Dermatology

For 5th stage

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- Physical examination
- Symptoms and definitions
- Lesion identification
- Specific skin lesions

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See photos @ WWW.muhadharaty.com/lecture/3472
Part1: Dermatological History

Identifying data:

- Age ➔ some lesions or diseases occur in specific age group, infectious diseases are more common in children but malignancy gets more common with advancing age.
- Sex ➔ some conditions are more common in men or more common in women.
- Race and country of origin.
- Current residence ➔ important in an infectious outbreak.
- Occupation.

History of presenting lesion:

- Ask when, where and how the eruption or lesions began, about the initial appearance and what changes have occurred with time.
- Note associated features, such as itch and systemic upset, together with aggravating and relieving factors.
- Use SOCRATES to remember what to ask.

"Seven key questions"

- When? Onset
- Where? Site of onset
- Does it itch or hurt? Symptoms
- How has it spread (pattern of spread)? Evolution
- How have individual lesions changed? Evolution
- Provocative factors? Heat, cold, sun, exercise, travel history, drug ingestion, pregnancy, season
- Previous treatment(s)? Topical and systemic.

Duration:

- Onset ➔ sudden vs. gradual. Establish whether this is an acute presentation or an ongoing chronic problem.
- Previous episodes ➔ example: photodermatoses tend to recur every spring with the onset of good weather.
- Change ➔ fluctuation vs. persistence. Consider variation in severity - eg, occupational contact allergic dermatitis may improve when on holiday. Urticaria may be quite dynamic in its presentation but others are much more static.
Location:

- As well as skin, remember mucous membranes. The site of lesions is important. Eczema tends to be on flexural surfaces (in adults and older children) whilst psoriasis tends to be on extensor parts.
- Lesions may have a specific distribution - around the genitals, in sweaty regions or sun-exposed areas. Establish whether the lesion has spread.

Provoking or relieving factors:

- Example: heat and cold may be either aggravating or relieving factors, especially with urticaria; repeated drug exposures with fixed drug eruptions.

Associated symptoms:

- Itch → some lesions are renowned for being itchy and others for not being so but this can be misleading. Psoriasis is said to be non-itchy but there may be pruritus in the genital area.
- Tenderness → inflammation is often tender.
- Bleeding or discharge → bleeding may indicate malignancy and discharge may occur with an infected lesion.
- Systemic symptoms → such as pyrexia, malaise, joint pain and swelling or weight loss. Some skin lesions are markers for underlying malignancy.

Response to treatment:

- Both patient and doctor initiated.
- A number of treatments may have been tried prior to consultation example antiseptic lotions, calamine, antihistamines, over-the-counter (OTC) steroid or antifungal creams, herbal remedies or medication prescribed for another family member or friend.
- Complementary medicines such as Chinese herbs may have unknown ingredients and potency. Partially treated lesions are the most difficult to diagnose.

Systemic review:

- Psoriasis ask about arthritis.
- Verilgu ask about thyroid symptoms.
- Eczema ask about asthma.
Past medical history:

- Is often relevant - eg, diabetes may suggest necrobiosis lipoidica.
- Any skin lesion or systemic diseases like DM may cause ulceration.
- Atopic symptoms (hay fever, asthma, childhood eczema).
- Surgical history.

Family history:

- May indicate a familial trend for the disease.
- Other family members will have been given a diagnosis.
- A genetic predisposition is important in many diseases, including eczema and psoriasis.
- Alternatively, concurrent and recent affliction of other members of the family suggests a contagious or environmental aetiology.
- Familial atypical mole and melanoma (FAMM) syndrome should be considered where several family members have multiple melanocytic lesions, some atypical, with at least one case of melanoma in the family.
- Is there a family history of malignant melanoma or other skin cancer? A family history is found in 10% of patients with malignant melanoma.
- Psoriasis and atopic eczema also have strongly inherited traits.

Occupation, hobbies and pastimes:

- Where there may be exposure to chemicals or a very hot environment.
- Chemicals encountered at work or leisure may cause contact dermatitis.
- Suspect industrial dermatitis if the eruption improves when the patient is away from work.

Travel history:

- Particularly to exotic locations, may increase the risk of rarer tropical diseases.
- Consider cumulative exposure to sunlight or sunbeds and history of sunburn, as these increase the risk of skin malignancies.
- Foreign travel gives exposure to tropical infections or sunlight that could cause a photosensitive eruption.

Drug history:

- Prescribed, over-the-counter or other therapies.
- Drug eruptions can be highly variable.
- Illegal drug use may have dermatological manifestations - eg, anabolic steroids and acne.
• Allergies → example fixed drug eruption occur as a result of drug allergy.
• Tetracycline → yellowish of skin, nail, teeth.
• Medical disorders that may involve the skin → Stevens–Johnson syndrome caused by drugs or have cutaneous features, and prescribed or self-medicated drugs, including creams and cosmetics.

Personal history:

• Does the patient have a fair skin type, i.e. does he burn easily and tan poorly or not at all? Skin cancers are commoner with a pale skin.
• Alcohol use has an association with psoriasis.
• Smoking increases the risk of some malignancies and has a close association with palmoplantar pustular psoriasis.
• Sexual history → History of risk factors of HIV: blood transfusions, IV drugs, sexually active, multiple partners, sexually transmitted disease.

