



# Dermatologists' Role in Interdisciplinary Care for Obsessive-Compulsive Disorder and Body-Focused Repetitive Behaviors

Mary C. Swaim and Tony A. Slieman\*

Department of Biomedical and Anatomical Sciences, NYIT College of Osteopathic Medicine at Arkansas State University, P.O. Box 119, State University, AR 72467.

## Article Info

### Article Notes

Received: November 25, 2025

Accepted: February 19, 2026

### \*Correspondence:

\*Dr. Tony A. Slieman, Department of Biomedical and Anatomical Sciences, NYIT College of Osteopathic Medicine at Arkansas State University, P.O. Box 119, State University, AR 72467; Email: [tslieman@nyit.edu](mailto:tslieman@nyit.edu).

©2026 Slieman TA. This article is distributed under the terms of the Creative Commons Attribution 4.0 International License.

## Abstract

Obsessive-compulsive disorder (OCD) and body-focused repetitive behaviors (BFRBs) are becoming increasingly prevalent in dermatology. Patients presenting with cutaneous concerns may have underlying psychiatric conditions, such as excoriation disorder, trichotillomania, and onychophagia. Despite up to 12% of the population meeting BFRB criteria, these disorders frequently go undetected due to stigma, underreporting, and a primary focus on cutaneous symptoms. Data suggest a substantial overlap in clinical presentation, neurobiology, genetics, and interventions among obsessive-compulsive spectrum disorders. Affected individuals experience elevated risks of comorbid anxiety, depression, and additional compulsive disorders. Dermatologists are uniquely positioned as the first to detect sequelae of these conditions, including alopecia, excoriations, nail deformities, and secondary infections. Validated screening tools, along with dermoscopy and full-body skin examinations, can aid in earlier detection. Treatment interventions for BFRBs remain inconsistent, with behavioral therapies showing more promising results and pharmacologic interventions demonstrating variable efficacy. This review synthesizes the current knowledge of OCD and BFRBs, including their relevance in dermatology and the importance of interdisciplinary collaboration. Increasing awareness and strengthening the dermatology-psychiatry partnership allows practitioners to address both the physical and psychological manifestations accompanying these conditions, ultimately leading to better treatment outcomes.

## Overview

Obsessive-compulsive spectrum disorders are rarely discussed in dermatologic settings, which primarily focus on integumentary conditions. However, obsessive-compulsive spectrum disorders are more common in dermatologic settings than previously recognized<sup>1</sup>. Dermatologists are first-line responders when treating patients with cutaneous presentations and must identify consequences from underlying psychiatric conditions, such as Obsessive-Compulsive Disorder (OCD) and Body-Focused Repetitive Behavioral Disorders (BFRBs). Patients with BFRBs may be prompted to seek dermatologic care first due to the cutaneous damage caused by their pathological behaviors: skin-picking (excoriation disorder), hair-pulling (trichotillomania), and nail-biting (onychophagia) (Table 1). Psychological burden contributes significantly to the delay of diagnosis and treatment of affected individuals<sup>2,3</sup>. Dermatologists serve a unique role in recognizing these underlying conditions, providing judgment-free guidance, and implementing multidisciplinary care for these patients.

BFRBs are defined as repetitive, pathological self-grooming behaviors that result in cutaneous damage and include excoriation disorder, trichotillomania, and onychophagia. Unlike dermatitis artefacta and self-mutilation, BFRBs are non-hidden, non-denied disorders without an intent of self-harm<sup>4</sup> (Table 2). Emerging studies examining these behaviors reveal that these previously underrecognized conditions are becoming more prevalent. A self-report study surveying over 4000 college students found 12% to have met the criteria for a clinical BFRB<sup>3</sup>. While these disorders are more prevalent in children and adolescents, recent data have uncovered trends in single adults, those residing in urban areas, and unemployed

individuals as having a higher susceptibility to developing BFRBs<sup>14</sup>.

Patients with OCD and BFRBs experience higher comorbidity rates than the general population. Individuals with BFRBs are 2.6x more likely to have a clinical score on the Obsessive-Compulsive Inventory--Revised, implying a greater likelihood of a BFRB patient exhibiting OCD symptoms<sup>15</sup> (Table 3). Other studies have observed higher chances of BFRBs co-occurring rather than being independent<sup>16,20</sup>. Considering these findings, it is important to screen all patients diagnosed with or suspected of having a BFRB using the Repetitive Body-Focused Behavioral Scale (RBFB) or the Generic Body-Focused Behavioral Scale (GBS-8) to avoid missing potential comorbid conditions (Table 3).

BFRBs were traditionally characterized in the DSM-III and DSM-IV as "Impulse Control Disorders Not Elsewhere Classified," but have been newly categorized as "Obsessive-Compulsive and Related Disorders" in the DSM-V due to their shared features of repetitive behaviors. While OCD consists of repeating cycles of unwanted intrusive

**Table 1:** Abbreviation chart for Obsessive-Compulsive Spectrum Disorders

Abbreviation	Condition	Otherwise Known As
OCD	Obsessive-Compulsive Disorder	
TTM	Trichotillomania	Hair-Pulling Disorder
SPD	Skin-Picking Disorder	Excoriation Disorder
NBD	Nail-Biting Disorder	Onychophagia

**Table 2:** Differential diagnosis for Obsessive-Compulsive Spectrum Disorder<sup>5-13</sup>

Differential Diagnoses Table			
<p><b>Obsessive-Compulsive Disorder</b></p> <p>Obsessions and compulsions ; wide range of compulsive behaviors driven by fears and rituals (eg. compulsive hand-washing, checking, ordering, counting)</p>	<p><b>Trichotillomania</b></p> <p>Recurrent hair-pulling to relieve tension ; Broken hairs with differing lengths ; Irregular, asymmetric patches of alopecia</p>	<p><b>Excoriation Disorder</b></p> <p>Recurrent skin-picking to relieve tension ; Polymorphic lesions at varying stages of healing</p>	<p><b>Onychophagia</b></p> <p>Recurrent nail-biting to relieve tension ; Automatic behavior</p>
<p><b>Body-Focused Repetitive Behaviors</b></p> <p>Engage in behavior to relieve tension, not because of fear ; repetitive self-grooming behaviors ; triggered by stress and anxiety</p>	<p><b>Trichorrhexis Nodosa</b></p> <p>Physical/Chemical trauma to hairshaft ; Broom sign ; White spots ; Nodes</p>	<p><b>Prurigo Nodularis</b></p> <p>Chronic pruritis ; Symmetrical pruritic nodules ; History of Atopic Dermatitis</p>	<p><b>Lichen Planus</b></p> <p>Thin, ridged nails ; Whickam striae ; Pruritic rash (purple polygonal plaques and papules)</p>
<p><b>Irritant Contact Dermatitis</b></p> <p>Irritation from soaps, chemicals, or frequent water exposure ; Driven by persistent washing, not fear</p>	<p><b>Alopecia Areata</b></p> <p>well-defined patches of alopecia ; Yellow dots ; Exclamation mark hairs ; Nail pitting ; Autoimmune antibodies</p>	<p><b>Acne Excoriée</b></p> <p>Self-inflicted lesions ; Inflammatory papules/pustules ; Comedones ; Lesions resolve with acne treatment</p>	<p><b>Nail Psoriasis</b></p> <p>Nail pitting ; Nailbed separation ; Splinter hemorrhage ; History of Arthritis</p>
<p><b>Atopic Dermatitis/Hand Eczema</b></p> <p>History of Atopy ; Itch-scratch cycle ; improves with emollients</p>	<p><b>Tinea Capitis</b></p> <p>(+) Fungal culture ; corkscrew and comma hairs</p>	<p><b>Self-Mutilation</b></p> <p>Intentional damage with intent to punish oneself, gain control, or release emotions ; Patient claims responsibility</p>	<p><b>Onychotillomania</b></p> <p>Recurrent, nail picking and pulling ; Washboard nails</p>
<p><b>Illness Anxiety Disorder</b></p> <p>Fear of illness or contamination ; Secondary irritant dermatitis</p>	<p><b>Traction Alopecia</b></p> <p>Alopecia surrounding hairline and temples ; Chronic tension from pony-tails/extensions</p>	<p><b>Dermatitis Artefacta</b></p> <p>Self-inflicted lesions ; No urge-relief cycle ; Denial of behavior ; Motive is to satisfy internal need (not for external incentives)</p>	<p><b>Onychomycosis</b></p> <p>Nail discoloration ; Nailbed damage ; (+) KOH prep</p>
<p><b>Allergic Contact Dermatitis</b></p> <p>Type IV Hypersensitivity ; Delayed flares ; (+) Patch-test ; Immune-mediated</p>	<p><b>Non-Suicidal Self Injury</b></p> <p>Intentional damage for emotional regulation</p>	<p><b>Scabies</b></p> <p>Mite infection ; Extremely pruritic lesions ; No urge-relief cycle ; Burrows may be present</p>	<p><b>Onycholysis</b></p> <p>Distal nail plate separation ; Mechanical or systemic etiology (eg. manicures, trauma, chemical exposure, thyroid disease)</p>

**Table 3:** Screening tools for Obsessive-Compulsive Spectrum Disorders<sup>15-19</sup>

Screening Instruments	Abbreviation	Use	Administration	Threshold
Yale-Brown Obsessive- Compulsive Scale	Y-BOCS	Gold-standard for measuring OCD symptom severity	Clinician-administered semi-structured interview (10 items)	0-7 : Subclinical 8-15 : Mild 16-23 : Moderate 24-31 : Severe 32-40 : Extreme
Obsessive-Compulsive Inventory-Revised	OCI-R	Self-report screening tool that measures OCD symptoms by assessing 6 OCD dimensions (eg. washing, checking, etc.)	Self- administered Likert-style questionnaire (18 items)	Score ranges are from 0 - 72 A score of ≥21 indicates a probable clinical diagnosis of OCD
Repetitive Body-Focused Behavior Scale	RBFBS	Self-report or Parent-report tool that assesses severity of specific BFRBs based on duration, interference, and distress ; developed for children	Self- administered questionnaire (12 items)	1-3 : Mild 4-6 : Moderate 7-9 : Severe 10-12 : Extreme
Generic Body-Focused Behavior Scale - 8	GBS-8	Self-report screening tool developed from other validated assessment tools that is used to track global BFRB impairment and severity outcomes	Self- administered questionnaire (8 items)	A score of >7 (scored 0-32) differentiates clinical from subclinical groups

thoughts and urges (obsessions) and their subsequent repetitive, ritualistic behaviors (compulsions), BFRBs consist of obsessive grooming behaviors to the point of inducing cutaneous damage<sup>21</sup>. Like OCD, patients with BFRBs may experience a build-up of tension that is alleviated once engaging in the behavior<sup>22</sup>. BFRBs and OCD share important overlapping features on an obsessive-compulsive spectrum in presentation, pathophysiology, and treatment approaches. These similarities can help guide future research into optimizing treatment for BFRBs, which currently lack definitive guidelines.

