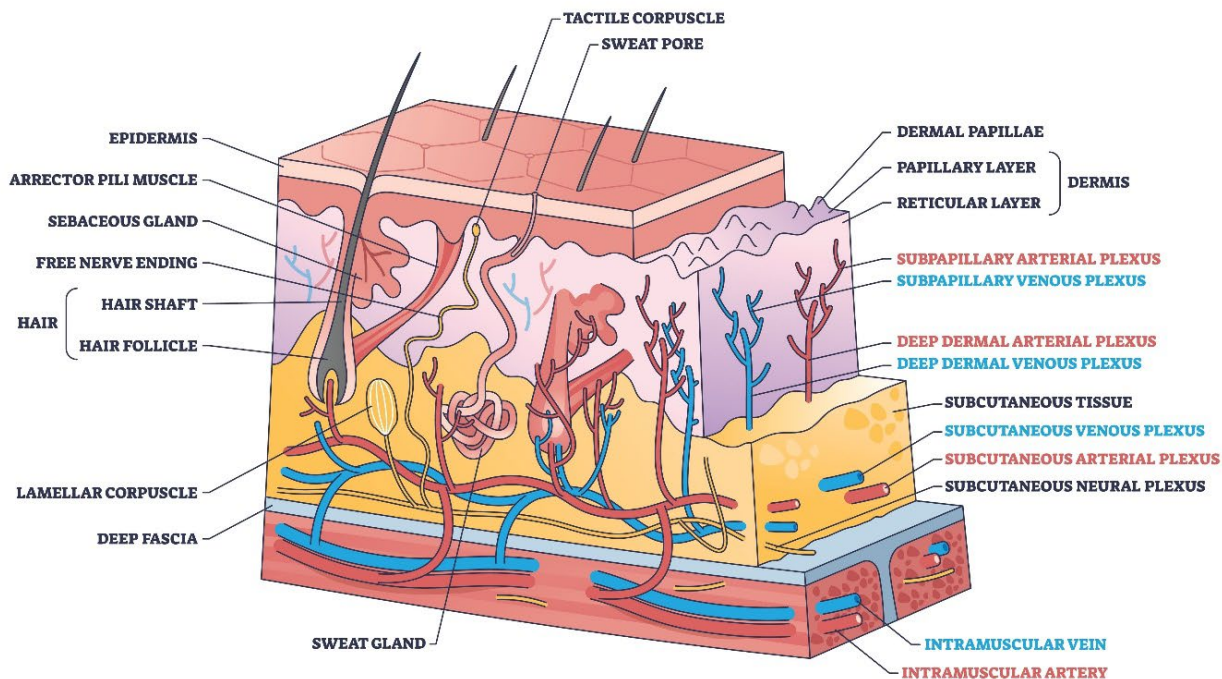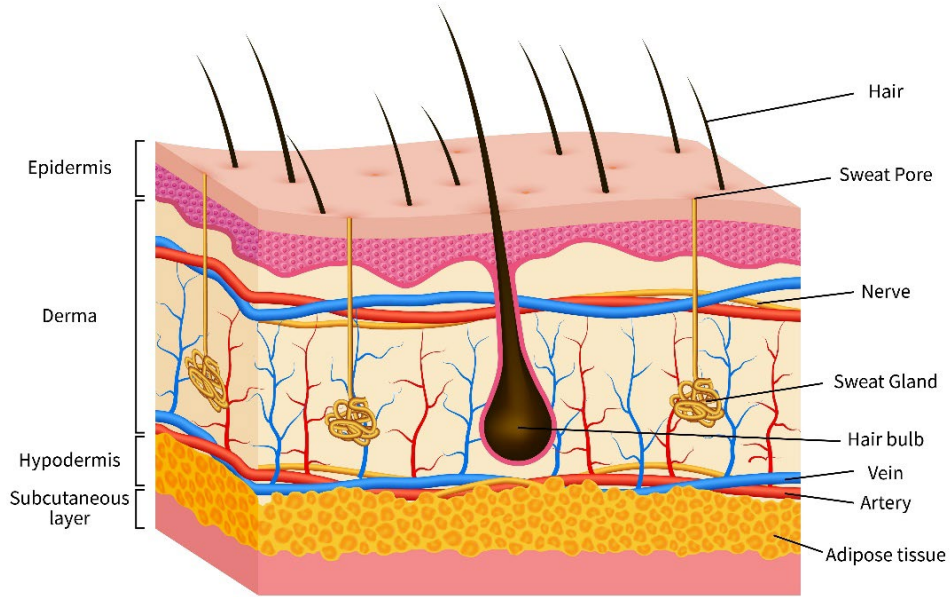# INTEGUMENTARY SYSTEM

The Integumentary System is the body's largest organ system, encompassing the skin, hair, nails, and associated glands. Its primary functions are protection, sensation, regulation, and secretion. The skin serves as a barrier against pathogens, UV radiation and physical trauma, while also helping to regulate our body temperature.

