

The background of the slide features a close-up, slightly blurred image of a paramedic's identification patch. The patch is white with the word "PARAMEDIC" in blue capital letters at the top. Below it, the word "EMTALA" is written in large, bold, blue capital letters. The patch is attached to a light-colored fabric, possibly a uniform. The overall tone of the image is professional and medical.

PATIENT CARE THEORY 2

UNIT 2, PART 1: Integumentary System

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Learning Objectives

- ❖ Identify the components of the integumentary system and their function
- ❖ Discuss the value of the integumentary system assessment and interpretation of findings
- ❖ Identify common diseases of the skin
- ❖ Identify life threatening skin conditions

Components of the Integumentary System

- ❖ Skin
- ❖ Hair
- ❖ Nails



Skin

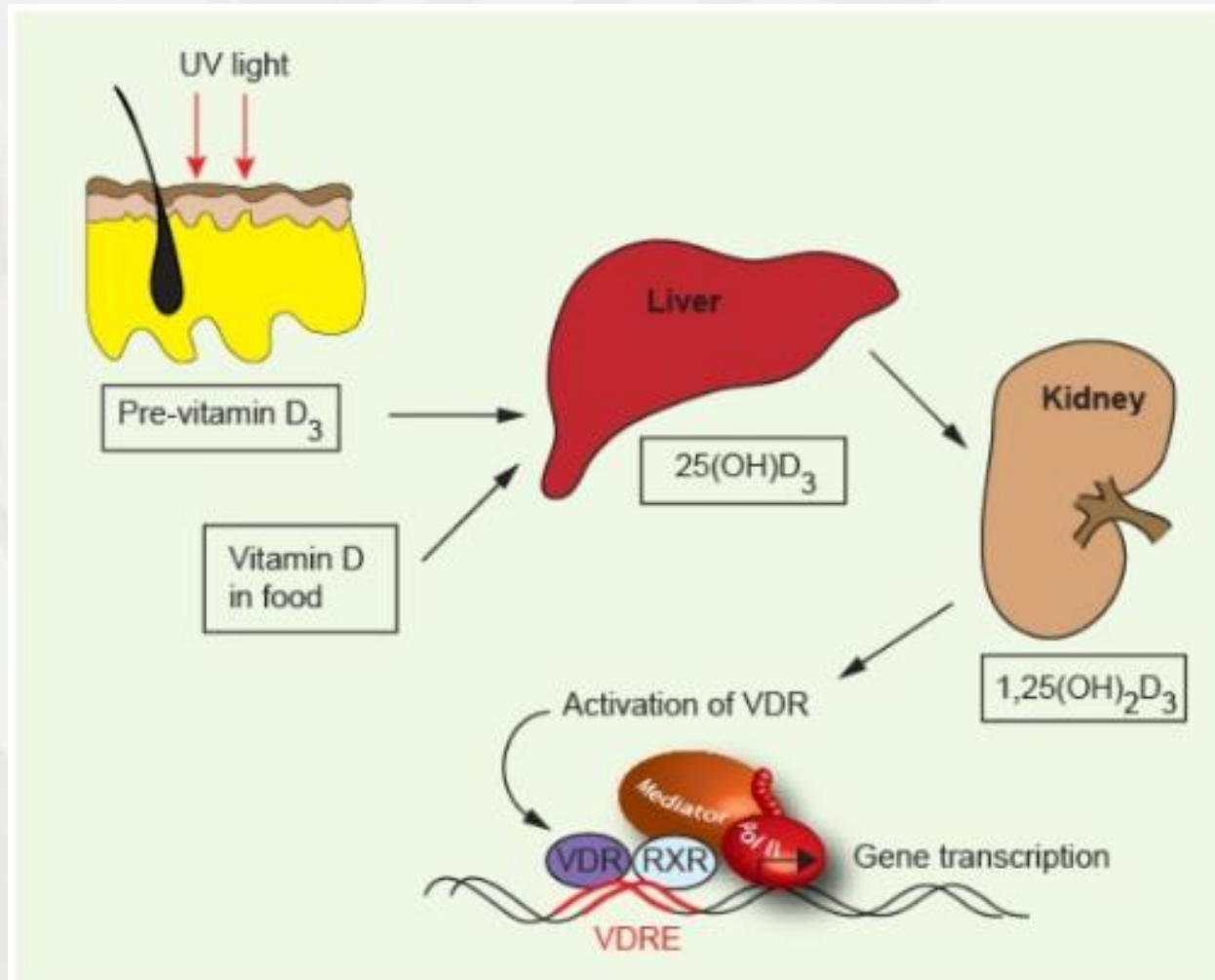
- ❖ Quickest, most reliable initial evaluation tool
- ❖ Serious changes in overall perfusion are usually manifested early on in the skin's appearance.
- ❖ Evaluate colour, relative moisture, and relative temperature.
- ❖ Pallor
- ❖ Cyanosis
- ❖ Ecchymosis