The objective of this review is to provide a comprehensive understanding of the existing knowledge on obsessive-compulsive disorder and body-focused repetitive behavioral disorders, including:

- Classification, dermatologic presentation, cutaneous complications, and treatment approaches
- The relationship between OCD and BFRBs
- Dermatologists' role in detection, management, and interdisciplinary collaboration
- Recommendations for dermatologic care for OC-spectrum disorders

## Methods

A narrative review of the literature was used to assess the dermatologic manifestations, evaluation, and management of obsessive-compulsive disorder, excoriation disorder, trichotillomania, and onychophagia. Searches were conducted across PubMed, ResearchGate, PsycInfo, and Google Scholar databases with the following terms: [trichotillomania OR hair-pulling OR excoriation disorder OR skin-picking OR onychophagia OR nail-biting], [body focused repetitive behaviors], [obsessive-compulsive

disorder OR OCD AND dermatology]. Approximately 388 were screened for relevance, duplicates were removed, and full-text articles were then assessed for relevance to OCD and BFRBs with relevance to dermatologic practice. A total of 83 articles were selected, and analysis of their reference lists yielded another 41 articles to be included. A total of 124 articles were included in this review ranging from the years 1970 to 2025. Inclusion criteria consisted of peer-reviewed articles published in the English-language, articles discussing clinical presentation, etiology, diagnosis, complications, neurobiology, and treatment. Non-peer-reviewed publications, studies in non-English languages, studies lacking relevance to dermatologic manifestations or clinical implications, and studies focused exclusively on psychiatric premises without dermatologic relevance were excluded. No formal assessment of study quality or risk of bias was performed, acknowledging an inherent risk of selection bias consistent with the narrative review methodology.

## Obsessive-Compulsive Disorder (OCD)

OCD is a chronic psychological disorder characterized by repetitive cycles of obsessions and compulsions. Obsessions are invasive, distressing thoughts and urges followed by compulsions, repetitive and ritualistic physical and mental behaviors, intended to relieve surmounting anxiety<sup>21</sup>. A diagnosis of OCD must meet certain DSM-V requirements. The person must have the presence of obsessions, compulsions, or both. These symptoms are time-consuming, occurring for over one hour per day, and disrupt daily life. Additionally, the symptoms are not attributable to any prior illicit substances, medications, medical complications, or prior psychiatric disorders<sup>21</sup>.

OCD is a heterogeneous condition encompassing a wide spectrum of symptoms, yet core dimensions have been

identified in individuals' obsessions and compulsions. While OCD obsessions are related to contamination, symmetry, prohibited thoughts, and harm, their corresponding compulsions include washing/cleaning, ordering/counting, aggression/sexual/religious rituals, and checking behaviors. In dermatologic practice, OCD is commonly characterized by cutaneous injuries due to compulsive washing<sup>21,23</sup>.

OCD is recognized to have a prevalence of 1.2%, with females affected at higher rates than males<sup>21</sup>. This disorder begins in late adolescence to early adulthood, with either a gradual or an abrupt onset.

Assessing the severity of an OCD diagnosis is often done using the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS). This clinician-administered tool has been clinically proven to provide a reliable measurement of OCD symptom severity, including both obsessions and compulsions<sup>17</sup> (Table 3). Another widely used self-report measure is the Obsessive-Compulsive Inventory-Revised (OCI-R) which has demonstrated strong internal consistency and reliability for measuring OCD symptoms<sup>18</sup> (Table 3).

### **Etiology**

OCD is acknowledged to have a multifactorial etiology, with contributions from both genetic and environmental factors. In a series of structured clinical interviews with OCD probands and their first-degree relatives, higher rates of clinical (10%) and subclinical (8%) OCD were found among OCD relatives compared to the control group rates (2% and 2%)<sup>24</sup>. The support for a genetic component extends to the obsessive-compulsive spectrum of disorders. In a small study assessing 16 Trichotillomania (TTM) probands and their first-degree relatives revealed that 19% of TTM probands had a relative with OCD (6.4% when correcting for age), compared to 0% in control groups<sup>25</sup>. Environmental stressors have also been noted in the literature as contributors to OCD risk. Some of these contributing factors include stressful life events, pediatric Streptococcal infections, pregnancy, and perinatal complications<sup>26-30</sup>.

### **Dermatologic Complications of OCD**

The prevalence of dermatologic conditions is significantly increased, yet underrecognized in OCD. One study found that around 9% of 265 patients presenting at a dermatology clinic met the clinical criteria for OCD<sup>31</sup>. Compulsive washing is one form of OCD that can trigger dermatologic conditions, with 14% of patients presenting with chronic pruritus having underlying OCD<sup>32</sup>. Atopic dermatitis of the hands and lichen simplex chronicus are among the most noted dermatologic disorders OCD patients may present with<sup>32-35</sup>. These findings demonstrate

that OCD complications extend far beyond obsessions and compulsions, imposing a considerable burden on affected individuals' psychosocial, physical, and cutaneous health.

### **Neurobiology of OCD**

While an exact biological source for the cause of OCD is currently unknown, growing data have found a strong correlation between OCD symptoms and hyperactivity in the orbitofrontal-subcortical circuitry of the brain. In healthy individuals, this system is balanced to help individuals respond appropriately to threats. However, in individuals with OCD, the heightened activity of the direct pathway overpowers the indirect pathway responsible for inhibition. It is this overactivity that leads to intrusive concerns that, without inhibition, can dominate one's attention with compulsive behaviors<sup>36,37</sup>.

Neurotransmitter regulation in both serotonergic and glutamatergic systems is compromised in OCD behaviors. Serotonin reuptake inhibitors (SSRIs) are designated first-line treatment for OCD, indicating serotonin imbalance. However, the fact that SSRIs do not eliminate OCD symptoms in around half of individuals, with only 20% achieving full remission, implies that another neurotransmitter could be implicated in OCD's pathophysiology<sup>38</sup>. Emerging evidence includes excessive glutamatergic activity in the dysregulation of OCD nervous systems. Chakrabarty et al. (2005)<sup>39</sup> demonstrated significantly higher cerebrospinal fluid glutamate levels in adult OCD patients compared with controls. A positive association was determined between OCD-affected families and polymorphisms in the GRIN2B gene encoding an NMDA glutamate receptor<sup>40</sup>. Despite these findings, OCD remains a multifactorial disorder due to its complex pathophysiology.

### **Dermatologic Interventions for OCD**

The International OCD Foundation's guidelines state that first-line treatment for OCD combines cognitive-behavioral therapy with a serotonin-reuptake inhibitor or Clopramine<sup>41</sup>. Dermatologists treating patients with OCD are most likely to encounter cutaneous symptoms from compulsive or from BFRBs. Management of these conditions should be multidisciplinary, combining dermatologic care (wound care, dressings, topical treatments), pharmacologic interventions, and psychotherapy<sup>42</sup>. The most common dermatologic conditions encountered in the clinic from OCD patients are pruritus, atopic dermatitis, and lichen simplex chronicus<sup>32-34</sup>. Strategies for management should include restoring the skin barrier (eg, emollients) and topical corticosteroid use<sup>43,44</sup>.

### **Body-Focused Repetitive Behaviors (BFRB)**

Body-focused repetitive behaviors (BFRB) are characterized as a group of psychiatric disorders that involve

pathological self-grooming habits, inducing damage to the hair, skin, and nails. These disorders include excoriation disorder (skin-picking), trichotillomania (hair-pulling), and onychophagia (nail-biting) (Table 1). Previously, in the DSM-III and DSM-IV, these disorders were classified as impulse control disorders. In the DSM-V, trichotillomania and excoriation (skin-picking) disorder have been reclassified under the OC-spectrum as “obsessive-compulsive and related disorders” and onychophagia as “other specified obsessive-compulsive and related disorders.” BFRBs share features similar to OCD, such as repetitive behaviors and a relief of tension after performing the behaviors, which reinforces the cycle<sup>21</sup>.

### **BFRB Etiology**

Excoriation (skin-picking) disorder, trichotillomania, and onychophagia all share similar etiology and multiple recognized triggers. Affected individuals demonstrate heightened somatic sensitivity, including heightened awareness of bodily sensations. For example, the texture of one's hair or the presence of skin irregularities may initiate repetitive behaviors<sup>45</sup>. Emotional states such as boredom, anxiety, and perfectionism serve as common triggers stimulating behaviors as an attempt to cope with distress or correct a perceived flaw<sup>46</sup>. Other triggers perpetuating BFRBs include comorbid psychiatric conditions, emotional distress, and genetic susceptibility<sup>47,48</sup>.

