

# TRICHOPHAGY

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## TRICHOPHAGY

Trichophagy, derived from the Greek words *thrix* (hair) and *phagein* (to eat), is formally defined as the compulsive, recurring action of biting, chewing, and subsequently ingesting one's own hair. This behavior is classified within the broader category of Body-Focused Repetitive Behaviors (BFRBs), a group of self-grooming habits that cause physical damage or distress and are often associated with underlying psychological tension or emotional dysregulation. While the act of hair ingestion may seem superficially straightforward, trichophagy is a complex, pathological behavior often hidden from clinicians and family members, carrying significant potential for severe, life-threatening medical consequences. The condition is frequently, though not exclusively, observed in individuals diagnosed with trichotillomania, which is the compulsive hair-pulling disorder. Clinical documentation often notes the presence of this specific behavior, as exemplified by the phrase: **"The patient has been diagnosed with trichophagy."** Understanding trichophagy requires an examination of both its psychological drivers and its serious physical ramifications, differentiating it clearly from other ingestive behaviors such as Pica, where the consumption of non-food items does not specifically target hair.

The distinction between simply pulling hair and ingesting it is crucial for proper clinical assessment and intervention. Trichophagy introduces a unique level of medical urgency because unlike fingernails or skin particles, hair is composed primarily of indigestible keratin, meaning it cannot be broken down by the gastric acids or digestive enzymes within the human gastrointestinal tract. Consequently, repeated acts of ingestion lead to the gradual accumulation of hair within the stomach, small intestine, or, less frequently, the colon. This accumulation, known medically as a **trichobezoar**, is the central medical threat posed by the condition. Furthermore, the secrecy surrounding the behavior often means that intervention only occurs once severe physical symptoms manifest, complicating both diagnosis and treatment. The formal assessment of trichophagy requires careful history taking, exploring the patient's habits surrounding hair removal and disposal, and often necessitates medical imaging to rule out internal complications, thus bridging the gap between psychiatry and gastroenterology.

While trichophagy is not listed as a primary, standalone diagnostic category in the current iteration of the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), it is recognized clinically as a highly impactful manifestation of BFRBs. It is most commonly coded as an aspect of **Trichotillomania (Hair-Pulling Disorder)**, which resides under the Obsessive-Compulsive and Related Disorders chapter. However, cases exist where hair pulling is not the primary preceding behavior, suggesting that the drive to ingest the hair may sometimes be independent of the pulling itself, perhaps linked more closely to oral fixation or a distinct form of self-soothing. This nuanced understanding emphasizes the necessity of treating the specific ingestive component alongside any co-occurring hair-pulling behavior, recognizing the distinct psychological and physiological risks presented by the act of eating the hair itself.

## Relationship to Trichotillomania (TTM)

Trichophagy is intimately linked with trichotillomania, yet it represents a critical subset of patients within the TTM population. Studies indicate that while a significant percentage of individuals with TTM engage in oral manipulation of the pulled hair (e.g., rubbing it on the lips or tasting it), only a smaller, yet medically significant, proportion proceed to actual ingestion. This specific population is often referred to as having a "hair-eating variant" of TTM. The behavioral cycle typically begins with the urge to pull (trichotillomania), often followed by an examination of the pulled hair follicle, frequently seeking a specific texture or root structure, which then leads to the final stage of oral fixation and ingestion (trichophagy). This pattern suggests a deeper level of sensory seeking or self-calming behavior related to the physical properties of the hair.

The motivation for ingestion in trichophagy patients is multifaceted and often described as providing a form of sensory gratification or tension relief. For some individuals, the behavior is automatic and performed in a semi-conscious state, often while engaged in sedentary activities such as reading or watching television, whereas for others, it is a focused, ritualistic act following the successful procurement of a satisfying hair root or shaft. Psychologically, the act of ingestion may serve as a means of 'completing the ritual' associated with the BFRB cycle, providing an immediate, albeit temporary, reduction in anxiety or internal tension. The sensory feedback derived from the texture, taste, or physical sensation of the hair passing through the mouth and throat is theorized to reinforce the behavior, making it highly resistant to cessation without targeted behavioral intervention.

The prevalence of trichophagy among those diagnosed with TTM is difficult to ascertain precisely due to the shame and secrecy often associated with the behavior, leading to underreporting. However, clinical estimates suggest that anywhere from 5% to 20% of TTM sufferers may engage in some degree of hair ingestion. It is paramount for clinicians treating TTM to specifically inquire about ingestive behaviors, moving beyond simple questions about pulling to investigate the disposition of the pulled hair. Failure to identify trichophagy poses a severe risk, as the underlying TTM behavior--the pulling--may be successfully managed, yet the patient continues to suffer from the potentially fatal medical complications resulting from prior or ongoing ingestion that was never addressed. Therefore, screening for trichophagy must be standard practice in the assessment of all individuals presenting with compulsive hair pulling.