Skin

- ❖ Largest organ system in the body
- ❖ Regulates temperature of the body
- ❖ Transmits information from the environment to the brain
 - Nerves in skin help body respond to pain, pressure, temperature and touch sensations
- ❖ Protects the body in the environment
 - Is a barrier to sun's UV rays and invasion of pathogens
 - Holds moisture in

Skin

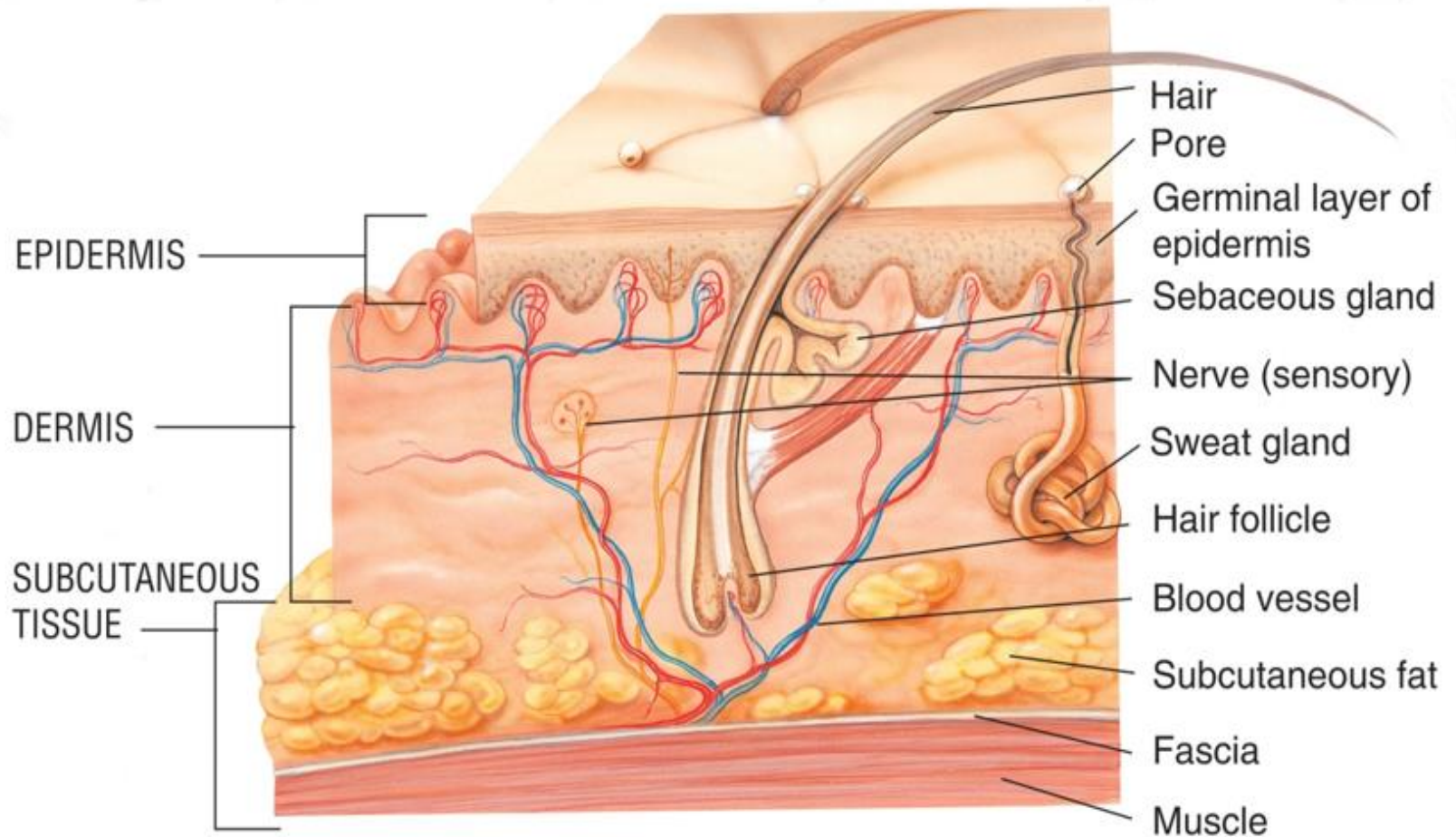
❖ Vitamin D production



Skin

- ❖ Composed of two layers
 - Epidermis
 - Dermis
- ❖ Dermis is subdivided
 - Papillary dermis
 - Reticular layer

Skin



Skin

- ❖ Examination involves both inspection and palpation.
- ❖ Pay attention to colour, moisture, temperature, texture, turgor, and any significant lesions.
- ❖ Vasodilation
- ❖ Findings:
 - Pallor/ colour
 - Mottling
 - Turgor
 - Lesions/Scars
 - Lumps, Bumps, bruises, crepitus

Skin

Turgor



Mottling



Skin -Colour

❖ Jaundice



❖ Erythema



❖ Cyanosis



Hair

- ❖ Inspection and palpation
- ❖ Note the quantity, distribution, and texture of the hair.
- ❖ Recent changes in growth or loss of hair
- ❖ Thinning and loss of hair can also be a normal finding.

Nails

- ❖ Assess the colour, shape, texture, and presence or absence of lesions.
- ❖ Normal nail should be firm and smooth on palpation.
- ❖ Normal changes with aging



Common Skin diseases