### **BFRB Neurobiology**

BFRB involve dysfunction in the cortico-striatal-thalamo-cortical circuit, similar to findings in OCD. Key dysregulated areas have been identified in the orbitofrontal cortex, the anterior cingulate cortex, the dorsal striatum, and medial frontal regions<sup>49-51</sup>. These regions function in habit formation and motor-response inhibition, which all contribute to symptoms of impulsivity and inhibitory deficits seen in BFRB disorders. Neuroimaging also demonstrates dysfunction in areas responsible for emotional processing. Excoriation (skin-picking) disorder is associated with altered structure and activation in the insula, with decreased grey matter volume contributing to increased behavioral severity and younger disease onset<sup>52-54</sup>. Trichotillomania demonstrates altered volume and density in the amygdalo-hippocampal complex, implicated in emotional processing, motor habit formation, and response suppression<sup>55,56</sup>.

### **Excoriation Disorder (SPD)**

Excoriation (skin-picking) disorder (SPD), is characterized by repetitively picking or scratching at the skin, resulting in tissue damage and visible lesions. To meet DSM-V diagnostic criteria, individuals must have unsuccessful attempts to stop this behavior, experience distress or functional impairment, and the behavior must

not be attributed to another illicit substance, medical, or psychiatric disorder. Whereas OCD is triggered by intrusive obsessions, SPD is triggered by boredom, mounting tension, and negative emotions. Engagement in this behavior offers a sense of relief or satisfaction, reinforcing the cycle<sup>21</sup>.

SPD is more prevalent than once recognized, with a prevalence rate of roughly 2- 3.5%<sup>57, 58</sup>. This condition is more common in females, with a ratio of 1.45<sup>57</sup>. Skin-picking symptoms peak in late adolescence around 16 years old, demonstrating the importance of early detection and support to prevent these symptoms from continuing into adulthood<sup>59</sup>.

Multiple subtypes of SPD have been identified with different symptom profiles, emotional/reward pickers and functional pickers<sup>60</sup>. Emotional/reward pickers are the predominant type and are characterized by numerous strong urges, picking caused by negative emotions, and automatic behaviors over which the individual has little control. The functional picker is the less common subtype with milder skin-picking behaviors.

Skin-picking behaviors often target areas that an individual feels are blemished or have imperfections. The face (62%), fingers (43%), and legs (25%) are the most frequently picked areas of the body, with 67% of individuals engaging in picking multiple sites<sup>61</sup>. These findings reinforce the need for dermatologists to perform comprehensive skin checks when suspecting self-inflicted skin lesions.

### **Dermatologic Complications of SPD**

SPD's complex etiology can extend past psychological burden and lead to numerous medical complications. Open tissue wounds are left susceptible to invaders. Hawatmeh and Al-Khateeb<sup>62</sup> reported on a patient who developed *Staphylococcus aureus* bacteremia as a result of chronic excoriations. Another report details two cases of excessive skin-picking habits leading to chronic, non-healing ulcers complicated by lichen simplex chronicus<sup>63</sup>. Additional complications including myositis, osteomyelitis, and abscess formation have been observed<sup>64, 65</sup>. These cases highlight the importance of careful screening and early detection of BFRB disorders to avoid serious secondary medical consequences.

### **Dermatologic Interventions for SPD**

Effective treatment for SPD requires a multidisciplinary approach, combining dermatologic care with psychotherapy and pharmacotherapy. First-line treatment includes behavioral therapies, such as Cognitive Behavioral Therapy and Habit-Reversal Therapy. SSRIs and N-acetylcysteine are regarded as the most efficacious pharmacotherapies for this condition<sup>66,67</sup>. Dermatologists should ensure proper wound care, such as petrolatum-based emollients and hydrocolloid

dressings are applied to maintain a moist environment and to protect lesions from infection<sup>68, 69</sup>. Adjunctive wound-healing methods may include platelet-rich plasma (PRP) and viable cryopreserved placental membranes (vCPM) which may promote tissue regeneration and healing of wounds. While these treatments should not be used alone, they have been used experimentally in SPD cases as noninvasive methods to treat large cutaneous wounds<sup>70-72</sup>.

### Trichotillomania (TTM)

Trichotillomania (TTM) is a body-focused repetitive behavioral disorder that is characterized by excessively pulling at one's hair, resulting in alopecia. The individual must have made previous, unsuccessful attempts to quit, and symptoms may not be attributed to any other medical or psychiatric condition. Unlike OCD and similarly to excoriation disorder, TTM compulsions are mostly triggered by anxiety and boredom rather than obsessions<sup>21</sup>.

Recent literature has found TTM to be the least prevalent but most severe BFRB disorder, with a prevalence of 1 - 2%. In contrast to other BFRB disorders, TTM does not tend to favor females over males<sup>73, 74</sup>. Selles et al. (2018)<sup>16</sup> reported that compulsive hair-pullers scored the highest severity ratings on the Repetitive Body-Focused Behavior Scale. This indicates that TTM may include more time spent engaged in behavior, increased mental distress, and greater impact on one's daily life in comparison to the other behaviors.

Diagnosing TTM can be challenging, especially in patients who present with nonspecific hair loss. Trichoscopy, which has been useful in the detection of TTM, is a non-invasive diagnostic tool for examining the hair and the scalp. Dermatologists should be aware of the distinct patterns of hair breakage that are commonly seen in patients with compulsive hair-pulling. These include trichoptilosis (split ends on short hairs), V-sign (a V-shaped coupling of 2 or more hairs), hook hairs (short hairs with curved ends), flame hairs (partially translucent, wavy hair residues), coiled hairs (short, spiraled hairs), tulip hairs (broken hairs with dark tips), and hair powder (specks of hair residue)<sup>75</sup>. Broken hairs and black dots at follicle openings are the most frequent findings but also the least specific for TTM<sup>75</sup>. Trichoscopy is useful in the detection of TTM by aiding dermatologists in distinguishing it from other forms of alopecia.

### Dermatologic Complications of TTM

Trichotillomania can occur alongside the behavior known as trichophagia, a form of pica that involves ingesting one's hair after pulling it out. This behavior is often seen in individuals with nutritional deficiencies (eg, iron deficiency) and can lead to serious gastrointestinal complications, such as trichobezoars—hairballs that accumulate in the stomach or intestines<sup>76</sup>. Bacterial

infections are another dermatologic consequence of TTM. Similarly to SPD, the damage inflicted from pulling one's hair can increase susceptibility to invading organisms. This can lead to acute or severe bacterial infections colonized with *Enterobacter cloacae* and *Staphylococcus aureus* colonies<sup>77</sup>.

### Dermatologic Interventions for TTM

TTM does not have a "one size fits all" treatment model but often requires a customized treatment plan to address each patient's cutaneous and psychological manifestations. First-line intervention for BFRBs is behavioral therapies (eg, cognitive behavioral therapy). Pharmacotherapy (such as SSRIs or N-acetylcysteine) may be prescribed upon psychiatric referral<sup>78</sup>. Dermatologic care should address scalp wounds by proper cleaning to avoid infection and hydrocolloid dressings or patches to maintain moisture<sup>68</sup>. Antibiotics should be prescribed if the wound is infected, and topical steroids may be used to reduce scalp and irritation, thus reducing the urge to pull<sup>79</sup>. Topical capsaicin, found in chili peppers, has been tested as an experimental therapeutic agent in a TTM case study, which resulted in reduced hair-pulling. Capsaicin was demonstrated to enhance local pain and irritation, deterring individuals from pulling by increasing behavioral awareness and discomfort in a desensitized area<sup>80</sup>.

Adjunctive therapies aimed at stimulating hair renewal include minoxidil, platelet-rich plasma, and microneedling<sup>81, 82</sup>. Microneedling has been shown to promote angiogenesis, wound healing, and hair growth, while temporarily alleviating patients' urges by replicating a painful sensation similar to pulling<sup>82</sup>. These adjunctive therapies are not meant to treat TTM or its dermatologic manifestations and should be used for hair growth once a patient's psychiatric symptoms have been controlled.

### Onychophagia (NBD)

Onychophagia, otherwise known as nail-biting disorder (NBD), is a repetitive disorder where an individual pathologically bites the nails until visible damage is induced. Nail-biting commonly occurs as a reflex due to emotional dysregulation, specifically stress and anxiety<sup>83</sup>. This disorder is listed in the DSM-5 as a body-focused repetitive behavioral disorder under "Other Specified Obsessive-Compulsive and Related Disorders" along with lip biting and cheek chewing. Yet, it does not have its own distinct entry like excoriation (skin-picking) disorder and trichotillomania. The DSM-V criteria characterizes a BFRB disorder as unsuccessful attempts to quit the behavior, daily impairment and distress, and not being attributable to another psychological condition or non-suicidal injury<sup>21</sup>.

There are no clear guidelines to distinguish what separates a relatively common negative childhood habit

from a pathological condition. The prevalence of nail-biting, while difficult to determine, is around 20-40%<sup>84, 85</sup>. Nail-biting mostly begins in childhood, peaks in adolescence, and begins to decline rapidly by age 40<sup>83</sup>. Individuals bite due to reasons such as boredom, stress, nervousness, and hunger<sup>85</sup>.

Onychophagia presents with specific dermatologic features that are easily identifiable upon clinical examination. A study analyzing the medical charts and dermoscopic photos of 53 patients with onychophagia found the most universal finding in 100% of nail-biters to be short fingernails with irregularly-shaped, uneven edges<sup>86</sup>. Other common characteristics noted were rough nail surfaces, nail hemorrhages, melanonychia, horizontal depressions, brittle nails, enlarged lunulas, washboard nails, and interrupted or missing cuticles<sup>86</sup>.

