**SKIN**

**PHYSICAL ASSESSMENT OF THE SKIN**

* This includes the assessment of the skin, mucopus membranes, body hair and nails. the focus is whether they are intact and functional
* obtain history about the potential symptoms related to the integumentary system
* ask about association with persons with rashes, family history, allergies, travelling history, chronic diseases, hospitalizations, surgeries, injuries/ accidents, currents medications and immunizations.
* perfome a physical exam to obtain objective data
* skin; in good lighting check the color, integrity, turgor, pigment variations, vascularity, hygiene, lesions ( primary or secondary; site, color, distribution, size, discharge, texture (hard, soft, or filled with fluid), temperature, moisture, folds, tenderness, erythema…
* hair; note the distribution, color, quantity, texture, appropriate male or female patterns, find parasites, eggs ( head lice)
* nails presence or absence of growth, curvature, color and thickness, clubbing,transverse ridges…
* perfome diagnostic evaluation
* **Biopsy;** involves removal of a small sample of skin tissue, using a pinch or scapel for microscopic examination, this is done rule out malignancies, infections..
* Skin tests for allergies; **patch testing**; a suspected allergen is applied to the skin under nonabsorbent adhesive patch. the patient should not bathe over the area or scratch under the patch. The patch is removed after 48 hours and the underlying skin is inspected. positive reaction will be indicated by erythema, vesicles or some indurations, pain, blisters or patient will experience itching and burning sensations before the 48 hours then notify physician: **Intradermal skin test**; the skin is stretched and with bevel of the needle up at an angle parallel to the skin is inserted to the skin. an allergen is slowly injected until a small wheal forms. then inspect the skin for any reaction.
* **Skin scrapings;** the skin/ nails are cleaned with alcohol and air dried before scraping. a sharp scapell is used , the scrapings are examined for the presence of fungal infection, ectoparasites, brittle broken hair..
* **Wood light examination;** wood’s light is a high mercury light that transmits long wave of UV wavelengths. It is used to directly visualize skin in a darkened room. the various and characteristic fluorescent colors that are produced are useful in detecting bacterial and fungal infections, porphyria and pigment alterations. the patient is usully instructed to avoid shampooing, bathing and application of make up to the area under examination for 24 hours before the test.
* **Culture;** swab samples are collected from affected area an dplced in a culture media then taken to the lab. for C/S test.

**SKIN DISORDERS**

**In this unit we will learn about common disorders that affect the integumentary system. It is important to note that that** skin diseases must be treated appropriately because they may make the patient develop emotional problems. However, it is unlikely that skin problems will lead to patients getting admitted in a hospital.

**By the end of this unit you should be able to;**

* **Describe the main strategies utilized in promotion and maintenance of a healthy skin**
* **Describe common skin disorders in terms of their definition, manifestations and likely causes.**
* **Discuss the medical and nursing management of patients with skin disorders**

**The Common Skin Disorders**

* Pruritus
* Skin infections;
  + Impetigo
  + Folliculitis, furuncles and carbuncles
  + Cellulites
  + Viral infections; Herpes Zoster/shingles, warts
  + Fungal infections; Tinea corporis, Tinea cruris, tinea capitis, Tinea pedis and Tinea ungium.
  + Parasitic skin diseases; pediculosis (Pediculosis humanus capitis and corporis and Phthirus pubis); Scabies
* Secretory disorders;
  + Seborrheic dermatoses
  + Acne vulgaris
* Inflammatory skin disorders;
  + Dermatitis(contact and atopic)
  + Eczema
  + psoriasis
* Autoimmune disorders;
  + Pemphigus vulgaris
  + Scleroderma
  + Toxic epidermal necrolysis
  + Dermatomysitis
* Skin cancer; basal cell, squamous cell and malignant melanoma carcinoma; other malignancies of the skin, Kaposi’s sarcoma
* Pigment disorders;
  + Birthmarks
  + Moles
  + Albinism
  + Vitiligo
  + Chloasma
* Hair disorders; alopecia

**SKIN LESIONS**

We have primary lesions and secondary lesions

1. **Primary lesions**; results from an initial disease

**Examples include**;

* macule; a circumscribed flat discoloration, which may be brown, blue or red as seen in petechie, Vitiligo, ecchymosis
* vesicle; a circumscribed collection of free fluid up to 0.5cm in diameter. as seen in herpes simplex, herpes zoster, chicken pox and pemphigus
* plaque; a circumscribed, elevated supefcial, solid lesion more than 0.5 cm in diameter often formed by the confluence of papules. warts
* nodule; a circumscribed, solid mass that extends deeper to the dermis than a papule; tumor, lipoma, carcinoma
* papule; an elevated solid lesion up to 0.5cm in diameter; the color varies; they become confluent to form plaque; psoriasis
* pustule a circumscribed collection of pus and free fluid (vesicle) that varies in size; acne, impetigo, furuncles and carbuncles.
* wheal; a firm edematous plaque resulting from infiltration of the dermis with fluid, these are transient; insect bites and urticaria
* cyst an encapsulated fluid filled semisolid mass in the subcutaneous tissue or dermis; sebaceous cyst

1. **Secondary lesions** results from external causes on the primary lesions such as scratching, trauma, infections and changes causes by wound healing. examples include;

* scales; excess dead epidermal cells that are produced by abnormal keratinization and shedding these flakes may normally adhere to the skin; dandruff, dry skin in psoriasis
* scar; results from an healing wound; an abnormal form of connective tissue implying dermal damage as a result of trauma or surgery. initially are thick and pink but become white and atrophic
* Erosion; a focal loss of epidermis, a depressed moist area. these heal without scarring; scratch marks, ruptured vesicles
* ulcers; skin loss extending past epidermis and may have the necrotic tissue; pressure ulcers
* fissure; linear crack in the skin, may extend to the dermis; dry cracked lips, athletes foot
* atrophy; a depression in the skin resulting from thinning of the epidermis or dermis; loss of surface markings secondary to loss of collagen and elastin; aged skin and underlying blood vessels may be visible
* crusts; a collection of dries serum/ blood and cellular debris on the skin; they may follow a ruptured vesicle in eczema, impetigo and herpes
* keloids; hypertrophied scar tissue secondary to collagen formation during healing
* lichenification; thickening and roughening of the skin secondary to repeated rubbing, irritation, scratching; contact dermatitis

**There are three principles to be followed in the management of   
skin disorders:**

* Treatment should be simple and aimed at preserving or restoring the physiologic state of the skin. Topical therapy is preferred because medication can be delivered in optimal concentrations at the exact site where it is needed.
* If the condition the patient is suffering from makes the skin dry, then aim at making it more moist.
* If the condition the patient is suffering from makes the skin wet, then aim at making it drier.