Eczema (Atopic Dermatitis)

- ❖ Common in children (can affect any age)
- ❖ Red, patchy, itchy skin
- ❖ Tends to have flare ups (dry skin-seasonal, irritants, fragrances, ointments, laundry detergents etc.)
- ❖ Infections due to scratching and open sores



Psoriasis

- ❖ Skin lesions with raised, red, thick areas covered with white/silver scales
- ❖ Chronic auto immune (genetic?)
- ❖ No cure



Contact Dermatitis

- ❖ Redness, itching, bumps, blisters, edema
- ❖ Form of eczema
- ❖ Very common
- ❖ Rash forms in response to direct contact with an allergen
- ❖ Soaps, detergents, cosmetics, fragrances, jewelry, plants etc.



Scabies

- ❖ Caused by mites under the skin (*Sarcoptes scabiei*)
- ❖ Very common
- ❖ Intensely itchy, pimple like skin rash
- ❖ Very contagious – spreads quickly through close contact
- ❖ Treated with topical ointment and/or oral medication



Heat Rash

- ❖ Caused by blocked sweat ducts
 - Common in hot humid weather
- ❖ Small red pimple like rash





Skin Signs of Systemic Disease

Skin Signs of Systemic Disease

- ❖ Skin disease and internal cancer
 - Cutaneous metastases (<5% of metastases)



Necrobiosis Lipoidica



- ❖ Patches slowly enlarge over months (or yrs)
- ❖ Commonly found in the pretibial area (can be elsewhere)
- ❖ Diabetes Mellitus
- ❖ Sarcoidosis
- ❖ Rheumatoid arthritis
- ❖ other

