



# Unit 2

## Biological aspects: Skin Related Problems

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# Skin problems

- Dry Skin
- Acne
- Pigmentation,
- Prickly Heat,
- Wrinkles and
- Body Odor

# What is dry skin?

- Dry skin is skin that doesn't have enough moisture in it to keep it feeling soft.
- People with dry skin may have rough-feeling patches that flake off or look scaly.





# Dry Skin: Signs and symptoms

- Depend on your age, your health, where you live, time spent outdoors and the cause of the problem.
- A feeling of skin tightness, especially after showering, bathing or swimming
- Skin that feels and looks rough
- Itching (pruritus)
- Slight to severe flaking, scaling or peeling
- Fine lines or cracks
- Gray, ashy skin(lack of moisture)
- Redness
- Deep cracks that may bleed



# Dry Skin: Causes

- **Weather.** Skin tends to be driest in winter, when temperatures and humidity levels fall.
- **Heat.** Central heating, wood-burning stoves, space heaters and fireplaces all reduce humidity and dry your skin.
- **Hot baths and showers.** Taking long, hot showers or baths can dry your skin. So can frequent swimming, particularly in heavily chlorinated pools.
- **Harsh soaps and detergents.** Many popular soaps, detergents and shampoos strip moisture from your skin as they are formulated to remove oil.
- **Other skin conditions.** People with skin conditions such as atopic dermatitis (eczema) or psoriasis are prone to dry skin.



# Dry Skin: Complications

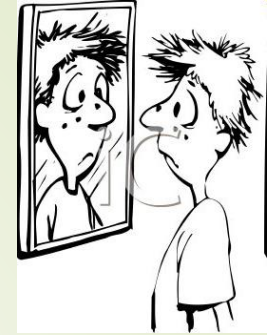
- ▶ Dry skin is usually harmless. But when it's not cared for, dry skin may lead to:
- ▶ **Atopic dermatitis (eczema).** If you're prone to develop this condition, excessive dryness can lead to activation of the disease, causing redness, cracking and inflammation.
- ▶ **Infections.** Dry skin may crack, allowing bacteria to enter, causing infections.



# Skin problems : Acne



# Acne Vulgaris



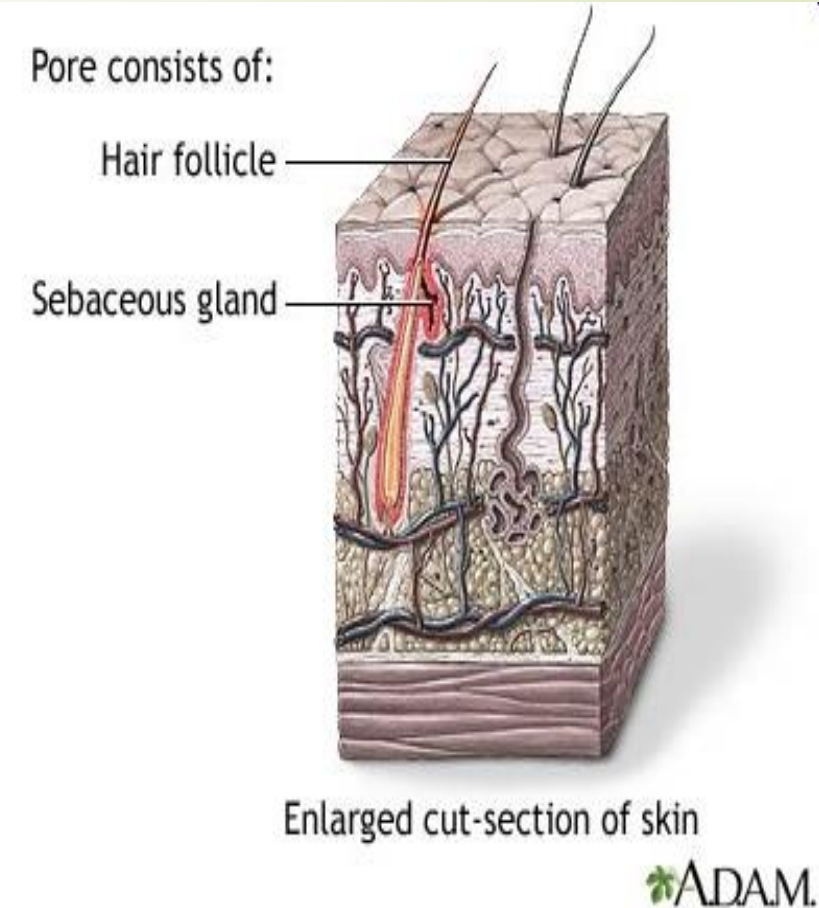
- Acne is a skin condition characterized by whiteheads, blackheads, and inflamed red pimples or "zits."
- Microorganism is *Propionibacterium acnes*
- Acne is follicle-associated lesions or
- Disorder of the **pilosebaceous unit** (face, neck, chest, shoulders, back).





