

Basic lesions in Dermatology

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Describing skin lesions in following points-

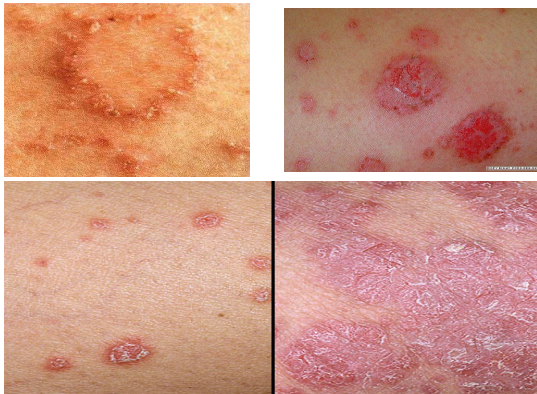
- Size
- Shape
- Symmetry
- Surface area
- Type of lesion
- Colour and pigmentation
- Distribution over body surface

Main shapes of skin lesions:-

Shape	Description	Examples
Discoid (nummular)	A filled circle	Discoid eczema, psoriasis
Petaloid	Discoid lesions which have merged together	Seborrhoeic dermatitis on trunk
Arcuate	Incomplete circles	Urticaria
Annular	Open circles with different central skin compared with rim	Tinea corporis, granuloma annulare
Polycyclic	Circles which have merged together	Psoriasis
Livedo	Chicken-wire criss-cross pattern	Erythema ab igne, polyarteritis nodosa, microvascular occlusion disorders
Reticulate	Fine lace-like pattern	Oral lichen planus
Target	Multiple concentric rings	Erythema multiforme

Stellate	Star-shaped	Lesions of meningococcal septicaemia
Digitate	Finger-shaped	Chronic superficial dermatosis
Linear	Straight line	Koebner reaction to a scratch in lichen planus or psoriasis
Serpiginous	Snake-line	Cutaneous larva migrans
Whorled	Swirling pattern	Epidermal naevi, late-stage incontinentia pigmenti.


• Discoid (nummular) shape



• Petaloid shape



• **ARCULATE**
ANNULAR




Tinea corporis (ring worm)

Raised edges
Sharply margined
Central clearing
Annular

• **LIVEDO** **RETICULATE**



• **TARGET** **STELLATE**



RASH-EARLY STAGES RASH-FINAL STAGES


• **DIGITATE** **LINEAR**



• **SERPIGINOUS** **WHORLED**



- **Dermatomal/zosteriform:-**
Unilateral & along a dermatome.
Eg. herpes zoster, zosteriform nevi.
- **Blaschkoid-** arranged along line of skin cell migration (line of blaschko) due to mosaicism.
- Whorled appearance with V shaped over back.
- S shaped over trunk
- Longitudinal on limbs.
- Eg. Incontinentia pigmenti



Varicose epidermal nevus

PATTERN OF LESIONS

Useful terminology to describe patterns include :-

- **AGMINATE**- clustered, eg. acne agminata, agminate nevi.
- **GROUPED/ CLUSTER**- characteristic of some infection(Eg. Herpetic vesicles, molluscum contagiosum, plane warts) , flea bites
- **SATELLITE**- a cluster of lesions around a larger central lesion. Eg.linear IgA diseases/ chronic bullous diseases of childhood.
- **CONFLUENT**- lesion merging together, locally or

- **SCATTERED, DISSEMINATED & EXANTHEMATOUS**- eg. Many drug eruptions, viral exanthemata.

- **SPREAD**- patterns of sparing like-
 - Island of sparing...orange-red erythema of pityriasis rubra pilaris.
 - Sparing within skin folds in papuloerythroderma of ofuji.
 - Areas shielded by clothing/ wristwatch spared in photosensitivity.

- **SYMMETRICAL**- often endogenous eg. Psoriasis

COLOUR OF SKIN AND OF LESIONS

- Normal skin colour is due to melanin, phaeomelanin, haemoglobin, oxyhaemoglobin and carotenoids.

colour	Examples
Black	Melanin eg. Some naevi, melanoma. Deeply situated blood/melanin eg.angiomas, blue naevus
Purple	Vascular lesions eg. angiomas
Violaceous	Lichen planus
Pink-red	Psoriasis
White-ivory	morphoea
White(or pale pink,depending on vascularity)	Vitiligo, naevus anemicus
Orange	Hemosiderin eg. Lichen aureus. Inflammatory disorders eg. Pityriasis rubra pilaris