## Etiology and Psychological Underpinnings

The precise etiology of trichophagy, like other complex BFRBs, remains poorly understood but is hypothesized to involve an intricate interplay of genetic predisposition, neurobiological irregularities, and environmental stressors. Genetically, there appears to be a familial component to BFRBs, suggesting that vulnerability to compulsive behaviors may be inherited.

Neurobiologically, research points toward possible dysregulation in specific neurotransmitter systems, particularly those involving serotonin and dopamine, which are central to impulse control, reward pathways, and the modulation of repetitive behaviors. The effectiveness of certain pharmacological agents that target these systems further supports the neurobiological hypothesis, indicating that trichophagy may reflect a compulsion rooted in altered brain chemistry and circuitry.

Psychologically, trichophagy is often viewed through the lens of emotional regulation difficulties. Patients frequently report that the behavior intensifies during periods of heightened stress, anxiety, boredom, or frustration. In this context, the act of pulling and ingesting hair functions as a maladaptive coping mechanism, providing an immediate, albeit destructive, means of self-soothing or distracting oneself from overwhelming negative emotions. The physical sensation associated with the behavior can momentarily ground the individual, serving as a form of sensory input (stimming) that temporarily regulates an overly anxious or under-stimulated nervous system. This functional analysis--understanding what the behavior achieves for the individual--is crucial for developing effective behavioral interventions.

Furthermore, clinical observations suggest that trichophagy may sometimes be linked to underlying issues of perfectionism or body image concerns. For instance, the focus may be on pulling and consuming 'imperfect' or 'abnormal' hairs, reflecting a desire to eliminate perceived flaws. In rare cases, especially when the ingestion is severe and coupled with nutritional deficiencies, there may be an overlap with certain feeding and eating disorders or a manifestation of Pica, though trichophagy is typically distinct due to the specific focus on hair from one's own body. The psychological complexity necessitates a thorough assessment to differentiate primary trichophagy from behaviors secondary to other severe psychiatric conditions.

## Clinical Presentation and Diagnosis

The clinical presentation of trichophagy is highly variable, ranging from asymptomatic ingestion only discovered incidentally during unrelated medical procedures, to acute, severe gastrointestinal crises. Since the behavior is often concealed, clinical suspicion must be raised when evaluating patients who present with TTM or other BFRBs, or those reporting vague, chronic gastrointestinal complaints without clear etiology. Key signs often emerge during a detailed medical history, which should explore habits such as the examination of pulled hair roots, chewing on hair, or disposal methods. The diagnosis is primarily behavioral, established through self-report, though corroborating evidence from family members or partners is often necessary due to the patient's reluctance to disclose the behavior.

When trichophagy has been ongoing for a significant duration, the physical signs become more pronounced and alarming. Patients may present with chronic symptoms of partial bowel obstruction, including recurrent abdominal pain, bloating, nausea, early satiety, and unexplained

weight loss or malnutrition. A highly specific, though uncommon, finding during a physical examination is a palpable mass in the upper abdomen, representing a large gastric **trichobezoar**. The presence of this physical mass is a definitive clinical sign of long-standing, significant ingestion. However, the absence of a palpable mass does not rule out the diagnosis, as smaller bezoars or those located lower in the digestive tract may not be detectable manually.

Diagnostic confirmation of trichophagy, particularly concerning medical complications, relies heavily on imaging. Initial screening often involves abdominal X-rays, although these are rarely definitive. The gold standard imaging techniques include abdominal computed tomography (CT) scans or ultrasound, which can clearly delineate the size, shape, and location of the hair mass within the gastrointestinal tract. Furthermore, **upper endoscopy** is a critical diagnostic tool, allowing for direct visualization of the stomach lining and the bezoar itself. Endoscopy not only confirms the diagnosis but is often the first step in therapeutic intervention, as smaller bezoars can sometimes be fragmented and retrieved endoscopically, thereby avoiding more invasive surgical procedures.

## Physical and Medical Complications

The most severe and defining characteristic of trichophagy is the risk of forming a **trichobezoar**, an accumulation of indigestible hair within the digestive system. Hair resists peristalsis and gradually compacts into a solid mass, most commonly in the stomach (gastric trichobezoar). Over time, this mass can grow large enough to fill the entire stomach cavity, potentially extending into the small intestine, leading to devastating complications. The symptoms related to a trichobezoar are progressive and potentially fatal if left untreated, making trichophagy a true medical emergency when such a mass is suspected or confirmed.