**General Management of the Adult with Skin Disorders**Health education is of utmost importance in the management of skin problems. This is because most people associate dermatological diseases with poor skin hygiene. The kind of information that a patient with skin problem needs to have so as to facilitate better care is related to:

* Appropriate body hygiene
* Nutritional and metabolic requirements.Promote consumption of plenty of vitamin A,B,C,E,K; adequate proteins, and unsaturated fats
* Elimination pattern
* Avoidance of environmental hazards (sun, irritants, allergens and radiation). Protection from the sun especially for light skinned people and information on how some drugs cause photosensitivity e.g. antidysrhythmic drugs such as quinine, antihistamines, some antimicrobial agents, for example tetracycline and nalidixic acid, some diuretics, and oral hypoglycemic agents for example sulphonamides.
* Activity - exercise pattern; promote rest and adequate sleep
* Perception of unusual sensations
* Use of birth control hormones
* Medical check ups

**The general measures in the treatment are:**

* Use of phototherapy especially in the treatment of jaundice
* Radiation therapy for cutaneous malignancies
* Antibiotics for bacterial infections
* Corticosteroids, especially topically applied
* Antihistamines for hypersensitivity reactions
* Surgery by use of various techniques such as   
  lasers, curettage
* Wet dressings - for dry conditions of the skin
* Baths using appropriate solutions and general wound care

**PRURITUS**

* It is one of the most common skin problems
* The sensation of itching is a form of pain because the non myelinated C fibers carry both pain and itch perception.
* Itching is a protective response to irritating substances such as woolen clothing, soap or chemicals.
* It can be a symptom of systemic diseases
* It may follow drug hypersensitivity(antibiotics, aspirin, COCs, or blood reactions
* In the elderly it may be as a result of dry skin
* Heat or low humidity
* Psychologic factors
* Scratching causes the inflamed cells and nerve endings to release histamine which produce more pruritus and in turn a vicious cycle of itch-scratch.
* A person with pruritus may or may not have a rash. The itching is more severe at night
* The secondary effect includes excoriations, redness, wheals, open draining areas, infections and changes in pigmentation. Severe itching is debilitating/ disabling.

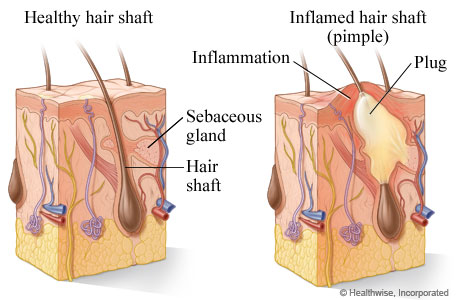
**Management**

* + Try find the underlying cause
  + Avoid the triggering factor
  + Cooling the skin with wet compresses or medicated baths helps constrict blood vessels
  + Antipruritics colloids such as oatmeal, starches, or bath oils relieve itching for patients with dry, flaky skin. Keep the skin lubricated and cool, use of tepid water, not hot for bathing and to pat the skin dry.
  + Topical corticosteroids acts as anti-inflammatory agents to decrease itching/ oral antihistamines(combination) ; dimenhydramine, terfenadine, tricyclic antidepressants
  + Behavior modification to break the habit of scratching
  + Finger nails should be trimmed and kept short.
  + Open wounds may require dressing and topical/ systemic antibiotics to prevent infection

**SECRETORY DISORDERS**

**These disorders arise from hyperactivity of glands such as sebaceous gland or changes in the body’s metabolism as it ages.**

**Seborrheic Dermatitis**

**[](DISORDERS%20OF%20THE%20INTEGUMENTARY%20SYSTEM.pptx)**

* Seborrhea is excessive production of sebum (secretion of sebaceous gland) in those areas where glands are normally found in large numbers; face, scalp, eyebrows, cheeks, axillae, ear, groin, gluteal creases and under the breast.
* The usual signs of SD are areas of pink to red inflamed skin with either dry or greasy flakes. In some cases, the affected areas may also itch or burn.

**Clinical manifestations**

Oily form appears moist and greasy, erythema, with or without scaling, small pustules.

Dry form consists of flaky desquamation of the scalp with a profuse amount of fine powdery scales- dandruffs. When scaling occurs it is often accompanied by pruritus-scratching-infection and excoriation.

* The disease has genetic predisposition and hormones; nutrition status, infection and emotional stress influence its course.
* seborrhea (oily skin)
* environment, i.e., temperature, humidity
* exposure to soaps, detergents and irritants that degrade the skin's barrier function
* androgens may play a role by increasing sebum output
* Parkinson's disease ;other neurological conditions such as, multiple sclerosis, and paralysis
* HIV infection
* mood disorders such as depression’ alcoholism
* stress
* malnutrition
* poor hygiene
* seasons, i.e., winter, summer
* work environment

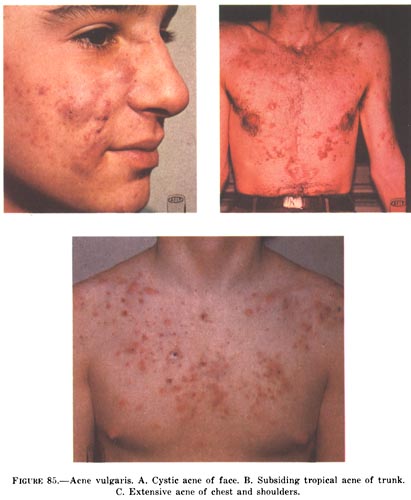
**Management**

There is no known cure, the aim is to control the disorder and allow the skin to repair itself.

