Pruritus

- Pruritus, commonly known as itching, is a sensation exclusive to the skin. It may be defined as the sensation that produces the desire to scratch. Pruritogenic stimuli are first responded to by keratinocytes, which release a variety of mediators, and fine intraepidermal C-neuron filaments.
- Itching may be elicited by many normally occurring stimuli, such as light touch, temperature change, and emotional stress. Chemical, mechanical, and electrical stimuli may also elicit itching.
- The brain may reinterpret such sensations as being painful or causative of burning or stinging sensations.
- A large group of neuromediators have been identified. Some of the most important mediators are histamine, serotonin, tryptate, opioid peptides, substance P, prostaglandins such as PGE2, acetylcholine, cytokines such as interleukin (IL)-2, and a variety of neuropeptides and vasoactive peptides.

Categories of itching:

- Itch has been classified into four primary categories: pruritoceptive, or that initiated by skin disorders, itch caused by systemic disorders, neuropathic itch due to disorders of the central or peripheral nervous systems, and psychogenic itch (the type observed in parasitophobia). An overlap or mixture of these may be causative in any individual patient.

Patterns of itching:

- There are wide variations from person to person, and in the same person there may be a variation in reactions to the same stimulus.
- Heat will usually aggravate preexisting pruritus. Stress, absence of distractions, anxiety, and fear may all enhance itching. It is apt to be most severe at the time of bed.
- Severe pruritus, with or without prior skin lesions, may be paroxysmal in character with a sudden onset, often severe enough to awaken the patient. It may stop instantly and completely as soon as pain is induced by scratching. However, the pleasure of scratching is so intense that the patient—despite the realization that he/she is damaging the skin—is often unable to stop short of inflicting such damage.
- Severe itching is characteristic of a select group of dermatoses:
  - lichen simplex chronicus,
  - atopic dermatitis,
  - Nummular (Discoid) eczema,
  - dermatitis herpetiformis,
  - neurotic excoriations,
  - eosinophilic folliculitis,
  - uremic pruritus,
  - subacute prurigo,
  - paraneoplastic itch (usually secondary to lymphoma),
  - prurigo nodularis.
- In general, only these disorders produce such intense pruritus and scratching as to induce bleeding. In individual cases, other diseases may manifest such severe symptoms, e.g. Scabies.
Treatment

- General guidelines for therapy of the itchy patient include keeping cool, and avoidance of hot baths or showers and of wool clothing. The latter is a nonspecific irritant, as is xerosis. Many patients note itching increases after showers, when they wash with soap and then dry roughly.
- Using soap only in the axilla and inguinal area, patting dry, and applying a moisturizer will often help avoid such exacerbations. Patients often use an ice bag or hot water to calm pruritus; however, hot water can irritate the skin, is effective only for short periods, and over time exacerbates the condition.
- Relief of pruritus with topical remedies may be achieved with topical anesthetic preparations. Many contain Benzocaine, which may produce contact sensitization. Pramoxine in a variety of vehicles, Lidocaine 5% ointment, EMLA ointment (a mixture of lidocaine and prilocaine) and Lidocaine gel are preferred anesthetics that may be quite useful in localized conditions. EMLA and lidocaine may be toxic if applied to large areas. Topical antihistamines are generally not recommended, although Doxepin cream may be effective for mild pruritus when used alone.
- Topical lotions that contain menthol or camphor feel cool and improve pruritus. Others with specific ceramide content designed to mimic that of the normal epidermal barrier are useful. Capsaicin, by depleting substance P, can be effective, but the burning sensation present during initial use frequently causes patients to discontinue its use. Topical steroids and calcineurin inhibitors effect a decrease in itching via their anti-inflammatory action, and therefore are of limited efficacy in neurogenic, psychogenic and systemic disease-related pruritus.
- Phototherapy with ultraviolet (UV) B, UVA, and PUVA may be useful in a variety of dermatoses and pruritic disorders. Many oral agents are available to treat pruritus. The most frequently utilized by non-dermatologists are the antihistamines. First-generation H1 antihistamines, such as hydroxyzine and diphenhydramine, may be helpful in nocturnal itching, but their efficacy as antipruritics in many disorders, with the exception of urticaria and mastocytosis, is disappointing. Doxepin is an exception in that it has the ability to reduce anxiety and depression, and has utility in several pruritic disorders. Sedating antihistamines should be prescribed cautiously because of their impairment of cognitive ability. The non-sedating antihistamines and H2 blockers are only effective in urticaria and mast cell disease.