This visual representation is meant to aid in your studies for the CPC exam. This is supplemental only.
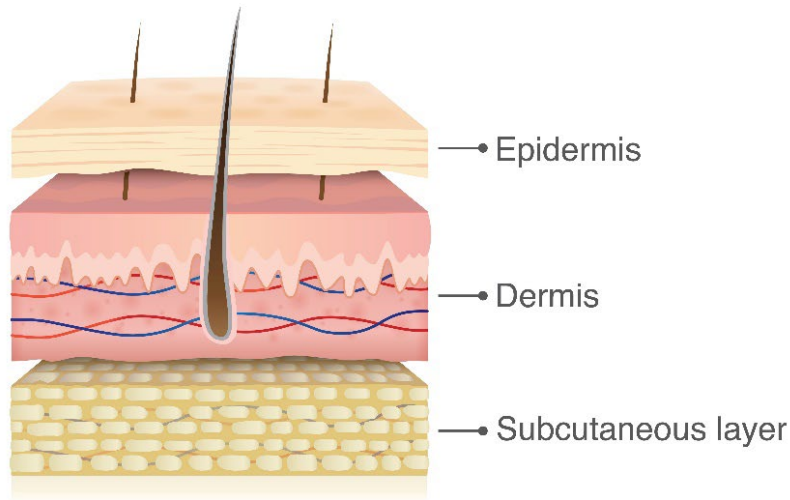
This is in no way an exhaustive list. It is not in order of the CPT or the ICD-10-CM.

For more resources like this, please visit our website at: www.medicalbillco.com/resources
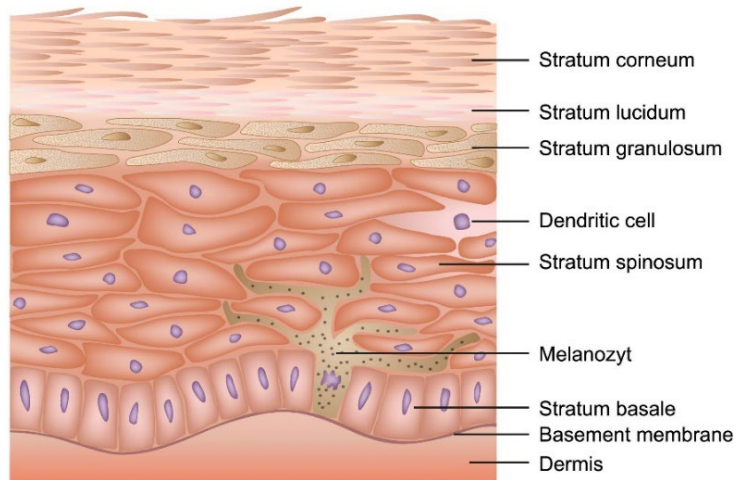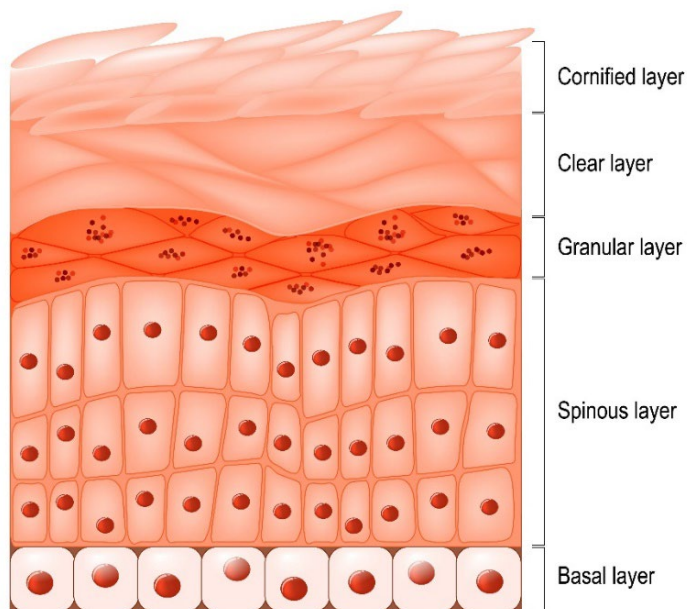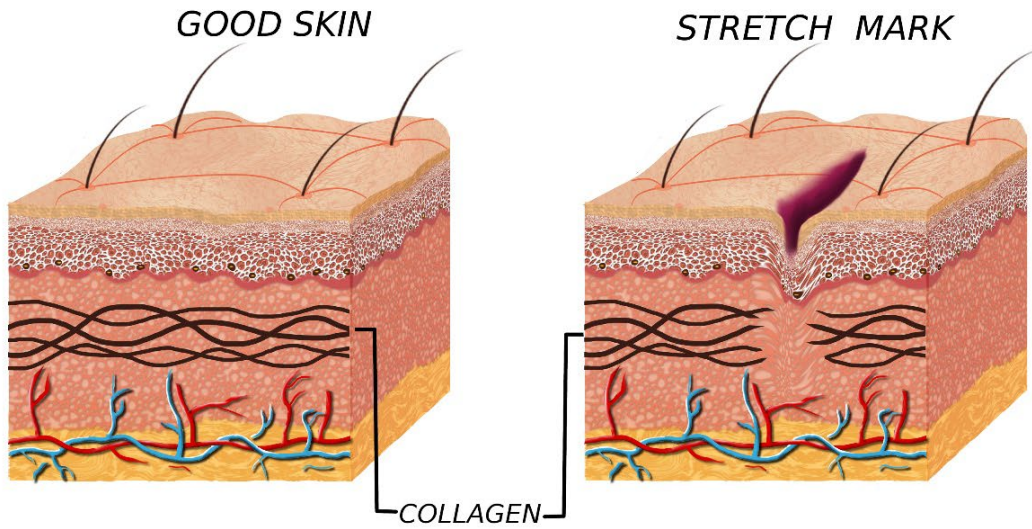
SKIN ANATOMY

