

# INTRODUCTION TO DERMATOLOGY

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**Dr. AMAL AL-BALBEESI**

# **OBJECTIVES OF THE COURSE:**

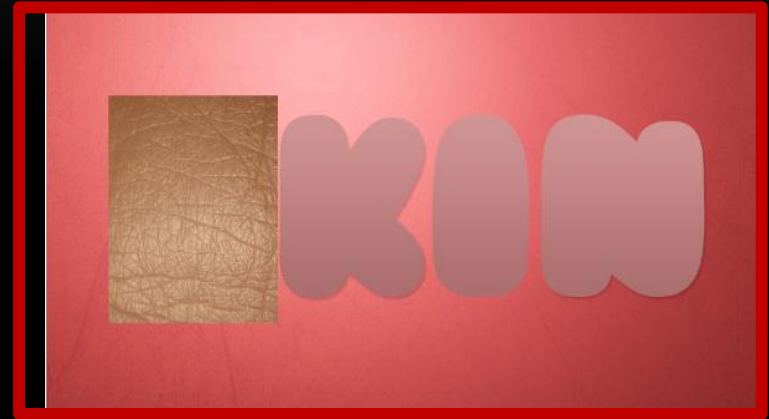
- **To be able to take proper history.**
- **To be able to describe lesions by using proper dermatological terminology.**
- **To be able to formulate a differential diagnosis.**
- **To be able to diagnose and treat common skin disorders.**
- **To be familiar with dermatologic emergencies .**

# **LECTURE OUTLINES**

- Function , Structure of the skin.**
- Approach to dermatology patient.**
- Morphology of skin lesions.**
- Reaction patterns.**
- Topical therapy and others.**

# **INTRODUCTION TO DERMATOLOGY**

- The skin is a complex, dynamic organ.
- It is the largest organ of the body.

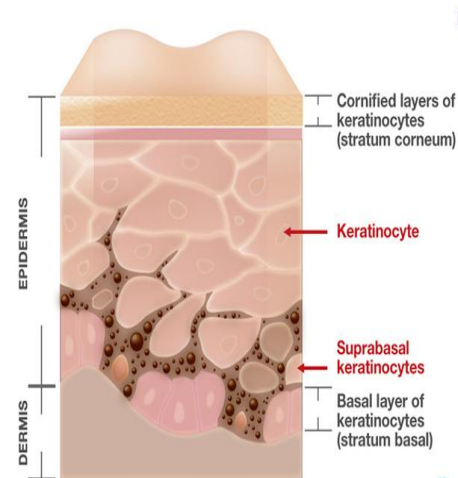


# INTRODUCTION TO DERMATOLOGY

It consist of many cell types called Keratinocytes

Specialized structures like the Basement Membrane.

It serves multiple functions that are crucial to health and survival.



# **Function:**

- Barrier to harmful exogenous substance & pathogens**
- Prevents loss of water & proteins**
- Sensory organ protects against physical injury**
- Regulates body temperature**
- Important component of immune system**
- Vit .D production by absorbing UVB**
- Has psychological and cosmetic importance such as hair, nails**

# SKIN STRUCTURE

The skin consists of:

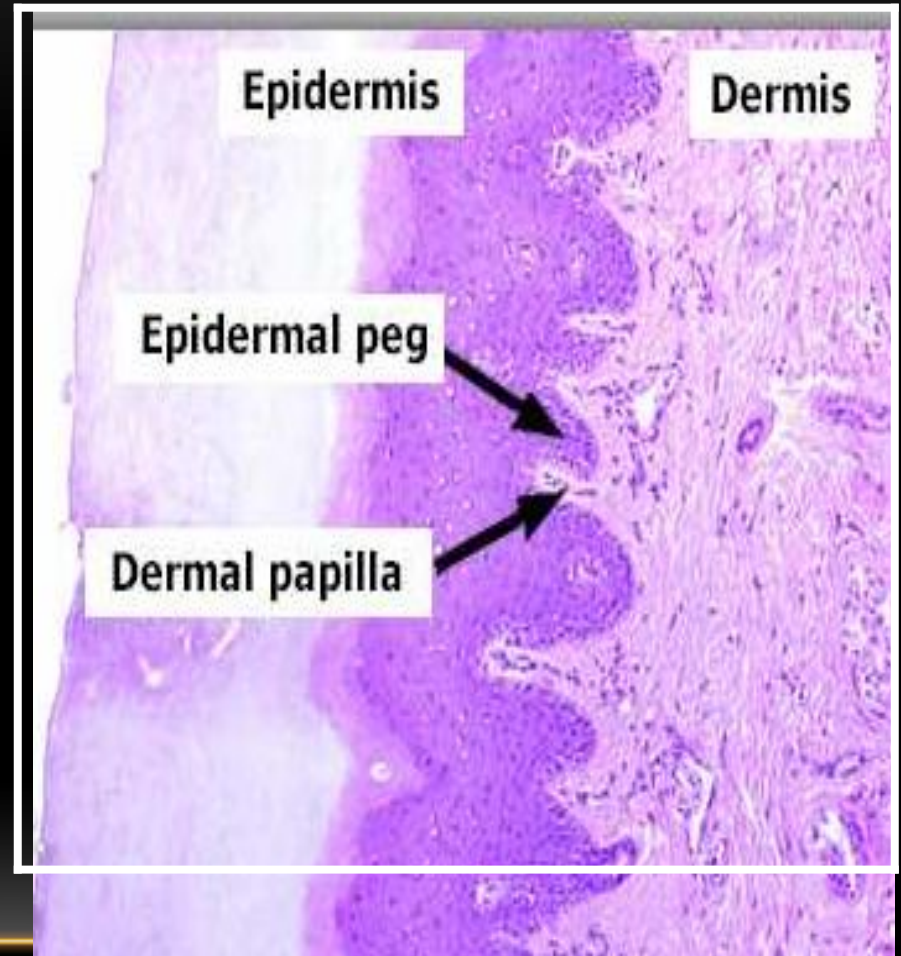
Epidermis

Basement membrane

Dermis

Subcutaneous tissue

Skin appendages



# **SKIN STRUCTURE**

**Epidermis: Consist of several zones**

**Basal layer (stratum basale) :columnar dividing cells.**

**Spinous layer (stratum spinosum): polyhedral cells attached by desmosomes.**

**Granular layer (stratum granulosum): flat cells containing keratohyaline granules.**

**Cornified layer (stratum corneum ):dead cell with no organells.**



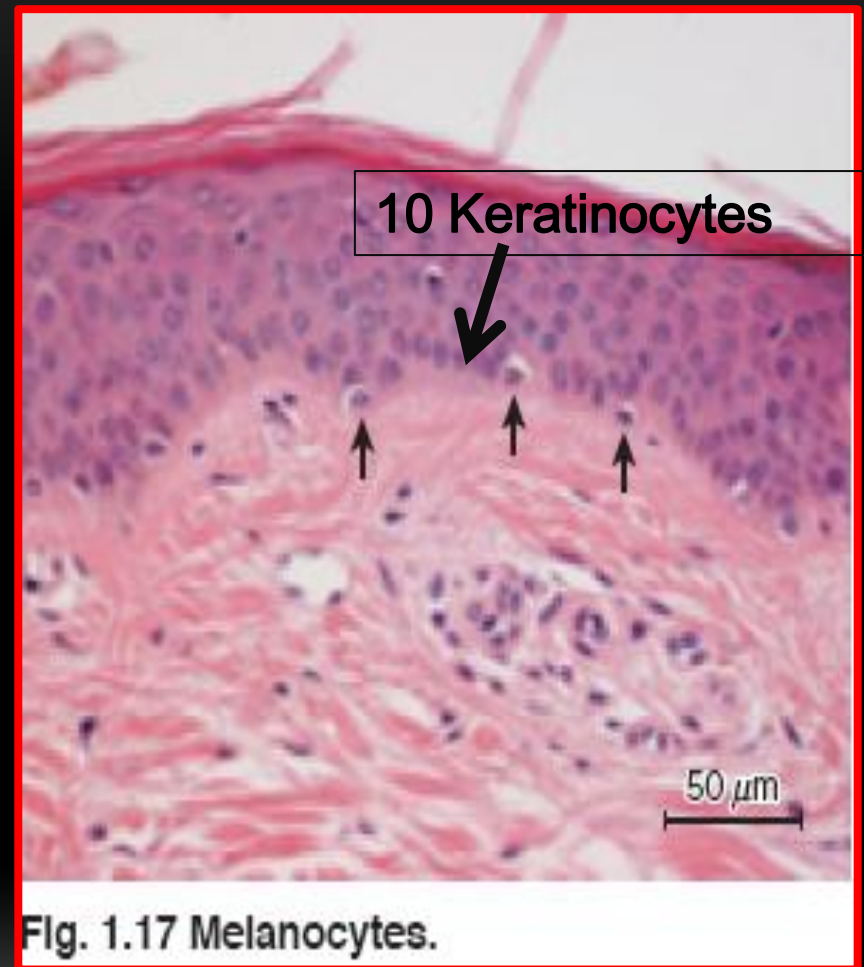
# SKIN STRUCTURE

**Basal cell layer**

**Rest on the basement  
membrane ; divides  
continuously and move  
upwards.**

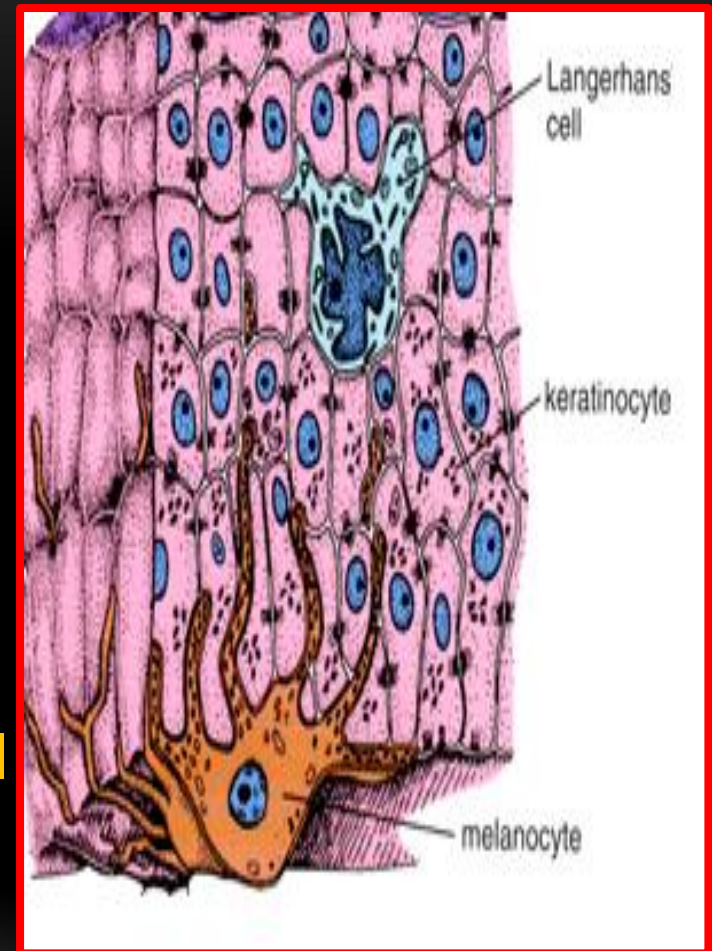
**Melanocytes are dendritic  
cells lying between basal  
cells in a ratio of 1:10 .**

**They synthesize melanin  
stored in melanosomes.**



# SKIN STRUCTURE

- Melanosomes are transferred to adjacent cells by means of dendrites thus forming the Epidermal Melanin Unit
- The size of melanosomes and packaging differentiate white from dark skin.
- The number of melanocytes are equal in white and dark skin.