### Dermatologic Complications of NBD

Chronic nail-biting can lead to a spectrum of medical complications. The damage induced by nail-biting leaves the nails susceptible to oral and environmental pathogens. Reddy et al. (2013)<sup>87</sup> found that there was a significantly higher prevalence of *Enterobacteriaceae*, specifically *E. coli* and *Enterobacter spp.*, in the saliva of children with nail-biting behaviors. Persistent biting can result in paronychia, an infection of the nail folds from bacteria or fungal invasion. The most common infecting pathogen is *Staphylococcus aureus*, but *Streptococcus*, gram-negative bacteria, oral flora such as *Enterococcus* and *Eikenella corrodens*, and *Candida albicans* can also be implicated<sup>88, 89</sup>. Onycholysis, the detachment of the nail from its bed, is another consequence of the shortening and structural damage induced by chronic biting<sup>90</sup>. Dental-related complications that may arise from habitual nail-biting include gingival injuries<sup>91</sup>, abscesses<sup>92</sup>, and temporomandibular disorders due to repetitive pressure on the jaw<sup>93</sup>.

While NBD is primarily a benign habit associated with acute complications, rare but severe sequelae have been reported. A child developed herpetic whitlow after a self-inflicted herpes simplex virus<sup>94</sup>. In another case, gastrointestinal seeding is demonstrated in an immunocompromised adult who developed appendicitis from ingesting a fingernail fragment inoculated with *Actinomyces* bacteria<sup>95</sup>.

### Dermatologic Interventions for NBD

Onychophagia remains underrecognized due to the blurred distinction between pathological behavior and what is perceived as a harmless, bad habit. Because many individuals do not consider their behavior to be a psychiatric disorder, few seek medical treatment which has contributed to little clinical attention. A multi-method approach utilizing psychotherapy (CBT or Habit-reversal), pharmacotherapy

(N-acetylcysteine, SSRIs), and stimulus aversion should be used for these patients<sup>96</sup>. Dermatologic care should focus on patient education and preventative measures to promote nail growth and deter individuals from nail-biting. These measures include disrupting the biting cycle and reducing physical access to the nails. Physical barriers such as false nails and bitter nail polish act as a physical barrier, limiting easy access to the nails and allowing them time to grow back naturally<sup>97</sup>. Additionally, keeping nails trimmed short, wearing bandages, and applying olive oil to the nails make biting more difficult and less satisfying<sup>83</sup>. Along with these strategies, dermatologists should educate patients on implementing competing responses to reverse bad habits when presented with urges, such as clenching fists or chewing sugar-free gum<sup>98, 99</sup>.

### Evidence of Obsessive-Compulsive Spectrum Interrelatedness

As previously stated, body-focused repetitive behaviors were originally grouped under the category of impulse control disorders in the DSM-III and DSM-IV. BFRBs were reclassified with the edition of the DSM-V as "Obsessive-Compulsive and Related Disorders"<sup>47</sup>. This change reflects emerging data demonstrating shared neurobiological, behavioral, and clinical characteristics with obsessive-compulsive disorder. However, the literature remains conflicted as to whether BFRB should be characterized as distinct conditions with overlapping features or as true subtypes within the obsessive-compulsive spectrum.

Clinical studies display increasing evidence that BFRB and OCD share overlapping features, making it difficult to distinguish them as separate entities. Anxiety, urges before engaging in the behavior, and relief afterwards are shared features between both disorders<sup>47, 100</sup>. Upon taking the Repetitive Body-Focused Behavioral Scale (RBFBS), over half of 93 pediatric patients with OCD were determined to have a co-occurring BFRB, demonstrating how interrelated these disorders may be<sup>16</sup>.

Genetic linkages further reinforce the idea that BFRBs are on a spectrum of OCD. Zhang and Grant (2022)<sup>101</sup> found that first-degree relatives of individuals with trichotillomania (TTM) had significantly higher rates of obsessive-compulsive disorder (OCD) and excoriation disorder (SPD) than relatives of healthy controls. It was further reported that TTM participants with a family history of OCD scored higher for impulsiveness and lower in distress tolerance.

While there is not a single gene implicated in OCD or BFRB, studies using animal models have found several candidate genes that warrant future investigation. A Sapap3 gene deletion in mice resulted in excessive grooming behaviors which were reversed after restoring the gene's expression<sup>102, 103</sup>. Shmelkov et al. (2010)<sup>104</sup>

linked *Slitrk5* gene deficiencies to pathological grooming habits and orbitofrontal dysfunction in mice. Mice with the *Slitrk5* deletion had increased orbitofrontal activity and downregulated glutamate receptor activity, which may be attributed to chronic glutamate hyperactivity as seen in OCD-like behaviors. Greer and Capecchi (2022)<sup>105</sup> identified the *Hoxb8* gene as another contributor to grooming behaviors, where gene disruption leads to skin lesions and hair removal resembling features of excoriation (skin-picking) disorder and trichotillomania.

Shared neurobiological features have been identified in both BFRBs and OCD, with converging data consistently implicating the frontostriatal circuitry. Hyperactivity in the direct pathway of the orbitofrontal cortex is responsible for reducing inhibition over OCD's intrusive thoughts and compulsions<sup>106,107</sup>, and similar findings have been reported in BFRBs<sup>108,109</sup>.

## Dermatologists' Role in Diagnosis and Management

Dermatologists play a pivotal role in the detection and management of both obsessive-compulsive disorder and body-focused repetitive behaviors, as these conditions often go undetected and untreated<sup>1</sup>. Many patients with an OCD-spectrum disorder will delay seeking psychological treatment due to stigmatization, fear of judgment, and feelings of shame and embarrassment<sup>110</sup>. Only 13-30% of individuals seek treatment for their disorders<sup>111, 112</sup>. Among those who do pursue treatment, many will seek dermatologic help first for the physical manifestations and cosmetic concerns<sup>113</sup>. This implies that dermatologists may be the first point of contact in the detection of obsessive-compulsive spectrum disorders, and as a result, it is crucial to implement multidisciplinary care and collaboration between dermatologists and psychiatrists. The following section provides a practical clinical workflow to guide dermatologists in recognition, screening, examination, management, and referral for patients who are suspected of having a BFRB.

**Recognition:** The prevalence of psychiatric disorders in dermatologic settings can easily go undetected or misdiagnosed due to the nature of the visits, which focus on integumentary issues rather than their psychiatric foundation. Dermatologists are extensively trained to identify skin diseases, cancer, autoimmune conditions, and other dermatopathologies. However, the psychiatric factors contributing to these dermatological concerns may be overlooked. Approximately 30% of outpatient and 60% of inpatient dermatology patients report underlying psychiatric disorders<sup>114</sup>. A Y-BOCS scale administered to 500 dermatology outpatients found that almost 11% of patients met the criteria for an OCD spectrum disorder which is notably higher than in the general population<sup>14</sup>. Dermatologists should suspect BFRBs in patients with

re-occurring, mechanically induced lesions that are not consistent with other inflammatory disorders. Warning signs can include poor lesion healing despite appropriate wound care, broken hairs with varying lengths and patterns, patchy areas of alopecia, and short fingernails with irregular borders<sup>75, 86</sup>. These clinical signs, along with inconsistent histories or histories of extreme stress and anxiety should raise clinical suspicion of BFRBs and warrant further screening. Taking a thorough history and making the patient feel emotionally safe is critical to early detection. Patients who disclose urges, mounting tension, and relief associated with their behaviors should be evaluated further.

**Screening:** While universal screening for OCD and BFRBs is not necessary, targeted screening should be implemented when clinical suspicion is raised. The first open-ended question that should be asked is "How did these lesions appear?"<sup>75</sup>. Next, a series of short, non-judgmental screening questions should be asked to help with a differential such as: "Do you ever find yourself repeatedly picking at your skin, pulling at your hair, or biting your nails?" "Do you ever find it difficult to control yourself from doing this?" "Do you ever feel strong urges to engage in this behavior, and do you feel immense relief afterwards?" "Do you find these behaviors are worse during periods of stress or anxiety?" "Have you ever tried to quit these behaviors and was it difficult?"<sup>75, 47</sup>. If a BFRB is disclosed or heavily suspected after initial evaluation and screening questions, a dermatologist should consider administering a quick, self-report questionnaire such as the Body-Focused Repetitive Behavior Scale-8 (GBS-8) or the Obsessive-Compulsive Inventory- Revised (OCI-R) (Table 3). The GBS-8 should be administered to evaluate behavioral severity and impairment if cutaneous findings suggest skin-picking, hair-pulling, or nail-biting<sup>19</sup>. The OCI-R should be reserved for patients suspected to have broader obsessive-compulsive symptoms beyond cutaneous manifestations<sup>18</sup>.

**Examination:** Following screening, dermoscopic or trichoscopic examination should be performed starting with a focused exam of affected areas<sup>115-119</sup>. Physicians should assess lesion morphology and chronicity, including hyperpigmentation, scarring, and lichenification. Chronic hand dermatitis findings, from OCD, may appear as brownish-orange dots, scaling, and crusting<sup>117</sup>. SPD findings may include lesions in various stages of healing with hyperpigmentation and scarring<sup>118</sup>. Trichoscopy findings for TTM may include corkscrew hairs, different lengths of breakage, black dots, and more<sup>14, 115, 119</sup>. Findings indicative of NBD may include nail folds in various healing stages, damaged cuticles, and nails that appear short, uneven, and ragged<sup>96</sup>. A full body examination should be performed if lesions are extensive or if multiple behaviors are suspected.