* Gentle shampooing with a mild shampoo is helpful for infants with cradle cap.
* Mild corticosteroid creams and lotions, or anti-fungal topical such as ciclopirox or ketoconazole, may also be applied to the affected areas of skin.
* Adult patients may need to use a medicated shampoo and a stronger corticosteroid preparation. Non-prescription shampoos containing tar, zinc pyrithione, selenium sulfide, ketoconazole, and/or salicylic acid may be recommended by a dermatologist, or a prescription shampoo, cream gel, or foam may be given.

**Acne Vulgaris**

* Acne vulgaris, or acne, is a skin problem that starts when oil and dead skin cells clog up pores. A common follicular disorder affecting hair follicles most common on the face, neck, and upper trunk.

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* It is characterized by white heads (comedone), blackheads, blemishes, papule, pustules, pimples, or sebaceous cysts (the sebum gathers under the surface of the skin forming a lump these can rapture and cause infection).
* White heads are obstructive lesions formed from impacted lipids or oils and keratin that plug the dilated follicle. They are small minute follicular opening.
* Blackheads is an accumulation of lipid, bacterial and epithelial debris. They can rapture and result in an inflammatory reaction; seen as erthematous papules, inflammatory pustules and cysts.
* Deeper papules and cysts may result in scarring. These can occur on the face, neck, shoulders, back, or chest. Pimples that are large and deep are called [cystic lesions](javascript:popoffwindow('../../../glossary/aa655/aa65525/def.htm')). These can be painful if they get infected. They also can scar the skin.
* A common problem in adolescents and young adults. Both sexes are equally affected. The cause could be genetic, hormonal and bacterial.

**Management**

* The goal is to reduce bacterial colonies, decrease sebaceous gland activity, prevent follicles from becoming plugged, reduce inflammation, combat secondary infection, minimize scarring and eliminate factors that predispose the person to acne.
* Diet therapy; elimination of a specific food or food product associated with a flare up of acne; chocolate, fried foods, milk products, cola…
* Skin hygiene; Wash the skin once or twice a day with a gentle soap or acne wash. Try not to scrub or pick at your pimples. This can make them worse and can cause scars. The soaps can remove the excess oil. Adhere to prescribed therapy, avoid oil based creams.
* Topical therapy; creams containing benzoyl peroxide or salicylic acid they produce a rapid and sustained reduction of inflammatory lesions. They depress sebum production and lead to breakdown of the plugs. Also have antibacterial effect.
* Vitamin A acids and oral retinoids used to clear the keratin plugs from the pilosebaceous ducts.
* Topical antibiotics; suppress the growth of propionibacterium acnes; reduce papules and pustules; tetracycline, erythromycin.
* Systemic antibiotics
* Hormone therapy; estrogen suppresses sebum pdn and reduce skin oiliness
* Surgical treatment; comedo extraction, injection of corticopsteroids into the inflamed lesions, and I and D of large nodular cystic lesions.
* Promote self acceptance

**SKIN INFECTIONS**

**BACTERIAL INFECTIONS**

**Impetigo**



* A superficial infection of the skin caused by staphylococci, streptococci, or multiple bacteria.
* It affects mostly the exposed areas such as body, face, hands, neck and extremities.
* It is contagious and may spread to other parts of the patient’s skin or to others or by sharing items such as towels or combs.
* Common among children living in poor hygienic conditions. It is usually secondary to pediculosis, scabies, herpes simplex, insect bites, ill health, malnutrition and poor hygiene.
* Clinical manifestations;

Begins as a small, red Macule, thin walled vesicles that soon rapture and become covered with a loosely honey yellow crust. the vesicles are surrounded with inflamed tissue. If the crust is removed, the lesions are red and oozing underneath and will son form new crust. Itching and burning may accompany the rash.

It disappears without causing any lasting damage or scarring.It tends to grow and spread. Impetigo is contagious.

**Management**

* Systemic antibiotics; educes spread and treat the infection; penicillins(benzine, cloxacillin,dicloxacillin)
* Topical antibiotic if localized (neomycin, bacitracin); lesions are soaked or washed with soap solution to remove the central site of bacterial growth, crusts are removed. Also use antiseptic solution- povidine-iodine, chlorhexidine.
* Bathe with bactericidal soap
* Cleanliness and good hygiene help prevent the spread from one person to another
* Use of separate towel and washcloth.

**FOLLICUTIS, FURUNCLES, AND CARBUNCLES**

**Folliculitis** is a staphylococcal infection of the hair follicles. Single or multiple papules or pustules appear close to the hair follicles. Commonly seen in the beard area, women’s legs, axillae, trunk or buttocks. The hair shaft cannot pierce the skin and turns back into epidermis, causing infection and inflammation.

**Furuncles (boil)** are dermal forms of Folliculitis. An acute inflammation arising deep in one or more hair follicles and spread to the surrounding dermis. Are commonly on the neck, axillae and buttocks. It begins as a small pimple like area that progresses and deepens. Redness, tenderness, and swelling develop in the area, and within a few days the boil comes to a point of yellow or black color.

**Carbuncle** is more invasive furuncles that go deep into the subcutaneous tissue. It is an abscess of the skin and subcutaneous tissue. Patients may become ill with fever, pain and Leukocytosis/ septicemia Draining boils should be covered with a dressing.

**Management**

* Avoid rupturing or destroying the protective wall of indurations that localizes the infection to prevent the infection from spreading.
* Systemic antibiotic therapy such as cloxacillin, flucloxacillin, cephalosporins and erythromycin
* Treat the area with hot compresses which help hasten its resolution. At this point the boil can be opened with a sterile scalpel/extraction. The incision allows the boil to drain without risk of wall rupturing. Healing begins after the lesion has drained, it may leave scar that subsides after sometime. Keep the draining lesion covered with addressing.
* The surrounding skin is cleaned gently with antibacterial soap and antibacterial ointment.
* Stop shaving until Folliculitis resolves.
* Prevention; increase the patient resistance and provide a hygienic environment
* Patient should shower with antiseptic soap and shampoo

**CELLULITIS**

A diffuse, acute streptococcal or staphylococcal infection of the skin and subcutaneous tissue. It is common in the lower extremities. It may spread to the lymphatic system.