Epidermis

Derma

Hypodermis

Subcutaneous layer

Hair

Sweat Pore

Nerve

Sweat Gland

Hair bulb

Vein

Artery

Adipose tissue

Three Main Layers of The Skin

Epidermis

Dermis

Subcutaneous layer

Structure of the Epidermis

- Stratum corneum
- Stratum lucidum
- Stratum granulosum
- Dendritic cell
- Stratum spinosum
- Melanozyt
- Stratum basale
- Basement membrane
- Dermis

LAYERS OF EPIDERMIS

- Cornified layer
- Clear layer
- Granular layer
- Spinous layer
- Basal layer

GOOD SKIN

STRETCH MARK

COLLAGEN

SKIN DISEASES

HERPES ZOSTER

PSORIASIS

ECZEMA
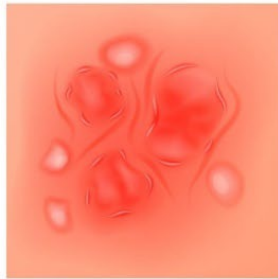
WARTS

URTICARIA
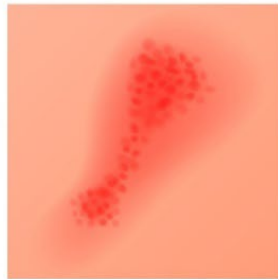
BRUISE
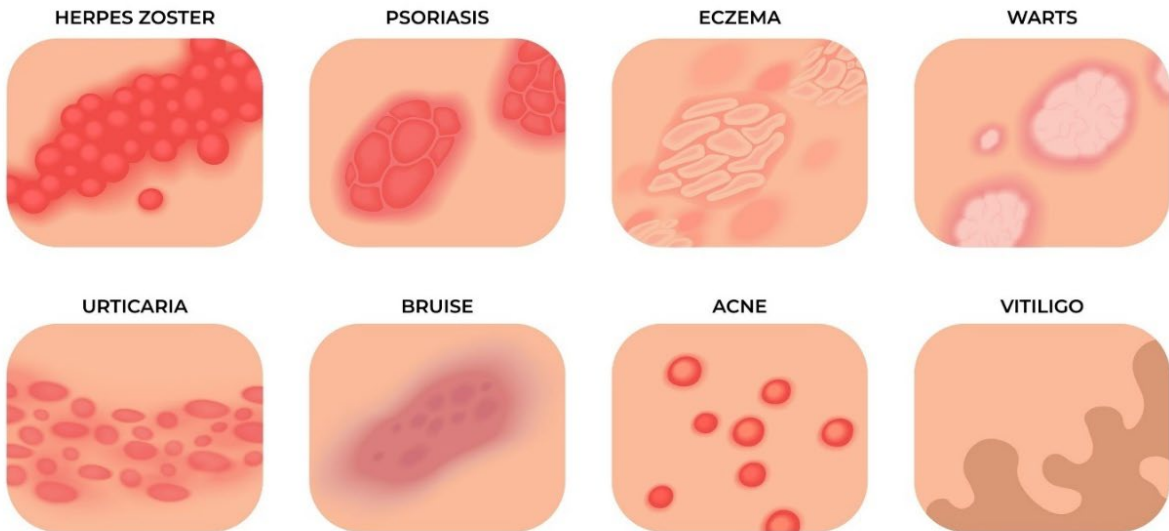
ACNE