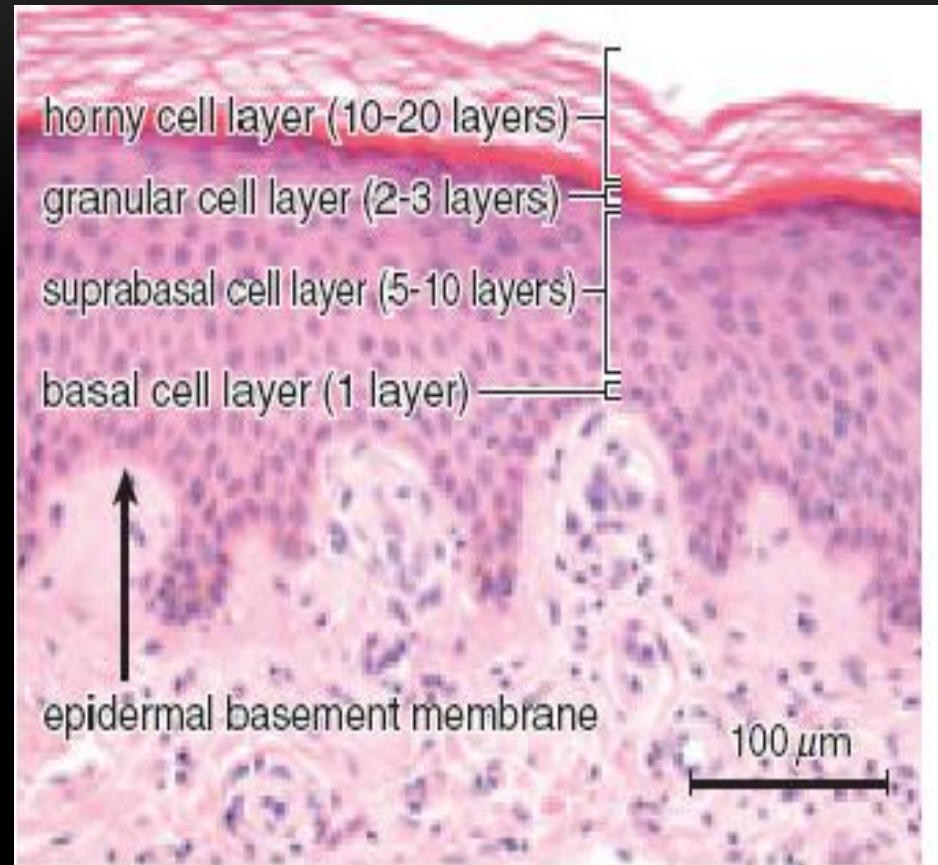
# SKIN STRUCTURE

**Spinous cell layer:**

**Adhere to each other by  
Desmosomes (complex  
modification of the cell  
membrane ).**

**Desmosomes appear like  
spines hence the  
designation Stratum  
Spinosum.**

**Langerhan cells are antigen  
presenting present in  
abundance**

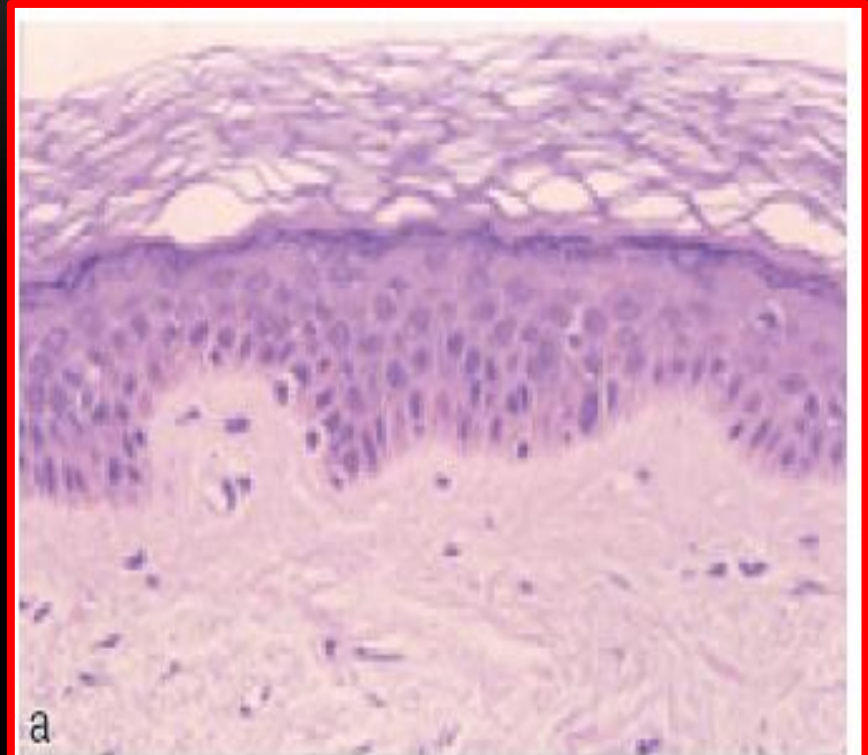


**Fig. 1.4 The four layers of the epidermis**

# SKIN STRUCTURE

**Granular cell layer :**

- Diamond shaped cells.**
- Cytoplasm is filled with keratohyaline granules.**
- Thickness of this layer is proportional to the thickness of the stratum corneum layer .**
- In thin skin it is 1 -3- cell layers and 10 cell layers in thick skin like palms and soles.**



**Fig. 2.2-1 Normal skin (hematoxylin and eosin staining).**

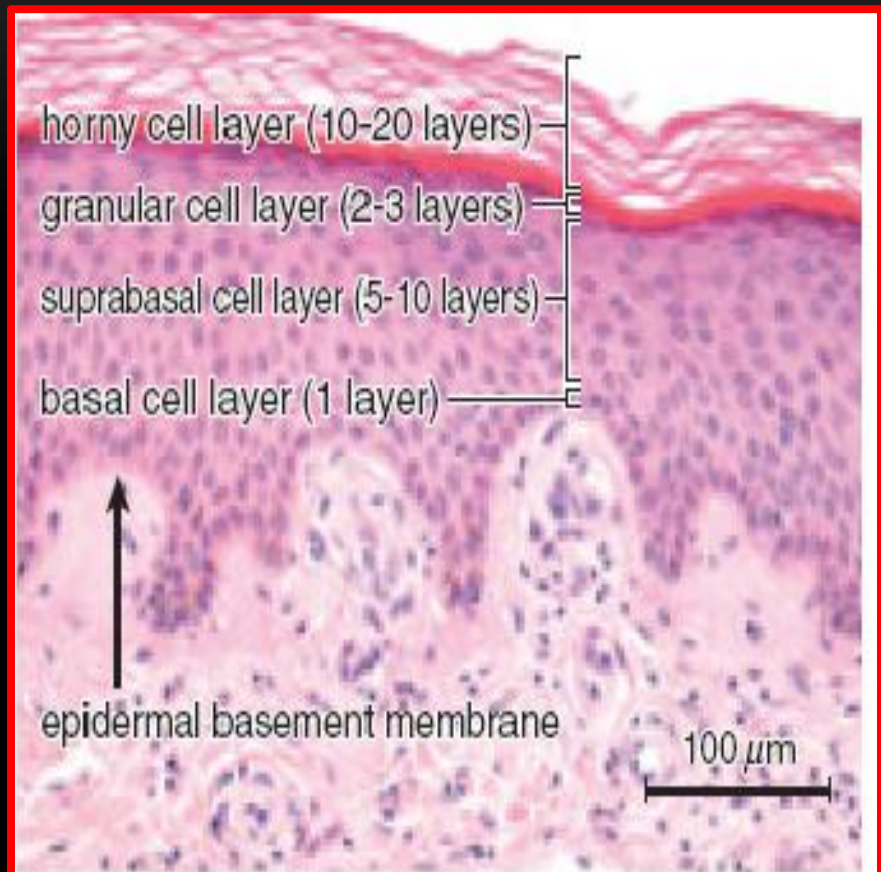


# SKIN STRUCTURE

## **Stratum corneum layer:**

**The cells in this layer have no nucleus . It is 25 cell layer .**

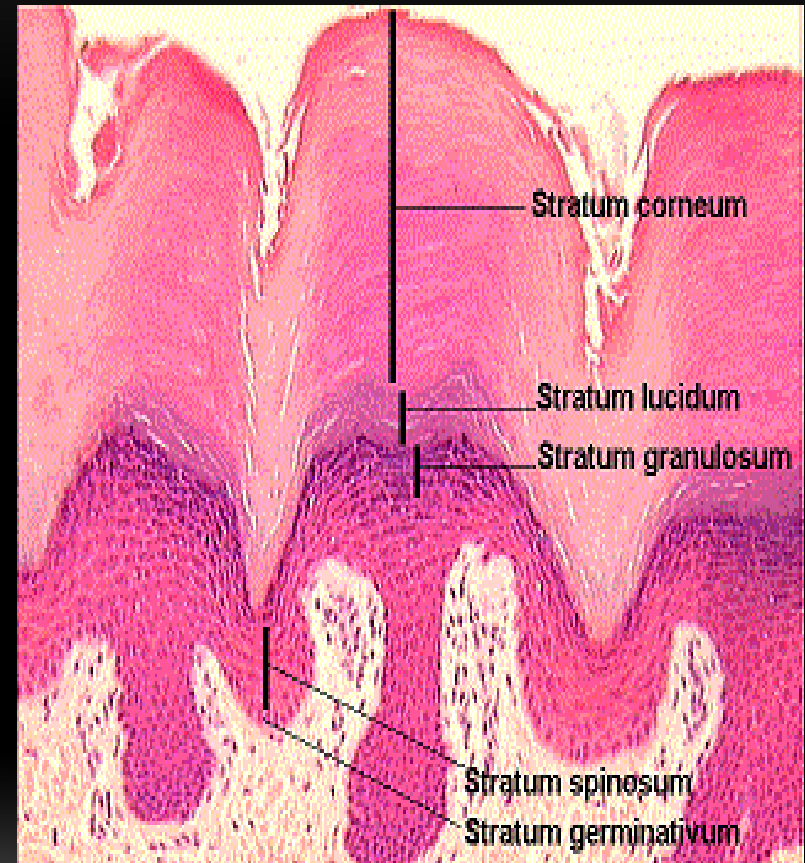
**Cells have thick envelope that resist chemicals.**



**Fig. 1.4 The four layers of the epidermis:**

# SKIN STRUCTURE

**Stratum lucidum is found in thick skin below Stratum corneum.**

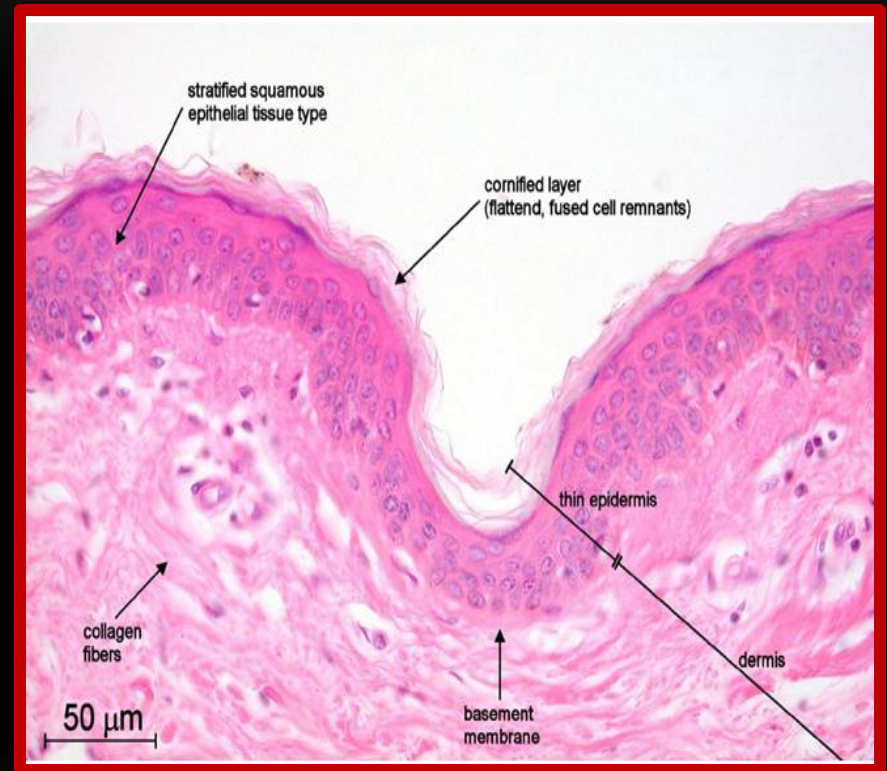


# BASEMENT MEMBRANE

It is a pink undulated  
homogenous area between  
the epidermis and dermis

It consist of number of  
proteins.

It is the site of attack injury  
in blistering diseases.



# SKIN STRUCTURE

## Basement membrane

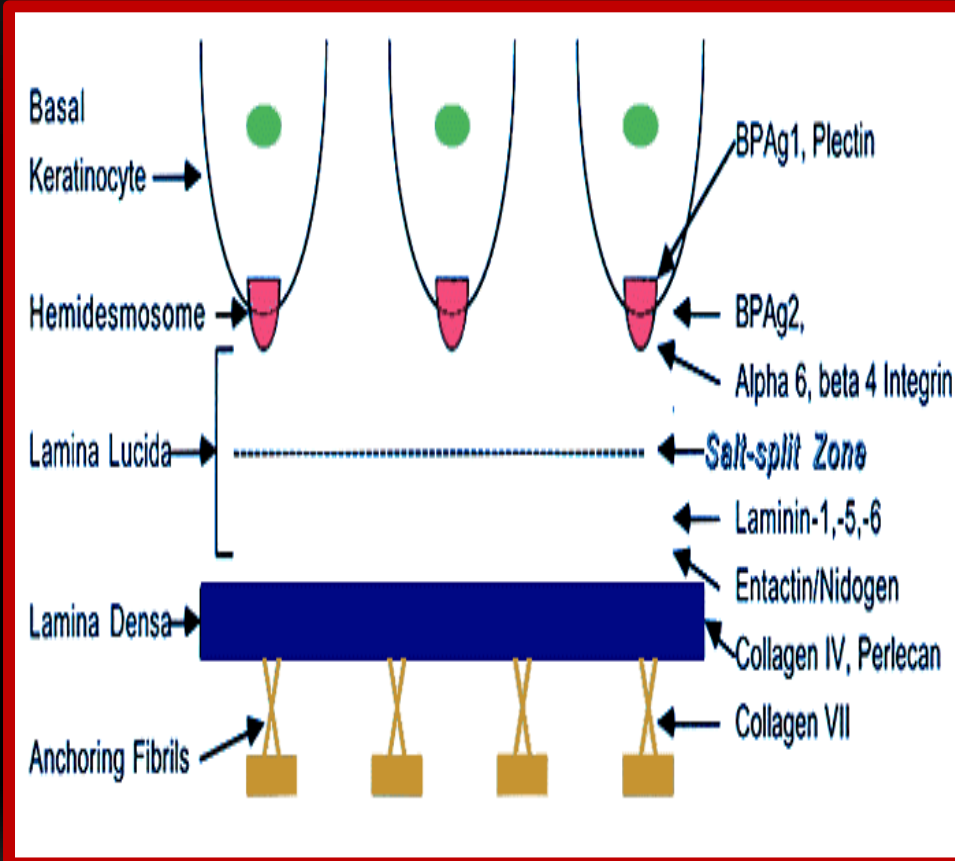
### Formed by:

Plasma membrane of basal cells  
and hemidesmosomes

Thin clear amorphous  
space (lamina lucida)

An electron dense area  
(lamina densa )

Anchoring fibrils that anchors  
the epidermis to dermis .





# SKIN STRUCTURE

**Dermis is divided into**

**Papillary dermis**

**Reticular dermis**

**Consists of :**

**1.Collagen fibers**

**Provides strength**

**Thin fibers in papillary**

**Dermis but thick and coarse in  
the reticular dermis .**



# SKIN STRUCTURE

## 2. Elastic Fibers.

Provides elasticity

Protection against shearing forces.