Itching may be present as a symptom in a number of internal disorders:

- Liver disease, especially obstructive and hepatitis C (with or without evidence of jaundice or liver failure).
- Renal failure,
- Hypo- and hyperthyroidism,
- Hematopoietic diseases such as iron deficiency anemia, polycythemia vera, neoplastic diseases such as lymphoma (especially Hodgkin disease), leukemia, and myeloma,
- Internal solid tissue malignancies, intestinal parasites, carcinoid, multiple sclerosis,
- Acquired immunodeficiency syndrome (AIDS), and
- Neuropsychiatric diseases, with anorexia nervosa prominent among the latter.
- Diabetes mellitus: is frequently listed as an internal cause of pruritus but most individuals with diabetes do not itch.

Psychodermatology

- There are purely cutaneous disorders that are psychiatric in nature, their cause being directly related to psychopathologic causes in the absence of primary dermatologic or other organic causes. Delusions of parasitosis, neurotic excoriations, factitial dermatitis, and trichotillomania compose the major categories of psychodermatology. The differential diagnosis for these four disorders is two-fold, requiring the exclusion of organic causes and the definition of a potential underlying psychologic disorder. Other delusional disorders include bromidrosiphobia and body dysmorphic disorder.
Skin signs of psychiatric illness:

- The skin is a frequent target for the release of emotional tension. Self-injury by prolonged, compulsive repetitious acts may produce various mutilations, depending on the act and site of injury.
- Self-biting may be manifested by biting the nails (onychophagia), skin (most frequently the forearms, hands, and fingers) and lip. Dermatophagia is a habit or compulsion, which may be conscious or subconscious. Compulsive repetitive handwashing may produce an irritant dermatitis of the hands.
- Bulimia, with its self-induced vomiting, results in Russell's sign-crusted papules on the dorsum of the dominant hand from cuts by the teeth. Clenching of the hand produces swelling and ecchymosis of the fingertips and subungual hemorrhage. Self-inflicted lacerations may be of suicidal intent. Lip-licking produces increased salivation and thickening of the lips. Eventually the perioral area becomes red and produces a distinctive picture resembling the exaggerated mouth make-up.

Delusions of parasitosis

- Delusions of parasitosis (delusional parasitosis, Ekbom syndrome, acarophobia, dermatophobia, parasitophobia, entomophobia, or pseudoparasitic dysesthesia) are firm fixations in a person's mind that he or she suffers from a parasitic infestation of the skin.

Neurotic excoriations

- Many persons have unconscious compulsive habits of picking at themselves, and at times the tendency is so persistent and pronounced that excoriations of the skin are produced. The lesions are caused by picking, digging, or scraping, and they usually occur on parts readily accessible to the hands. These patients admit their actions induce the lesions, but cannot control their behavior.
- The excavations may be superficial or deep and are often linear. The bases of the ulcers are clean or covered with a scab.

Factitious dermatitis (dermatitis artefacta)

- Factitious dermatitis is the term applied to self-inflicted skin lesions made consciously and often with the intent to elicit sympathy, escape responsibilities, or collect disability insurance. Most patients are adults in midlife, with women more often affected than men by a 3:1 ratio.

Trichotillomania

- Trichotillomania (trichotillosis or neuromechanical alopecia) is a neurosis characterized by an abnormal urge to pull out the hair. The sites involved are generally the frontal region of the scalp, eyebrows, eyelashes, and the beard. There are irregular areas of hair loss, which may be linear or bizarrely shaped.

Dermatothlasia

- Dermatothlasia is a cutaneous neurosis characterized by a patient's uncontrollable desire to rub or pinch themselves to form bruised areas on the skin, sometimes as a defense against pain elsewhere.

Bromidrosiphobia

- Bromidrosiphobia (delusions of bromhidrosis) is a monosymptomatic delusional state in which a person is convinced that his or her sweat has a repugnant odor that keeps other people away.