Psychological and social sequelae:

• People with severe, chronic, visible and disfiguring skin disease may suffer from anxiety, depression and social isolation, these issues require exploration.
• Psychological problems may also cause skin disease - eg, dermatitis artefacta.
Part 2: Physical examination

General settings:
- Ensure a warm, well-lit, private place is available.
- Offer a chaperone; record the chaperone’s name or if the patient declines the offer.
- Note whether the patient looks ill or well. Note whether there any clues as to systemic illness.
- Wipe off any creams, make-up or anything else that may obscure the true nature of the lesions.
- For widespread lesions ask the patient to undress to his underclothes.
- Use a hand lens to examine individual lesions.
- A dermoscope, using a ×10 magnification illuminated lens system, is helpful for pigmented lesions.

Examine the lesion:
1- Inspection:
- Note the position of lesions:
  - Consider whether the distribution is symmetrical or asymmetrical. (Symmetrical distribution suggests an endogenous condition such as psoriasis, whilst asymmetry is more typical of an exogenous condition such as tinea.) Some rashes have a characteristic distribution such as with shingles.
  - Note whether flexor or extensor surfaces are involved.
  - Establish whether there are areas of friction or pressure.
  - Note whether sweaty regions are involved.
  - Note whether exposed regions are involved.
  - Consider whether sexual contact is a factor (consider genital lesions but also the lower abdomen and upper thighs).
- Note the size of the lesion. Measure for accuracy.
- Establish whether it is single or multiple.
- If a rash exists, consider its morphology. Are individual lesions:
  - Macular?
  - Papular?
  - Vesicular?
  - Crusty?
  - Urticarial?
- Note colour, shape, regularity or irregularity. Note whether areas of inflammation around it exist. Consider whether the edge is clearly demarcated or poorly defined.
- The use of dermatoscopy may aid diagnosis beyond naked eye examination but should only be used by those with appropriate training.

2- Palpation:
- Tenderness.
- Warmth.
- Site within the skin.
- Thickness.
- Consistency (hard, soft, firm, fluctuant).
- Note whether firm pressure leads to blanching.
- Note whether it is friable and whether it bleeds easily.
- Scaling - disorders of the epidermis may produce scale, which may be visible, or gentle scratching of the skin may make it apparent.
- If appropriate, look to see if there is any evidence of infestation - eg, scabies' burrows.
- Note hair in the local skin and on the head.
- Look at the nails.
- Note whether mucous membranes are involved. Examine the genitals where appropriate.
- Note regional lymph nodes. This may be relevant for infectious or malignant lesions.

**Moles:**
- If any pigmented lesion (mole) has recently changed, note the distribution of pigment within it and whether it is inflamed or ulcerated.
- Malignant melanoma commonly shows variation in pigmentation and has an irregular or diffuse edge.
- Remember ‘ABCDE’ – Asymmetry, Border irregular, Color irregular and Diameter >6 mm, Enlargement.
- Examine the entire skin as abnormal moles are more common in patients with a malignant melanoma.

**Look at:**
- Nails on hands and feet.
- Different areas of the scalp (ask the patient to point to the problem to localise, then part the patient’s hair to see).
- Mucous membranes.
- Examine local lymph nodes in any patient with a potential squamous cell cancer, malignant melanoma or cutaneous T-cell lymphoma.
- Take a skin scraping for microscopy and culture if you suspect fungal infection.

**Findings of general examination:**
1- General observation:
   - Distribution of rash ➔
     - Symmetrical — extensor, e.g. psoriasis — flexor, e.g. eczema
     - Asymmetrical, e.g. granuloma annulare
     - Facial, e.g. rosacea, seborrhoeic dermatitis
     - Localized, e.g. morphoea
     - Widespread, e.g. drug eruption
- Dermatomal, e.g. herpes zoster
- Truncal, e.g. guttate psoriasis
- Sun-exposed, e.g. drugs or SLE

- Morphology of lesions ➔ macules, papules, vesicles, pustules, bullae, nodules, plaques.
- Configuration of lesions ➔ discrete, confluent, linear, grouped, annular.

2- Hands and fingernails:
- Pitting in psoriasis and alopecia areata
- Ridging in eczema
- Fungal infection
- Finger web burrows in scabies

3- Face and scalp:
- Hair loss
- Scalp changes, e.g. psoriasis
- ‘Butterfly’ rash, e.g. SLE
- Central or hairline distribution
- Conjunctivitis/blepharitis in rosacea

4- Mouth:
- Lichen planus
- Herpes simplex
- Pemphigus

5- Genitalia:
- Psoriasis
- Intertrigo
- Infestation
- Lichen sclerosus

6- Feet and nails:
- Pedal pulses
- Tinea pedis
- Toenail changes, e.g. fungal infection, psoriasis

7- Joints:
- Psoriatic arthritis
- Connective tissue disease

The Skin Exam: "from: LearnDerm by visualdx.com"

- Preparation ➔ First, make sure the patient is in a gown and there is adequate light in the room.
- Examination ➔ Carefully examine the entire skin surface, including the scalp, mouth, eyes, nails, and genitals. You may find lesions related to the presenting complaint or discover unrelated but important findings.
- Palpation ➔ Palpate lesions to determine whether they are flat or elevated.
- Texture ➔ Use a magnifying hand lens if necessary; this can help you determine the texture of a lesion and evaluate for the presence of scale.
- Scale ➔ A scalpel blade can be used to gently scrape a lesion to determine if subtle scale is present. Scale scraped onto a glass slide can be microscopically examined if a fungal infection is suspected.
- Size ➔ Measure solitary lesions and record measurements in the patient record. Follow over time.
- Diascopy ➔ Differentiate between a blanching erythema and non-blanching purpura by pressing with a glass slide, a procedure called diascopy.