# SKIN STRUCTURE

## 3. Ground substance

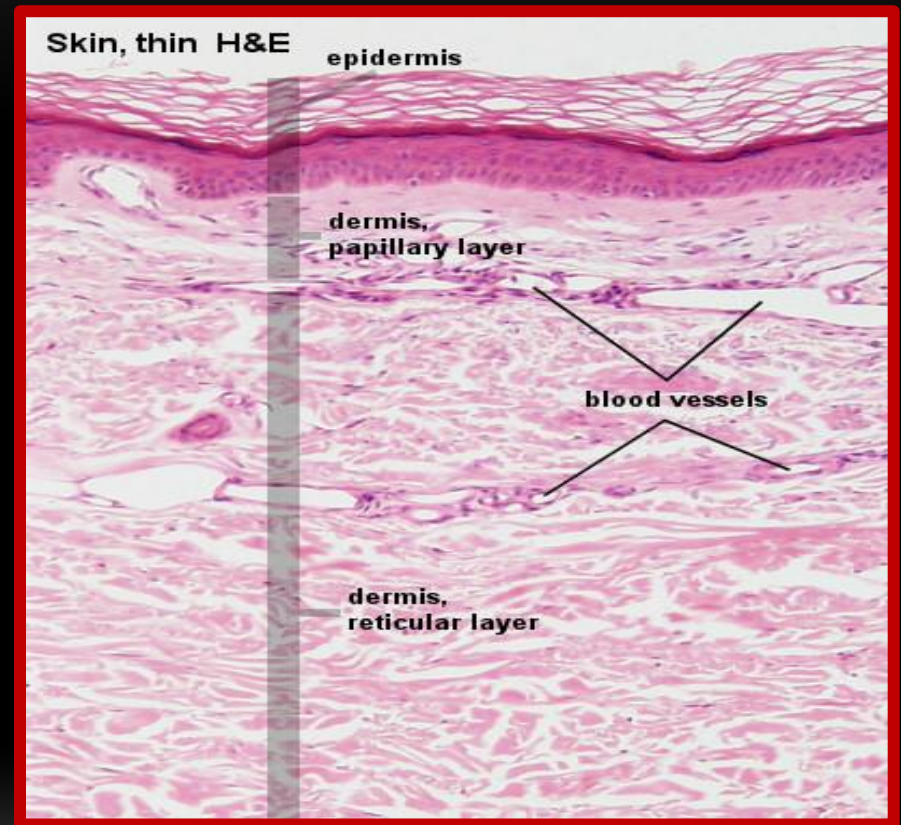
Binds water and maintains the skin turgor.

## 4. Blood vessels.

To nourish the overlying epidermis also.

## 5. Fibroblasts

Produce the above elements..



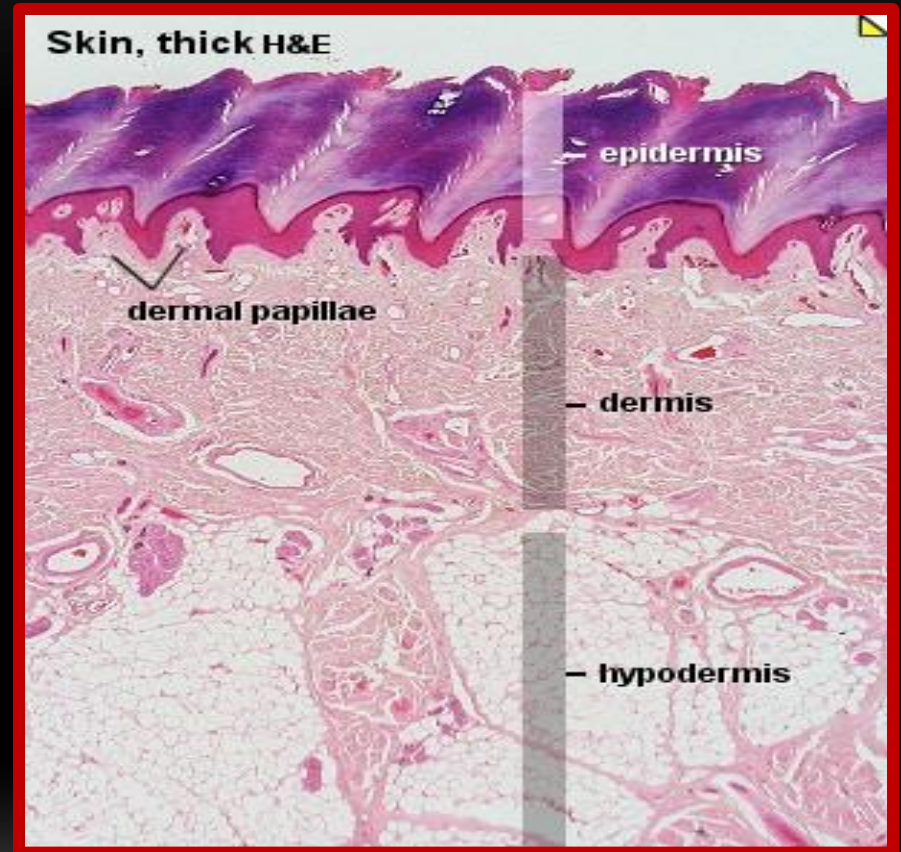


# SKIN STRUCTURE

## Function of dermis:

It provides nourishment to the epidermis and interact with it during wound repair.

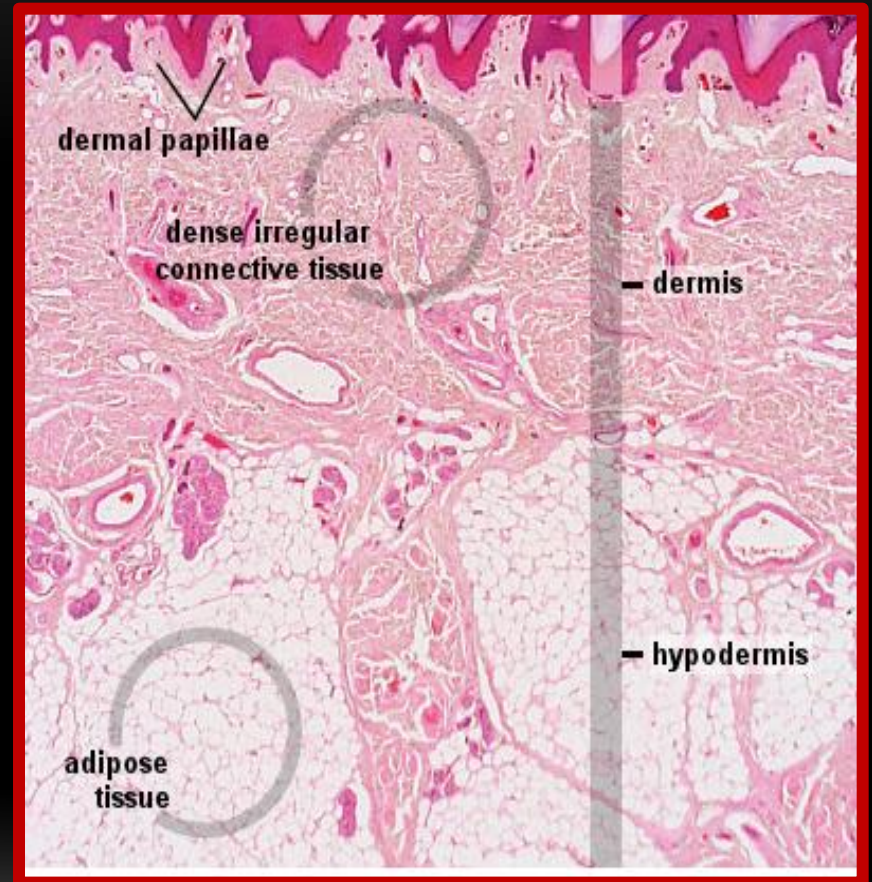
It gives the skin its strength ,elasticity, and softness.



# SKIN STRUCTURE

**Subcutaneous Fat:**

**Composed of lipocytes**



# SKIN STRUCTURE

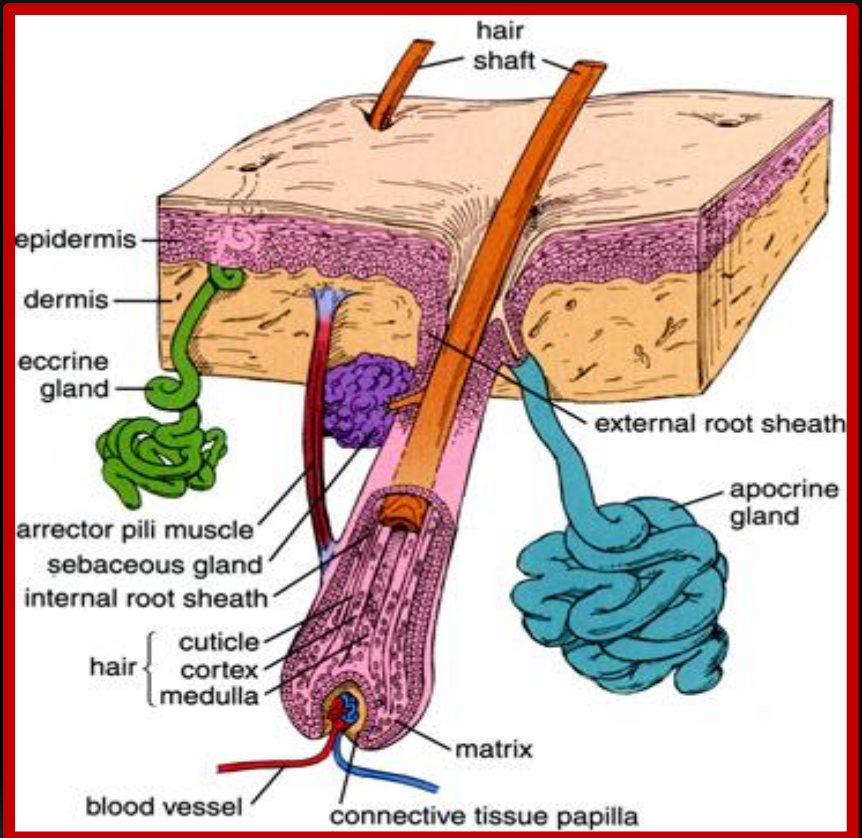
Skin Appendages include:

Eccrine/ apocrine sweat glands.

Sebaceous glands.

Hair Follicles.

Nails

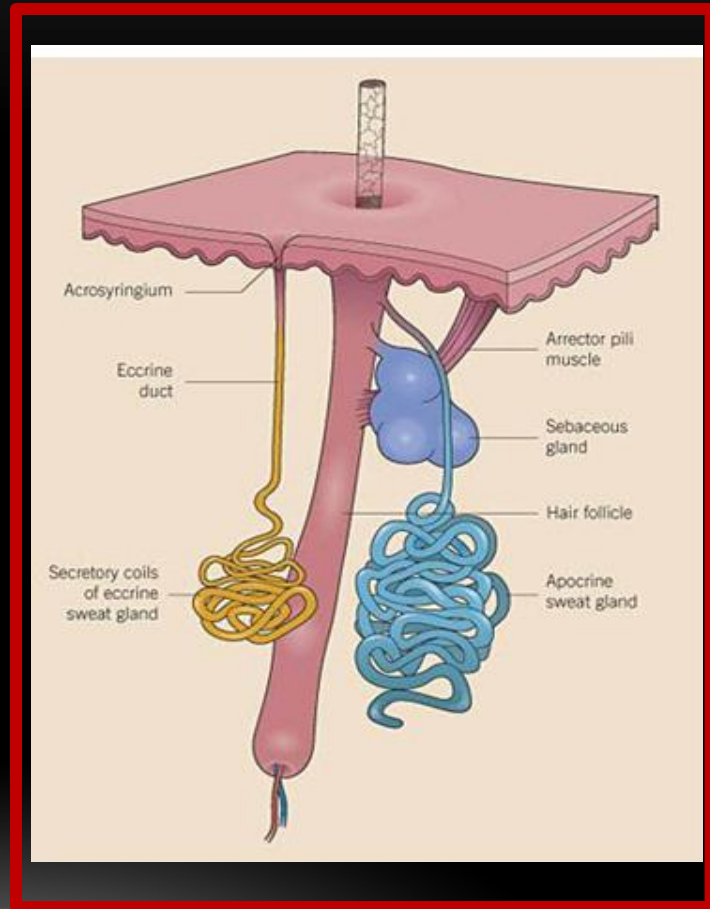


# SKIN APPENDAGES

## **Eccrine sweat glands**

**Tubular structures open freely on the skin ;not attached to hair follicles.**

**Under the influence of cholinergic stimuli.**





# SKIN APPENDAGES

## **Eccrine sweat glands.**

**Present everywhere except  
the vermilion border ; nail  
beds ; labia minora ;  
glans**

**Abundant in palms ; soles.**





# SKIN APPENDAGES

**Apocrine sweat glands:**  
**Secrete viscous material**  
**that give musky odor when**  
**acted upon by bacteria.**



# SKIN APPENDAGES

**Apocrine sweat glands:**

**Present in the axillae ;  
anogenital area ; modified  
glands in the external ear  
canal ; the eye lids ( moll's  
glands ) ; and areolae.**