**Management:** Initial management should consist of wound care and barrier protection. Petrolatum-based occlusion and hydrocolloid dressings should be applied to maintain moisture, prevent irritation, upregulate antimicrobial properties, reduce scarring, and stimulate skin regeneration<sup>68, 69</sup>. Patients should be educated on the gentle cleansing of wounds and use of ceramide-containing moisturizers to maintain a healthy skin barrier. Starting with topical treatments, as opposed to emotions, can help patients open about their behaviors and feel less stigmatized<sup>112</sup>. Topical antibiotics should be applied if a secondary infection occurs. Lastly, empathetic physician education is vital to patient progress. Providers should emphasize behavioral modifications (eg, going on walks when stressed) and aversion techniques (eg, wearing gloves or applying bitter nail polish) when faced with the urge to engage in behaviors<sup>86,120</sup>.

**Referral Decision:** After managing cutaneous manifestations, a dermatologist must consider if a psychiatric referral is needed. Referral may not be necessary if cutaneous findings are not severe, if there is no suspected evidence of another psychiatric comorbidity or intent to self-harm, and if the patient willing commits to correcting his habits. Referral to psychiatry is warranted if the patient displays evidence of self-harm, co-morbid psychiatric disorders, or if pharmacological treatment is needed<sup>6,121</sup>.

## Discussion

This review compiles evidence supporting an overlap between obsessive-compulsive disorder (OCD) and body-focused repetitive behaviors (BFRBs) in clinical features, neurobiological findings, and treatment approaches. Trichotillomania (TTM), excoriation disorder (SPD), and onychophagia (NBD) exist in an obsessive-compulsive spectrum, supported by evidence of shared behavioral characteristics, inhibition difficulty, genetic, and neuroimaging findings.

It is important to highlight the role dermatologists play in managing these disorders. Dermatologists are often the first to recognize the consequential skin lesions, alopecia, and nail deformities that patients may be reluctant to admit as self-inflicted. Psychocutaneous disorders frequently go unrecognized in the dermatology clinics, with only 18% of dermatologists admitting to a clear understanding of these disorders<sup>122</sup>. A study screening 92 consecutive dermatology referrals found 20% of the patients qualified for an OCD diagnosis on the Y-BOCS scale, yet only 1 patient had been previously diagnosed<sup>1</sup>. A large gap remains in dermatologist awareness on how to recognize and treat these disorders, which highlights the need for increased awareness and training. Many patients report that their practitioner is not especially knowledgeable of their

condition<sup>123</sup>. Implementing improved screening practices and administration of validated tools, like the GBS-8, along with dermoscopy and full-body skin examinations can help improve detection.

Current treatment options for body-focused repetitive behaviors span a wide spectrum, reflecting the complexity of these conditions and the limited availability of high-quality clinical trial data. Behavioral therapies such as cognitive-behavioral training and its subtype of habit-reversal training remain among the most effective interventions. Pharmacologic interventions have shown mixed data, conflicting evidence, high dropout rates, and low participant numbers. Serotonin-reuptake inhibitors, tricyclic antidepressants, glutamate modulators (eg, NAC), and atypical antipsychotics have demonstrated potential therapeutic benefits. Coupling a behavioral intervention with a pharmacologic one may be most promising for managing these behaviors and preventing relapses<sup>124</sup>. Inconsistencies in treatment outcomes strengthen the need for larger, controlled clinical trials, particularly in the pediatric population which remains the most under researched.

While this review provides a comprehensive summary of current research on obsessive-compulsive disorder and body-focused repetitive behaviors, several limitations must be acknowledged. Much of the limited available evidence is restricted by small sample sizes, open-label trials, and case reports, which limit the generalizability of findings. There is also a notable absence of dermatology-focused literature, with most studies retrieved from psychiatry, and few addressing the presentation and treatment protocol in the dermatologic setting. The available data on pharmacologic measures remain inconsistent with variability in study design and outcomes, making it difficult to determine the true efficacy of individual medications. Neuroimaging and genetic studies show favorable, but preliminary results, with more investigation needed in larger cohorts. Lastly, due to the shame and stigma associated with these disorders, reporting bias remains a concern and may limit the full understanding of these complex disorders.

This comprehensive review aims to provide dermatologists with an up-to-date summary of obsessive-compulsive disorder and body-focused repetitive behaviors, increase awareness of the high prevalence of dermatologic manifestations associated with underlying psychological disorders, and offer guidance for detection, management, and interdisciplinary collaboration. To advance in managing these disorders, it is essential to first de-stigmatize psychiatric conditions in the dermatology setting. By reducing embarrassment and shame, patients will feel more comfortable disclosing their behaviors to practitioners. Dermatologists should be advised to approach these topics with empathy and sensitivity, with

the understanding that they may be the first to learn of their patients' psychiatric symptoms.

Finally, more research is needed to address gaps and inconsistencies in the literature. Future studies should include larger cohorts and well-designed randomized controlled trials to test the effectiveness of dermatologist-delivered screenings and the impact of multidisciplinary care models compared to traditional methods. Large-scale clinical trials combining behavioral and pharmacologic interventions are necessary to establish consistent treatment outcomes, while longitudinal studies are needed to track the course of dermatologic and psychiatric outcomes in OC-spectrum patients. Lastly, further neuroimaging studies are warranted to clarify the relationship between dermatologic severity and brain abnormalities to gain further insight into the neurobiology of these. OCD and BFRBs are complex, heterogeneous disorders with more overlap in dermatologic settings than once recognized. Bridging the gap between dermatology and psychiatry by providing more integrated care pathways will improve outcomes significantly for this patient population.

## References

1. Fineberg NA, O'Doherty C, Rajagopal S, et al. (2003). How common is obsessive-compulsive disorder in a dermatology outpatient clinic? *The Journal of clinical psychiatry*, 64(2), 152–155. <https://doi.org/10.4088/jcp.v64n0207>.
2. Anderson S, Clarke V, & Thomas Z. (2023). The problem with picking: Permittance, escape and shame in problematic skin picking. *Psychology and psychotherapy*, 96(1), 83–100. <https://doi.org/10.1111/papt.12427>.
3. Houghton DC, Alexander JR, Bauer CC, et al. (2018). Body-focused repetitive behaviors: More prevalent than once thought? *Psychiatry research*, 270, 389–393. <https://doi.org/10.1016/j.psychres.2018.10.002>.
4. Ferreira BR, Vulink N, Mostaghimi L, et al. (2024). Classification of psychodermatological disorders: Proposal of a new international classification. *Journal of the European Academy of Dermatology and Venereology: JEADV*, 38(4), 645–656. <https://doi.org/10.1111/jdv.19731>.
5. Gieler U, Consoli SG, Tomás-Aragones L, et al. (2013). Self-inflicted lesions in dermatology: terminology and classification--a position paper from the European Society for Dermatology and Psychiatry (ESDaP). *Acta dermato-venereologica*, 93(1), 4–12. <https://doi.org/10.2340/00015555-1506>.
6. Gupta MA & Gupta AK. (2019). Self-induced dermatoses: A great imitator. *Clinics in dermatology*, 37(3), 268–277. <https://doi.org/10.1016/j.clindermatol.2019.01.006>.
7. Das S. (n.d.). *Lichen Planus - dermatologic disorders*. Merck Manual Professional Edition. <https://www.merckmanuals.com/professional/dermatologic-disorders/psoriasis-and-other-papulosquamous-disorders/lichen-planus>,
8. El-Taweel AE, El-Esawy F & Abdel-Salam O. (2014). Different trichoscopic features of tinea capitis and alopecia areata in pediatric patients. *Dermatology research and practice*, 2014, 848763. <https://doi.org/10.1155/2014/848763>.
9. *Hair shaft defects*. American Hair Loss Association. (2023, November 9). <https://www.americanhairloss.org/types-of-hair-loss/hair-shaft-defects/>.
10. Rieder EA & Tosti A. (2016). Onychotillomania: An underrecognized disorder. *Journal of the American Academy of Dermatology*, 75(6), 1245–1250. <https://doi.org/10.1016/j.jaad.2016.05.036>.
11. TLC. (2025a, June 11). *BFRBs vs. OCD: Similarities and differences*. The TLC Foundation. <https://www.bfrb.org/post/bfrbs-vs-ocd-similarities-and-differences>.
12. Torales J, Díaz NR, Barrios I, et al. (2020). Psychodermatology of skin picking (excoriation disorder): A comprehensive review. *Dermatologic therapy*, 33(4), e13661. <https://doi.org/10.1111/dth.13661>.
13. Yii V, Thomas M & Sinclair R. (2024). Hair presentation test. *Australian journal of general practice*, 53(12), 942–944. <https://doi.org/10.31128/AJGP-05-24-7263>.
14. Motawa SS, Abd H, Abdelaziz A, et al. (2020). Prevalence of obsessive compulsive spectrum disorder in patients seeking dermatological consultation. *Egyptian Journal of Psychiatry*, 41(2), 97. [https://doi.org/10.4103/ejpsy.ejpsy\\_49\\_19](https://doi.org/10.4103/ejpsy.ejpsy_49_19).
15. Solley K & Turner C. (2018). Prevalence and correlates of clinically significant body-focused repetitive behaviors in a non-clinical sample. *Comprehensive psychiatry*, 86, 9–18. <https://doi.org/10.1016/j.comppsy.2018.06.014>.
16. Selles RR, La Buissonnière Ariza V, McBride NM, et al. (2018). Initial psychometrics, outcomes, and correlates of the Repetitive Body Focused Behavior Scale: Examination in a sample of youth with anxiety and/or obsessive-compulsive disorder. *Comprehensive psychiatry*, 81, 10–17. <https://doi.org/10.1016/j.comppsy.2017.11.001>.
17. Goodman WK, Price LH, Rasmussen SA, et al. (1989). The Yale-Brown Obsessive Compulsive Scale. I. Development, use, and reliability. *Archives of general psychiatry*, 46(11), 1006–1011. <https://doi.org/10.1001/archpsyc.1989.01810110048007>.
18. Foa EB, Huppert JD, Leiberg S, et al. (2002). The Obsessive-Compulsive Inventory: Development and validation of a short version. *Psychological Assessment*, 14(4), 485–496. <https://doi.org/10.1037/1040-3590.14.4.485>.
19. Moritz S, Gallinat C, Weidinger S, et al. (2022). The Generic BFRB Scale-8 (GBS-8): a transdiagnostic scale to measure the severity of body-focused repetitive behaviours. *Behavioural and cognitive psychotherapy*, 50(6), 620–628. <https://doi.org/10.1017/S1352465822000327>.
20. Grant JE, Leppink EW, Tsai J, et al. (2016). Does comorbidity matter in body-focused repetitive behavior disorders?. *Annals of clinical psychiatry : official journal of the American Academy of Clinical Psychiatrists*, 28(3), 175–181.
21. American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). <https://doi.org/10.1176/appi.books.9780890425596>.
22. Roberts S, O'Connor K, Aardema F, et al. (2015). The impact of emotions on body-Focused repetitive behaviors: evidence from a non-treatment-seeking sample. *Journal of behavior therapy and experimental psychiatry*, 46, 189–197. <https://doi.org/10.1016/j.jbtep.2014.10.007>.
23. Bloch MH, Landeros-Weisenberger A, Rosario MC, et al. (2008). Meta-analysis of the symptom structure of obsessive-compulsive disorder. *The American journal of psychiatry*, 165(12), 1532–1542. <https://doi.org/10.1176/appi.ajp.2008.08020320>.
24. Pauls DL, Alsobrook JP 2nd, Goodman W, et al. (1995). A family study of obsessive-compulsive disorder. *The American journal of psychiatry*, 152(1), 76–84. <https://doi.org/10.1176/ajp.152.1.76>.
25. Lenane MC, Swedo SE, Rapoport JL, et al. (1992). Rates of Obsessive Compulsive Disorder in first degree relatives of patients with trichotillomania: a research note. *Journal of child psychology and psychiatry, and allied disciplines*, 33(5), 925–933. <https://doi.org/10.1111/j.1469-7610.1992.tb01966.x>.