# Acne: Pathophysiology

- Typically begins at puberty.
- Increased **androgen production** leads to increased sebum.
- Overproduction of sebum through hormones (especially in males)
- Blockage of pores= sebum and dead cells trapped get clogged at the pores.
- Abnormal keratinization and desquamation **obstructs** the pilosebaceous duct and
- ***Propionibacterium acnes*** proliferates in excess sebum and breaks down sebum into free fatty acids.
- Proinflammatory mediators are activated and result in inflammatory acne.

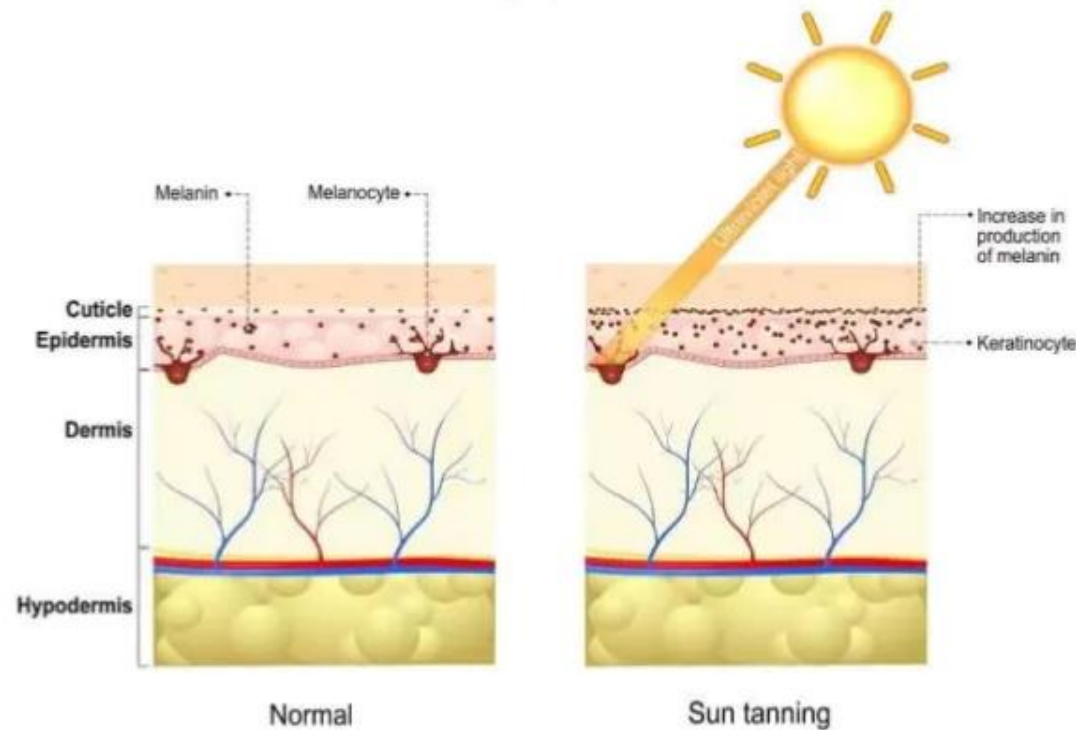




# Disorders of Pigmentation

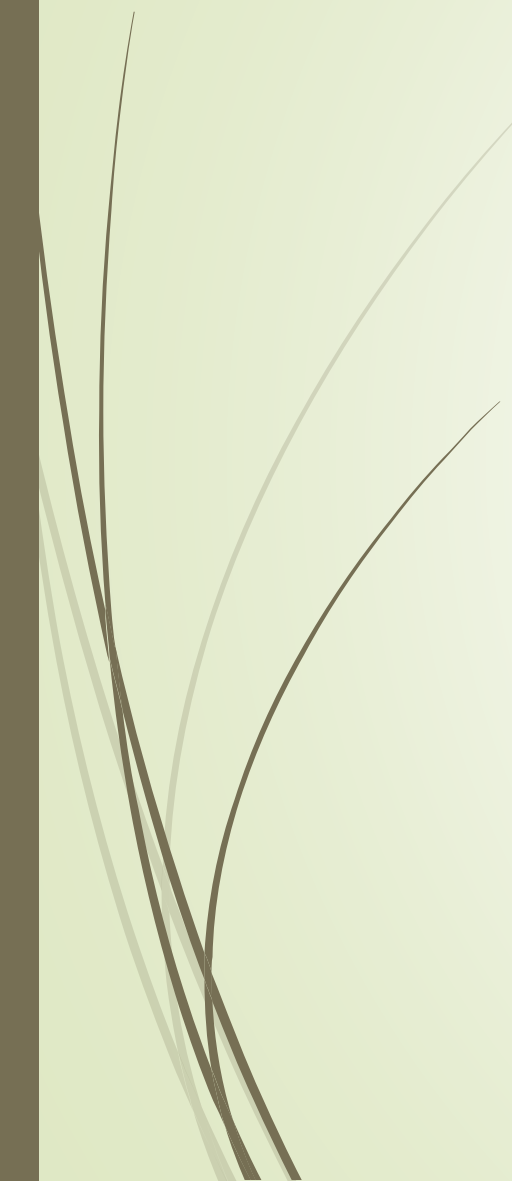
- Skin that is discoloured, spotty, or darker or lighter than normal.
- They occur when the body produces **too little** (hypopigmentation) or **too much (hyperpigmentation) melanin**.
- Melanin is a pigment that creates hair, skin, and eye color and protects the skin by absorbing ultraviolet light.

**. Pigmentation:** Pigmentation means coloring. Skin pigmentation disorders affect the color of skin. Skin gets its color from pigment called melanin. It occurs due to the deposition of the melanin, which is produced by specialized cells called melanocytes within melanosomes and transferred to keratinocytes.