**Weighted seven-point scale for malignant lesions:**
- Major features of the lesions (score two points each):
  - Change in size.
  - Irregular shape.
  - Irregular color.
- Minor features of the lesions (score one point each):
  - Largest diameter 7 mm or more.
  - Inflammation.
  - Oozing.
  - Change in sensation.
- Suspicion is greater for lesions scoring three points or more but, if there are strong concerns, any one feature is sufficient to prompt urgent referral.

**Investigations:**
- Swabs ➔ These can be taken for bacteriology and virology.
- Skin scrapings ➔ Skin scrapings for microscopy, Nail clippings, Hair root samples.
- Wood's light ➔ This is an ultraviolet light (wavelength 360-365 nm) used in a darkened room. It should be held at least 10-15 cm from the skin and time should be allowed for dark accommodation to occur. When shone on some fungal infections, the light causes fluorescence.
- Skin biopsy ➔ may be used to provide a histopathological specimen to aid diagnosis and guide further management. Types (Shave and punch biopsy, Punch biopsies, Excisional biopsies) Biopsy can also be used for immunofluorescence and culture.
- Patch and skin prick tests ➔ These are used for the investigation of contact allergic dermatitis and suspected latex and other allergies.
- Other tests ➔ Blood tests (hematology and biochemistry), Serology, Microscopy, fungal culture, Doppler studies, Photography.
Part 3: Symptoms and definitions

Terms used to describe skin lesions:

Primary skin lesions:
- **Macule** ➔ A localized area of color or textural change in the skin.
- **Papule** ➔ A solid elevation of skin <5 mm in diameter.
- **Plaque** ➔ A palpable elevation of skin >2 cm diameter and <5 mm in height.
- **Vesicle** ➔ A clear, fluid-filled blister <5 mm in diameter.
- **Bulla** ➔ A fluid-filled blister >5 mm in diameter.
- **Pustule** ➔ A visible collection of pus in a blister.
- **Abscess** ➔ A localized collection of pus.
- **Wheal** ➔ A transitory, compressible papule or plaque of dermal edema, red or white, indicating urticarial.
- **Angioedema** ➔ A diffuse swelling of edema that extend to the subcutaneous tissue.
- **Nodule** ➔ A solid elevation of skin >5 mm in diameter.
- **Papilloma** ➔ A nipple-like projection from the surface of the skin.
- **Purpura** ➔ Extravasation of blood resulting in redness of skin or mucous membranes.
- **Ecchymosis** ➔ A macular red or purple haemorrhage, >2 mm in diameter, in skin or mucous membrane.
- **Hematoma:** a swelling form gross bleeding.
- **Burrow** ➔ A tunnel in epidermis caused by a parasite, e.g. *Acarus* in scabies.
- **Comedo** ➔ A plug of sebum and keratin wedged in a dilated pilosebaceous orifice on the face.
- **Telangiectasia** ➔ Dilated dermal blood vessels resulting in a visible lesion.

Secondary skin lesions:
- **Scale** ➔ Accumulation of easily detached fragments of thickened keratin.
- **Crust** ➔ Dried exudate, e.g. serum, blood or pus, on the skin surface.
- **Ulcer** ➔ A circumscribed area of skin loss extending into the dermis.
- **Excoriations** ➔ A superficial abrasion, often linear, due to scratching.
- **Erosion** ➔ A superficial break in the epidermis, not extending into dermis, heals without scarring.
- **Fissure** ➔ A linear split in epidermis, often just extending into dermis.
- **Sinus** ➔ A cavity or channel that permit the escape of pus or fluid.
- **Scar** ➔ Replacement of normal tissue by fibrous connective tissue at the site of an injury.
- **Atrophy** ➔ Loss of epidermis, dermis or both, thin, translucent and wrinkled skin, visible blood vessels.
- **Stria** ➔ Atrophic linear band in skin, white, pink or purple, from connective tissue changes.
Other skin lesions:
- **Callus** ➔ Local hyperplasia of horny layer on palm or sole, due to pressure.
- **Cyst** ➔ A nodule consisting of an epithelial-lined cavity filled with fluid or semisolid material.
- **Erythema** ➔ Redness of the skin due to vascular dilatation.
- **Freckle** ➔ A macular area showing increased pigment formation by melanocytes.
- **Lichenification** ➔ Chronic thickening of skin with increased skin markings, from rubbing or scratching.
- **Milium** ➔ A small white cyst that contains keratin.
- **Petechia** ➔ A haemorrhagic punctate spot 1–2 mm in diameter.

Symptoms include:
- Rash.
- Itch (pruritus) and sleep disturbance.
- A growth or lump.
- Discharge, crusting and smell.
- Scales falling from the skin or scalp.
- Disfigurement and psychological distress.
- Inability to work or pursue leisure activities, e.g. swimming.