The lesions of the skin

Raised	Depressed	Flat	Surface change	Fluid filled	Vascular
Papule	Erosion	Macule	Scale	Vesicle	Purpura
Plaque	Ulcer	Patch	Crust	Bulla	Telangiectasia
Nodule	Atrophy	Erythema	Excoriation	Pustule	Infarct
Cyst	Poikiloderma	Erythroderma	Fissure	Furuncle	
Wheal	Sinus		Lichenification	Abscess	
Scar	Striae		kertoderma		
comedo	Burrow		Eschar		
Horn	Sclerosis				
Calcinosis					

Types of skin lesions categorized as-

- Primary
- Secondary
- Special

- **Primary lesions**- basic reaction patterns of skin with definite morphology or native appearance of skin lesions (such as papule)
- **Secondary lesions**- reflect the effects of exogenous factors or temporal changes (such as "scales" or "crusts") that evolve during the course of a skin disease.

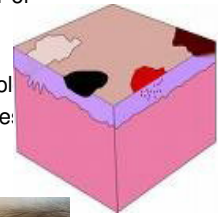
- **Special skin lesions** - specific for certain disease.

Primary skin lesions-

- Macule
- Patch
- Papule
- Plaque
- Pustule
- Nodule
- Vesicle
- Bulla
- Abscess
- Wheal
- Cyst
- Angioedema
- Purpura, petechiae & ecchymosis

Macule

- A Circumscribed alteration in colour of the skin. (not palpable)
- Size-0.5cm-1cm
- Subclassified as-(depending upon color)
 - Hypopigmented/depigmented macule:
 - Hyperpigmented macules
 - Also other color(eg.pink,red, violet)
- Eg. Epithelid(freckle)
Lentigo
Petechiae



Hypopigmented-

Decrease in number of melanocytes/ melanin.

Eg- Pityriasis alba,

Pityriasis versicolor

Tuberous sclerosis

Nevus depigmentosus

Leprosy



Total absence of melanocytes give rise to chalk-white depigmented macules.eg-vitiligo



Hyperpigmented macules-

- Due to hypermelanocytosis/ hypermelanosis in skin.
- Increased melanin in epidermis (Number of melanocyte is fixed)- in freckles & melasma give brown to black color
- Increased number of melanocytes seen in- lentigo simplex & lentigo maligna.



- Melanin present in dermis produce bluish-grey tinge eg. Mongolian spot, nevus of ota, cellular blue nevus.

- Postinflammatory hyperpigmentation have both epidermal & dermal component

Brown coloured macules

Beckers nevus



Freckle






Fixed drug eruption



Cafe-au-lait spot




Blue coloured macules

Mongolian spot naevus	Nevus of ota	Blue
		

Erythema- Red coloured macules


- Increased blood flow through skin caused by capillary dilatation produce erythematous(pink) macules.
- Easily blanched by pressure(positive diascopy) as in macular viral & drug rashes
- Psoriasis
- Drug eruptions
- Secondary



Patch


- A large macule is called patch (>1cm in size).
- Often hypo- or hyperpigmented.
- Also other colors(eg. Blue,violet)

Eg :- Vitiligo, Melasma, Dermal melanocytosis(Mongolian spot)




Papule

- A circumscribed palpable elevation, less than 0.5cm in diameter.
- Elevation due to increased thickness of epidermis or cells within dermis.
- Examination include- shape,color,umbilication,distribution, configuration,and tenderness.





Plaque

- An elevated area of skin, usually defined as 2cm or more in diameter.
- Formed by extension or coalescence of either papules (in psoriasis) or nodules(in granuloma annulare)
- May have secondary changes(eg.scale, crust)
- Primarily epidermal- psoriasis, lichen simplex chronicus, nummular dermatitis



- Dermal** – Granuloma annulare, Sarcoidosis, Hypertrophic scar-Keloid, Morphea

Granuloma annulare	Hypertrophic
	

Pustule

- A visible accumulation of free pus.
- Occur within pilosebaceous follicle or sweat duct.
- Pustules seen in- ACNE, Folliculitis, Scabies

Folliculitis



ACNE



- Vesicular lesions (varicella, herpes simplex, herpes zoster) may turn into pustular.