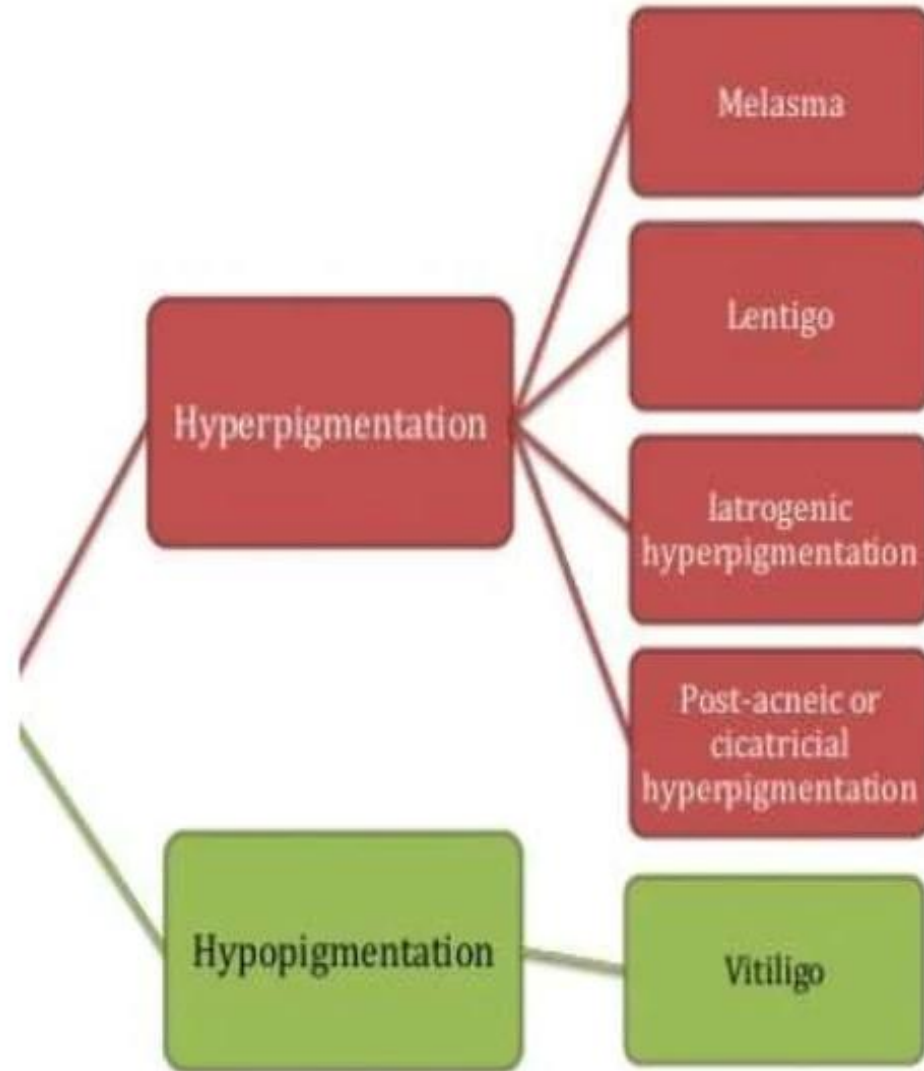


# Disorders of Pigmentation

- HYPERPIGMENTATION
  - HYPOPIGMENTATION
  - DEPIGMENTATION
  - CONGENITAL
  - ACQUIRED
- 



# TYPES OF PIGMENTATION





# HYPOPIGMENTATION



# Skin Problems

- in vitiligo ,melanocytes are destroyed.
- In albinism ,number of melanocytes are normal but they are unable to synthesize fully pigmented melanosomes .
- Freckles result from a localized increase in production of pigment by normal number of melanocytes.
- Nevi are benign proliferations of melanocytes and Melanomas are malignant counterpart .



Vitiligo



Freckles



Nevi

# Skin Problem: Vitiligo



Vitiligo

- causes loss of skin color in patches.
- The discolored areas usually get bigger with time and can affect the skin on any part of the body.
- Vitiligo occurs when cells that produce melanin die or stop functioning.
- Vitiligo affects people of all skin types, but it may be more noticeable in people with darker skin.
- The condition is not life-threatening or contagious. It can be stressful or make you feel bad about yourself.
- Treatment for vitiligo may restore color to the affected skin. But it doesn't prevent continued loss of skin color or a recurrence.



# Skin Problem: Vitiligo



Vitiligo

It's unclear exactly what causes these pigment cells to fail or die. It may be related to:

- ▶ A disorder of the immune system (autoimmune condition)
- ▶ Family history (heredity)
- ▶ A trigger event, such as stress, severe sunburn or skin trauma, such as contact with a chemical

# Skin Problem: Albinism

- ▶ Albinism is a condition resulting from the **skin's inability to synthesize melanin** and is characterized by milky or translucent skin, pale or colorless hair, and pink or blue iris





# Hyperpigmentation :Melasma

- Melasma is a skin condition characterized by brown or blue-gray patches or freckle-like spots.
- It's often called the “mask of pregnancy.”
- Melasma happens because of overproduction of the cells that make the color of your skin.