The skin is red, hot to touch, tender and swollen. Pitting edema may be present.

**Management**

* Tissue or blood cultures
* Systemic antibiotics; penicillin, erythromycin
* The affected extremities are immobilized and elevated to improve venous return and reduce edema.
* Wound care
* Cool compresses controls pain for open lesions and warm for intact and swollen skin and analgesics

**VIRAL SKIN INFECTIONS**

**Herpes Zoster**

* Also called shingles, is a viral infection that causes painful skin vesicles along the nerve distribution.
* Caused by varicella virus (varicella zoster.(causes also chicken pox)
* It is assumed that it follows a reactivation of a latent form of a virus occurring in patients with lowered immunity.
* Individuals who have not suffered from chickenpox may acquire the disease by exposure to an individual with herpes zoster.
* Clinical manifestations;
  + Begins with pain in nerve dermatome distribution areas or with GIT distress. The pain may be burning, stabbing, cutting, or aching.
  + Red rash of small fluid filled blisters/ vesicles eruptions radiate the entire dermatome area
  + Unilateral
  + Early vesicles contain serum, later become purulent, rapture and form crusts, are confined to a narrow region of the face or trunk; 20 infection may ensue
* Management
  + Relieve pain-analgesics
  + Prevent infection and scarring and reduce possibility of herpetic neuralgia
  + Systemic corticosteroids
  + Oral acyclovir/vidarabine; halts progression of the disease
  + Wet dressing/ lotions- helps dry the lesions and control pain
  + Tricyclic antidepressants
  + Nutrition- vitamin C
  + Antibiotics prevent secondary infection
  + Isolation (children, elderly and pregnant women)/ diversional activities
  + Refer to ophthalmologist when eyes are affected; keratitis, uveitis, ulceration and blindness
  + **Shingles or herpes zoster** has a vaccine called Zostavax. The vaccine is intended to prevent shingles or herpes zoster and other herpes zoster-related post herpetic neuralgia

**Herpes Simplex**

Fever blisters and cold sores are lesions occurring near the mouth/ lips that are caused by herpes simplex 1. The virus reside in the body with no effect until low immunity sets in; colds, emotional stress/ premenstrual; no treatment, antibiotics to prevent secondary infections

**WARTS**

* Warts are local growths in the skin that are caused by [human papillomavirus](http://www.medicinenet.com/script/main/art.asp?articlekey=3813) (HPV) infection of the keranocytes that causes them to grow quickly; plantar, genital warts. Are firm growths that usually have a rough surface. Will attack a specific area of the body and depending on the local area's immunity the wart may grow.
* They will be rough, round or oval, raised, light grey or yellow, silk like, and most commonly found to be the size of a soy bean.
* Warts on the skin may be passed to another person when that person touches the warts. It is also possible to get warts from using towels or other objects that were used by a person who has warts.
* Warts on the genitals are very contagious and can be passed to another person during oral, vaginal or anal sex. It is important not to have unprotected sex if you or your partner has warts on the genital area. In women, warts can grow on the cervix (inside the vagina), and a woman may. A Genital wart/ condylomata acuminate; are raised, rough, cauliflower like freshly growths on the vulva, perianal area, vaginal or rectal walls, penis, or cervix in moist area. Are sexually transmitted of human papillomavirus. Are usually multiple and painless.
* Factors increasing the rate of warts growth; pregnancy, heavy perspiration, poor hygiene and immunosuppression. It often accompanies other STIs and can be transmitted to infants during birth.

**Management**

* May resolve on their own
* Cryosurgery
* Laser surgery/ electrocautery
* Salicylic compounds Salicylic acid is a keratolytic medication, which means it dissolves the protein (keratin), which makes up most of both the wart and the thick layer of dead skin that often tops it.
* Surgical removal
* Contact tracing for treatment

**FUNGAL INFECTIONS**

* Easily treated
* Lesion scrapping with scalpel to remove the scales for microscopy and culture.
* Wood light fluorescence
* Fungal infections affects the keratinized layer of the skin of the hair, nails, skin and also may be systemic. They are rarely disabling
* Treatment use topical antifungal; griseofuvin, ketoconazole, miconazole/clotrimoxazole, Nystatin, amphoterici-B lotion
* Body hygiene; wash, shampooing hair, drying the skin thoroughly
* Avoidance of sharing bodily articles; combs, brushes, clothes, towels , beddings
* Risk of secondary infection

**Tinea Infections (Ringworms**)

1. **Tinea corporis the ringworm of the body.** Affects the exposed areas of the body (non hairy parts); face, neck, extremities

* Occur in both adults and children, common in rural areas, common in hot and humid climates
* Begins as a macule advancing to rings of vesicles with central clearing, lesions are in clusters with elevated border of small papules
* Intense itching

1. **Tinea cruris,** the ringworm of the groin; inner thigh, scrotum or labia and buttock area.

* Common among young joggers, obese, tight clothing, common among adult male
* Tend to recur
* Aggravated by tight clothes, nylon, excessive heat and humid weather, perspiration, physical activity
* Pruritus; begins as small red scaly patches later are circular plaques with elevated scaly or vesicular borders
* Pruritus; hypopigmented;well demarcated lesions; dryness and scaling; pustules present at margins; central clearing; secondary bacterial or Candida infection and maceration

1. **Tinea capitis,** the ringworm of the scalp.

* More common in children
* Highly contagious infection of the hair shaft, common of hair loss in children
* Lesions round patches of redness and scaling with small papules and pustules at the edges of the patches, hair once affected is brittle and breaks off causing temporal baldness
* Shampooing with medicated the n application of topical antifungal
* Hygiene measures

1. **Tinea pedis, / athlete’s foot;** superficial fungal infection of the feet and in between toes. Are inflamed vesicles (acute); scaly, dusky and reddened rash (chronic). Rare in children. Not transmitted by simple exposure.

* Prevention; keeping feet and in between toes dry
* Socks made of absorbent material
* If one perspires a lot to allow for better aeration then use open shoes
* Antifungal powders/ talcum powder
* Acute T. pedis soak in saline or potassium permanganate to remove crusts or debris then apply the antifungal

1. **Tinea unguium (onychomycosis)**

Ringworm of the nails (toe nails).it is associated with longstanding fungal infection of the feet.

