tic, pull, or pick in certain situations, such as those that elicit certain emotions or stress. These situations may, in turn, elicit an urge to perform the habit. Youth with habit disorders report an uncomfortable urge that is satisfied by the tic, pull, or pick. The satisfaction or reduction of the urge may reinforce the habit and thus increase the likelihood that the behavior will be repeated.

There is also some evidence to suggest that the expression of tics, pulling, and picking is exacerbated by stimulant medication such as that prescribed for the treatment of ADHD; however, this relationship is unclear and has not been consistently observed (Woods et al., 2006).

**Assessment**

Assessments of habit disorders vary slightly by the type of habit disorder (e.g., tic disorders, TTM). Research on habit disorders in youth is relatively limited; however, assessment for habit disorders is discussed in the following paragraphs.

Assessment of TDs should include a medical examination to rule out conditions that can mimic tic disorders, such as movement disorders, behaviors related to allergies, eye problems that mimic tics, and stereotypic movement disorders (Woods, Piacentini & Himle, 2007). Generally, TDs are distinguished from these other conditions by the waxing and waning course of tic disorders, and the fact that tics typically progress from simple to more complex movements. Also TDs typically begin around the head and progress down the body.

In conjunction with a thorough medical examination, a structured or semi-structured interview can be particularly helpful in gathering information about the expression of the tics, including frequency, location and nature of the tic, complexity, controllability, intensity, level of distress, and temporal

stability (Woods, Piacentini & Himle, 2007). One such clinical interview is the Yale Global Tic Severity Scale (YGTSS), which can be administered in 15 to 30 minutes. This assessment helps to gather information about tic topography, symptom severity, and impairment (Woods, Piacentini & Himle). Another assessment is the Premonitory Urge for Tics Scale (PUTS), a brief self-report measure for use with children age ten and older to measure awareness of tic-related premonitory urges (Woods, Flessner & Conelea, 2008).

Assessment of TTM should measure severity, subtypes, level of impairment, and possible comorbid diagnoses (Woods et al., 2006). Assessing TTM may require multiple methods of gathering information, including interviews with youth and a parent. Unfortunately, although some scales do exist, there has been relatively little research on measures of child TTM. The National Institute of Mental Health (NIMH) Trichotillomania Impairment Scale (NIMH-TIS) is a clinician-rated scale that has demonstrated adequate psychometric profiles (Woods et al.). Also, the Trichotillomania Scale for Children (TSC) has shown promise as a self-report measure.

Screening, followed by more in-depth assessment, is critical, due to the comorbidity which occurs frequently in youth with habit disorders. The Schedule for Affective Disorders and Schizophrenia-Children's Version (K-SADS), the Anxiety Disorders Interview for *DSM-IV*, and Child Version (ADIS-C) are semi-structured diagnostic interviews that have demonstrated strong psychometric characteristics (Chorpita & Southam-Gerow, 2006). Suggested assessment tools for habit disorders are listed in Table 2.

Table 2

### Suggested Assessment Tools

Measure Type	Name of Measure	Who Completes	Data Generated
Clinical Interview	Schedule for Affective Disorders and Schizophrenia-Children's Version (K-SADS)	Clinician with Youth and Parent	Diagnosis
Clinical Interview	Anxiety Disorders Interview Schedule for <i>DSM-IV</i> - Child Version (ADIS-C)	Clinician with Youth and Parent	Diagnosis
Clinician Rating Scale	Psychiatric Institute Trichotillomania Scale (PITS)	Clinician	Symptom Rating
Clinician Rating Scale	Yale Global Tic Severity Scale (YGTSS)	Clinician	Symptom Rating
Clinician Rating Scale	National Institutes of Mental Health Trichotillomania Impairment Scale (NIMH-TIS)	Clinician	Symptom Impairment
Self-Report Rating Scale	Trichotillomania Scale for Children (TSC)	Youth	Symptom Rating

Sources: Chorpita & Southam-Gerow, 2006; Woods et al., 2006; Woods, Piacentini & Himle, 2007; Woods, Flessner & Conelea, 2008.

### Comorbidity

Youth with habit disorders very often experience other kinds of problems (Scahill, Sukhodolsky & King, 2007; Tolin et al., 2007; Woods et al., 2006; Woods, Piacentini & Himle, 2007). Youth with TDs frequently experience co-occurring obsessive-compulsive disorder (OCD) and attention deficit hyperactivity disorder (ADHD). Research indicates that between 7 and 23 percent of patients with TS met criteria for OCD, and that 40 to 60 percent of youth meet criteria for ADHD (Scahill, Sukhodolsky & King, 2007). Similarly, research suggests that 60 to 70 percent of youth with TTM meet the criteria for at least one additional psychiatric disorder, with anxiety and affective disorders being the most frequently diagnosed (Tolin et al., 2007).

## Evidence-based Treatments

A wide variety of treatments for habit disorders have been described in the literature. However, habit reversal therapy (HRT) is the only treatment for TDs which has been researched sufficiently to warrant the designation of evidence-based treatment.

Research exploring treatments for childhood TTM have been promising, but the treatments have not been researched sufficiently enough to warrant the designation of evidence-based treatment. These and other treatments are summarized in Table 3 and discussed more fully in the paragraphs which follow.