# TREATMENT

- Topical prescription medication such as 4% hydroquinone are often use to treat hyperpigmentation.
- Aloe Vera contain aloin, a natural depigmenting compound.
- Gentle **cryotherapy** use to treat variety of lesions.(in very low temp.)
- Over the counter brightening pro pine tree, vitamin E, vitamin C.
- **Drugs used to treat pigmentation**
- corticosteroids, azelaic acid
- Trichloro acetic acid Retinoic ac
- Glycolic acid



# Skin Problem: Nevus

- ▶ **Nevus** (plural: **nevi**) is the medical term for a **mole**. **Nevi** are very common. Most people have between 10 and 40. Common **nevi** are harmless collections of colored cells. They typically appear as small brown, tan, or pink spots.



Nevi

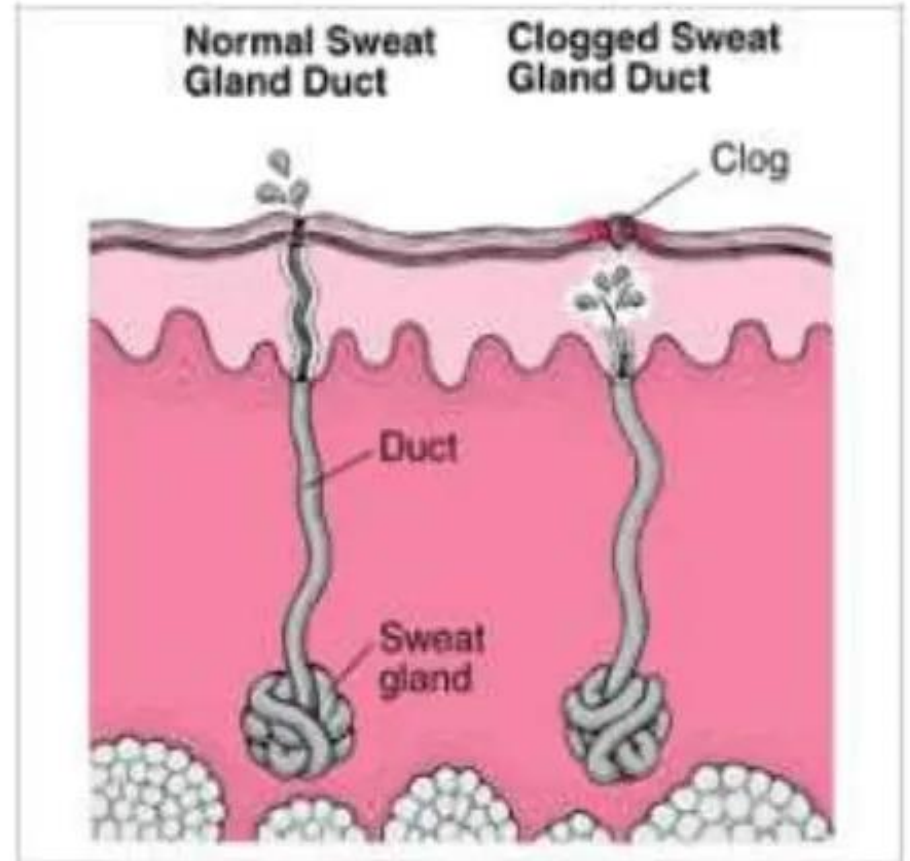


# Prickly Heat



# CAUSES OF PRICKLY HEAT

Heat rash is caused by a blockage of the sweat glands, especially after repeated episodes of sweating, leading to inflammation when sweat escapes into adjacent tissue. This causes the itching and prickling sensations that most people seek treatment for, as well as the red rash, which may be extensive





# TREATMENT ADVICE

- Remain in a cool environment e.g. air conditioning, or close to a fan, and allow for adequate ventilation of the skin.
- Take cool showers or baths, several times a day, and always after exercise or heat exposure. Always pat dry the skin with a towel, do not rub vigorously.
- Use cool packs on affected areas (but not for longer than 20 minutes per hour).