* The nails become thickened, lusterless, debris accumulate discolored, subungual debris and ultimately nail plate crumbling and slow growth.
* Griseofulvin or amphotericin-B over prolonged time

**PARASITIC INFECTION**

* Common in patients from low socioeconomic backgrounds and in the elderly
* They have poor hygienic practices because they are unable to obtain materials for hygiene
* Spread by direct contact- sexual contact/ sharing article

**Pediculosis**

The infestation of the body, skin or hair by lice.

* Pediculosis humanus capitis (head louse), Pediculosis humanus corporis (body louse) and Phthirus pubis (pubic louse).
* These are ectoparasites that depend on the host for their nourishment, feeding on blood.
* Lice appear as small silvery, shiny, oval eggs along the back of the head, behind the ears, or in the hair or seams of clothing.
* When eggs hatch, the lice bite for food, which causes intense itching/ pruritus. Bite on the body may cause itching of hemorrhagic points. The scratching may lead to secondary infections; pustules, crusts, impetigo and furuncles. Long standing body lice may cause the skin to thicken, dry, scaly with dark pigmented areas such as the neck, trunk, thighs, and genital region.

**Prevention and management;**

* Medicated shampooing of the hair
* Fine toothed combs dipped in vinegar
* Picking of nits
* All infected articles/ clothing’s to be washed in hot water or dry cleaned
* Vacuum furniture
* Disinfect furniture and surfaces/combs/ brushes
* No sharing of bodily items good hygiene
* Sexual contact treatment
* Body or pubic lice infestation may be treated with lindane, permethrin or crotamiton.
* Calamine lotion on the whole body causes relief.

**Scabies**

* Infestation of the skin by the itch mite (Sarcoptes Scabiei). Found among the poor living under substandard hygienic conditions, sexually active, multiple partners, sharing of items...
* The mite burrows beneath the skin causing various lesions from papules, vesicles then scaling. The patient reports severe itching, especially at mite.
* On examination, small, raised burrows may be seen esp. with a magnifying glass and penlight.

**Management and prevention**

* Use warm, soapy bath/shower to remove scaling debris/ crusts; dry the skin thoroughly and apply scabicide; lindane/crotamiton lotions on the entire skin over 12-24 hrs; then wash off
* Use clean clothes and beddings
* Body, home hygiene.

Lindane; scabicide, pediculicide (chlorinated hydrocarbon); apply a thin layer for 12-24 hrs, wash off drug. If second application is needed, wait 1 week. Shampoo, rinse thoroughly and dry.

Permethrin; pediculocide

**INFLAMMATORY/ HYPERSENSITIVITY SKIN DISORDERS**

**Dermatitis**

* The inflammation of the skin, either caused by direct contact with an irritating substance, or an allergic reaction.
* A normal reaction to some primary allergens such as perfumes, soaps, cosmetics, plants, medications, some type of foods…..
* An allergic reaction occurs in patients who are sensitive to an allergic sensitizer; this involves the cell mediated reaction and a delayed hypersensitivity response. The T-lymphocytes become sensitized when the individual comes into contact with allergens, but exposure a second time evokes a faster reaction.
* The skin appears swollen, painful, itching, reddened and cracking.
* It is not contagious
* It is a chronic skin disease that runs in families it may accompany or precede asthma or hay fever. It may also be preceded by infections, strong emotions, extreme temperatures or irritants.
* The skin fails to hold moisture, becomes dry, then inflamed, itchy and often infected.

**Contact dermatitis**; this is an inflammatory reaction of the skin to physical, chemical or biological agents. Adults are most affected

* Skin eruptions occurs when the causative agent contacts the skin.
* This causes itching, burning and erythema, followed by edema, papule, and vesicles and oozing. There is crusting, drying, fissuring and peeling.
* Repeated reactions or continual scratching causes lichenification ( thickening) and pigmentation. Secondary infection may occur.

**Atopic dermatitis/eczema;** this occurs in persons with genetic predisposition for sensititivity to certain allergens such as hay, pollen, insects, foods among others.

It usually begins in infancy and varies in severity during childhood and adolescence. It begins as **infantile eczema**, producing acute lesions on the face, head and other sites. During childhood and adolescence, the lesions tend to affect the inner elbows, wrists, back of the knees and neck. Most will enter into permanent remission of the disease when they get older, although their skin remains dry an easily irritated.

**Management**

* Identification of irritants
* Avoidance of irritants; wash hands after exposure; wearing protective wears
* Use cold compressors to soothe and relieve inflammation
* Hydration of skin through soaking the affected area in lukewarm water, drying and applying moisturizing creams, ointments, lotions and bath oils.
* Use neutral soap for cleansing
* Topical steroids during exacerbations
* Antihistamines to reduce tendency to itch

**PSORIASIS**

This is a chronic, non infectious, inflammatory disease of rapid epidermal cell production without cellular maturation of the skin. The normal progression of a cell from basal cell layer at the bottom of the epidermis to the stratum corneum occurs in 26 to 28 days; in psoriasis this occurs in 3-4 days. Due to this rapid cell passage to the upper layer of the skin, the normal maturation cannot occur and does not allow the normal protective layers of the skin to form.

It is genetically determined; it can also be triggered by stress, climate changes, streptococcal or HIV infection, physical illness or some drugs such as antimalarial, propranolol, lithium among others.

It affects the skin and joints, commonly causing red scaly patches on the skin (psoriatic plaques- areas of inflammation and excessive skin production; accumulated skin takes a silvery white appearance). If scrapped away the dark red base of the lesion is exposed, producing multiple bleeding points. The patches are moist and may or may not itch. Usually the lesions enlarge slowly, after many months they may coalesce, forming extensive irregularly shaped patches. They mostly affect the scalp, elbow, knees, and lower part of the back, sacrum and genitalia.