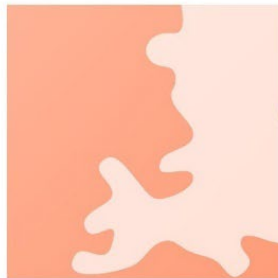**VITILIGO**

DISEASES OF THE SKIN

psoriasis

eczema
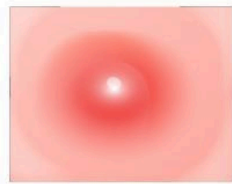
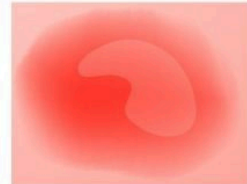urticaria

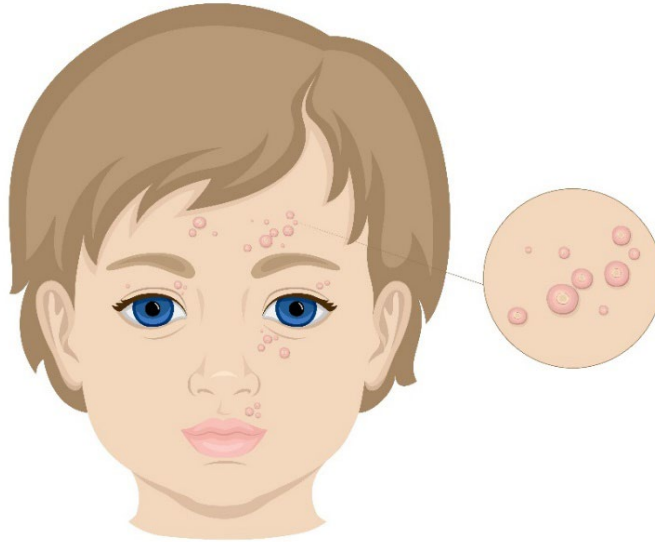lichen planus
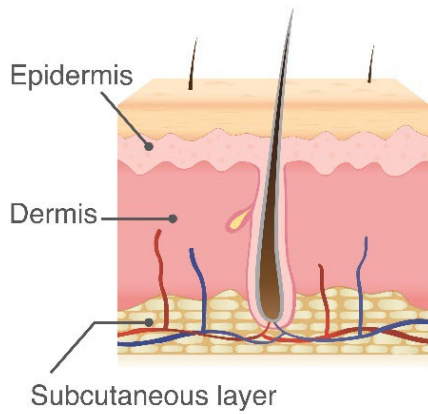
pityriasis versicolor