Rashes:
- Distribution patterns:
  - Symmetrical or universal eruptions suggest systemic or constitutional causes.
  - Asymmetrical rashes that spread from one focus are more likely to be due to fungal, bacterial or viral infection.
  - An itchy rash typically involving the flexures of the popliteal fossa, antecubital fossa, neck and face occurs in atopic eczema.
  - Extensor plaques on elbows and knees, the scalp and the sacrum suggest psoriasis.
  - Face ➔ Seborrhoeic dermatitis, Acne vulgaris, Sun damage, malignant tumours (BCC), Psoriasis.
  - Truncal ➔ Guttate psoriasis, Pityriasis rosea, Tinea versicolor, Urticaria.
  - Peripheral ➔ lichen planus, necrobiosis lipoidica, erythema nodosum, vasculitis, athlete’s foot.
  - Sun-exposed (face, the V of the neck or the posterior neck, exposed areas of the arms and legs) ➔ connective tissue diseases (SLE), photosensitising drugs (thiazide diuretics, NSAID), cutaneous porphyrias or a primary sun sensitivity condition (polymorphic light eruption or a photosensitive eczema).
  - Dermatomal ➔ herpes zoster.
- Morphology:
  - Monomorphic (all have the same appearance), as in guttate psoriasis.
  - Pleomorphic (of differing appearance), as in chickenpox.
- Configuration:
- Linear, grouped, annular (in a ring), or the Koebner phenomenon (an eruption in an area of local trauma).
- Secondary changes of crusting, erosion and excoriation complicate primary lesions.

**Duration:**
- Actinic keratoses ➔ present for several years and slowly increase in number.
- Basal cell cancers ➔ develop over 1–2 years and may show ulceration.
- Squamous cell cancers ➔ form more rapidly over weeks or months.

**Associated features:**
- In a patient with a hand eruption, look for skin lesions elsewhere, e.g. atopic eczema affecting the antecubital or popliteal fossae or psoriasis on the elbows, knees or scalp, and for burrows of scabies between the fingers or genitalia.
- The vulva and penis can be affected by psoriasis but only rarely by eczema.
- Asymmetrical arthritis of large joints and of distal interphalangeal joints is found in up to 30% of patients with psoriasis.

### Causes of severe pruritus:
- Parasites ➔ Pediculosis, flea bites, Scabies (Burrows on hands or feet).
- Dermatitis herpetiformis ➔ Small blisters on extensor sites.
- Urticaria ➔ Intermittent wheals on limbs or trunk.
- Eczema ➔ Scaly, crusted, excoriated or lichenified patches.
- Insect bites ➔ Linear or grouped patterns of recent onset.
- Lichen planus ➔ Typical purplish papules on wrists.
- Generalised itch ➔ If no rash, check blood tests for renal, haematological or hepatic diseases.
- Simplex chronicus.
- Systematic causes ➔ obstructive jaundice, chronic renal failure, lymphoma, carcinoma (bronchial CA), iron deficiency, hypo or hyperthyroidism.

### Eczema:
- It is distinctive inflammatory response of the skin.
- Characterized by spongiosis (epidermoloedema) histologically and clinically by clustered papul-vesicles with erythema and scaling.
- Many cases have multifactorial etiology.

### Causes of palmer erythema:
- Dermatosis ➔ eczema, psoriasis.
- Increased estrogen ➔ pregnancy, cohabic cirrhosis.
- Rheumatoid arthritis.
- Shoulder-hand syndrome.
- Polycytemia.
Causes of erythema nodosum:
- Sarcoidosis.
- T.B.
- Streptococcal infection.
- Ulcerative colitis.
- Other infections \(\rightarrow\) leprosy, toxoplasmosis.

Causes of mouth ulceration:
- Aphthus ulcers \(\rightarrow\) minor, major, herpetiform.
- Squamous carcinoma.
- Herpes simplex.
- Lichen planus and pemphigus.
- Trauma \(\rightarrow\) from dentures.
- Behcet's, Reiter's, Stevens-Johnson.

Clinical features of Reiter's syndrome:
- Urethritis, hematuria, sterile pyuria.
- Uveitis, recurrent conjunctivitis.
- Subacute arthritis.
- Balanitis (inflammation of penis).
- Buccal ulcers.

Hair loss (alopecia):
- Diffuse alopecia:
  - In common male-pattern hair loss.
  - Terminal scalp hairs undergo miniaturisation to vellus hairs.
  - This ageing phenomenon is strongly inherited and depends on androgens.
  - Age-related hair loss in women is more diffuse.
- Non-scarring diffuse hair loss:
  - Hypothyroidism, hypopituitarism.
  - Iron deficiency, connective tissue diseases (SLE).
  - Postpartum or postmenopausal.
  - Drug-induced (cytotoxic agents).
- Localized non-scarring alopecia:
  - In alopecia areata there is circumscribed loss of scalp, beard or eyebrow hair.
  - Alopecia areata may involve the whole scalp (alopecia totalis) or all body hair (alopecia universalis).
  - Localized hair loss can be caused by fungal infection, hair pulling, traction from braiding and secondary syphilis.
- Scarring alopecia:
  - Burns, severe infections (herpes zoster), lichen planus, SLE \(\rightarrow\) permanently scar the scalp with permanent hair loss.
- Loss of secondary sexual hair:
  - In old age, cirrhosis and hypopituitarism, axillary and pubic hair is lost.
Excess hair growth:

- Hirsutism:
  - In females with male-pattern growth of terminal hair, including facial and pubic hair extending towards the umbilicus (male escutcheon).
  - In these cases there are other features of virilisation, e.g. male-pattern hair loss, clitoromegaly or a deep voice.
  - Causes:
    - Pituitary: Acromegaly.
    - Adrenal: Cushing’s syndrome, virilising tumors, congenital adrenal hyperplasia.
    - Ovarian: Polycystic ovary syndrome, virilising tumors.
    - Drugs: Androgens, progestogens.
    - Idiopathic: End-organ hypersensitivity to androgens.