Herpes zoster



- Gram's stain & culture of purulent exudates is essential

Nodule

- A solid mass in the skin, observed as an elevation or can be Palpable.
- greater than 0.5 cm in diameter.
- It involve epidermis & dermis, dermis & subcutis, or subcutis alone.
- Consist of fluid, other extracellular material (eg. Amyloid), inflammatory or neoplastic
 - Eg. Epidermal inclusion cyst
 - Lipoma
 - Neurofibromas
 - Panniculitis, eg. Erythema Nodulosum
 - Lymphoma cutis



Vesicle

- Visible accumulations of clear fluid within or beneath epidermis.
- Small (less than 0.5cm in diameter) and often grouped.
- May become pustular, umbilicated or an erosion.
- Eg. Herpes simplex, varicella or zoster, dermatitis herpetiformis, dyshidrotic eczema.



Bulla

- Elevated, circumscribed
- More than 1 cm in diameter
- Filled with clear fluid.
- Bullous pemphigoid



Fixed drug eruption



Abscess

- A localized collection of pus deep in dermis or subcutaneous tissue.
- Due to deep seated location, pus may not be visible on skin surface but show sign of Inflammation.



Wheal (hives)

- A transient area of dermal and hypodermal oedema, white, compressible and usually evanescent.
- Characteristic lesion of urticaria.
- It results from a transient vascular reaction in the upper dermis in which there is both vasodilation & increased permeability of capillaries, giving rise to edema.

- Borders are sharp but unstable, & tends to change within hours
- Shapes may vary, being round, oval, geographic, serpiginous, annular.
- Size range



- Stroking of normal skin may produce a wheal in a quarter of normal individuals - phenomenon known as dermographism.
- Wheals of cholinergic urticaria are very tiny & multiple in number, induced on sweating.



Cyst

- Any closed cavity or sac (normal or abnormal) with an epithelial, endothelial or membranous lining & containing fluid or semisolid material.
- Resembles a spherical nodule **MUCOUS RETENTION CYST**
- Soft/doughy, hard or fluctuant
- Most cutaneous cysts are:
 1. Epidermal cysts (keratinous cysts)
 2. Pilar cysts (originate from hair follicle)



Angioedema (Quincke's edema)

- Diffuse, deep, edematous reaction occurring in areas with loose dermis, & subcutaneous tissue such as lip, eyelids, rarely larynx.



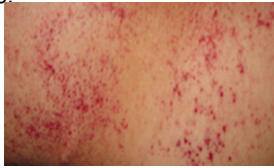
- Persists for a longer time and is associated with dull aching pain.
- Laryngeal edema occurs as part of anaphylaxis.

Purpura, petechiae & ecchymoses

- Extravasation of red cells in the dermis produces pinpoint purpuric lesions which do not blanch (negative diascopy).
- Purpuric lesions may be palpable or nonpalpable
- Eg. Senile purpura, Henoch-Schönlein purpura, Thrombocytopenic purpura, Vasculitis



- A punctate haemorrhagic spot, approx. 1-2 mm in diameter called petechie.



- A macular area of haemorrhage more than 2 mm in diameter called ecchym



Secondary lesions

- Crust
- Erosion
- Excoriation
- Ulcer
- Scar
- Scale

Crust (Scabs)

- Crusts consist of dried serum and other exudates.
- Which might be either yellow/red.



Tinea capitis



Impetigo



EROSION

- A focal loss of epidermis, which heals without scarring.
 - It commonly follows a blister.
- Eg:- Tinea pedis, Candidiasis

Tinea pedis



candidiasis



Excoriation

- Loss of skin substance, specifically produced by scratching.
- Characteristically linear.
- Seen in pruritic disorders- atopic dermatitis & scabies.

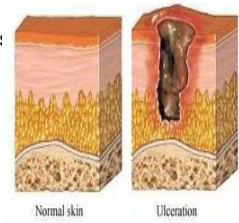


- Lichenification is a plaque of thickened skin with accentuated skin markings caused by constant rubbing, eg in area of lichen planus.



Ulcer(of skin)

- A loss of dermis and epidermis, With loss of the underlying tissue:
- Scarring depends on the depth of the ulcer
- Eg.Chancroid, Pyoderma gangrenosum, Decubitus



Examination of ulcer

• Inspection

- Single/multiple
- Site
- Shape
- Size
- Margin: well defined
- Edge: punched-out, sloping, inverted
- Depth: in mm and up to what tissue plane
- Floor:
 - granulation tissue, slough tissue, clean
 - Pale/pink colour
 - Bone, ligament, tendon
- discharge: serous, bloody, purulent
- Skin surrounding the ulcer
 - Inflammatory changes: redness, swelling



Palpation :-

- Local rise of temperature & tenderness.
- Exact dimensions- depth
- Induration /thickness of edge
- In chronic ulcer
- Base
 - Fixicity to underlying structure
- Bleeding on touch
- Malignant or chronic ulcer.