vitiligo

acne

furuncle

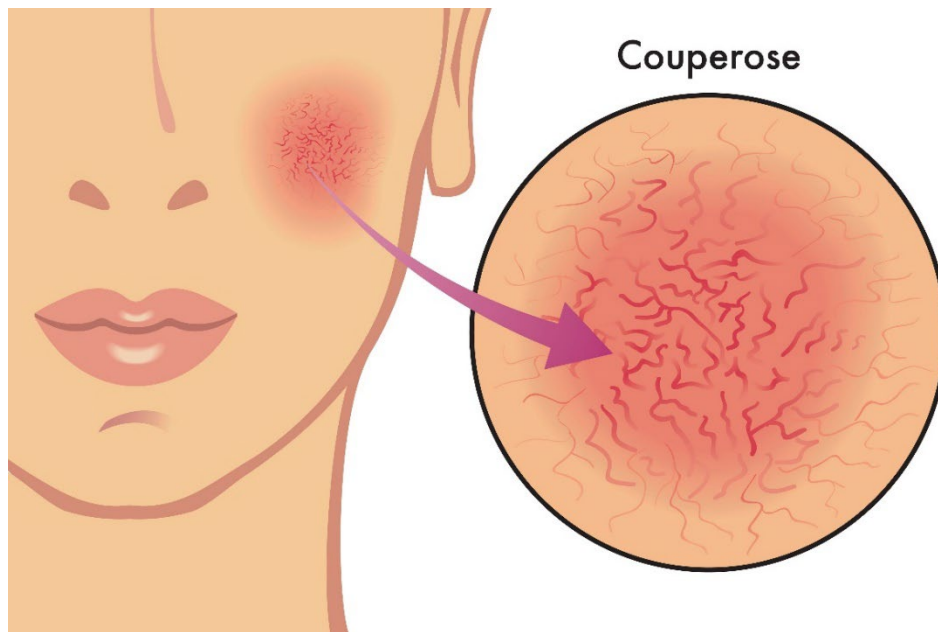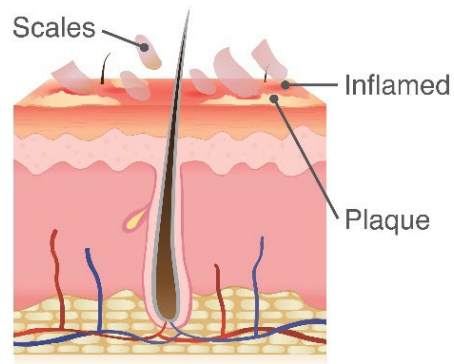carbuncle

phlegmon

Molluscum contagiosum
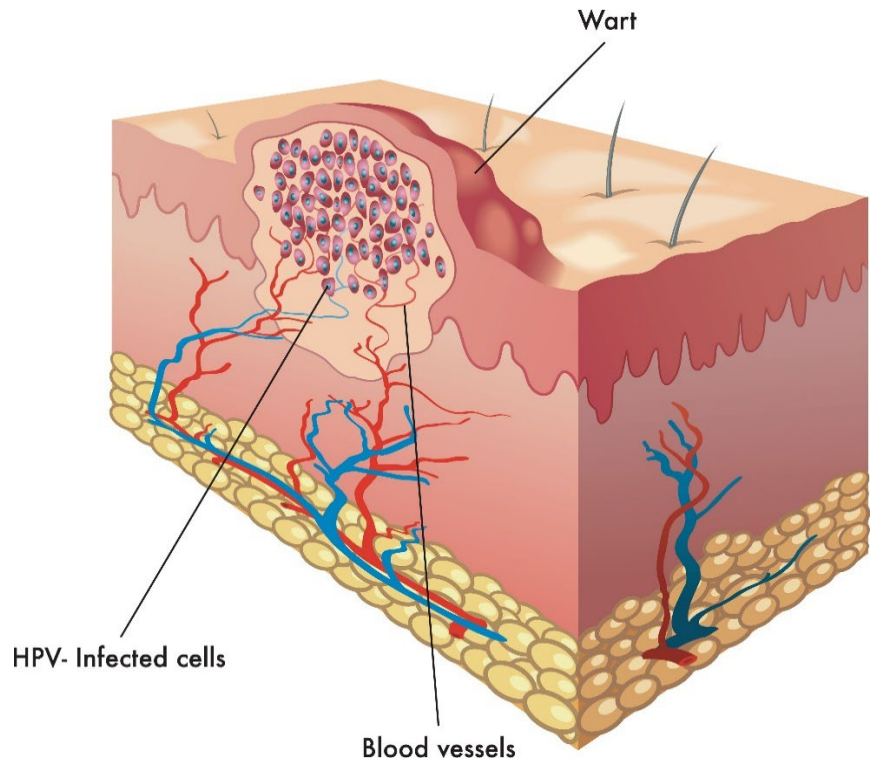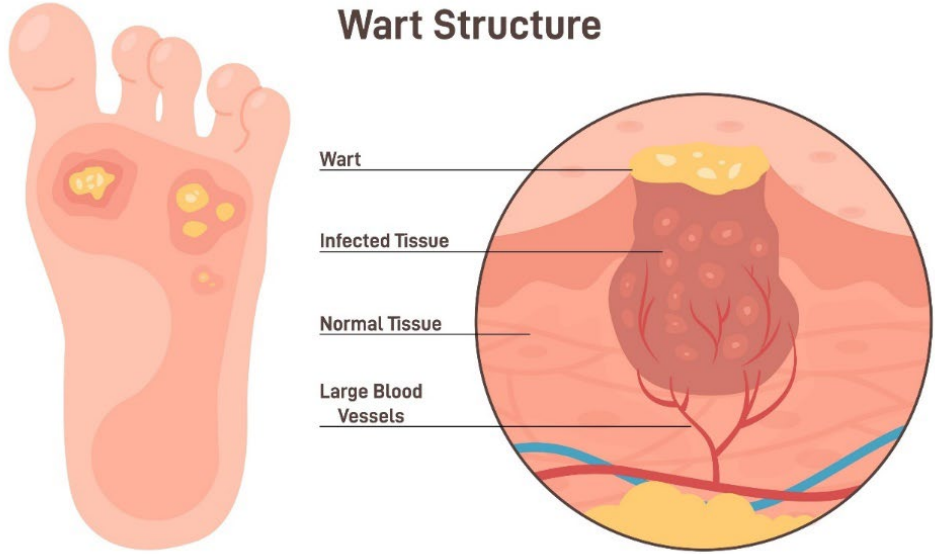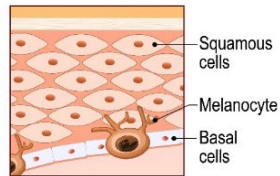(water warts)