- Hypertrichosis:
  - In males or females with excess terminal hair growth in a non-androgenic distribution.
  - Causes ➔ systemic disorder (porphyria cutanea tarda), malignancy, anorexia nervosa, malnutrition or drugs (ciclosporin, minoxidil and phenytoin).

Common nail changes:

- Koilonychia ➔ in chronic iron deficiency also the nails become brittle, flat and eventually spoon-shaped.
- Leukonychia ➔ a sign of hypoalbuminaemia (chronic liver disease, nephrotic syndrome, protein malnutrition, protein-losing enteropathy).
- One or two splinter hemorrhages ➔ are commonly seen under the nails of manual workers.
- Multiple splinter hemorrhages ➔ in bacterial endocarditis.
- Distal nail separation (onycholysis) ➔ in psoriasis.
- Dilated capillaries in the proximal nail fold ➔ in vasculitic conditions, such as SLE.
- Beau’s lines ➔ in severe illnesses ((Beau’s lines are due to arrest of nail growth, are transverse white grooves)).
<table>
<thead>
<tr>
<th>Change</th>
<th>Description of nail</th>
<th>Differential diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beau's lines</td>
<td>Transverse grooves</td>
<td>Any severe systemic illness which affects growth of the nail matrix</td>
</tr>
<tr>
<td>Brittle nails</td>
<td>Nails break easily, usually at distal margin</td>
<td>Effect of water and detergent, iron deficiency, hypothyroidism, digital ischaemia</td>
</tr>
<tr>
<td>Clubbing</td>
<td>Loss of angle between nail fold and nail plate. Finger tip bulbous. Nail matrix feels spongy</td>
<td>Familial or may signify serious cardiac or respiratory disease</td>
</tr>
</tbody>
</table>
| Colour changes         | **Blue**  
Brown 
Brown longitudinal streak 
Red streaks (splinter haemorrhages)  
White spots 
White/brown ‘half and half’ nails  
White (leukonychia)  
Yellow 
Yellow nail syndrome | Cyanosis, antimalarials, haematoma  
Pseudomonas infection  
Fungal infection, staining from cigarettes, chlorpromazine, gold, Addison’s disease  
Melanocytic naevus, malignant melanoma, Addison’s disease, racial variant  
Infective endocarditis, trauma  
Trauma to nail matrix (not calcium deficiency)  
Chronic kidney disease  
Hypoalbuminaemia, e.g. associated with cirrhosis  
Psoriasis, fungal infection, jaundice, tetracycline  
Defective lymphatic drainage – pleural effusions may occur |
| Combination changes    | Longitudinal ridges and triangular nicks at the distal nail                         | Darier’s disease                                                                       |
| Koilonychia            | Spoon-shaped depression of nail plate                                                | Iron deficiency anaemia, lichen planus, repeated exposure to detergents                 |
| Nail fold erythema and telangiectasia | Dilated capillaries and erythema at nail fold                                      | Connective tissue disorders, including systemic sclerosis, SLE, dermatomyositis         |
| Onycholysis            | Nail separates from nail bed                                                         | Psoriasis, fungal infection, trauma, thyrotoxicosis, tetracyclines (photo-onycholysis) |
| Onychomycosis          | Thickening of the nail plate with colour change, usually whitening or brown discoloration | Fungal infection                                                                       |
| Pitting                | **Thimble pitting**  
Coarse pitting | Fine or coarse pits in the nail  
A particular type of fine regular pitting, as seen on a thimble  
Larger irregular pits in the nail plate | Psoriasis, eczema, alopecia areata, lichen planus  
Alopecia areata  
Eczema |
| Ridging                | **Transverse (across nail)**  
**Longitudinal (up/down)** | Beau’s lines (see above), eczema, psoriasis, tic dystrophy, chronic paronychia  
Lichen planus, Darier’s disease |
| Splinter haemorrhages  | Small red streaks that lie longitudinally in the nail plate | Trauma, but can signify infective endocarditis |
## Part 4: Lesion identification