**Under adrenergic stimuli.**

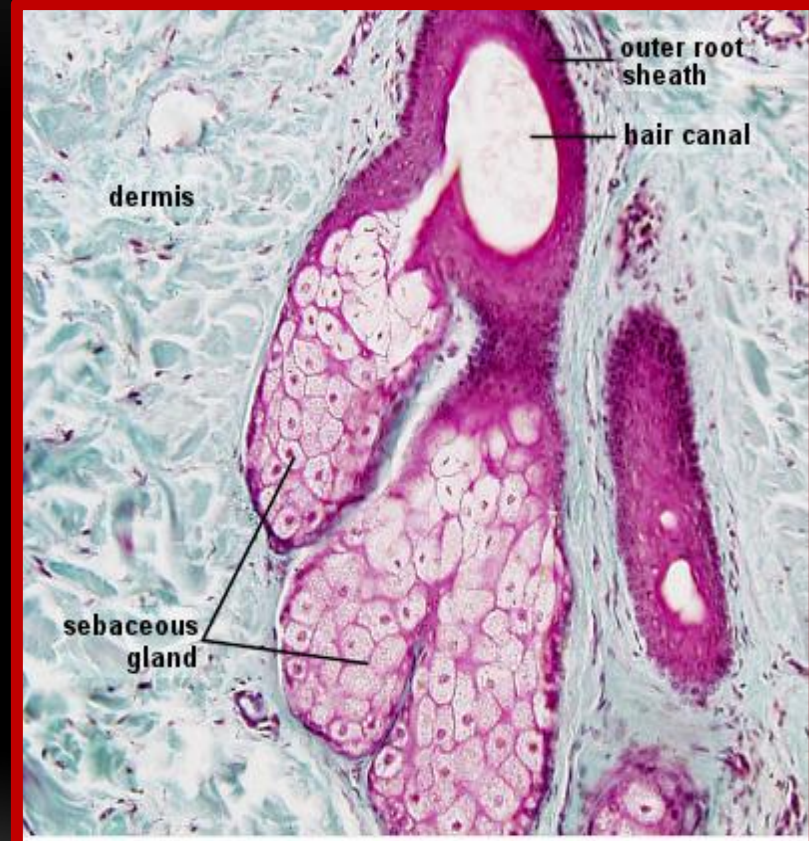


# SKIN APPENDAGES

**Sebaceous glands:**

**Attached to hair follicles or open freely.**

**Present in the scalp, forehead, face upper chest except palms and soles.**



# SKIN APPENDAGES

**Sebaceous glands:.**

**In the areola as Montgomery tubercles**

**In the eye lids as Meibomian glands.**

**Ectopic glands in the mucous membrane are called fordyce spots.**

**Under the control of androgens.**





# SKIN APPENDAGES

**Hair follicles:**

**The hair follicle with it's  
attached sebaceous  
gland**

**Form the Pilosebaceous  
Unit.**



## SKIN APPENDAGES:

### Nails.

The nail plate is formed of hard keratin

Proximal nail fold morphology can be altered in connective tissue disease



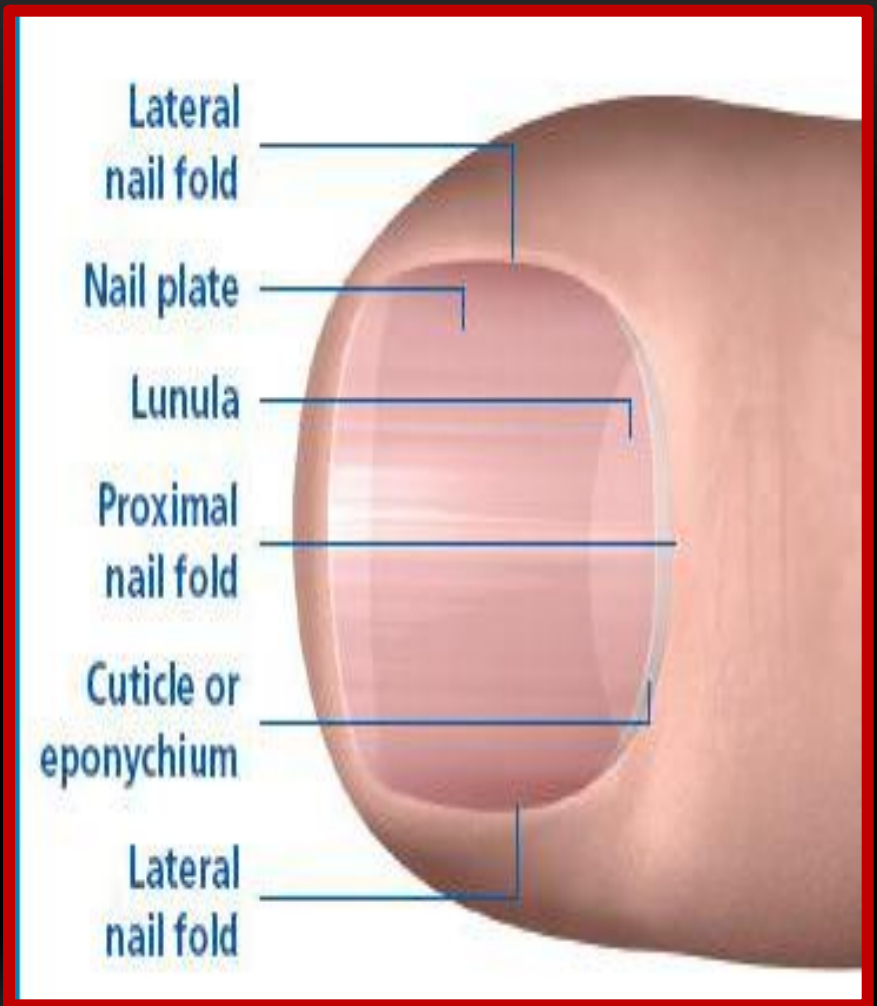
## SKIN APPENDAGES:

The lunula is the visible part of the matrix

The matrix covers the midportion of the distal Phalanx

Fingernails grow  
3mm/month

Toenails grow  
1mm/month

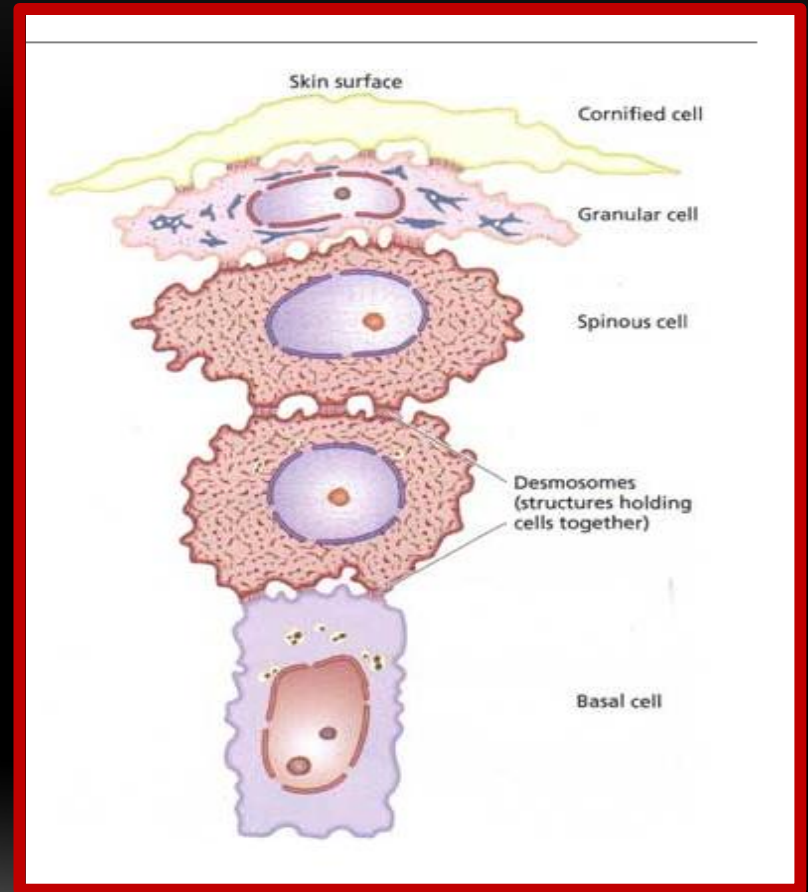


# CORNIFICATION (KERATINIZATION)

It is the cytoplasmic events that occur in the cytoplasm of epidermal keratinocytes

during their terminal differentiation into dead horny cell (corneocyte)

The total process takes approximately 2 months.





# CORNIFICATION (KERATINIZATION)

It involves the formation of keratin polypeptides.

Abnormalities in this process leads to roughness and scaling of the skin like psoriasis



## LECTURE OUTLINES

- Function , Structure of the skin
  - Approach to dermatology patient.**
  - Morphology of skin lesions
  - Reaction patterns
  - Topical therapy
-

# APPROACH TO DERMATOLOGY PATIENT

## Step 1: Start with basics

Age

Race

Sex

Occupation



# APPROACH TO DERMATOLOGY PATIENT

**Step 2 :**

**Present complaints .**



# **APPROACH TO DERMATOLOGY PATIENT**

**History of skin lesion**

**Onset - when?**

**Where? site of onset.**

**Extension of lesions.**

**Evolution.**

**Itchy/ painful**

**Provocative factors (sun ,  
cold, friction).**

**Treatment.**



# APPROACH TO DERMATOLOGY PATIENT

Past medical history.

Family history.

Drug history.

Recreational and social  
history.



# EXAMINATION

Use good light when  
examining a patient.

Examine nails & mucous  
membrane.



## **EXAMINATION:**

**Describe the general appearance of patient.**

**Describe distribution of lesions**

**Describe arrangement of lesions**

**Describe the type of the lesion**

**Describe the shape.**

**Describe the color.**

**Describe size.**





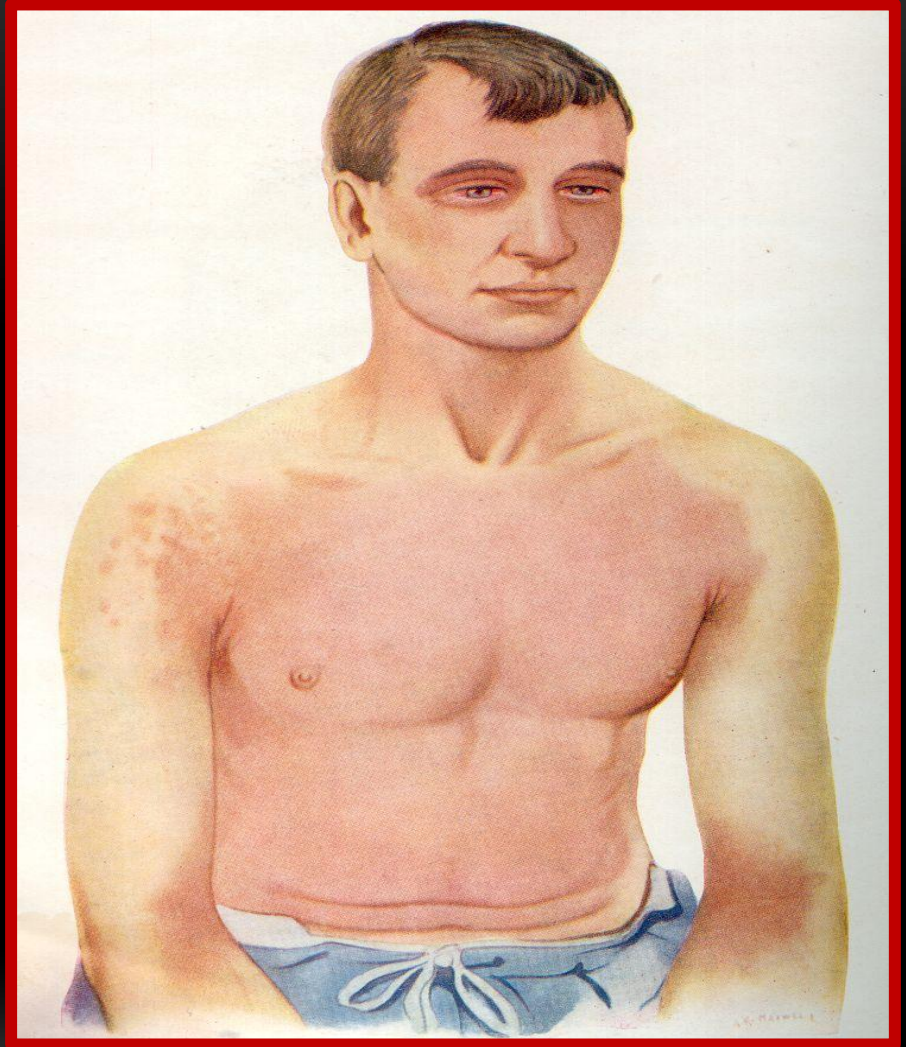
# DISTRIBUTION

Generalized :can be

## 1.Symmetrical

a.Universal (head to toe)

b.bilateral



# **DISTRIBUTION**

## **2. Asymmetrical**

**a. Diffuse**

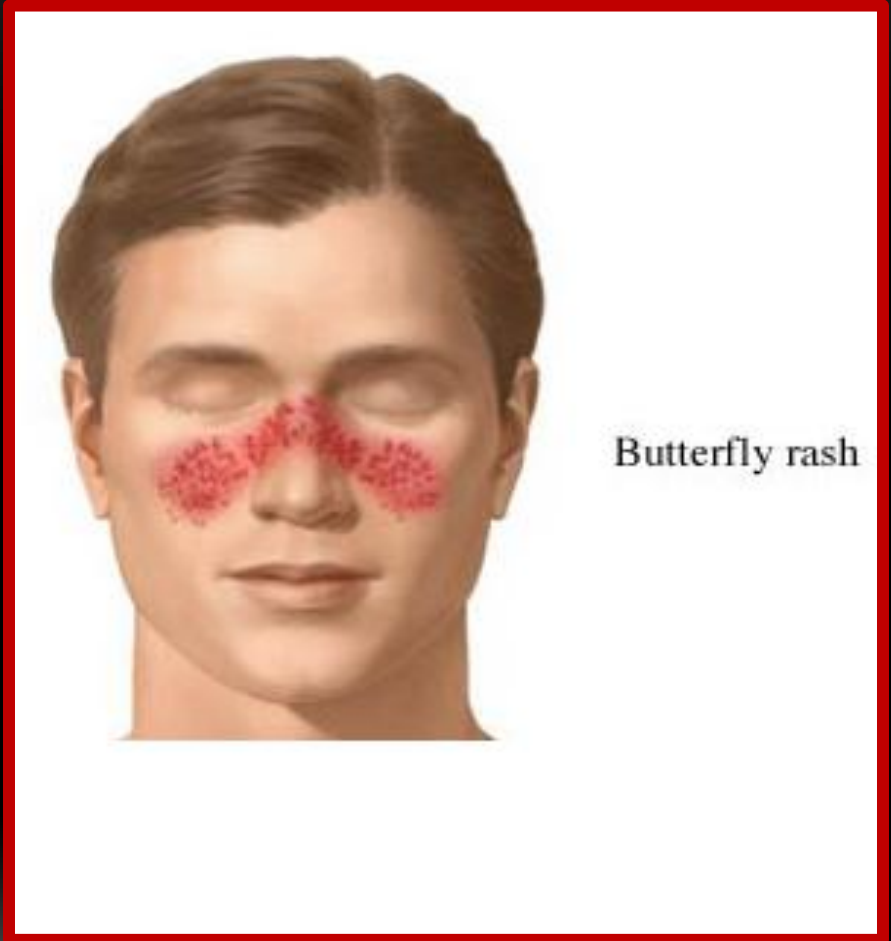
**b. Unilateral**



# DISTRIBUTION

Localized to:

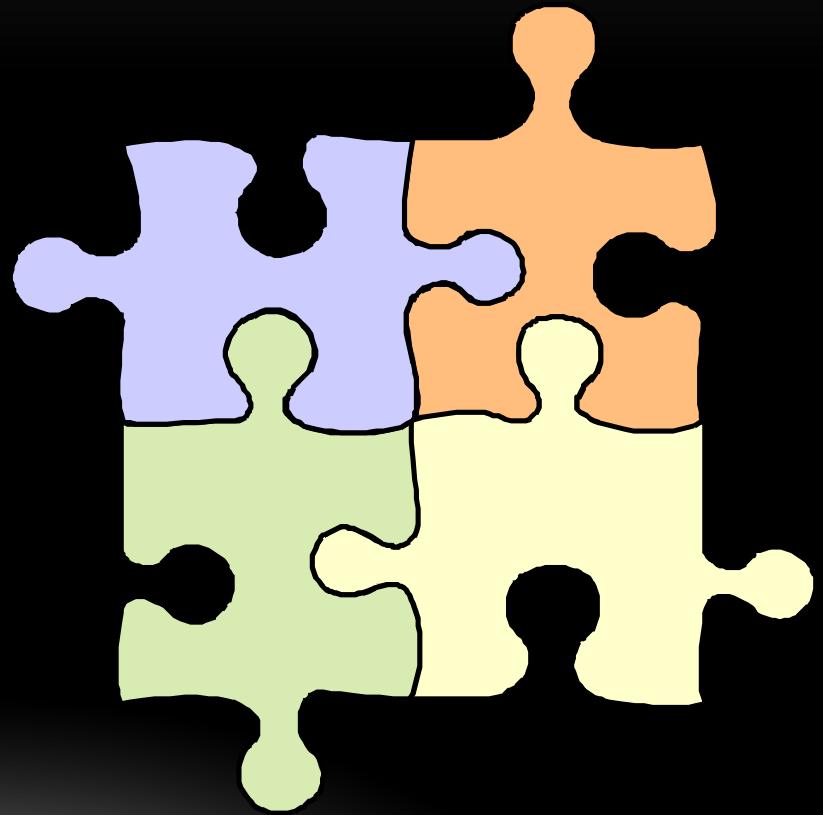
- Acral
- Sun exposed.
- Trauma sites.
- Flexures.
- Specific part.