Actinic keratosis
(solar keratosis)

Normal Skin

Psoriasis

Epidermis

Dermis

Subcutaneous layer

Scales

Inflamed

Plaque

Couperose

Wart Structure

Wart

Infected Tissue

Normal Tissue

Large Blood Vessels

Wart

HPV- Infected cells

Blood vessels

SKIN CANCER

HEALTHY EPIDERMIS

- Squamous cells
- Melanocyte
- Basal cells
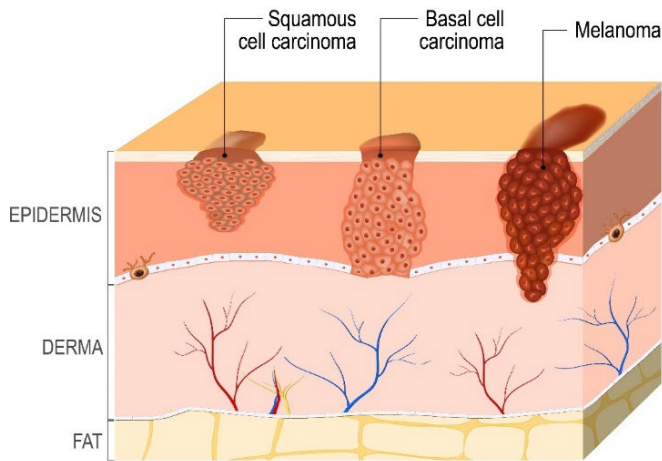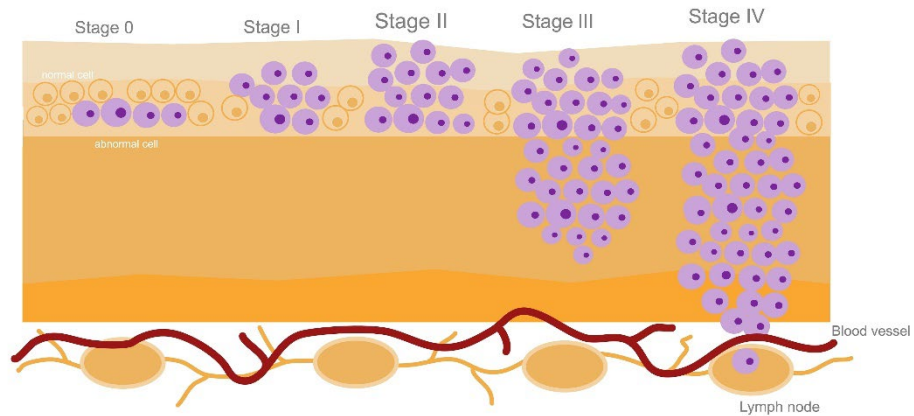
Squamous cell carcinoma