<table>
<thead>
<tr>
<th>Lesion</th>
<th>Type</th>
<th>Notes</th>
<th>Photo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Macule</td>
<td>Flat</td>
<td>A flat, generally less than 0.5-cm area of skin or mucous membrane with a color different from that of surrounding tissue. Macules may have non-palpable fine scale. Note: If it is macular, you cannot feel the involved area. That is, with your eyes closed, you cannot discern a boundary to the lesional area.</td>
<td><img src="image1.jpg" alt="Macule Photo" /></td>
</tr>
<tr>
<td>Patch</td>
<td>Flat</td>
<td>A flat, generally greater than 0.5-cm area of skin or mucous membrane with a color different from that of surrounding tissue. Patches may have non-palpable fine scale.</td>
<td><img src="image2.jpg" alt="Patch Photo" /></td>
</tr>
<tr>
<td>Cyst</td>
<td>Smooth</td>
<td>A closed cavity or sac containing fluid or semisolid material. A cyst may have an epithelial, endothelial, or membranous lining.</td>
<td><img src="image3.jpg" alt="Cyst Photo" /></td>
</tr>
<tr>
<td></td>
<td>Raised</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nodule</td>
<td>Smooth</td>
<td>A dermal or subcutaneous firm, well-defined lesion usually greater than 0.5 cm in diameter.</td>
<td><img src="image4.jpg" alt="Nodule Photo" /></td>
</tr>
<tr>
<td></td>
<td>Raised</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Papule</td>
<td>Smooth</td>
<td>A discrete, solid, elevated body usually less than 0.5 cm in diameter. Papules are further classified by shape, size, color, and surface change.</td>
<td><img src="image5.jpg" alt="Papule Photo" /></td>
</tr>
<tr>
<td></td>
<td>Raised</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plaque</td>
<td>Smooth</td>
<td>A discrete, solid, elevated body usually broader than it is thick, measuring more than 0.5 cm in diameter. Plaques may be further classified by shape, size, color, and surface change.</td>
<td><img src="image6.jpg" alt="Plaque Photo" /></td>
</tr>
<tr>
<td></td>
<td>Raised</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Crust</strong></td>
<td><strong>Surface Change</strong></td>
<td>A hardened layer that results when serum, blood, or purulent exudate dries on the skin surface. Crusts may be thin or thick and can have varying color. Crusts are yellow-brown when formed from serum, green or yellow-green when formed from purulent exudate, or red-black when formed by blood.</td>
<td></td>
</tr>
<tr>
<td><strong>Scale</strong></td>
<td><strong>Surface Change</strong></td>
<td>A type of surface change. It results from excess stratum corneum (the most superficial layer of the skin) that accumulates in flakes or plates. Scale usually has a white or gray color. It is important to note whether a raised lesion is scaly or non-scaly, as the differential diagnosis of raised scaly lesions is quite different from that of raised smooth lesions.</td>
<td></td>
</tr>
<tr>
<td><strong>Bullae</strong></td>
<td><strong>Fluid-Filled</strong></td>
<td>Fluid-filled blisters greater than 0.5 cm in diameter. Fluid can be clear, serous, hemorrhagic, or pus filled.</td>
<td></td>
</tr>
<tr>
<td><strong>Pustule</strong></td>
<td><strong>Fluid-Filled</strong></td>
<td>A circumscribed elevation that contains pus. Pustules are usually less than 0.5 cm in diameter.</td>
<td></td>
</tr>
<tr>
<td><strong>Vesicle</strong></td>
<td><strong>Fluid-Filled</strong></td>
<td>A fluid-filled cavity or elevation less than 0.5 cm in diameter. Fluid may be clear, serous, hemorrhagic, or pus filled.</td>
<td></td>
</tr>
</tbody>
</table>
| **Erythema** | Red Blancheable | Localized, blanchable redness of skin or mucous membrane.

Erythema and erythroderma will blanch because the color (ie, redness) is due to increased blood flow, not leakage of blood into the skin, as in purpura. |
| **Erythroderma** | Red Blancheable | A generalized, blanchable redness of the skin that may be associated with desquamation. Desquamation is a normal process in which the cornified (outermost) layer of the epidermis is sloughed in fine scales or sheets.

Erythema and erythroderma will blanch because the color (ie, redness) is due to increased blood flow, not leakage of blood into the skin, as in purpura. |
| **Telangiectasia** | Red Blancheable | A visible persistent dilation of small, superficial cutaneous blood vessels. Telangiectasias will blanch. |
| **Ecchymosis** | Purpuric | Extravasation of blood into the skin or mucous membranes. Area of flat color change may progress over time from blue-black to brown-yellow or green.

Petechiae, ecchymosis, and palpable purpura do not blanch because blood has leaked outside the vessels into the surrounding skin. |
<table>
<thead>
<tr>
<th>Condition</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petechiae</td>
<td>Purpuric</td>
<td>Tiny 1-2 mm, initially purpuric, non-blanchable macules resulting from tiny hemorrhages. Purpura can be differentiated from pigmented lesions by color. Pigmented lesions are usually brown in color in comparison to the violaceous color of purpuric lesions. Petechiae, ecchymoses, and palpable purpura do not blanch because blood has leaked outside the vessels into the surrounding skin.</td>
</tr>
<tr>
<td>Palpable Purpura</td>
<td>Purpuric</td>
<td>Raised, palpable discoloration of skin or mucous membrane due to vascular inflammation in the skin and extravasation of blood. Petechiae, ecchymosis, and palpable purpura do not blanch because blood has leaked outside the vessels into the surrounding skin.</td>
</tr>
<tr>
<td>Atrophy</td>
<td>Sunken</td>
<td>A thinning of tissue defined by its location, such as epidermal atrophy, dermal atrophy, or subcutaneous atrophy.</td>
</tr>
<tr>
<td>Erosion</td>
<td>Sunken</td>
<td>Localized loss of the epidermal or mucosal epithelium.</td>
</tr>
<tr>
<td>Ulcer</td>
<td>Sunken</td>
<td>A circumscribed loss of the epidermis and at least the upper dermis. Ulcers are further classified by depth,</td>
</tr>
</tbody>
</table>
border/shape, edge, and tissue at base.