# WRINKLES



Wrinkles are lines and furrow that form in your skin. These are especially noticeable around your mouth, neck, hands, and eyes.



# CAUSES

- **Smoking:** Smoking can accelerate the normal aging process of your skin, contributing to wrinkles. This may be due to changes in the blood supply to your skin.
- **Repeated facial expressions:** Facial movements and expressions, such as squinting or smiling, lead to fine lines and wrinkles. Each time you use a facial muscle, a groove forms beneath the surface of the skin. And as skin ages, it loses its flexibility and is no longer able to spring back in place. These grooves then become permanent features on your face.



- **Exposure to ultraviolet (UV) light:** Ultraviolet radiation, which speeds the natural aging process, is the primary cause of early wrinkling. Exposure to UV light breaks down your skin's connective tissue — collagen and elastin fibers, which lie in the deeper layer of skin (dermis).



- **Age.** As you get older, your skin naturally becomes less elastic and more fragile. Decreased production of natural oils dries your skin and makes it appear more wrinkled.



# TREATMENT

- **Topical retinoids:** Derived from vitamin A, retinoids — such as tretinoin (Renova, Retin-A) and tazarotene (Avage, Tazorac) — that you apply to your skin may reduce fine wrinkles, splotches and skin roughness.
- Because retinoids can make your skin burn more easily, you'll need to use a broad-spectrum sunscreen and wear protective clothing daily. Retinoids may cause redness, dryness, itching, and a burning sensation.
- **Nonprescription wrinkle creams:** The effectiveness of anti-wrinkle creams depends in part on the active ingredients. Retinol, antioxidants and some peptides may result in slight to modest improvements in wrinkles.

**Rhytidectomy:** is a type of cosmetic surgery procedure used to give a more youthful facial appearance.



# BODY ODOR





**Body odor:** body odor is the perceived unpleasant smell our bodies can give off when bacteria that live on the skin break down sweat in to acid. Body odor caused by the combination of sweat and bacteria normally found in skin.





# CAUSES

## Causes of Excessive Sweating

### Emotional Factors

Anxiety, stress, embarrassment, etc. have a monumental impact on perspiration levels.

### Underlying Medical Conditions

A large number of medical conditions and prescription drugs can cause excessive sweating.

### Hereditary Predisposition

It's very common for excessive sweating to run in the family.

### The Products You're Using



Alcohol



Cigarettes



Caffeine



Prescription  
Drugs



Illegal  
Drugs



Greasy Food



# PREVENTION


- A large concentration of apocrine glands is present in the armpits, making that area susceptible to the rapid development of body odor.
- The following steps may help control armpit odor:
- **Keep the armpits clean:** Wash them regularly using anti-bacterial soap, and the number of bacteria will be kept low, resulting in less body odor.
- **Hair:** When armpits have hair, it slows down the evaporation of sweat, giving the bacteria more time to break it down into smelly substances. Shaving the armpits regularly has been found to help body odor control in that area.

# TREATMENT

- **Wash daily with warm water:** Have a shower or bath at least once a day. Remember that warm water helps kill off bacteria that are present on your skin. If the weather is exceptionally hot, consider bathing more often than once a



- **Clothing:** Natural fibers allow your skin to breathe, resulting in better evaporation of sweat. Natural-made fibers include wool, silk or cotton.



**Aluminum chloride:** This substance is usually the main active ingredient in antiperspirants. If your body does not respond to the home remedies mentioned above, talk to a pharmacist or your doctor about a suitable product containing aluminum chloride. Follow the instructions.

**Avoid spicy foods:** Curry, garlic, and other spicy foods have the potential to make some people's sweat more pungent. Some experts believe a diet high in red meat may also raise the risk of developing more rapid body odor.





*THE SKIN IS THE MIRROR OF THE BODY ➤*

*WHEN IT LOOKS VERY GOOD THAT ➤*

*MEANS YOU ARE IN GOOD HEALTH*