**Management**

* No cure thus the goal is to control the lesions by slowing epidermal skin turnover
* Moisturizers/ bath solutions help sooth the affected skin and reduce the dryness
* Medicated creams and ointments applied directly to the plaques help reduce inflammation, remove build up scales, reduce skin turn over and clear affected plaques; ointment and creams containing coal tar, dithranol, salicylic acid, corticosteroids, vitamin D3/ calcipotriol and retinoids are used. They help normalize skin cell production and reduce inflammation
* Phototherapy help to clear or improve psoriasisation
* When non responsive to treatment; methotrexate/ cyclosporine is used to inhibit DNA synthesis
* Etretinate an antipsoriatic retinoid
* Antibiotics incase of infection
* The nurse should provide emotional support, teach patient to avoid scraping or picking, skin hygiene and hydration, keep skin lubricated (oils, creams, petroleum jelly); avoid sun; use mild soap; minimize stress and prevent infection.

**AUTOIMMUNE DISORDER**

**TOXIC EPIDERMAL NECROLYSIS**

A severe skin reaction to drug ingestion such as barbiturates, antibiotics (sulfonamides,penicillin, quinolones), hydantoins, allopurinol and convulsants; or viral infection. Its cause is linked to the immune system. It causes cell death throughout the epidermis thus detachment of the epidermis from the lower layers of the skin.

It starts with burning sensations in the eyes, skin tenderness, fever, headache, myalgias, malaise and joint pains. Rapid onset of a rash that involves (skin erythema and sloughing), painful and spreads quickly, epidermis peels off the skin underneath appears scalded; the mouth may become blistered and eroded. The major cause of death is sepsis from infection of the skin and mucosal surfaces. If the skin is lost through dermis, scarring occurs.

**Management**

* Control of fluid and electrolyte balance
* Oral mucosa care with mouth antimicrobial washes and water
* Eye care
* Medication withdrawn immediately
* Surgical debridement is recommended
* Apply protective bandages
* Isolation to prevent infection
* Pain relief
* Emotional support to allay anxiety
* To prevent this disorder all medications should have a test dose

**PEMPHIGUS VULGARIS**

This is an autoimmune disease that causes blistering (bullae) in the epidermis. These have a very thin skin covering and breaks easily, leaving large denuded/ eroded areas. The lesions are painful and open, bleed easily and heal slowly. The fluid from the blisters is serum and foul smells. Secondary infection is common. Patients have blisters in the mouth, anus, vagina, pharynx and larynyx.

**Management**

The goal is to control the disease, prevent loss of serum, prevent development of secondary infection and promote re-epithelialization of the skin.

* Corticosteroids are given with immunosuppressive drugs and plasmapharesis could be done to remove and reinfurse with plasma cells to reduce the load of antibodies.
* The nurse’s role is to monitor fluid and electrolyte balance; relieve oral discomforts that interfere with nutrition.
* Keeping the skin clean, monitoring vital signs and giving prophylactic antibiotics to control infection.
* Adherence to standard precautions and allaying anxiety.

**PIGMENT DISORDERS**

**MOLE (PIGMENTED NEVUS)**

A dark sometimes raised area on the skin caused by dense, active group of nevus cells. Some have hair growing in them. May be present at birth or may develop later. Congenital moles could be removed because they have a higher incidence of malignant change. Moles that show change in color, size, itch or develop borders should also be removed to determine if malignant changes have occurred (malignant melanoma).

**VITILIGO**

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* A condition characterized by destruction of melanocytes in limited or extensive skin areas.
* It causes more concerns in the dark skinned persons because they are readily visible.
* A disorder consisting of areas of macular depigmentation, commonly on extensor aspects of extremities, on the face or neck, and in skin folds.
* Age of onset is often in young adulthood and the condition tends to progress gradually with lesions enlarging and extending until a [quiescent](http://en.wikipedia.org/wiki/Quiescent) state is reached.
* The pale areas may repigment spontaneously, or on exposure to sunlight.
* Vitiligo may also be caused by [stress](http://en.wikipedia.org/wiki/Stress_%28medicine%29) that affects the [immune system](http://en.wikipedia.org/wiki/Immune_system), leading the body to react and start eliminating skin pigment. Vitiligo seems to be somewhat more common in people with certain autoimmune diseases. These autoimmune diseases include [hyperthyroidism](http://www.medicinenet.com/script/main/art.asp?articlekey=391) (an overactive thyroid gland), adrenocortical insufficiency (the adrenal gland does not produce enough of the hormone called corticosteroid), [alopecia areata](http://www.medicinenet.com/script/main/art.asp?articlekey=9294) (patches of baldness), diabetes and [pernicious anemia](http://www.medicinenet.com/script/main/art.asp?articlekey=1966) (a low level of red blood cells caused by the failure of the body to absorb vitamin B12). Vitiligo may also be hereditary; that is, it can run in families
* Vitiligo on the [scalp](http://en.wikipedia.org/wiki/Scalp) may affect the color of the [hair](http://en.wikipedia.org/wiki/Hair) (though not always), leaving white patches or streaks. It will similarly affect facial and body hair.
* Some symptoms are:white patches on the skin, including the face, limbs, torso, and groin ;purple or golden brown patches on [mucous membranes](http://en.wikipedia.org/wiki/Mucous_membrane) and around the eyes, nostrils, and mouth ;[uveitis](http://en.wikipedia.org/wiki/Uveitis);premature graying of hair and [sunsensitivity](http://en.wikipedia.org/wiki/Photodermatitis)

**Management**

* **Topical steroid therapy**—steroid creams may be helpful in repigmenting (returning the color to) white patches, particularly if they are applied in the initial stages of the disease. They must be applied to the white patches on the skin for at least 3 months before seeing any results
* **Psoralen photochemotherapy**—also known as psoralen and ultraviolet A therapy, or PUVA therapy, this is probably the most effective treatment for Vitiligo. The goal of PUVA therapy is to repigment the white patches. Psoralen is a drug that contains chemicals that react with ultraviolet light to cause darkening of the skin.
* **Medications**; Patients apply the drug monobenzylether of hydroquinone twice a day to pigmented areas until they match the already-depigmented areas. One must avoid direct skin-to-skin contact with other people for at least 2 hours after applying the drug, as transfer of the drug may cause depigmentation of the other person's skin. Depigmentation tends to be permanent and is not easily reversed and the client becomes unusually sensitive to sunlight.
* **Autologous skin grafts**—the doctor removes skin from one area of the body and attaches it to another area. The doctor removes sections of the normal, pigmented skin (donor sites) and places them on the depigmented areas (recipient sites).
* **Sunscreens**—people who have vitiligo, particularly those with fair skin, should minimize sun exposure and use a sunscreen that provides protection from both the UVA and UVB forms of ultraviolet light. Sunscreen helps protect the skin from sunburn and long-term damage.
* **Cosmetics**—some patients with vitiligo cover depigmented patches with stains, makeup, or self-tanning lotions. Dermablend, Lydia O'Leary, Clinique, Fashion Flair, Vitadye, and Chromelin offer makeup or dyes that you may find helpful for covering up depigmented patches. Selftanning lotions have an advantage over makeup in that the color will last for several days and will not come off with washing.
* **Counseling and support groups**—many people with vitiligo find it helpful to get counseling from a mental health professional.