# CONFIGURATION

The relation of lesions to each other.

- Linear.
- Grouped.
- Annular.
- Reticular.
- Circinate (circular)
- Arciform (arc like)
- Dermatomal.



# CONFIGURATION

Linear:

Forms a line .



# CONFIGURATION

Dermatomal.





# CONFIGURATION

Annular

Ring like .



# CONFIGURATION

## Grouped





# CONFIGURATION

Reticular

Net like .



## LECTURE OUTLINES

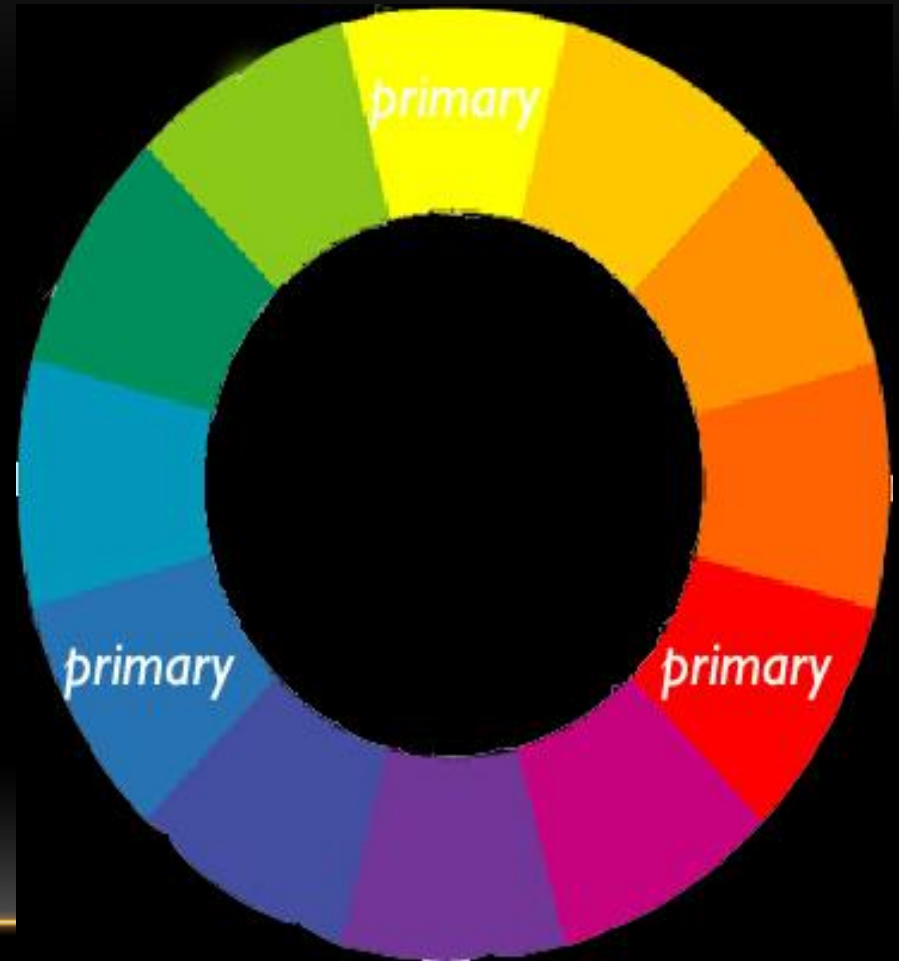
- Function , Structure of the skin.
  - Approach to dermatology patient.
  - Morphology of skin lesions.**
  - Reaction patterns.
  - Topical therapy.
-

# MORPHOLOGY

Skin lesions are divided into

**Primary = Basic lesion.**

**Secondary= Develop  
during evolution of skin  
disease created by  
scratching or infection**



# MORPHOLOGY

It is the shape of lesion

The margination of the lesion.

It is the type of the lesion.



# **MORPHOLOGY**

## **Primary lesions**

**Macule/patch**

**Papule/plaque**

**Nodule**

**Cyst**

**Wheal**

## **Secondary lesions**

**Excoriation**

**Erosion**

**Scale**

**Fissure**

**Ulcer**

# **MORPHOLOGY**

## **Primary lesions**

**Vesicle/bulla**

**Pustule**

**Purpura**

**Burrow**

## **Secondary lesions**

**Excoriation**

**Erosion**

**Scale**

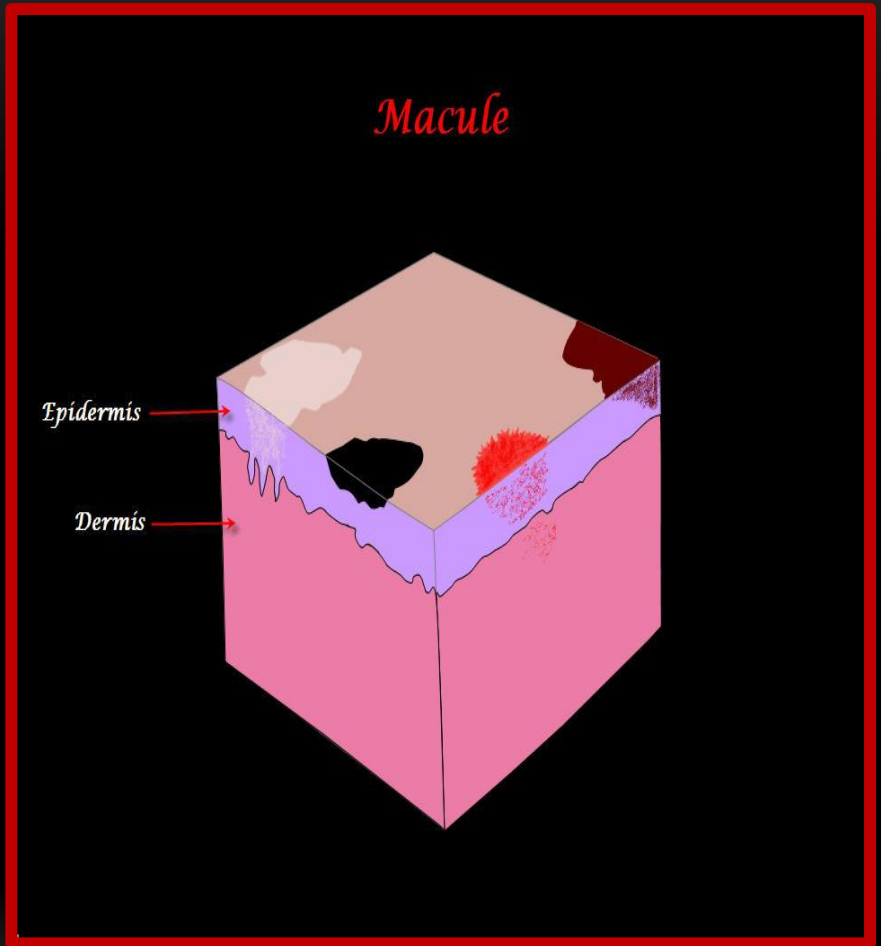
**Fissure**

**Ulcer**

# PRIMARY SKIN LESIONS

**Macule :**

**Flat circumscribed  
discoloration that lacks  
surface elevation or  
depression.**



# PRIMARY LESIONS

## Patch:

Flat circumscribed skin discoloration; a large macule.





# PRIMARY SKIN LESIONS

**Papule :**

**Elevated, Solid lesion**

**< 0.5cm in diameter.**

**Notice color and surface changes eg. Umblicated,**

**Keratotic, Papillomatous**

**Flat topped.**



# PRIMARY SKIN LESION

**Plaque:**

**Elevated, solid  
confluence**

**or expansion of papules**

**> 0.5 (lacks a deep  
component ).**



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# PRIMARY SKIN LESIONS

**Nodule :**

**Elevated, Solid  
lesion**

**> 0.5 cm in diameter;**

**with deep  
component**



# PRIMARY SKIN LESIONS

**Cyst:**

**Nodule that contains  
fluid or semisolid  
material.**



# PRIMARY SKIN LESIONS

**Vesicle:**

**Elevation that  
contains clear fluid.**

**Bulla:**

**Localized fluid  
collection >0.5cm in  
diameter a large vesicle**

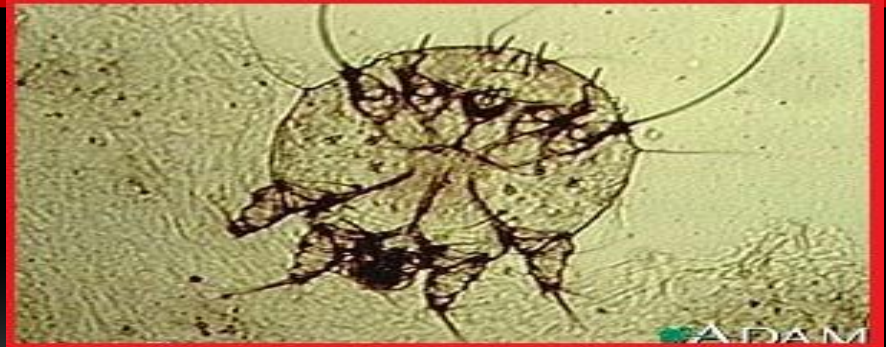




# PRIMARY SKIN LESIONS

**Burrow:**

**Linear tunnel in the  
epidermis induced by  
scabies mite**





# PRIMARY SKIN LESIONS

**Purpura:**

**Extra-vasation of red  
blood cells giving non-  
blanchable erythema**



# PRIMARY SKIN LESION

## Wheal:

Firm, edematous  
plaque that is  
evanescent (short  
lived)and pruritic; a hive.

URTICARIA



# **PRIMARY SKIN LESIONS**

**Pustule:**

**Elevation that contains  
purulent material.**



## SECONDARY SKIN LESIONS

**Scale:**

**Thick stratum corneum**



## SECONDARY SKIN LESION

### **Crust:**

**A collection of cellular debris, dried serum and**

**blood .**

**Antecedent primary lesion usually a vesicle, bulla, or pustule.**



## SECONDARY SKIN LESIONS

### Erosion:

A partial focal loss of epidermis that heals without scarring.





# SECONDARY SKIN LESIONS

**Excoriation :**

**Linear erosion induced  
by scratching**



# SECONDARY SKIN LESIONS

**Fissure :**

**Vertical loss of  
epidermis**

**and dermis with sharply  
defined walls: crack in  
skin**



## **SECONDARY SKIN LESION**

**Ulcer :**

**A full thickness focal  
loss of epidermis and  
dermis; heals with  
scarring**



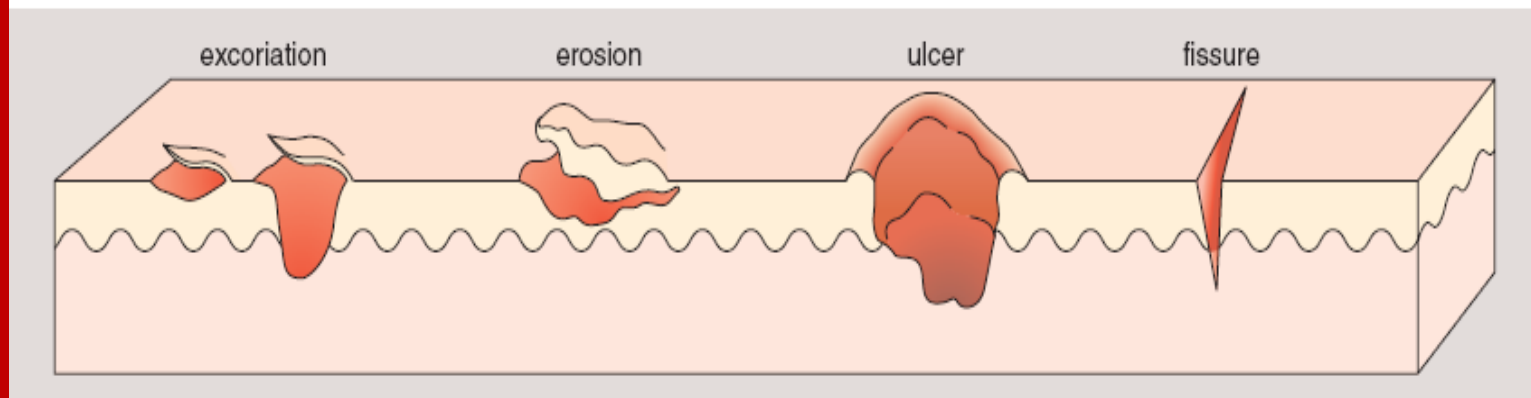


Fig. 4.24 Excoriation, erosion, ulcer and fissure.