Types of ulcer edges

Types of edge	Description	Condition
Sloping	Shallow ulcer with healthy granulation tissue	Venous ulcer
Punched-out	Full thickness loss of tissue from edges	Vasculitic / arterial ulcers, tertiary syphilis
Undermined	Destruction of subcutaneous tissue more than skin	Tuberculous ulcers, pressure sores
Everted / exophytic	Growth of tissue over & beyond edge.	SCC
Rolled	Slowly growing edges with rolled out appearance	Basal cell epithelioma

chancroid



Pyoderma gangrenosum



Decubitus



Scar

- Replacement by fibrous tissue of another tissue that has been destroyed by injury or disease.
- An atrophic scar is thin and wrinkled. Eg. acne , surgery, after trauma



- A hypertrophic scar is elevated, with excessive growth of fibrous tissue. Eg. keloid



- A cribriform scar is perforated with multiple small pits. eg. Pyoderma gangrenosum



Scale

- A flat plate or flake of stratum corneum.
- Eg. Psoriasis, Ichthyosis

Types of scales

Types of scale	Description	Typical condition
Collarette scale	Fine ,peripherally attached & centrally detached scale at edge of inflammatory lesion.	Pityriasis rosea Miliaria Subsiding lesions of furuncle
Furfuraceous scale (branny)/ pityriasisform scales	Inconspicuous loose scales made visible by scratching (scratch sign)	Pityriasis versicolor
Ichthyosiform scale	Large and polygonal fish-like scales	Ichthyosis vulgaris
Micaceous scale	Silvery-white scale	Psoriasis
Limpet-like	Conical heaped up mound of adherent scale	Reiter's syndrome

Lamellar/plate-like scale(armor plate)	Large, polygonal,thick,rigid grey/brown firmly adherent scales	Lamellar ichthyosis
Trailing scale	Annular erythema with advancing flat/ elevated border & trailing scale at inner border with central area flattening	Erythema annularis centrifugum
Mica-like/ wafer-like scale	Thin adherent mica-like scale attached at center of lichenoid firm reddish brown papule & free at periphery	Pityriasis lichenoides chronica
Double-edged scale	Annular or polycyclic, flat patch with incomplet avancing double edge of peeling socale.	Ichthyosis linmearis circumflexa (ILC), Netherton syndrome
Cornflake scale	Scale separates from lesions, leaving non-exudative red base	Pemphigus foliaceus, flegel's disease
Hystrix-like scale	Porcupine-like muddy brown adherent skin covering whole body	Ichthyosis hystrix
Coat of armor	Rigid, taut, yellow-brown	Harlequin ichthyosis




Special lesions

- Burrow
- Comedone
- Milium
- Telangiectasia
- Target lesion
- Calcinosis


Burrow

- A small tunnel in the skin that houses a parasite.
- Such as scabies acarus.
- It is a serpentine tunnel made by scabies mite in Stratum corneum.
- The open end of the tunnel has a papule





Comedone

- A plug of keratin and sebum in a dilated pilosebaceous orifice.
- It is of two types:
 - 1) Open comedone (black head)
 - 2) Closed comedone (white head)




- **Open comedone (blackhead)**- impaction occurs in a dilated follicular orifice, visible as a black keratinous mass.
- Resulting from oxidation of sebum
- **Closed comedone (whitehead)**- follicular opening are closed & lesions appear as tiny white color than surrounding skin.

Milium

- It is a tiny white cyst containing Lamellated keratin.
- Milia are seen on face- at periorbital region.



Telangiectasia

- It is visible dilataion of capillaries of skin which blanch on pressure.

- Eg:- Dermatomyositis, Systemic sclerosis



Target lesion

- These are less than 3 cm in diameter.
- Have three or more zones:- usually a central area of dusky erythema or purpura.
- A middle palar zone of oedema
- An outer ring of erythema with well-defined edge.
- Eg.erythema multiforme



Calcinosis

- Occur due deposition of calcium in dermis or subcutaneous tissue.
- Present as chalky white hard papules, plaques or nodules.
- Primary calcinosis- occurring as a part of an underlying metabolic abnormality
- Secondary calcinosis- inflammation or within epidermal cysts.



Sinus

- A cavity or track with blind ending.
- Pus filled or keratin may drain out of sinus onto skin surface.
- Eg. Hidradenitis suppurativa.