Liver Disease

- ❖ Jaundice
- ❖ Erythema of the palms
- ❖ Purpura -



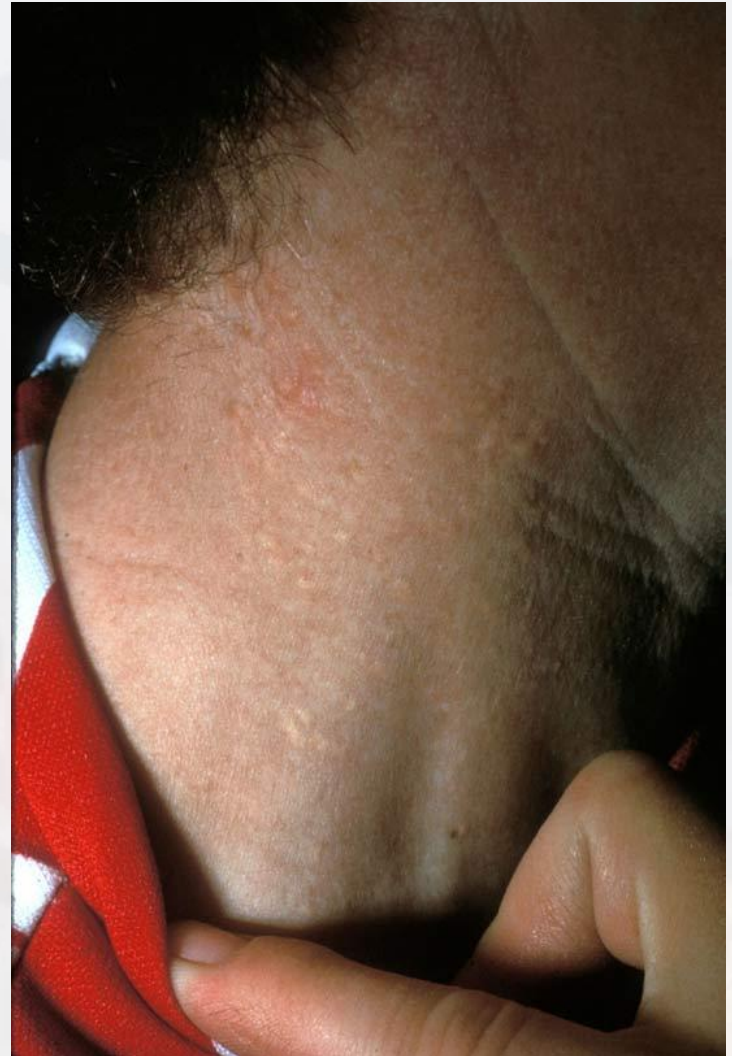
Skin Signs of CVS disease

- ❖ Multiple lentigines (Leopards Syndrome)
 - obstructive cardiomyopathy, cardiac dysrhythmias



Skin Signs of CVS disease

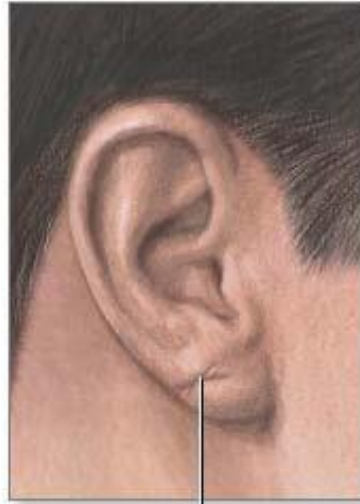
- ❖ Pseudoxanthoma elasticum
- ❖ yellow papules over skin folds on the neck, abdomen, and groin
 - hypertension, peripheral vascular and coronary artery disease