**Chloasma**

1. A patchy discoloration of the face usually occurring in pregnancy or with use of oral contraceptives. Disappears after pregnancy or with discontinued use of contraceptives. If it occurs in the absence of the two factors it may be an indication of systemic disease.

**Albinism** An inherited congenital disorder in which the melanocytes do not produce melanin. Patients have very pale skin, white hair, light blue eyes or pinkish eyes. It has no cure. Protection from sunlight and protection of the eyes from bright lights is recommended.

**CANCERS OF THE SKIN**

The most common warning sign of skin cancer is a change in the appearance of the skin, such as a new growth or a sore that will not heal.The term "skin cancer" refers to three different conditions. From the least to the most dangerous, they are:

* [basal cell carcinoma](http://www.medicinenet.com/script/main/art.asp?articlekey=2437) (or basal cell carcinoma epithelioma)
* [squamous cell carcinoma](http://www.medicinenet.com/script/main/art.asp?articlekey=5541) (the first stage of which is called [actinic keratosis](http://www.medicinenet.com/script/main/art.asp?articlekey=18893))
* [melanoma](http://www.medicinenet.com/script/main/art.asp?articlekey=413)

**Risk factors to developing skin cancers**

1. Intense exposure to sunlight; sun damage is cumulative
2. therapeutic radiation
3. Increase in age
4. Dark skinned are less susceptible
5. Incidence increase with proximity to the equator or high altitude
6. Albinism
7. Outdoor workers
8. Intense exposure to chemicals such as coal, tar, oils, paraffin and arsenic nitrates
9. Scars from severe burns/ long time ulcerations of the lower extremities or severe blisters or sunburns
10. Immunosuppression
11. Genetic factors
12. **Basal cell carcinoma**

Arises from the basal layer of the epidermis or hair follicle. It is the most common cancer of skin and appears on the sun exposed areas of the skin. Small, waxy nodules with pearly borders manifests. They rarely metastasis but recurrence is common. These cancers almost never spread (metastasize) to other parts of the body. They can, however, cause damage by growing and invading surrounding tissue such as disfiguring the nose, eyes among others.

1. **Squamous cell carcinoma**

This is less common but more aggressive. It also appears on the sun exposed areas, preexisting lesions or on mucous membranes. The incidence is more among men. It is invasive and metastasis. Appears as a rough, thickened and scaly tumor, the borders may widen and is ill defined. They grow quickly and tend to ulcerate and bleed**.**

1. **Malignant melanoma**

This is the most dangerous since it metastasizes quickly throughout all the body systems. It arises from the melanocytes of the epidermis layer. It appears at an early age and affects both ages equally.

Most often, the first sign of melanoma is a change in the size, shape, color, or feel of an existing mole. Most melanomas have a black or blue-black area. Melanoma also may appear as a new mole. Melanoma can be cured if it is diagnosed and treated when the tumor is thin and has not deeply invaded the skin. However, if a melanoma is not removed at its early stages, cancer cells may grow downward from the skin surface and invade healthy tissue. When a melanoma becomes thick and deep, the disease often spreads to other parts of the body and is difficult to control.

**Management**

* Early detection is important through biopsy study
* curettage and dessication
* Surgical excision to remove the tumor, with deep growths skin grafting may be required. Electrocautery or cryosurgery
* Chemotherapy
* Radiotherapy
* Analgesics for pain relief
* Emotional support and counseling

**Prevention of skin cancers**

* Avoid exposure to the midday sun (from 10 a.m. to 4 p.m.) whenever possible. When your shadow is shorter than you are, remember to protect yourself from the sun.
* If you must be outside, wear long sleeves, long pants, and a hat with a wide brim.
* Protect yourself from UV radiation that can penetrate light clothing, windshields, and windows.
* Protect yourself from UV radiation reflected by sand, water, snow, and ice.
* Help protect your skin by using a lotion, cream, or gel that contains sunscreen these reflect, absorb, and/or scatter both types of ultraviolet radiation.
* Wear sunglasses that have UV-absorbing lenses. Sunglasses can protect both the eyes and the skin around the eyes.
* Medical examination

**HAIR DISORDERS**

Hair disorders include excessive hairiness (hirsutism and hypertrichosis), hair loss (alopecia), and ingrown beard hairs (pseudofolliculitis barbae). Most hair disorders are not serious or life threatening, but they are often perceived as major cosmetic issues that require treatment.

**ALOPECIA**

**Alopecia is the loss** of hair on the head or on any other part of the body.Hair loss that occurs on the head is generally called baldness. Hair loss is often of great concern to people for cosmetic reasons, but it can also be a sign of a body-wide (systemic) illness.

Causes

Hair grows in cycles. Each cycle consists of a long growing phase (anagen), a brief transitional phase (catagen), and a short resting phase (telogen). At the end of the resting phase, the hair falls out, and the cycle begins again as a new hair starts growing in the follicle. Normally, about 100 scalp hairs reach the end of resting phase each day and fall out. When many more than 100 hairs/day go into resting phase, hair loss (telogen effluvium) may occur. A disruption of the growing phase causing loss of hairs is called anagen effluvium.

The **most common cause** of hair loss is

* Androgenetic alopecia; ***:*** This form of alopecia eventually affects about half of all men (male-pattern hair loss) and women (female-pattern hair loss). The hormone dihydrotestosterone plays a major role, along with heredity. The hair loss can begin at any age, even during the teenage years.