# SECONDARY SKIN LESIONS

**Scar:**

**A collection of new  
connective tissue; may  
be hypertrophic or  
Atrophic; implies  
dermoepidermal  
damage**



## **SECONDARY SKIN LESIONS**

**Lichenification:  
Increased skin markings  
secondary to scratching.**





# SPECIALIZED TERMINOLOGY

**Sclerosis:**

**Hardening of the skin .**

**Skin is un-pinchable .**



Quiz

**Bilateral  
yellow  
plaques**



Quiz



**Keratotic papillomatous skin colored plaque**

## Quiz



**Umbilicated pearly papules, some are grouped**

Quiz



**Annular erythematous scaly plaque**

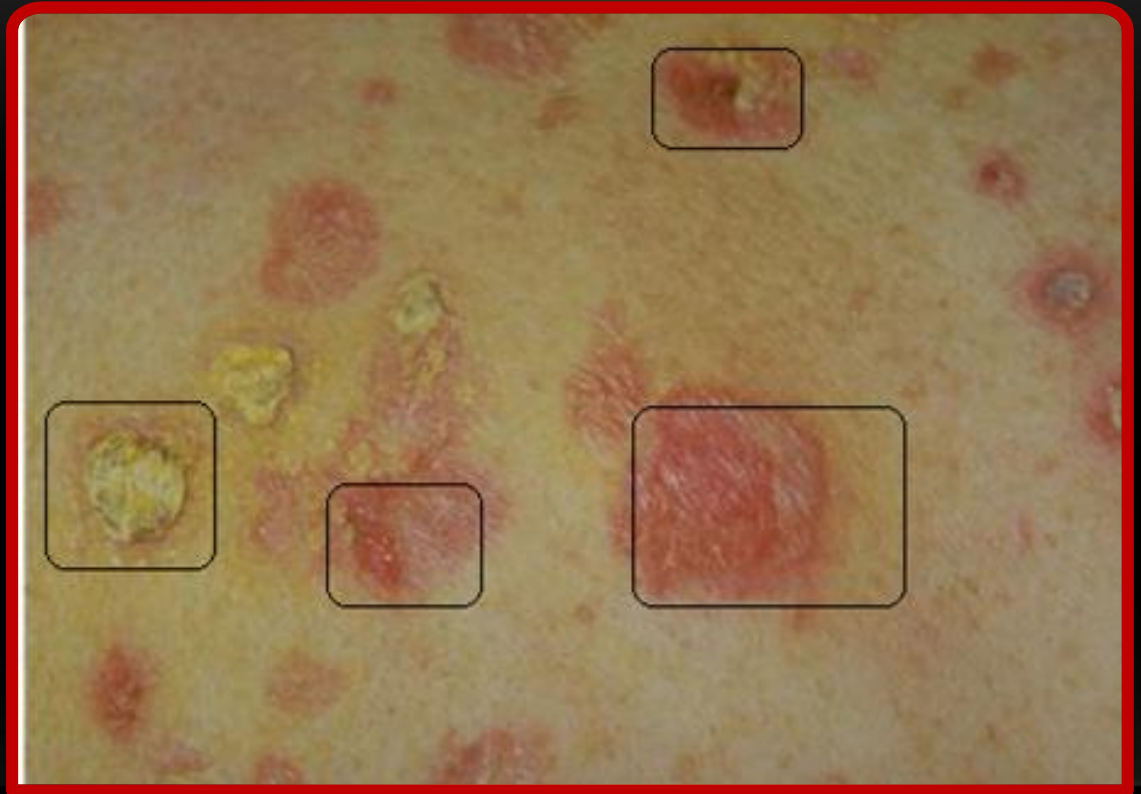
Quiz



**Grouped vesicles on erythematous base**



## Quiz



**Yellow crust, erosions, flaccid bulla on  
erythematous base**

Quiz



**1 cm cyst with telangiectasia**

Quiz

**Unilateral  
erythematous  
patch**



## LECTURE OUTLINES

- Function , Structure of the skin.
  - Approach to dermatology patient.
  - Morphology of skin lesions.
  - Important signs and Investigations.**
  - Reaction patterns.
  - Topical therapy.
-

# **IMPORTANT SIGN IN DERMATOLOGY:**

## **NIKOLSKY SIGN:**

**Rubbing of apparently  
normal skin induce  
blistering**

**Seen in pemphigus vulgaris  
and toxic epidermal  
necrolysis (TEN)**



# IMPORTANT SIGNS IN DERMATOLOGY

## AUSPITZ SIGN

Removal of scale on top of a  
red papule produces  
bleeding points

Seen in psoriasis





## IMPORTANT SIGN IN DERMATOLOGY:

Koebner's phenomenon:

Trauma to the skin produce certain diseases like

a.Psoriasis

b.Vitiligo

c.Lichen planus.

d.Warts.



# IMPORTANT SIGNS IN DERMATOLOGY

## DERMATOGRAPHISM

Firm stroking of the skin  
produce erythema and  
wheal

Seen in physical urticaria  
In patient with atopy,  
stroking produces white  
dermato-graphism rather  
than red.



# INVESTIGATIONS

## Wood's lamp :

Produces long wave UVL (360 nm)

Useful in

**Tinea Versicolor**-yellowish green fluorescence

**Tinea Capitis** -yellow green fluorescence in **M.canis**, **M. andouini**

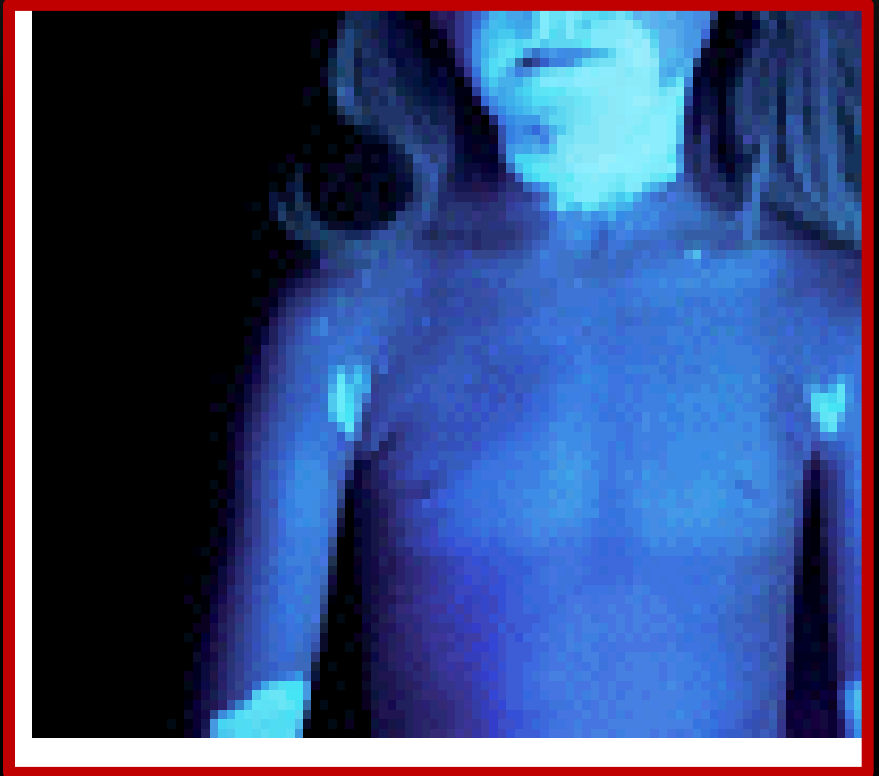


# INVESTIGATIONS

## Woods lamp :

**Vitiligo** - Milky white.

**Erythrasma** –coral red  
flourescence



## INVESTIGATION:

### KOH preparation for fungus:

Cleanse skin with alcohol  
Swab.

Scrape skin with edge of  
microscope slide onto a  
second microscope  
slide



# INVESTIGATION:

KOH preparation for  
fungus:

Put on a drop of 10% KOH

Apply a cover slip and  
warm gently

Examine with microscope  
objective lens



**Figure 2:** 10% KOH preparation showing broad thin walled aseptate hyphae with irregular branching (500x)

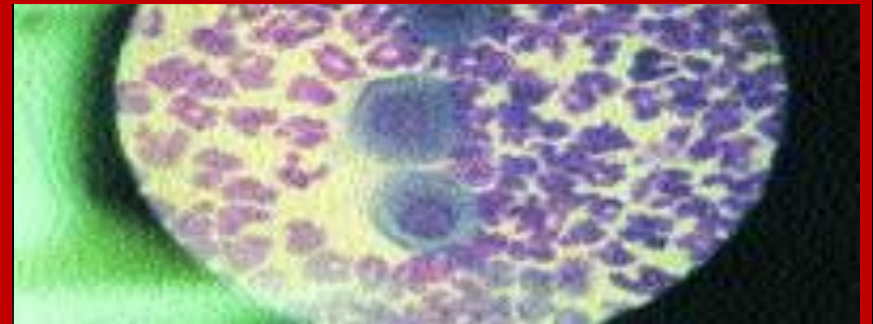
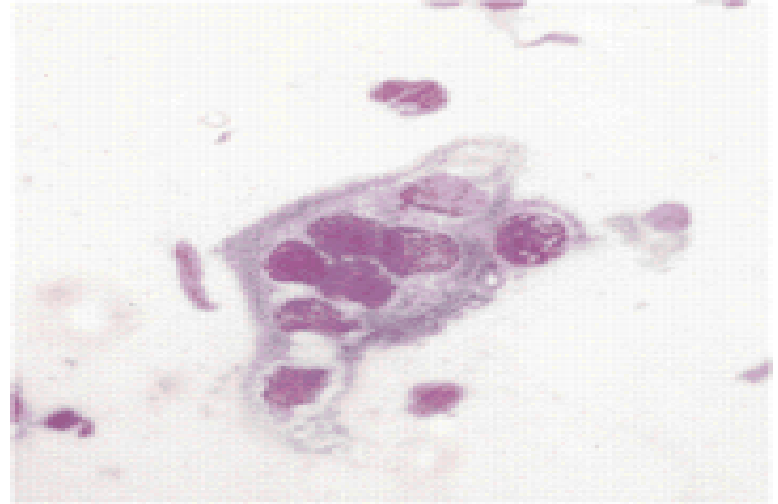


# INVESTIGATION:

## Tzank smear :

Important in diagnosing  
Herpes simplex or VZV  
(multinucleated giant  
cells)

Pemphigus Vulgaris  
(acantholytic cells).



# INVESTIGATION:

## Tzank smear:

### METHOD

Select a fresh vesicle.

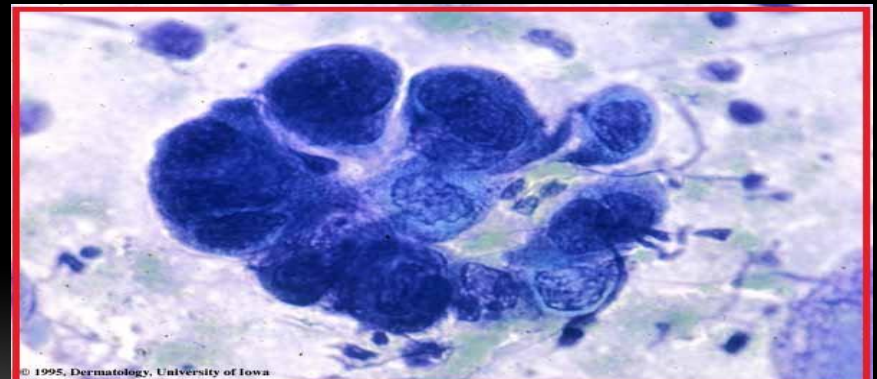
De-roof and scrape base of the vesicle.

Smear onto a slide.

Fix with 95% alcohol.

Stain with Giemsa stain.

Examine under microscope.



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# INVESTIGATION

## Prick test :

Put a drop of allergen containing solution

A nonbleeding prick is made through the drop.

After 15-20 mins the antigen is washed , the reaction is recorded.



# INVESTIGATION

## Prick test :

A positive test shows urticarial reaction at site of prick.

Detects immediate-type IgE mediated reaction  
Emergency therapeutic measures should be available in case of anaphylaxis.



# INVESTIGATIONS


## PATCH SKIN TEST

**Important in contact dermatitis**  
**Select the most probable**  
**substance causing dermatitis**

**Apply the test material over the**  
**back**

**Read after 48 & 72 hr. look for**  
**(erythema, edema, vesiculation)**

Panel 1		Panel 2	
Patch	Micrograms/ cm <sup>2</sup>	Patch	Micrograms/ cm <sup>2</sup>
1. Nickel sulphate	200	13. p-tert-Butylphenol formaldehyde resin	50
2. Wool alcohols	1000	14. Paraben mix	1000
3. Neomycin sulphate	230	15. Carba mix	250
4. Potassium dichromate	23	16. Black rubber mix	75
5. Caine mix	630	17. Cl+Me-Isothiazolinone (Kathon CG)	4
6. Fragrance mix	430	18. Quaternium-15	100
7. Colophony	850	19. Mercaptobenzo- thiazole	75
8. Epoxy resin	50	20. p-Phenylenediamine	90
9. Quinoline mix	190	21. Formaldehyde (N-hydroxymethyl succinimide)	180
10. Balsam of Peru	800	22. Mercapto mix	75
11. Ethylenediamine dihydrochloride	50	23. Thiomerol	8
12. Cobalt chloride	20	24. Thiuram mix	25