26. Vasconcelos MS, Sampaio AS, Hounie AG, et al. (2007). Prenatal, perinatal, and postnatal risk factors in obsessive-compulsive disorder. *Biological psychiatry*, 61(3), 301–307. <https://doi.org/10.1016/j.biopsych.2006.07.014>.
27. Brander G, Rydell M, Kuja-Halkola R, et al. (2016). Association of Perinatal Risk Factors With Obsessive-Compulsive Disorder: A Population-Based Birth Cohort, Sibling Control Study. *JAMA psychiatry*, 73(11), 1135–1144. <https://doi.org/10.1001/jamapsychiatry.2016.2095>.
28. Fernández de la Cruz L, Joseph KS, Wen Q, et al. (2023). Pregnancy, Delivery, and Neonatal Outcomes Associated With Maternal Obsessive-Compulsive Disorder: Two Cohort Studies in Sweden and British Columbia, Canada. *JAMA network open*, 6(6), e2318212. <https://doi.org/10.1001/jamanetworkopen.2023.18212>.
29. Adams TG, Kelmendi B, Brake CA, et al. (2018). The role of stress in the pathogenesis and maintenance of obsessive-compulsive disorder. *Chronic stress (Thousand Oaks, Calif.)*, 2, 2470547018758043. <https://doi.org/10.1177/2470547018758043>.
30. Bottas A & Richter MA. (2002). Pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections (PANDAS). *The Pediatric infectious disease journal*, 21(1), 67–71. <https://doi.org/10.1097/00006454-200201000-00017>.
31. Sheikmoonesi F, Hajheidari Z, Masoudzadeh A, et al. (2014). Prevalence and severity of obsessive-compulsive disorder and their relationships with dermatological diseases. *Acta medica Iranica*, 52(7), 511–514.
32. Pampaloni I, Marriott S, Pessina E, et al. (2022). The global assessment of OCD. *Comprehensive psychiatry*, 118, 152342. <https://doi.org/10.1016/j.comppsy.2022.152342>.
33. Hatch ML, Paradis C, Friedman S, et al. (1992). Obsessive-compulsive disorder in patients with chronic pruritic conditions: case studies and discussion. *Journal of the American Academy of Dermatology*, 26(4), 549–551. [https://doi.org/10.1016/0190-9622\(92\)70078-t](https://doi.org/10.1016/0190-9622(92)70078-t).
34. Kouris A, Christodoulou C, Efstathiou V, et al. (2016). Comparative Study of Quality of Life and Obsessive-Compulsive Tendencies in Patients With Chronic Hand Eczema and Lichen Simplex Chronicus. *Dermatitis: contact, atopic, occupational, drug*, 27(3), 127–130. <https://doi.org/10.1097/DER.0000000000000180>.
35. Sharifi S, Tan IJ & Jafferany M. (2025). Atopic Dermatitis and Obsessive-Compulsive Disorder: A Systematic Review. *Clinical and experimental dermatology*, llaf259. Advance online publication. <https://doi.org/10.1093/ced/llaf259>.
36. Saxena S, Bota RG & Brody AL. (2001). Brain-behavior relationships in obsessive-compulsive disorder. *Seminars in clinical neuropsychiatry*, 6(2), 82–101. <https://doi.org/10.1053/scnp.2001.21833>.
37. Mataix-Cols D, Rosario-Campos MC & Leckman JF. (2005). A multidimensional model of obsessive-compulsive disorder. *The American journal of psychiatry*, 162(2), 228–238. <https://doi.org/10.1176/appi.ajp.162.2.228>.
38. Bloch MH, Green C, Kichuk SA, et al. (2013). Long-term outcome in adults with obsessive-compulsive disorder. *Depression and anxiety*, 30(8), 716–722. <https://doi.org/10.1002/da.22103>.
39. Chakrabarty K, Bhattacharyya S, Christopher R, et al. (2005). Glutamatergic dysfunction in OCD. *Neuropsychopharmacology: official publication of the American College of Neuropsychopharmacology*, 30(9), 1735–1740. <https://doi.org/10.1038/sj.npp.1300733>.
40. Arnold PD, Macmaster FP, Richter MA, et al. (2009). Glutamate receptor gene (GRIN2B) associated with reduced anterior cingulate glutamatergic concentration in pediatric obsessive-compulsive disorder. *Psychiatry research*, 172(2), 136–139. <https://doi.org/10.1016/j.psychres.2009.02.005>.
41. *OCD treatment guide: Best evidence-based therapies, medications, and new advances*. International OCD Foundation. (2025, October 16). <https://iocdf.org/ocd-treatment-guide/>.
42. Nezhgovorova V, Reid J, Fineberg NA, et al. (2022). Optimizing first line treatments for adults with OCD. *Comprehensive psychiatry*, 115, 152305. <https://doi.org/10.1016/j.comppsy.2022.152305>.
43. Li Y & Li L. (2021). Contact Dermatitis: Classifications and Management. *Clinical reviews in allergy & immunology*, 61(3), 245–281. <https://doi.org/10.1007/s12016-021-08875-0>.
44. Esmat S, Sany I, Alieldin L, et al. (2025). Fractional Carbon Dioxide Laser for Lichen Simplex Chronicus: A Randomized Controlled Trial. *Dermatologic surgery: official publication for American Society for Dermatologic Surgery [et al.]*, 10.1097/DSS.0000000000004809. Advance online publication. <https://doi.org/10.1097/DSS.0000000000004809>.
45. Falkenstein MJ, Conelea CA, Garner LE, et al. (2018). Sensory over-responsivity in trichotillomania (hair-pulling disorder). *Psychiatry research*, 260, 207–218. <https://doi.org/10.1016/j.psychres.2017.11.034>.
46. Grant JE & Chamberlain SR. (2021). Trichotillomania and Skin-Picking Disorder: An Update. *Focus (American Psychiatric Publishing)*, 19(4), 405–412. <https://doi.org/10.1176/appi.focus.20210013>.
47. Madan SK, Davidson J & Gong H. (2023). Addressing body-focused repetitive behaviors in the dermatology practice. *Clinics in dermatology*, 41(1), 49–55. <https://doi.org/10.1016/j.clindermatol.2023.03.004>.
48. Redden SA, Leppink EW & Grant JE. (2016). Body focused repetitive behavior disorders: Significance of family history. *Comprehensive psychiatry*, 66, 187–192. <https://doi.org/10.1016/j.comppsy.2016.02.003>.
49. Atmaca M & Tabara MF. (2025). What Does Neuroimaging Indicate in Excoriation (Skin-Picking) Disorder? *Harvard review of psychiatry*, 33(4), 213–221. <https://doi.org/10.1097/HRP.0000000000000435>.
50. Odlaug BL, Hampshire A, Chamberlain SR, et al. (2016). Abnormal brain activation in excoriation (skin-picking) disorder: evidence from an executive planning fMRI study. *The British journal of psychiatry: the journal of mental science*, 208(2), 168–174. <https://doi.org/10.1192/bjp.bp.114.155192>.
51. Chamberlain SR, Hampshire A, Menzies LA, et al. (2010). Reduced brain white matter integrity in trichotillomania: a diffusion tensor imaging study. *Archives of general psychiatry*, 67(9), 965–971. <https://doi.org/10.1001/archgenpsychiatry.2010.109>.
52. Harries MD, Chamberlain SR, Redden SA, et al. (2017). A structural MRI study of excoriation (skin-picking) disorder and its relationship to clinical severity. *Psychiatry research. Neuroimaging*, 269, 26–30. <https://doi.org/10.1016/j.pscychresns.2017.09.006>.
53. Blum AW, Chamberlain SR, Harries MD, et al. (2018). Neuroanatomical Correlates of Impulsive Action in Excoriation (Skin-Picking) Disorder. *The Journal of neuropsychiatry and clinical neurosciences*, 30(3), 236–241. <https://doi.org/10.1176/appi.neuropsych.17050090>.
54. Schienle A & Wabnegger A. (2024). Structural neuroimaging of skin-picking disorder. *Progress in neuro-psychopharmacology & biological psychiatry*, 133, 111024. <https://doi.org/10.1016/j.pnpbp.2024.111024>.
55. Isobe M, Redden SA, Keuthen NJ, et al. (2018). Striatal abnormalities in trichotillomania: a multi-site MRI analysis. *NeuroImage. Clinical*, 17, 893–898. <https://doi.org/10.1016/j.nicl.2017.12.031>.
56. Chamberlain SR, Menzies LA, Fineberg NA, et al. (2008). Grey matter abnormalities in trichotillomania: morphometric magnetic resonance imaging study. *The British journal of psychiatry: the journal of mental science*, 193(3), 216–221. <https://doi.org/10.1192/bjp.bp.107.048314>.