Skin Signs of CVS disease



Normal ear lobe



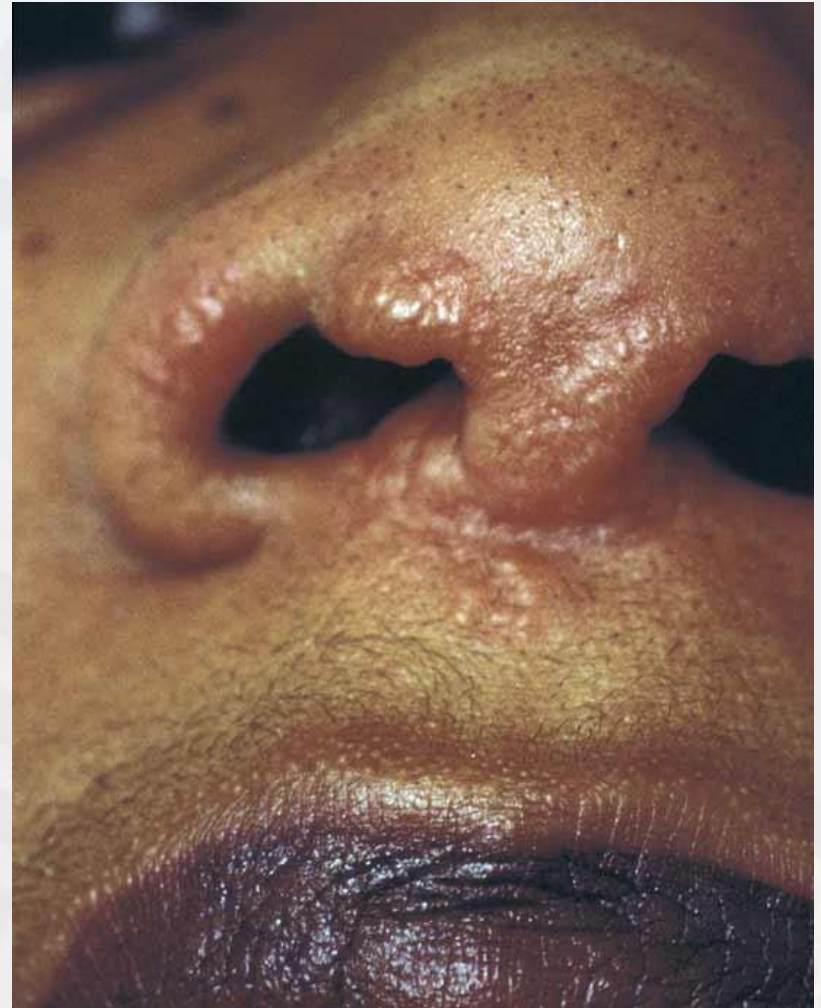
Ear lobe crease

ADAM.

- ▶ Ear lobe crease
 - Associated with atherosclerosis
 - increased incidence of coronary heart disease

Skin disease and pulmonary disease

- ❖ **Sarcoidosis** is a inflammation of tissues of the body (e.g. nose).
- ❖ It can appear in almost any body organ, but most often starts in the lungs or lymph nodes, eyes and skin
- ❖ Often found when a chest x-ray is taken following complaint of SOB, coughing, wheezing



Life-threatening Skin Conditions

- ❖ Pemphigus Vulgaris (PV)
- ❖ Toxic Epidermal Necrolysis (TEN), AKA Stevens-Johnson Syndrome
- ❖ DRESS – drug rash with eosinophilia and systemic symptoms syndrome
- ❖ TSS – Toxic Shock Syndrome
- ❖ Meningococemia
- ❖ Rocky Mountain Spotted Fever
- ❖ Necrotizing Fasciitis

PV

- ❖ Common in adults (can happen as young as 3)
- ❖ Autoimmune disorder – body mistakenly identifies proteins in the skin as foreign and attacks
- ❖ Causes painful blisters - usually start in the mouth, lips, tongue, inside cheeks ->spread to the rest of the body
- ❖ Blisters, when pressed will extend or form new blister
- ❖ Very painful – when open very susceptible to infection which can lead to death



Meningococchemia

- ❖ *Neisseria meningitidis* bacteria
- ❖ Vaccine preventable
- ❖ Bacteria is present in the blood - meningococchemia
- ❖ Common cause of meningitis as well
- ❖ Can cause bleeding disorders (DIC)
- ❖ Presents with flu like symptoms (fever, headache, nausea and non-blanching purple rash)



Rocky Mountain Spotted Fever

- ❖ Bacterial Infection transmitted through tick bites
- ❖ Early signs and symptoms: flu like (N/V, fever, h/a) not specific
- ❖ Rash develops 2-4 days after fever
- ❖ Rash similar to meningococccemia – damaged blood vessels
- ❖ Very Rare



Necrotizing Fasciitis

- ❖ Rare bacterial infection
- ❖ Spreads very quickly and can be fatal (1 in 3)
- ❖ Common thought to be caused by Group A Strep
- ❖ Bacteria enters the body via break in the skin –bites, cuts, scrapes, punctures (including needles and IV)
 - Creates deep infection
 - Symptoms present within a few hours and can progress rapidly
- ❖ Symptoms: Fever, hypotension, redness, swelling and severe pain
 - POOP, POEM

Necrotizing Fasciitis



Synopsis

- ❖ You'll encounter all kinds of skin lesions or dermatologic changes which you may or may not recognize
- ❖ When you see something, it's important to ask:
 - Can you tell what this is?
 - Is it infectious?
 - Have you seen your physician about this?
 - Are you treating it with medication?
 - What are you using to treat it?
 - etc

Management of skin lesions

- ❖ Wear gloves and other PPE as indicated
- ❖ Dress with sterile gauze as needed
 - Avoid causing trauma to the area (especially when transferring patients; i.e. fore and aft or lifting through doorways)
- ❖ Identify and associated signs and symptoms: Fever, N/V, headache -> may indicate systemic and more severe infection