**Other common causes** of hair loss are

* Drugs (including chemotherapeutic agents)
* Infections (including fungal infection)
* Systemic illnesses (particularly those that cause high fever, systemic lupus erythematosus, endocrine disorders, and nutritional deficiencies)

Other factors include heredity, aging, and local skin conditions.

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| |  | | --- | | Losing Hair | | Losing Hair | | In men, hair is usually first lost at the forehead or on the top of the head toward the back. This is called male-pattern hair loss.  In women, hair is usually first lost on the top of the head. Typically, the hair thins rather than is completely lost, and the hairline stays intact. This pattern is called female-pattern hair loss. | | | |

Treatment

* Male-pattern and female-pattern hair loss can sometimes be treated effectively with drugs. Minoxidil ; may prevent further hair loss and increase hair growth when applied directly to the scalp twice a day.
* Finasteride ; works by blocking the effects of male hormones on the hair follicles and is taken by mouth daily. Improvement may occur after either of these drugs is taken for several months. The most important effect of these drugs may be to prevent further hair loss. The effects last only as long as the drugs are taken. It is not used for women who have hair loss.
* Hair transplantation is a more permanent solution, in which hair follicles are removed from one part of the scalp and transplanted to the bald area. In a newer hair transplantation technique, only one or two hairs are transplanted at a time. Although this technique is more time consuming, it does not require removal of large plugs of skin and allows the implants to be oriented in the same direction as the natural hair.
* A person undergoing chemotherapy should consult a wig maker even before therapy begins so that an appropriate wig can be ready when needed.
* For small bald patches, corticosteroids are typically injected under the skin of the bald patch, and minoxidil may be applied topically as well. For larger patches, corticosteroids are sometimes taken by mouth. Another treatment for alopecia areata involves applying irritating chemicals, such as anthralin or other substances to the scalp to induce a mild allergic reaction or irritation. The irritation sometimes promotes hair growth.
* Scarring alopecia is particularly difficult to treat. When possible, the cause of the scarring is treated, but after an area is fully scarred, hair will not grow back.

**HIRSUTISM**

**Hirsutism** is excessive thick or dark hair in women in locations on the body where men usually have more hair, such as the mustache and beard areas, central chest, shoulders, lower abdomen, back, and inner thighs. Whether hair growth is considered excessive may differ depending on ethnic background, cultural interpretation, and individual opinion. Men vary significantly in amount of body hair, but they rarely seek medical evaluation for large amounts of body hair.

**Hypertrichosis** is simply an increase in the amount of hair growth anywhere on the body in men and women.. Hypertrichosis may be generalized or localized.

Causes

A person's age, sex, racial and ethnic origin, as well as hereditary factors, determine the amount of body hair. Rarely, excess hair is present at birth because of a hereditary disorder. Usually, excess hair develops later in life.

Hirsutism: Hirsutism most often is the result of

* A familial tendency, particularly among people of Mediterranean or Middle Eastern ancestry
* Polycystic ovary syndrome

Sometimes, excess hair is caused by tumors or other disorders of the pituitary gland, adrenal glands, or ovaries that cause levels of male hormones (androgens) to increase abnormally. Anabolic steroids, which may be abused by female athletes and bodybuilders, are androgens. Excess androgens in women also may cause enlarged muscles, acne, a deepened voice, male-pattern hair loss, and an enlarged clitoris. Menstrual periods may become irregular or stop. These changes are called virilization.

Hypertrichosis: Hypertrichosis is usually caused by a body-wide (systemic) illness or a drug. Illnesses include the following:

* Dermatomyositis
* General systemic illness (such as advanced HIV infection)
* Hypothyroidism or other endocrine disorders
* Malnutrition
* Porphyria cutanea tarda
* Some central nervous system disorders

Treatment

* Doctors treat any specific cause of excess hair. Drugs that may be the cause are stopped or changed if possible. Treatment for the excess hair itself is unnecessary unless people find the hair cosmetically objectionable.
* Hormonal Treatments: When androgen excess is the cause, two types of hormonal drugs can be used. Oral contraceptives reduce ovarian androgen production.Antiandrogenic drugs block the effects of testosterone, such as spironolactone , flutamide, and finasteride , may cause birth defects, so they are usually used together with oral contraceptives.
* Hair removal methods may be temporary or permanent.
* Temporary hair removal methods include shaving or clipping the hair. Shaving does not increase the thickness of hair or rate of hair growth. Other common temporary hair removal measures include plucking, waxing, and use of a depilatory (a liquid or cream preparation), which chemically removes hair at the skin surface.
* Permanent hair removal requires that the hair follicles be destroyed. Electrolysis, in which an electric needle is inserted into each hair follicle, destroys the hair follicles by heat and electrical current. Multiple treatments are often necessary, and many follicles often survive the procedure, allowing hair regrowth. Laser treatments also may permanently reduce unwanted hair . However, while multiple laser treatments may permanently destroy many hair follicles, some hair eventually grows back.
* As an alternative to hair removal, eflornithine cream substantially slows hair growth in many people and may decrease the need to manually remove hair. Hair bleach may mask excess hair by lightening it, rendering it less noticeable.

**PSEUDOFOLLICULITIS BARBAE**

Pseudofolliculitis barbae (ingrown beard hairs) is inflammation caused by hairs that curl so that the tips puncture the skin.

This hair disorder most often occurs with the curly hairs of the beard, especially in black men. Each ingrown hair results in a tiny, mildly painful pimple with a barely visible hair curling into the center.

* Treatment involves teasing the tips of any ingrown hairs out of the skin with the point of a needle or sharp scalpel. If there is much inflammation, doctors sometimes give hydrocortisone or antibiotic cream.
* The best preventive treatment is to stop shaving and grow the beard. When the hairs are longer, they do not curl back and puncture the skin.
* A man who does not want a beard can use a depilatory (a liquid or cream preparation that removes unwanted hair), although it often irritates the skin. Also, hair can be permanently removed with electrolysis or with laser treatment. People who must shave should wet the beard first and should shave in the same direction in which the hair grows. People should avoid shaving closely with multiple razor strokes.
* Applying eflornithine cream may help by slowing hair growth.