57. Farhat LC, Reid M, Bloch MH, et al. (2023). Prevalence and gender distribution of excoriation (skin-picking) disorder: A systematic review and meta-analysis. *Journal of psychiatric research, 161*, 412–418. <https://doi.org/10.1016/j.jpsychires.2023.03.034>.
58. Grant JE & Chamberlain SR. (2020). Prevalence of skin picking (excoriation) disorder. *Journal of psychiatric research, 130*, 57–60. <https://doi.org/10.1016/j.jpsychires.2020.06.033>.
59. Lin A, Farhat LC, Flores JM, et al. (2023). Characteristics of trichotillomania and excoriation disorder across the lifespan. *Psychiatry research, 322*, 115120. <https://doi.org/10.1016/j.psychres.2023.115120>.
60. Grant JE, Peris TS, Ricketts EJ, et al. (2021). Identifying subtypes of trichotillomania (hair pulling disorder) and excoriation (skin picking) disorder using mixture modeling in a multicenter sample. *Journal of psychiatric research, 137*, 603–612. <https://doi.org/10.1016/j.jpsychires.2020.11.001>.
61. Snorrason I & Lee HJ. (2022). Assessing Excoriation (Skin-Picking) Disorder: Clinical Recommendations and Preliminary Examination of a Comprehensive Interview. *International journal of environmental research and public health, 19*(11), 6717. <https://doi.org/10.3390/ijerph19116717>.
62. Hawatmeh A & Al-Khateeb A. (2017). An unusual complication of dermatillomania. *Quantitative imaging in medicine and surgery, 7*(1), 166–168. <https://doi.org/10.21037/qims.2016.12.02>.
63. Nico MM & Lourenço SV. (2016). Obsessive-compulsive behaviour related cutaneous ulcers: two cases with therapeutic considerations. *International wound journal, 13*(5), 860–862. <https://doi.org/10.1111/iwj.12393>.
64. A1 Assad W & Marinos A. (2016). An unusual aetiology of back pain. *BMJ case reports, 2016*, bcr2015209489. <https://doi.org/10.1136/bcr-2015-209489>.
65. Halalmeh DR, Salama HZ, Molnar P, et al. (2023). Advanced Neck Dermatillomania Leading to Cervical Osteomyelitis and Epidural Abscess. *Cureus, 15*(11), e48163. <https://doi.org/10.7759/cureus.48163>.
66. Modanlo N, Yan X & Bourgeois JA. (2025). Pharmacologic Management of Skin-Picking Disorder: An Updated Review. *Journal of the Academy of Consultation-Liaison Psychiatry, 66*(5), 417–428. <https://doi.org/10.1016/j.jaclp.2025.05.002>.
67. Lochner C, Roos A & Stein DJ. (2017). Excoriation (skin-picking) disorder: a systematic review of treatment options. *Neuropsychiatric disease and treatment, 13*, 1867–1872. <https://doi.org/10.2147/NDT.S121138>.
68. Holmes SP, Rivera S, Hooper PB, et al. (2021). Hydrocolloid dressing versus conventional wound care after dermatologic surgery. *JAAD international, 6*, 37–42. <https://doi.org/10.1016/j.jdin.2021.11.002>.
69. Czarnowicki T, Malajian D, Khattri S, et al. (2016). Petrolatum: Barrier repair and antimicrobial responses underlying this “inert” moisturizer. *The Journal of allergy and clinical immunology, 137*(4), 1091–1102.e7. <https://doi.org/10.1016/j.jaci.2015.08.013>.
70. Bakhtawar A, Mujeb A, Meraj I, et al. (October 21, 2025) Integrating Psychodermatology and Platelet-Rich Plasma Therapy in Various Dermatological Conditions: A Narrative Review. *Cureus 17*(10): e95055. doi:10.7759/cureus.95055.
71. Horvath V, Svobodova A, Cabral JV, et al. (2024). Cryopreserved amniotic membrane in chronic nonhealing wounds: a series of case reports. *Cell and tissue banking, 25*(1), 325–337. <https://doi.org/10.1007/s10561-023-10100-5>.
72. Bain MA & Vincent J. (2016). Management of a Complex Excoriation Disorder-induced Wound with a Viable Cryopreserved Placental Membrane. *Plastic and reconstructive surgery. Global open, 4*(12), e1132. <https://doi.org/10.1097/GOX.0000000000001132>.
73. Thomson HA, Farhat LC, Olfson E, et al. (2022). Prevalence and gender distribution of trichotillomania: A systematic review and meta-analysis. *Journal of psychiatric research, 153*, 73–81. <https://doi.org/10.1016/j.jpsychires.2022.06.058>.
74. Grant JE, Dougherty DD & Chamberlain SR. (2020). Prevalence, gender correlates, and co-morbidity of trichotillomania. *Psychiatry research, 288*, 112948. <https://doi.org/10.1016/j.psychres.2020.112948>.
75. Kaczorowska A, Rudnicka L, Stefanato CM, et al. (2021). Diagnostic Accuracy of Trichoscopy in Trichotillomania: A Systematic Review. *Acta dermato-venereologica, 101*(10), adv00565. <https://doi.org/10.2340/00015555-3859>.
76. Ahmed M, Habib M, Memon H, et al. (2024). Trichotillomania, Trichophagia and Trichobezoar in a Male Paediatric Patient: A Case Report and Literature Review. *International journal of surgery case reports, 117*, 109520. <https://doi.org/10.1016/j.ijscr.2024.109520>.
77. Kontoangelos K, Zafeiropoulou T, Karamparpa AA, et al. (2024). Trichotillomania in a Male Patient With Depression: A Case Report. *Cureus, 16*(11), e73362. <https://doi.org/10.7759/cureus.73362>.
78. Farhat LC, Olfson E, Nasir M, et al. (2020). Pharmacological and behavioral treatment for trichotillomania: An updated systematic review with meta-analysis. *Depression and anxiety, 37*(8), 715–727. <https://doi.org/10.1002/da.23028>.
79. Oon HH & Lee JS. (2011). Treatment of pseudofolliculitis in trichotillomania improves outcome. *International journal of trichology, 3*(2), 92–95. <https://doi.org/10.4103/0974-7753.90813>.
80. Ristvedt SL & Christenson GA. (1996). The use of pharmacologic pain sensitization in the treatment of repetitive hair-pulling. *Behaviour research and therapy, 34*(8), 647–648. [https://doi.org/10.1016/0005-7967\(96\)00032-0](https://doi.org/10.1016/0005-7967(96)00032-0).
81. Bakhtawar A, Mujeb A, Meraj I, et al. (October 21, 2025) Integrating Psychodermatology and Platelet-Rich Plasma Therapy in Various Dermatological Conditions: A Narrative Review. *Cureus 17*(10): e95055. doi:10.7759/cureus.95055.
82. Christensen RE, Schambach M & Jafferany M. (2022). Microneedling as an adjunctive treatment for trichotillomania. *Dermatologic therapy, 35*(11), e15824. <https://doi.org/10.1111/dth.15824>.
83. Tanaka OM, Vitral RW, Tanaka GY, et al. (2008). Nailbiting, or onychophagia: a special habit. *American journal of orthodontics and dentofacial orthopedics: official publication of the American Association of Orthodontists, its constituent societies, and the American Board of Orthodontics, 134*(2), 305–308. <https://doi.org/10.1016/j.ajodo.2006.06.023>.
84. Ballinger BR. (1970). The prevalence of nail-biting in normal and abnormal populations. *The British journal of psychiatry: the journal of mental science, 117*(539), 445–446. <https://doi.org/10.1192/bjp.117.539.445>.
85. Sachan A & Chaturvedi TP. (2012). Onychophagia (Nail biting), anxiety, and malocclusion. *Indian journal of dental research: official publication of Indian Society for Dental Research, 23*(5), 680–682. <https://doi.org/10.4103/0970-9290.107399>.
86. Shin JO, Roh D, Son JH, et al. (2022). Onychophagia: detailed clinical characteristics. *International journal of dermatology, 61*(3), 331–336. <https://doi.org/10.1111/ijd.15861>.
87. Reddy S, Sanjai K, Kumaraswamy J, et al. (2013). Oral carriage of enterobacteriaceae among school children with chronic nail-biting habit. *Journal of oral and maxillofacial pathology: JOMFP, 17*(2), 163–168. <https://doi.org/10.4103/0973-029X.119743>.
88. Macneal P & Milroy C. (2023). Paronychia Drainage. In *StatPearls*. StatPearls Publishing.
89. Brook I. (1993). Paronychia: a mixed infection. Microbiology and management. *Journal of hand surgery (Edinburgh, Scotland), 18*(3), 358–359. [https://doi.org/10.1016/0266-7681\(93\)90063-l](https://doi.org/10.1016/0266-7681(93)90063-l).