The critical complications arising from a large trichobezoar include **gastric outlet obstruction**, where the hair mass blocks the passage of food into the small intestine, leading to persistent vomiting and inability to tolerate oral intake. Furthermore, chronic presence of the mass can lead to erosions or ulcerations of the gastric mucosa, resulting in gastrointestinal bleeding, anemia, and chronic inflammatory states. In the most severe cases, the bezoar can cause pressure necrosis, leading to perforation of the stomach or intestinal wall, resulting in peritonitis--a life-threatening infection requiring immediate surgical intervention. Malnutrition and significant weight loss are also common, as the mass reduces the functional capacity of the stomach and can interfere with nutrient absorption.

A particularly rare but highly publicized and dangerous variant of trichobezoar is **Rapunzel syndrome**. This syndrome occurs when the gastric trichobezoar extends through the pylorus (the valve connecting the stomach and small intestine) and continues into the small intestine, sometimes reaching the jejunum or even the ileum, forming a long, tail-like extension. Rapunzel

syndrome carries an extremely high risk of intestinal obstruction, intussusception (telescoping of the intestine), or gangrene due to restricted blood supply, necessitating urgent and complex surgical removal. The severity of these medical outcomes underscores the necessity for proactive screening and aggressive management of confirmed trichophagy, regardless of the apparent severity of the underlying psychological compulsion.

## Treatment Approaches: Behavioral and Pharmacological

The treatment of trichophagy necessitates a dual approach that addresses both the psychological drivers of the compulsive ingestion and, when present, the physical reality of the trichobezoar. For the behavioral component, the gold standard treatment for BFRBs is **Habit Reversal Training (HRT)**, a cognitive-behavioral therapy (CBT) technique. HRT typically involves several core components aimed at increasing awareness and providing alternative coping strategies.

The steps involved in HRT for trichophagy are systematic:

**Awareness Training:** The patient learns to identify high-risk situations, emotional triggers, and the subtle sensory cues that precede the urge to pull or ingest hair.

**Competing Response Training:** The patient develops a physical response that is incompatible with the act of pulling or chewing hair. Examples include clenching the fists, sitting on the hands, or engaging in knitting or tactile sensory activities when the urge arises. The competing response is held for a specified period (e.g., one minute) until the urge subsides.

**Stimulus Control:** Modifying the environment to reduce exposure to triggers. This might include wearing gloves during high-risk activities (such as reading), avoiding mirrors where hair pulling is common, or restructuring periods of boredom.

**Social Support and Motivation:** Involving supportive family members or peers to provide positive reinforcement and cue the competing response when the behavior is observed.

Pharmacological interventions are often used adjunctively, particularly when trichophagy is comorbid with significant anxiety, depression, or obsessive-compulsive disorder. Selective Serotonin Reuptake Inhibitors (SSRIs), such as fluoxetine or sertraline, are frequently prescribed to help manage underlying mood and anxiety symptoms that drive the compulsion. More recently, compounds targeting the glutamatergic system, such as **N-acetylcysteine (NAC)**, have shown promise in reducing the urges associated with BFRBs, offering a potential non-psychiatric pharmaceutical route for reducing the compulsive behaviors inherent in trichophagy. However, medications alone are rarely sufficient and must be integrated with behavioral therapy for lasting success.

## Medical Management and Prognosis

When a trichobezoar is identified, the primary focus shifts immediately to medical and often

surgical management. The chosen intervention depends entirely on the size, location, and associated complications of the hair mass.

**Endoscopic Removal:** For small, recently formed, or fragmented bezoars, endoscopic removal via the mouth may be feasible. This involves passing specialized instruments down the esophagus to break up and retrieve the hair mass.

**Surgical Removal (Laparotomy/Laparoscopy):** Large, solidified, or complex bezoars, especially those causing obstruction or those presenting as Rapunzel syndrome, necessitate surgical intervention. Traditional open surgery (laparotomy) or minimally invasive techniques (laparoscopy) are required to access the stomach and intestines to physically extract the indigestible mass. This procedure is critical for survival but often requires a significant recovery period.

Following medical intervention, the prognosis for the underlying behavioral disorder remains guarded, as BFRBs are typically chronic conditions characterized by waxing and waning severity. The management of trichophagy requires a long-term commitment to psychotherapy and maintenance strategies. Psychoeducation is key, ensuring the patient fully understands the medical risks associated with relapse and re-ingestion. Patients must continue to utilize HRT techniques and maintain vigilance against high-risk triggers. Relapse prevention involves regular check-ins and the consistent application of competing response strategies during periods of heightened stress.

Overall, the prognosis for controlling the hair-ingestion behavior is generally positive with consistent, integrated treatment combining immediate medical intervention (if necessary) and rigorous behavioral therapy. However, the potential for severe morbidity and mortality due to the physical complications of bezoar formation means that trichophagy necessitates a collaborative approach among psychiatrists, psychologists, and gastroenterological surgeons to ensure comprehensive care and mitigate future medical emergencies. Lifelong awareness and management are often required to maintain remission.