Table 3

### Summary of Treatments for Habit Disorders by Level of Support

What Works	Description
Habit Reversal Therapy (HRT) for Tic Disorder	Treatment increases awareness to the feelings and context associated with the urges and implements a competing and inconspicuous habit in place of the tic.
What Seems to Work	Description
Cognitive Behavioral Therapy (CBT) for TTM	Treatment involves exposing children to the stimuli associated with the urge, while challenging thoughts associated with high-risk situations.
Not Adequately Tested	Description
Massed Negative Practice	Treatment involves children's over-rehearsal of target tic in high-risk ticking situations.
Pharmacotherapy	The safety of prescription medications to treat habit disorders in children has not been established.
What Does Not Work	Description
Plasma Exchange or Intravenous Immunoglobulin (IVIG) Treatment	Blood transfusions alter levels of plasma or immunoglobulin.

Sources: Cook & Blacher, 2007; Himle, Woods, Piacentini & Walkup, 2006; Woods, Flessner & Conelea, 2008; Woods, Piacentini & Himle, 2007; Tolin et al., 2007; NIMH, 2000.

### **Habit Reversal Therapy**

Habit reversal therapy (HRT) is the best studied and most effective treatment for youth with habit disorders (Cook & Blacher, 2007; Himle, Woods, Piacentini & Walkup, 2006). Though treatments may vary slightly, HRT includes three main components, as cited by Woods, Flessner & Conelea (2008):

1. awareness training;
2. competing response training; and
3. social support.

Awareness training involves first teaching youth to become aware of instances of the habit, then teaching the youth awareness of their associated environment and internal sensations, such as muscle tension and urges. Once the youth is able to identify feelings and situations likely to elicit the habit, competing response training begins. A competing response is a behavior that is incompatible with the habit that is performed in the presence of the feelings or situations that elicit the habit or in the presence of the habit itself. A competing response must satisfy the following criteria:

- must be physically incompatible with the habit (e.g., holding the arm close to the body to compete with an arm movement tic);
- must be socially inconspicuous; and
- must be held for one minute or until the urge to engage in the habit dissipates.

Supportive individuals are recruited to provide gentle reminders when the youth is engaging in the habit and praise when the competing response is implemented correctly (Woods, Flessner & Conelea, 2008). The social support component runs concurrently with the other phases of treatment.

Components have also been added to HRT to target additional problems. In the treatment of TTM or SP, therapists may employ either emotion-regulation techniques to help the youth learn more adaptive ways of coping with emotion or cognitive restructuring, which helps him/her recognize and change the thoughts or emotions that occur before or after pulling (Woods, Flessner & Conelea, 2008).

### **Cognitive Behavioral Therapy**

Cognitive Behavioral Therapy (CBT) is emerging as a promising treatment for TTM. CBT for TTM involves many components common to HRT such as awareness training and developing a competing response; however, CBT treatments also incorporate several additional elements like psychoeducation and cognitive skills that are thought to provide additional benefits. Psychoeducation entails teaching youth and parents about hair pulling and how to monitor behavior. Cognitive restructuring helps youth identify and change maladaptive beliefs associated with stressful situations and to distinguish between minor setbacks and full-blown relapses. CBT for TTM also includes a relapse prevention component that encourages the maintenance of learned behaviors after the end of the active treatment phase (Tolin et al., 2007).

## **Treatment with Inadequate Support**

The following paragraphs discuss treatment not supported by research.

### **Massed Negative Practice**

Massed negative practice is based on the premise that over-rehearsal of the tic by youth can lead to its disappearance. Studies, however, have shown that massed negative practice has failed to produce reductions in tics comparable to reductions produced by habit reversal. There are also contradictory studies regarding the effectiveness of contingency management to reduce tic frequency (Cook & Blacher, 2007).

### **Pharmacotherapy**

Evidence to support the safety of pharmacological treatment for habit disorders in youth is extremely limited (Cook & Blacher, 2007). There is evidence to suggest drugs that affect dopamine, one of the brain chemicals thought to be related to the expression of TS, may be effective in reducing TS symptoms in adults; however, these drugs often have serious side effects and their safety and effectiveness have not been established for use with children (Woods, Piacentini & Himle, 2007).

## **Contraindicated Treatments**

### **Plasma Exchange & Intravenous Immunoglobulin (IVIG) Treatment**

Research has shown a lack of evidence to support treatment using either plasma exchange or intravenous immunoglobulin (IVIG). Both the NIMH and the Tourette Syndrome Association (TSA) have advised that there is no evidence of their efficacy in youth with TS and, in fact, both treatments have the potential for significant adverse reactions (NIMH, 2000).

## **Cultural Considerations**

Research suggests that habit disorders are prevalent across cultures (Woods, Flessner & Conelea, 2008). Research also suggests rates of TTM are similar between Caucasian and African Americans, and German and American samples demonstrate equivalent rates of SP (Woods, Flessner & Conelea). However, the understanding of the disorder varies significantly from culture to culture. For example, in Costa Rica, tic symptoms are not considered a problem and are not usually mentioned to physicians (Mathews, 2001). Many families consider the tics to be a voluntary bad habit and health care professionals, when consulted, may concur (Matthews).

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### **Organizations/Resources**

#### **American Academy of Family Physicians**

Information from Your Family Doctor  
Understanding Tics and Tourette's Syndrome  
<http://www.aafp.org/afp/1999/0415/p2274.html>

#### **Association for Neurologically Impaired Children (AFNIC)**

<http://www.afniconline.org>

#### **Jim Eisenreich Foundation** (for children with Tourette Syndrome)

<http://www.tourettes.org>

#### **National Alliance for the Mentally Ill (NAMI)**

Tourette's Syndrome  
<http://www.nami.org/Content/ContentGroups/illnesses/Tourette.htm>

**Tourette Syndrome Association, Inc.**

Greater Washington, DC Chapter (serving MD, VA, WV, and DC)

TSAGW@aol.com

<http://www.tsa-usa.org>

**Tourette Syndrome “Plus”**

<http://www.tourettesyndrome.net>