90. Lee DY. (2009). Chronic nail biting and irreversible shortening of the fingernails. *Journal of the European Academy of Dermatology and Venereology: JEADV*, 23(2), 185. <https://doi.org/10.1111/j.1468-3083.2008.02760.x>.
91. Krejci CB. (2000). Self-inflicted gingival injury due to habitual fingernail biting. *Journal of periodontology*, 71(6), 1029–1031. <https://doi.org/10.1902/jop.2000.71.6.1029>.
92. Sousa D, Pinto D, Araujo R, et al. (2010). Gingival abscess due to an unusual nail-biting habit: a case report. *The journal of contemporary dental practice*, 11(2), 085–91.
93. Winocur E, Littner D, Adams I, et al. (2006). Oral habits and their association with signs and symptoms of temporomandibular disorders in adolescents: a gender comparison. *Oral surgery, oral medicine, oral pathology, oral radiology, and endodontics*, 102(4), 482–487. <https://doi.org/10.1016/j.tripleo.2005.11.007>.
94. Szinnai G, Schaad UB & Heininger U. (2001). Multiple herpetic whitlow lesions in a 4-year-old girl: case report and review of the literature. *European journal of pediatrics*, 160(9), 528–533. <https://doi.org/10.1007/s004310100800>.
95. Pagacz M, Bao P, Moreno JCA, et al. (2020). Nail Biting as a Cause of Appendicitis. *Case reports in surgery*, 2020, 3930905. <https://doi.org/10.1155/2020/3930905>.
96. Lee DK & Lipner SR. (2022). Update on Diagnosis and Management of Onychophagia and Onychotillomania. *International journal of environmental research and public health*, 19(6), 3392. <https://doi.org/10.3390/ijerph19063392>.
97. Pacan P, Grzesiak M, Reich A, et al. (2009). Onychophagia as a spectrum of obsessive-compulsive disorder. *Acta dermato-venereologica*, 89(3), 278–280. <https://doi.org/10.2340/00015555-0646>.
98. Horne DJ & Wilkinson J. (1980). Habit reversal treatment for fingernail biting. *Behaviour research and therapy*, 18(4), 287–291. [https://doi.org/10.1016/0005-7967\(80\)90087-x](https://doi.org/10.1016/0005-7967(80)90087-x).
99. Twohig MP, Woods DW, Marcks BA, et al. (2003). Evaluating the efficacy of habit reversal: comparison with a placebo control. *The Journal of clinical psychiatry*, 64(1), 40–48. <https://doi.org/10.4088/jcp.v64n0109>.
100. Pacan P, Grzesiak M, Reich A, et al. (2014). Onychophagia and onychotillomania: prevalence, clinical picture and comorbidities. *Acta dermato-venereologica*, 94(1), 67–71. <https://doi.org/10.2340/00015555-1616>.
101. Zhang J & Grant JE. (2022). Significance of family history in understanding and subtyping trichotillomania. *Comprehensive psychiatry*, 119, 152349. <https://doi.org/10.1016/j.comppsy.2022.152349>.
102. Bienvenu OJ, Wang Y, Shugart YY, et al. (2009). Sapap3 and pathological grooming in humans: Results from the OCD collaborative genetics study. *American journal of medical genetics. Part B, Neuropsychiatric genetics: the official publication of the International Society of Psychiatric Genetics*, 150B(5), 710–720. <https://doi.org/10.1002/ajmg.b.30897>.
103. Welch JM, Lu J, Rodriguiz RM, et al. (2007). Cortico-striatal synaptic defects and OCD-like behaviours in Sapap3-mutant mice. *Nature*, 448(7156), 894–900. <https://doi.org/10.1038/nature06104>.
104. Shmelkov SV, Hormigo A, Jing D, et al. (2010). Slitrk5 deficiency impairs corticostriatal circuitry and leads to obsessive-compulsive-like behaviors in mice. *Nature medicine*, 16(5), 598–602. <https://doi.org/10.1038/nm.2125>.
105. Greer JM & Capocchi MR. (2002). Hoxb8 is required for normal grooming behavior in mice. *Neuron*, 33(1), 23–34. [https://doi.org/10.1016/s0896-6273\(01\)00564-5](https://doi.org/10.1016/s0896-6273(01)00564-5).
106. Beucke JC, Sepulcre J, Talukdar T, et al. (2013). Abnormally high degree connectivity of the orbitofrontal cortex in obsessive-compulsive disorder. *JAMA psychiatry*, 70(6), 619–629. <https://doi.org/10.1001/jamapsychiatry.2013.173>.
107. Ursu S & Carter CS. (2009). An initial investigation of the orbitofrontal cortex hyperactivity in obsessive-compulsive disorder: exaggerated representations of anticipated aversive events? *Neuropsychologia*, 47(10), 2145–2148. <https://doi.org/10.1016/j.neuropsychologia.2009.03.018>.
108. Roos A, Fouche JP, Stein DJ, et al. (2023). Structural brain network connectivity in trichotillomania (hair-pulling disorder). *Brain imaging and behavior*, 17(4), 395–402. <https://doi.org/10.1007/s11682-023-00767-5>.
109. Atmaca M & Tabara MF. (2025). What Does Neuroimaging Indicate in Excoriation (Skin-Picking) Disorder? *Harvard review of psychiatry*, 33(4), 213–221. <https://doi.org/10.1097/HRP.0000000000000435>.
110. Houghton DC, McFarland CS, Franklin ME, et al. (2016). DSM-5 Trichotillomania: Perception of Adults With Trichotillomania After Psychosocial Treatment. *Psychiatry*, 79(2), 164–169. <https://doi.org/10.1080/00332747.2016.1144438>.
111. Woods DW, Flessner CA, Franklin ME, et al. (2006). The Trichotillomania Impact Project (TIP): exploring phenomenology, functional impairment, and treatment utilization. *The Journal of clinical psychiatry*, 67(12), 1877–1888. <https://doi.org/10.4088/jcp.v67n1207>.
112. Grant JE & Chamberlain SR. (2022). Characteristics of 262 adults with skin picking disorder. *Comprehensive psychiatry*, 117, 152338. <https://doi.org/10.1016/j.comppsy.2022.152338>.
113. Sampaio DG & Grant JE. (2018). Body-focused repetitive behaviors and the dermatology patient. *Clinics in dermatology*, 36(6), 723–727. <https://doi.org/10.1016/j.clindermatol.2018.08.004>.
114. Hughes JE, Barraclough BM, Hamblin LG, et al. (1983). Psychiatric symptoms in dermatology patients. *The British journal of psychiatry: the journal of mental science*, 143, 51–54. <https://doi.org/10.1192/bjp.143.1.51>.
115. Al-Refu K. (2018). Clinical Significance of Trichoscopy in Common Causes of Hair Loss in Children: Analysis of 134 Cases. *International journal of trichology*, 10(4), 154–161. [https://doi.org/10.4103/ijt.ijt\\_101\\_17](https://doi.org/10.4103/ijt.ijt_101_17).
116. Bhat YJ, Mir MA, Keen A, et al. (2018). Onychoscopy: an observational study in 237 patients from the Kashmir Valley of North India. *Dermatology practical & conceptual*, 8(4), 283–291. <https://doi.org/10.5826/dpc.0804a06>.
117. Errichetti E & Stinco G. (2016). Dermoscopy in General Dermatology: A Practical Overview. *Dermatology and therapy*, 6(4), 471–507. <https://doi.org/10.1007/s13555-016-0141-6>.
118. Malayala SV, Rehman H, Vasireddy D. Dermatillomania: A Case Report and Literature Review. *Cureus*. 2021;13(1): e12932. Published 2021 Jan 27. doi:10.7759/cureus.12932.
119. Rakowska A, Slowinska M, Olszewska M, et al. (2014). New trichoscopy findings in trichotillomania: flame hairs, V-sign, hook hairs, hair powder, tulip hairs. *Acta dermato-venereologica*, 94(3), 303–306. <https://doi.org/10.2340/00015555-1674>.
120. Tomas-Aragones L, Consoli SM, Consoli SG, et al. (2017). Self-Inflicted Lesions in Dermatology: A Management and Therapeutic Approach - A Position Paper From the European Society for Dermatology and Psychiatry. *Acta dermato-venereologica*, 97(2), 159–172. <https://doi.org/10.2340/00015555-2522>.
121. Jafferany M, Ferreira BR, Abdelmaksoud A, et al. (2020). Management of psychocutaneous disorders: A practical approach for dermatologists. *Dermatologic therapy*, 33(6), e13969. <https://doi.org/10.1111/dth.13969>.

122. Jafferany M, Vander Stoep A, Dumitrescu, A, et al. (2010). The knowledge, awareness, and practice patterns of dermatologists toward psychocutaneous disorders: results of a survey study. *International journal of dermatology*, 49(7), 784–789. <https://doi.org/10.1111/j.1365-4632.2009.04372.x>.
123. Tucker BT, Woods DW, Flessner CA, et al. (2011). The Skin Picking Impact Project: phenomenology, interference, and treatment utilization of pathological skin picking in a population-based sample. *Journal of anxiety disorders*, 25(1), 88–95. <https://doi.org/10.1016/j.janxdis.2010.08.007>.
124. Dougherty DD, Loh R, Jenike MA, et al. (2006). Single modality versus dual modality treatment for trichotillomania: sertraline, behavioral therapy, or both? *The Journal of clinical psychiatry*, 67(7), 1086–1092. <https://doi.org/10.4088/jcp.v67n0711>.