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td><strong>Eschar</strong></td>
<td>Necrotic</td>
<td>A scab or dry crust that results from trauma, infection, or excoriating skin disease.</td>
</tr>
<tr>
<td><strong>Gangrene</strong></td>
<td>Necrotic</td>
<td>Necrotic, usually black, tissue due to obstruction, diminution, or loss of blood supply. Gangrene may be wet or dry. Wet gangrene often follows a crushing injury. It has an offensive odor and spreads rapidly. Dry gangrene becomes cold, dry, and shriveled and eventually turns black.</td>
</tr>
</tbody>
</table>
Part 5: Specific skin lesions

1- Pityriasis alba:
- Superficial dermatitis of unknown origin.
- Hypopigmented patch + fine scale [usually on sun exposed areas (face, neck and hands) + in children].
- Dermatitis heals (decrease melanocy, decrease melanosome).
- Tinea versicolor (hypopigmented macules and patches with scales that is more prominent upon stretching, usually on covered areas (trunk), in older age group), Vetilligo (Hypo (early stage) → depigmented).
- Management ➔ Emollient, avoid sun light, topical steroid.

2- Vetilligo:
- Hypo or depigmented patches, well demarcated with irregular margins.
- The affected skin is non-scarring with NO scale.
- May occur in hairy on non-hairy (difficult to treat)skin.
- It is an autoimmune disease affecting the melanocyte.
- DDx ➔ Pityriasis Alba, Tinea versicolor, post. Inflammatory hypopigmentation.
- Treatment ➔ topical or systemic steroid (depend on surface area affected), photosensitizer (psoralin or PUVA), tacrolimus (immunomodulator).

3- Tinea versicolor:
- Tinea versicolor (hypopigmented macules or patches with scales that is more prominent upon stretching.
- Caused by Malassezia furfur (a normal fungus that inhabit the skin), after swimming.
- Occur in trunk, proximal extremity, in exposed and non-exposed areas (usually non-exposed).
- Increased in hot weather and after puberty.
- Treatment ➔ Topical antifungal (ketoconazole 2 week), selenium shampoo. may need systemic antifugal.

4- Hair loss:
Patchy:
- Alopecia areata (patch) ➔ normal skin (non-scarring) (use the magnifier lens to see the pilosebaceous orifices).
- Tenia capitis ➔ thick scale, erythema, itching, pastule.
- Discoid lupus ➔ dusky, erythematus, SCARRING.
- Lichen planus ➔ 5P: plane, polypoidal, papule, purple and pruritic.
Generalized:

- Androgenic ➔ progressive, hormonal, in female may be there is no increase in androgen but increase in sensitization of receptors.
- Chronic diseases ➔ anemia, hypothyroidism, organ failure, malnutrition.
- Drugs ➔ chemotherapy (anagen), anticoagulants (heparin).

5- Alopecia Areata:

- Patches of hair loss, normal skin, well demark.
- Autoimmune – anagen.
- Treatment ➔ topical anthralin, topical or intral-lesional steroid, cyclosporin.

6- Erythema multiforme:

- Multiple plaques, erythematous, well demarcated.
- Rough, irregular margin.
- Target lesion.
- Infection, idiopathic, allergy, pregnancy.
- DDx ➔ Chronic urticaria, serum sickness, SLE, lichen planus.
- Treatment ➔ supportive measures, analgesics, anti-histamine, acyclovir (oral), prednisolone.
- 1-2 weeks resolve spontaneously, recure multiple times in year.

7- Folliculitis:

- Superficial infection of hair follicle.
- Pastular lesion, erythematous, hair in center.
- DDx ➔ Bacterial infection, T.corporis, dermitits.
- Rx ➔ Topical antibiotics, systemic steroids, surgical drainage.
- Carbuncles ➔ boils together, deep infection of hair follicles, need surgical drainage.
- Sites of predilection: scalp, neck, buttock, extremities and trunk.

8- Scarlet fever:

- Sand paper like.
- Erythematous papules.
- With white, red strawberry tongue.
- Give antibiotics.

9- Urticaria:

- Weal and flare Lesion with itching.
- Erythematous well demark plagues.
- Elevation (edema), no scale, no scar, scratching marks.
- Treatment ➔ steroid, anti-histamine.
10- **Skin tag:**
- Well demarked, flesh to brown color papules, pedunculated (has a neck), smooth or rough surface.
- In obese pt. at the sites of skin folding.
- DDx ➔ Nevus, seborrheic Keratosis, BCC.
- Rx ➔ Excision (due to irritation or cosmetic or in children).
- Occur in the neck, inguinal region, axillae (common in female).

11- **Seborrheic keratosis:**
- Brown to black, hyperpigmented plaques, rough, well demarcated.
- Benign hereditary tumor.
- DDx ➔ Malignant melanoma, BCC, acnitic keratosis.
- Treatment ➔ Excision.
- Occur in the face, scalp, upper limbs and trunk.

12- **Baghdad boil (cut. Leshmaniasis):**
- Single or multiple Brown nodular lesion (indurated) with scale, crust and central erosion or ulceration.
- Not tender +/- satellite lesion, any site of sand fly bite.
- Rx ➔ pentavalent antimonial compound (intralesional Na⁺ stibogluconate)

13- **Acne form rash:**
- Like acne but short duration of onset
- Treated by steroid.

14- **Eczema:**
- Papules and vesicles, scaly, erythmatus, itchy with oozing.
- Inflammaary response to certain materials (contact or atopy) .
- DDx ➔ psoriasis, scabies, dermatitis.
- Treatment ➔ avoid precipitant agent then ➔ systemic antibiotics, anti-histamine (for itching), steroids (to reduce inflammation), emollient (to avoid dryness), light management.