Ostomies

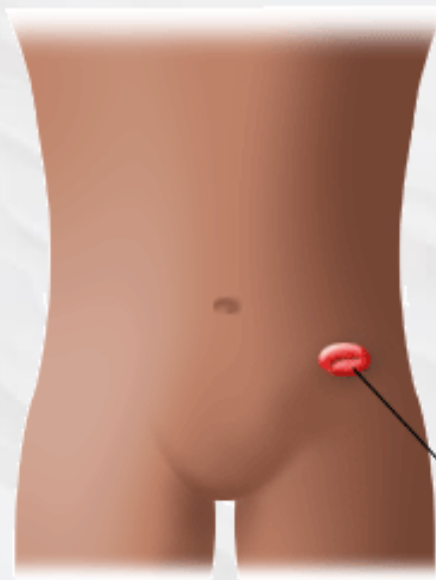
Ostomies

- ❖ surgical procedure that creates an opening on the abdominal wall for waste products to move out of the body
- ❖ artificial opening on the abdominal wall from the bowel or urinary tract
- ❖ Reasons: cancer of the colon and rectum, trauma, malformations present from birth, obstruction of the bowel, complications of diverticulosis, and Crohn's disease

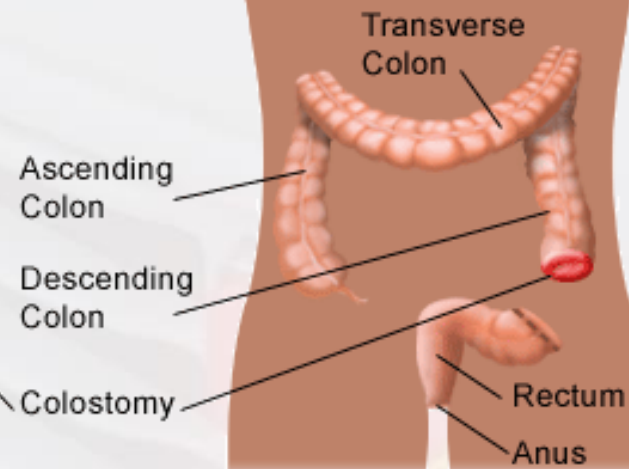
Ostomy

Bowel Resection and Colostomy

External View

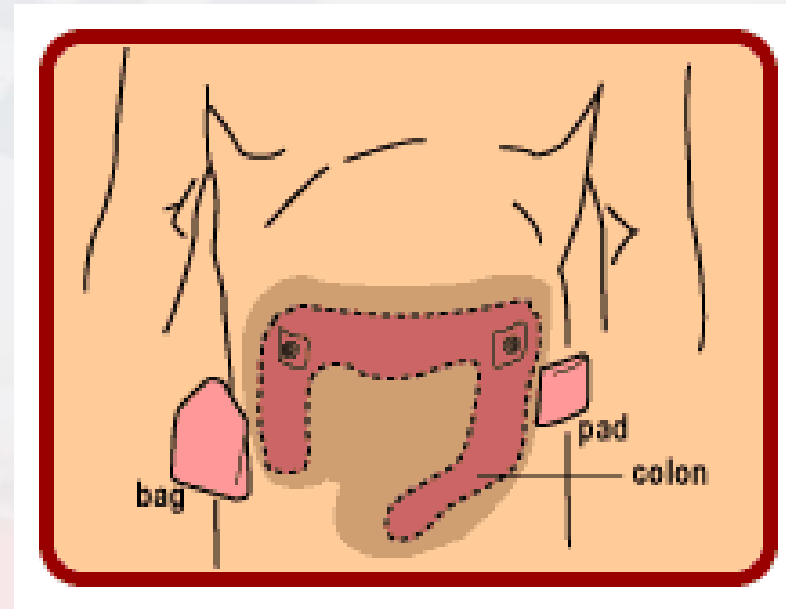


Internal View



Colostomy

- ❖ Surgical opening in the colon
- ❖ colostomy is in the left colon - only a pad may be needed to cover the opening
- ❖ Colostomy in the right side of the colon - some type of appliance or bag is required



Colostomy



Prolapsed



Iliostomy

- ❖ involves bringing the ileum (the last portion of the small intestine) to the abdominal surface
- ❖ when waste matter reaches the ileum it is liquid
- ❖ device needed to collect it



Ostomy bag





QUESTIONS