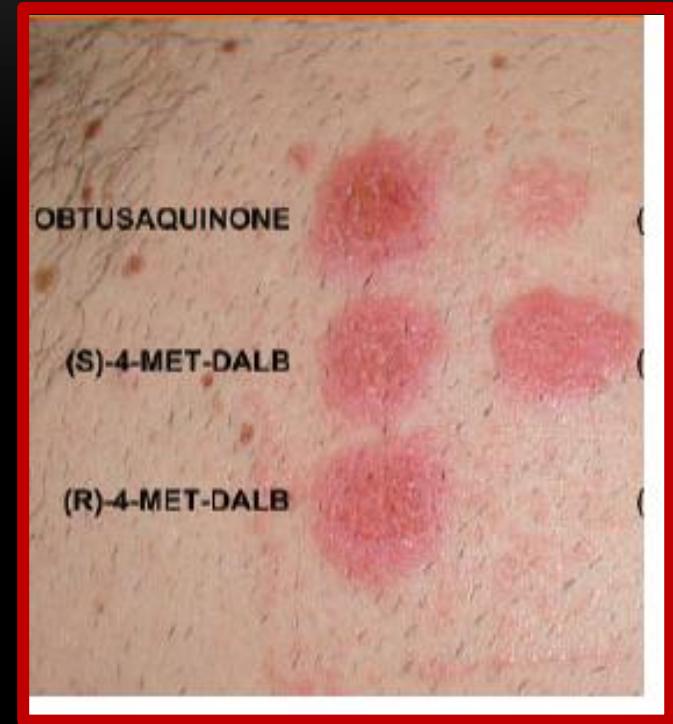




# INVESTIGATIONS

**Positive patch test showing erythema and edema.**

**In severe positive reaction vesicles may be seen**





# **INVESTIGATION**

## **SKIN PUNCH BIOPSY**

**Clean skin with alcohol**

**Infiltrate with 1-2%**

**xylocaine with adrenaline**

**Rotate 2-6 mm diameter**

**Punch into the lesions**



# **INVESTIGATION**

**Lift specimen and cut at  
base of lesion**

**Fix in 10% formalin**

**For Immunofluorescence**

**Put in normal saline**

**Suture if 5 mm is used**



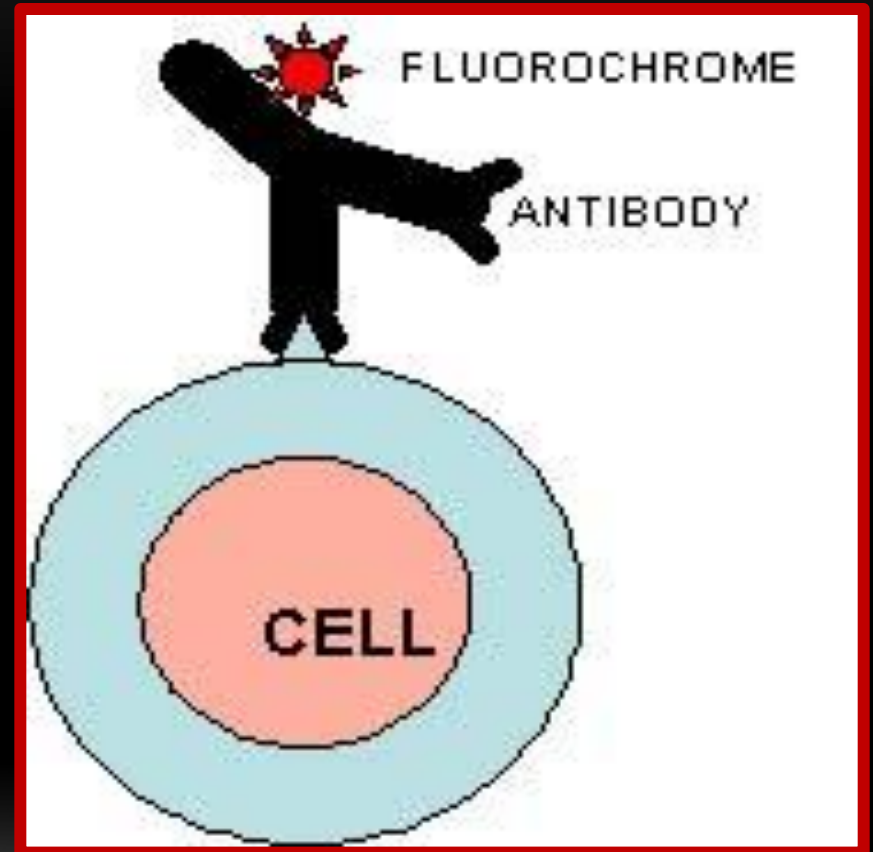
# INVESTIGATIONS

## Direct immunofluoresence DIF

Used to diagnose autoimmune diseases e.g.

PemphigusVulgaris

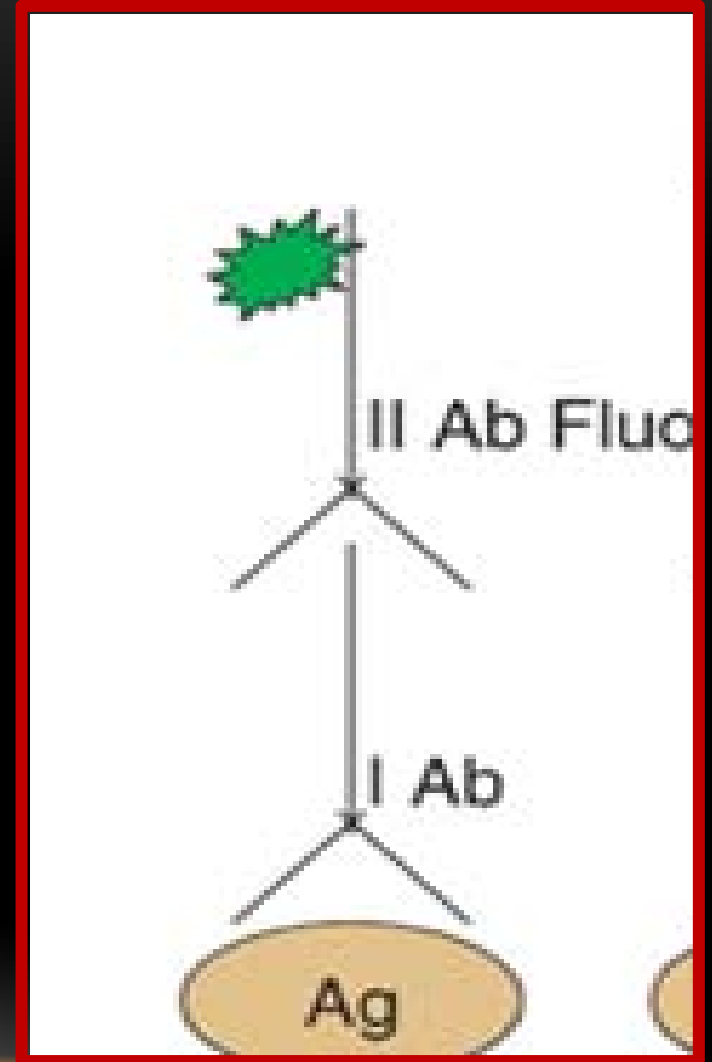
Bullous pemphigoid



# INVESTIGATIONS

## Direct immunofluoresence ( DIF)

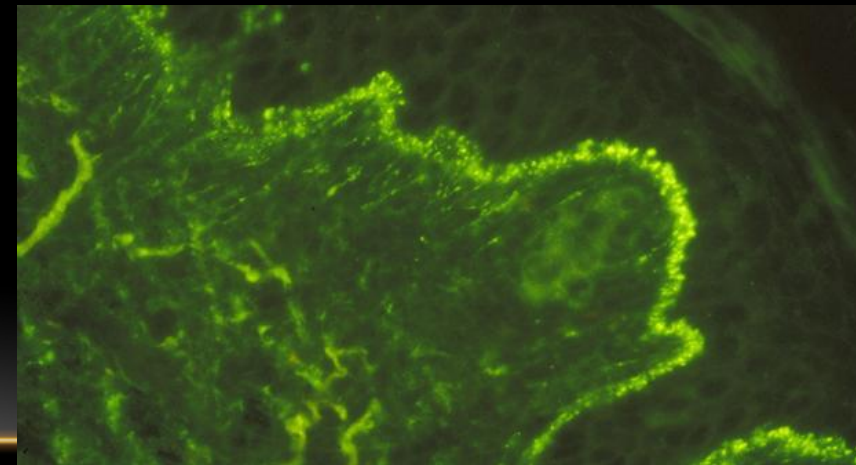
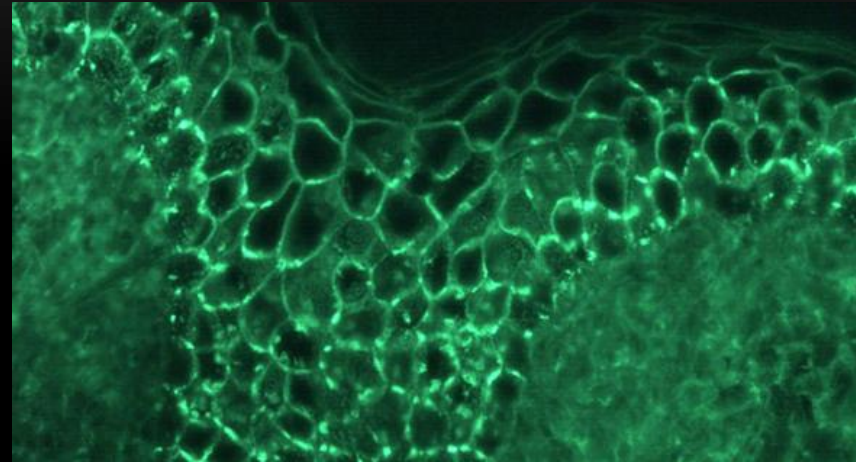
Detects immunoglobulin  
and complement deposits  
in skin.



# INVESTIGATIONS

## Direct immunofluorescence

Fluorescence will be noted if immunoglobulin deposits are  
Intercellularly between the  
epidermal cells as in  
pemphigus vulgaris  
or the Basement membrane  
zone as in  
bullous pemphigoid



# INVESTIGATION:

## Indirect Immuno

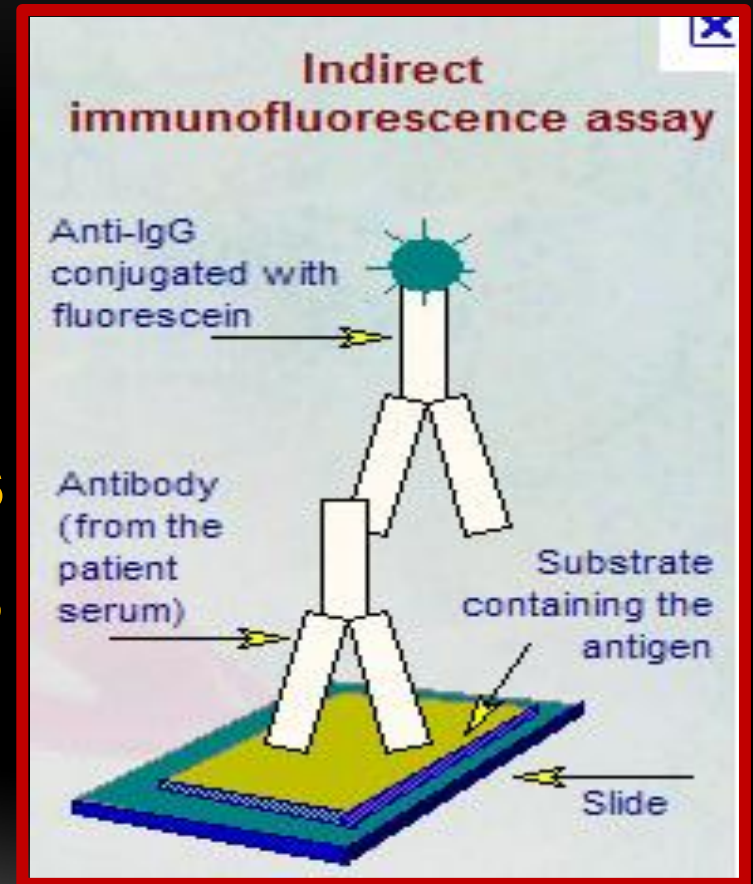
## Fluorescence : IDIF

Detect auto antibodies in the serum

It is used to confirm a diagnosis

To differentiate between bullous diseases

To monitor disease activity





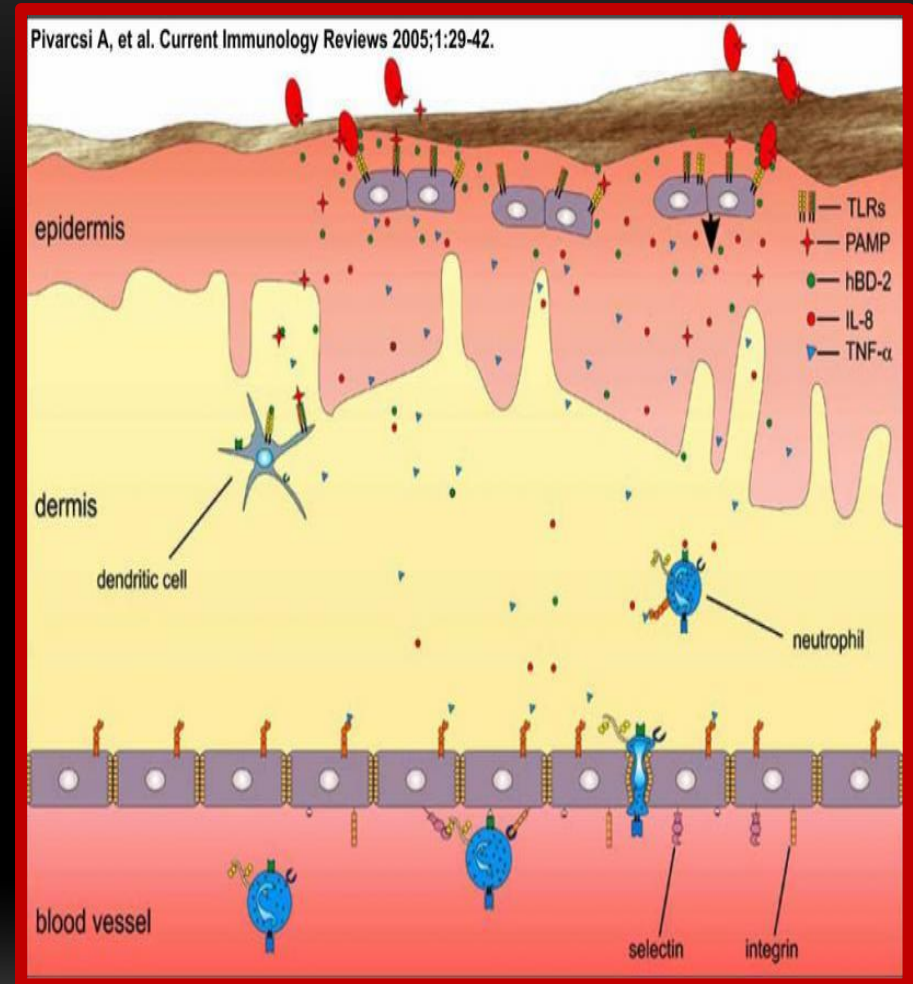
## **LECTURE OUTLINES**

- Function , Structure of the skin.
  - Approach to dermatology patient.
  - Morphology of skin lesions.
  - Important signs and Investigations.
  - Reaction patterns.**
  - Topical therapy.
-

# REACTION PATTERNS

Skin has limited number of responses to stimuli whether inflammatory or neoplastic. These responses are called reaction patterns.

Reaction patterns aid in formulating differential diagnoses.