15- **Warts:**
- Rough surface, papule, scales, some time digitated [filliform wart (finger like)].
- Of many types ➔ common wart, plane wart, planter wart or filliform wart.
- Caused by HPV infection
- Site: anywhere
- DDx: planter wart (corn), common wart (Molluscum contangiosum).
- Treatment ➔ Depend on: site, size, number and pt. preference.
  ➔ Topical keratinolytic (salicylic acid), immunomodulator and curettage.
16- **Plane warts:**
- Flat surface, skin or darker pigment, papule, well demarked.
- HPV 10, 3, 41, 28.
- Sites: forehead, face, arm.
- Occur: children, young adult (mostly due to immune suppression).
- DDx ➔ nevi, acne, 2ndry syphilis.
- Treatment ➔ topical keratolytic, retin A chemotherapy.

17- **Molluscum contagiosum:**
- Single or multiple fleshy or pearly white color large papule (sometimes erythematous) with central umblication (a depression seen by magnifier lens).
- Sites: face, trunk and gentilia.
- Caused by: parapox viral infection.
- Transmission (contagious) ➔ contact, STD.
- DDx ➔ warts.
- Treatment ➔ topical salicylate or curettage (depend on the number).

18- **Scabies:**
- Erythematous papules, vesicle, pastule, burrows, crust, itching (at night).
- Mite infestation, sarcoptes scabes.
- DDx ➔ Contact dermifts, pityasis rosea, psoriasis.
- Sites of predilection: genetalia, paraumbilical region, breast, gluteal region, flexor surface, axillae and finger webs (burrows).
- Note: the face palms and soles are spared in adults and only involved in infants.
- Treatment ➔
  1. Boiling, ironing or putting on sun light (for 3-4 days) of clothes and bed mattresses.
  2. Treat all family members (even if have NO itching)
  3. Good hygienic measures
  4. Topical steroids, systemic anti-histamine for itching
  5. Scabicidals ➔ topical permithrin or 10% sulfer preparation for 3 days + vasalin.
- Failure of treatment may be due to ➔ inappropriate drug compliance, no family treatment, resistance, no hygiene, recurrent infection or exposure to the same cause.

19- **Ichthyosis:**
- Dry, rough, cracked, thickened.
- Hereditary, decrease thyroid, AIDS, leprosy.
- Treatment ➔ skin lubricant after bath, limit use soap, winter dryness, steroid.
20- Keloid:

- Firm, smooth, dark or skin colored nodule or papule.
- Excessive growth scar beyond the wound margins,
- DDx ➔ Lipoma, neurofibromatosis, fiber of fibrosarcoma, sebaceous cyst and sarcoidosis.
- 10-30 year, upper arm, neck, scalp, cheek, ear.
- Treatment ➔ Intra-lesional steroid, surgery (increase keloid).

21- Psoriasis:

- Bright pink plaques, well demarcated with silver scales.
- Possible causes: Genetic, autoimmune, infection of unknown, increase keratinocyte.
- Sites of predilection: Extensor surfaces (especially elbows and knees), scalp and nails.
- Nail finding: coarse pitting, onycholysis, oily spot.
- DDx ➔ scabies, contact dermatitis and tinea corporis.
- Treatment ➔ depend on severity, chronicity and age of pt. :
  1. Topical therapy: steroid (Systemic steroid is contraindicated as it causes flaring up of the disease), Vit. D, retinoic acid and salicylic acid (kerationlytic).

22- Acne vulgaris:

- Papule, comedom (black), white head, pastule (pus + papule), hyperpigmented, and scar.
- If there is only comedom and white heads.
- It is considered mild degree of acne, drug induce keratiniaztine (isotrisyne).
- The bacteria affect the face during acne colled (propino bacterium acne) ➔ can give the patient topical antibiotics like azithromycin, clindamycin.

23- Taebia capitis:

- Fungal infection in the head causing patchy hair loss.
- Well-demarcated erythematous plaque with thick scales and +ve pulling test (the hair is easily pulled) usually in older children or in adults.
- DDx ➔ alopecia areata
- Rx ➔ systemic antifungal (terbinafine).
Notes:

- We can’t use cautery for treatment of facial lesions (e.g. Molluscum contagium) as it causes an ugly scar.
- We don’t use antivirals for treatment of M. contagious and wart despite they are of viral infection etiology.
- We have to use a systemic antifungal (against dermatophytes) in cases of T.capitis and T.pedis since the topical treatments do nothing (can’t reach the deep infected areas).
- If the we have doubt about the Dx of skin discoloration lesion we can use wood’s light for differentiation:
  T.vercicolor ➔ will appear yellowish.
  P.alba ➔ will appear lighter than skin color.
  Vetilligo ➔ will appear whitish.

If it is still doubt ➔ do scraping test ➔ examine under the microscope.
If you haven’t the facilities and your diagnosis is between T.vercicolor and vetilligo ➔ give topical antifungal as therapeutic trial ➔ check after 2 weeks ➔ if the discoloration is got away, then it is T.vercicolor; but, if the discoloration is still or progressed into other areas or becomes depigmention, then it is vetilligo.

- Steroids (whether topical or systemic) is contraindicated in bacterial, fungal and viral infections.
- Never ever give steroid as therapeutic trial if there is suspicion of fungal infection.