## REACTION PATTERNS

**Psoriasiform:**

**Well defined erythematous**

**Papules or plaques with  
thick scale**

**Differential diagnosis**

**Psoriasis**

**Lichen simplex chronicus**



## REACTION PATTERNS

**Pityriasisiform:**

**Papules and plaques with  
delicate scales**

**Differential diagnosis**

**Pityriasis rosea**



## REACTION PATTERN:

**Lichenoid :**

**Flat topped polygonal  
papules**

**Differential diagnosis**

**Lichen planus**

**Lichenoid drug reaction**





# REACTION PATTERNS

**Bullous :**

Differential diagnosis

**Pemphigus Vulgaris**

**Bullous Pemphigoid**





# **REACTION PATTERNS**

**Pustular :**

**Differential diagnosis**

**Folliculitis**

**Varicella**

**Pustular psoriasis**



## REACTION PATTERNS:

### Eczematous:

Pruritic, ill defined  
erythematous

edematous, vesicular eruption

### Differential diagnosis

Atopic dermatitis

contact dermatitis



## LECTURE OUTLINES

- Function , Structure of the skin.
- Approach to dermatology patient.
- Morphology of skin lesions.
- Important signs and Investigations.
- Reaction patterns.
- Topical therapy and others.

## TOPICAL THERAPY

A wide variety of topical agents are available.

Delivers the drug to target site.

If the lesion is dry -wet it  
if wet -dry it.(Golden rule)



## TOPICAL THERAPY

**Wet compresses - dries wet lesions.**

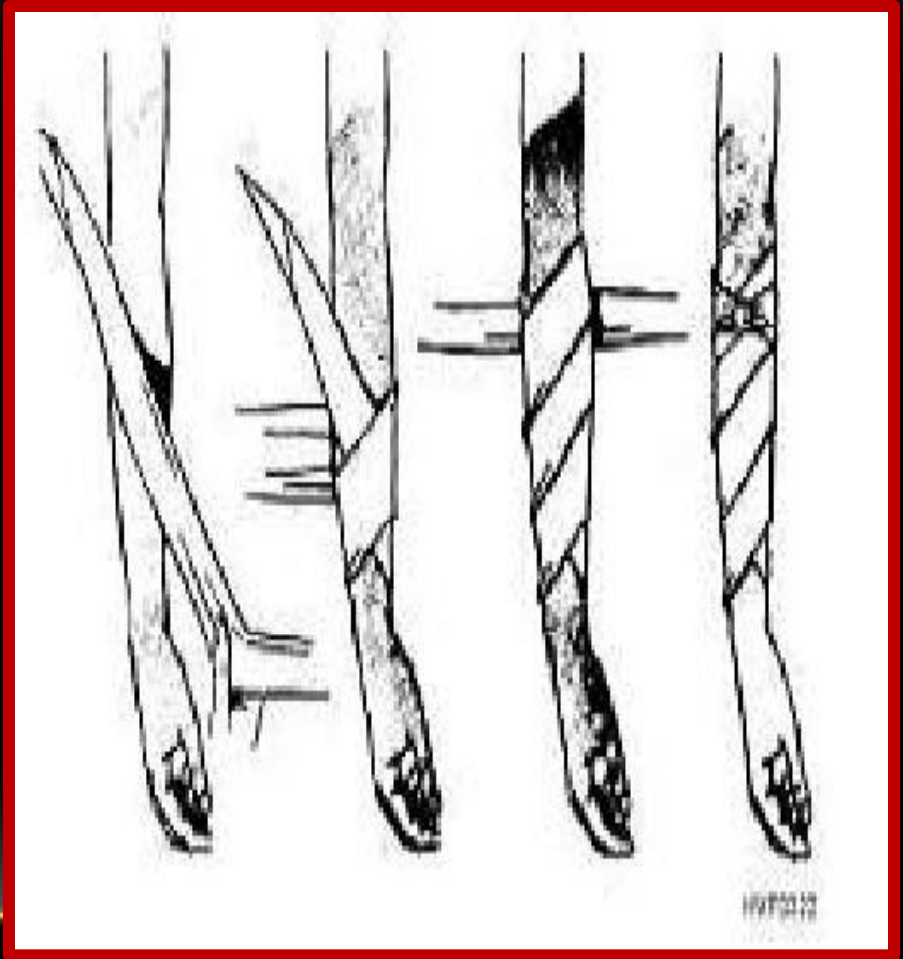
**Like acetic acid,  $\text{KMnO}_4$**

**Wet compresses are**

**Antibacterial**

**Cause debridement**

**Suppress inflammation.**



# **TOPICAL THERAPY**

**Topical drugs consist of**

**Active substance like steroids, antimicrobial agents  
and vehicle.**

**Vehicle:**

**Is the base in which the active ingredient is  
dispersed.**



# **TOPICAL THERAPY**

## **Topical steroids side effects:**

**Atrophy and striae.**

**Telangiectasia and purpura.**

**Masking the initial lesion.**

**Perioral dermatitis and rosacea or acne.**

**Systemic absorption.**

**Tachyphylaxis. (sudden loss of response)**

# **TOPICAL THERAPY**

## **Guidelines regarding steroid use:**

**Avoid high potency steroid on flexures and face.**

**Avoid high potency steroid in children.**

**Avoid use for extended periods of time.**

## TOPICAL THERAPY

**Creams are mixture of oils and water in which the active substance is dispersed.**

**Creams are white in color-  
useful in folds.**



# TOPICAL THERAPY

**Ointments are primarily grease. They are useful in dry lesions**

**Preserve moisture**

**Like petrolatum jelly and mineral oil.**

**Ointments are applied to dry skin**

**Are translucent.**



# TOPICAL THERAPY

**Gels are mixtures of propylene glycol and water. Sometimes they contain alcohol .They are translucent and are best used in wet disorders and hairy regions**



## HOW MUCH TO USE?

### Finger tip unit:

**The amount of  
cream/ointment expressed  
from 5mm nozzle.**

**It weighs 0.5g.**

**It covers 2 hand units.**





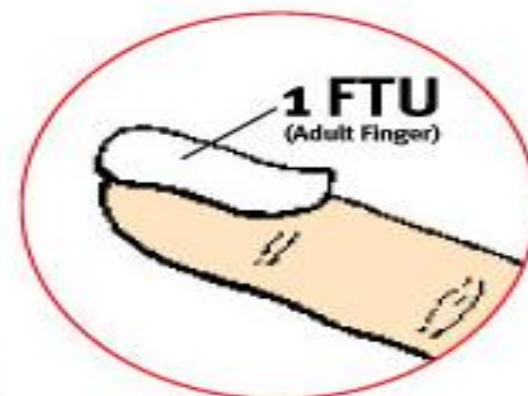
# FINGER TIP UNIT






## The fingertip unit method\*

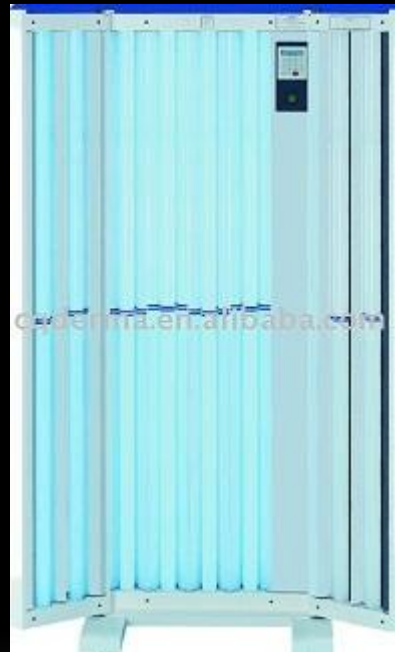
FTU = Fingertip unit(adult)

1 FTU = 1/2 g of cream or ointment.

Measurement based on 5mm nozzle.



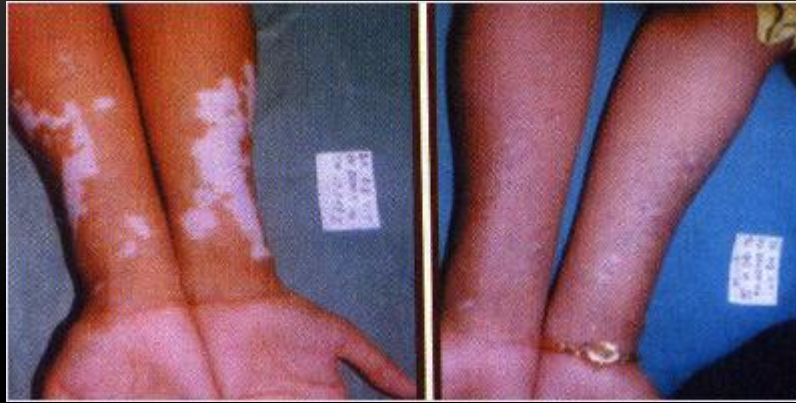
FACE & NECK	ARM & HAND	LEG & FOOT	TRUNK (front)	TRUNK (back inc buttocks)			
1	1	1½	1	1½	 3-6 months		
1½	1½	2	2	3	 1-2 years		
1½	2	3	3	3½	 3-5 years		
2	2½	4½	3½	5	 6-10 years		
FACE & NECK	ONE ARM	ONE HAND	ONE LEG	ONE FOOT	TRUNK (front)	TRUNK (back)	
2½	3	1	6	2	7	7	 Adult



**Phototherapy machine/NBUVB**



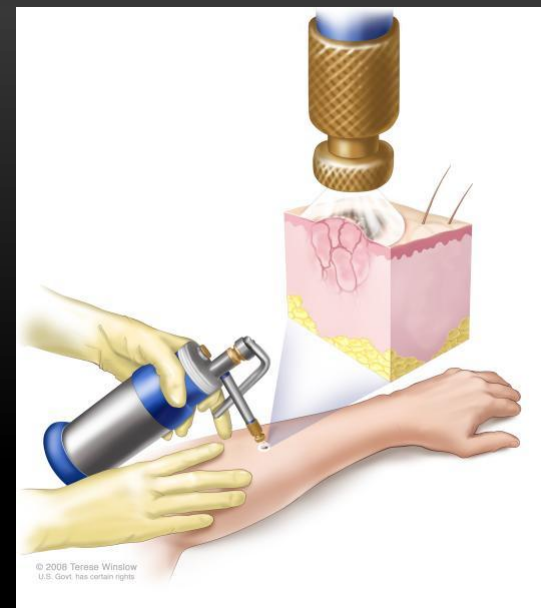
Hand and feet narrow band UVB



**Vitiligo treated by NBUVB**  
**Other indications include psoriasis**  
**Lichen planus**  
**Eczema**



## Liquid nitrogen gun (Cryotherapy) Used to treat warts







**Electric cautery**  
**Used to destroy skin tags**  
**Malignant tumors**





**Quiz**

**Linear nodules with  
ulceration**



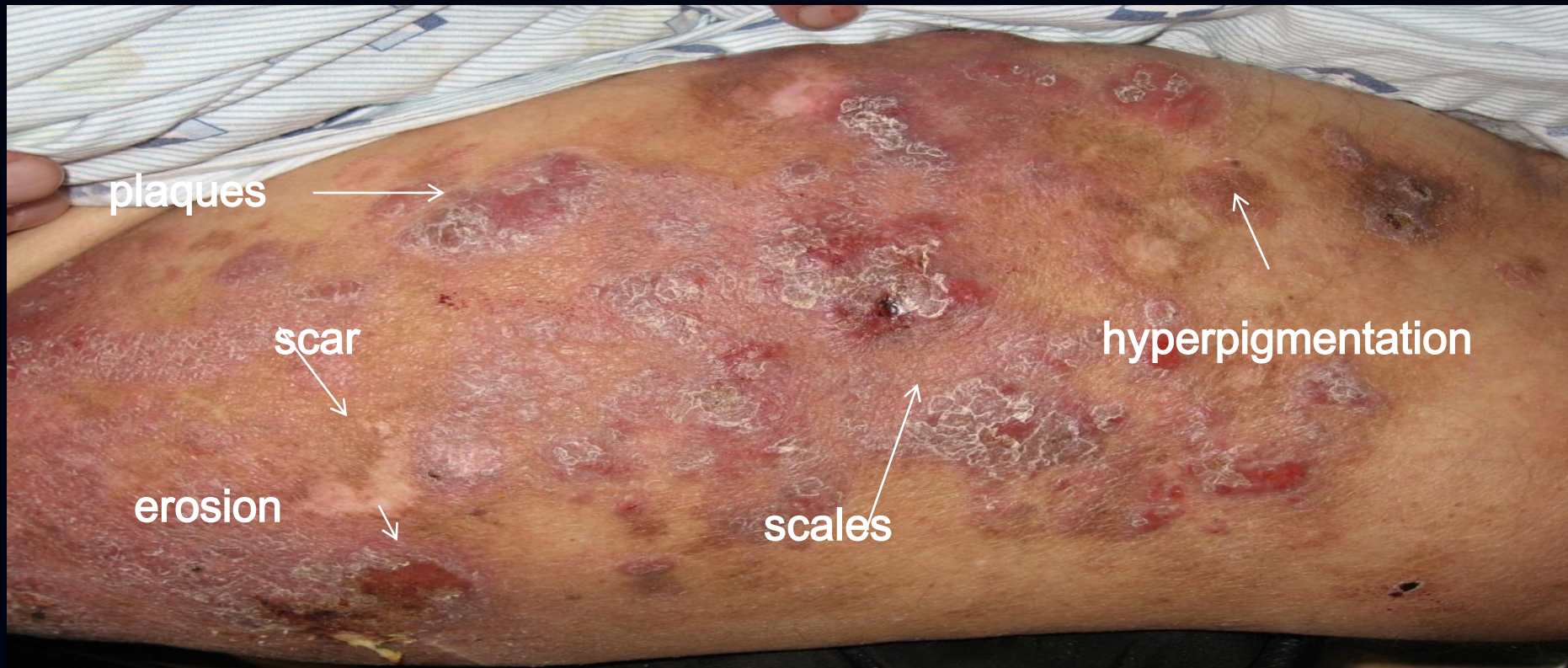
**Quiz**

**Multiple erosions**



**Quiz**  
**Erosions, crusts, annular**  
**bullae**





## Quiz

**Scales, plaques, scars ,  
erosions, hyperpigmentation**



## Quiz

**Confluent flat topped papules forming plaques**





**Quiz**

**Erythematous papules**



## REQUIRED READING

Chapters 3&4.

Brief notes on  
dermatological therapy  
page 359-362.

Thanx.