Basal cell carcinoma

Melanoma

EPIDERMIS

DERMA

FAT

Cancer stage

Stage 0

Stage I

Stage II

Stage III

Stage IV

normal cell

abnormal cell

Blood vessel

Lymph node

Squamous-cell carcinoma

Ulcer

Hard raised edges

Dead keratinocyte

Keratinocyte

Cancer cell

Stratum corneum

Epidermis

Dermis

Hypodermis

Muscle layer

BASAL-CELL CARCINOMA

Epidermis

Dermis

Hypodermis

Muscle layer

Basl cell

Basement membrane

Melanocyte

Basal cell carcinoma

MELANOMA

- Abnormal area
- Melanin
- Melanocyte
- Melanoma

Epidermis

Dermis

Hypodermis

Muscle layer

NORMAL SKIN   MELANOMA IN SITU   INVASIVE MELANOMA

EPIDERMIS

BASEMENT MEMBRANE

DERMIS

Z.Gorski
MYPATHOLOGYREPORT.CA

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ACNE FORMATION

Pore — **Sebaceous gland**

Accumulation of dead cells and sebum

Epidermis

Sebum

Hair follicle

1

2

Bacteria proliferate — **Pimple**

Rupture of the follicular canal — **Inflammation**

Dermis

3

4

Types of acne scars

Ice pick scars | Rolling scars | Boxcar scars

HYPERTROPHIC SCARS | **ATROPHIC SCARS**

Skin surface

Epidermis

Dermis

Hypodermis

Hypertrophic scar

Keloid scar

Types of scar

Types of scars

Atrophic

Keloid

Contracture

Stretch Marks

Hypertrophic
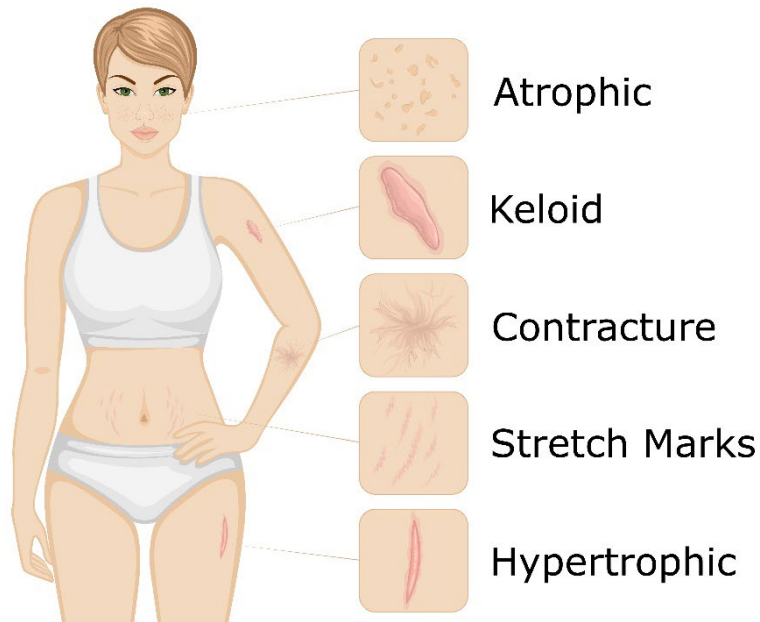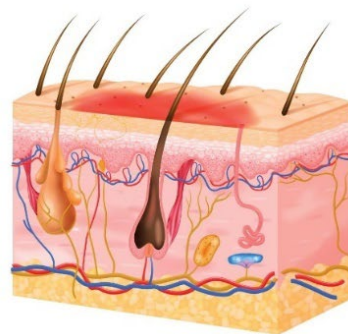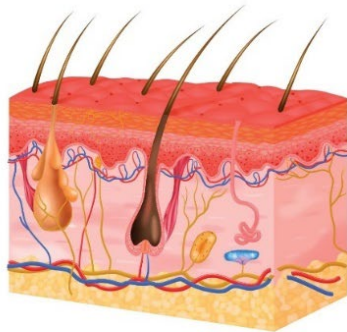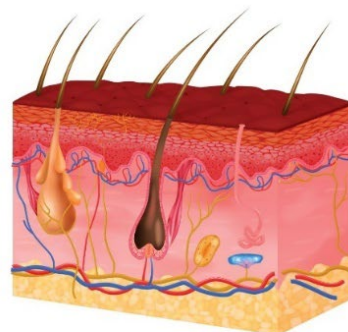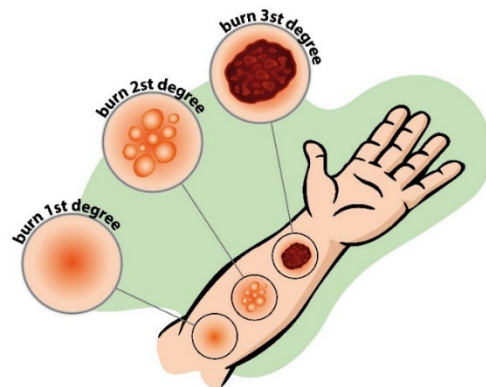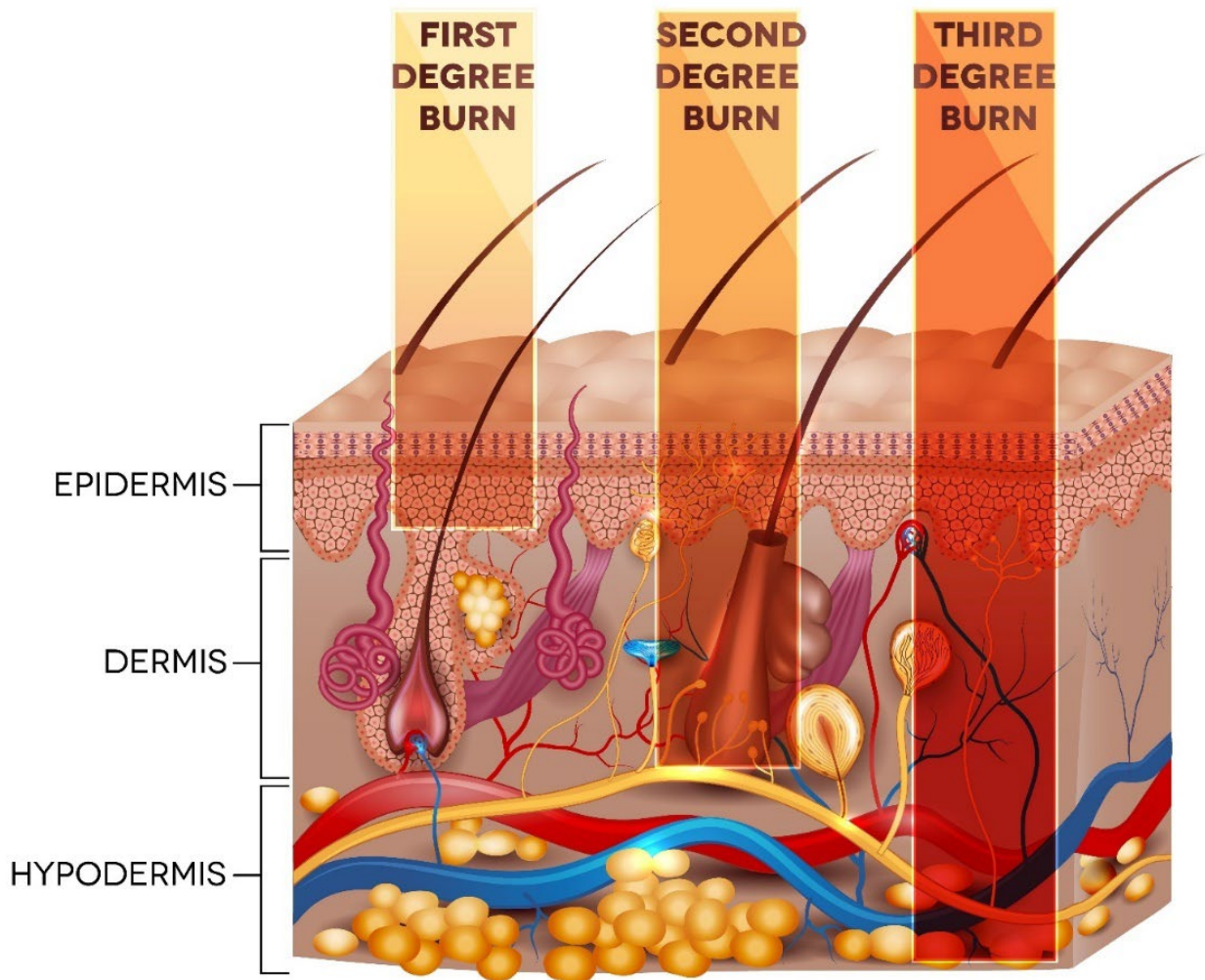
SKIN BURNS
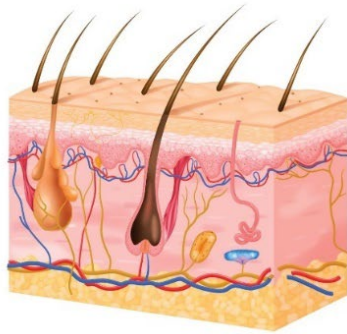
Normal healthy skin
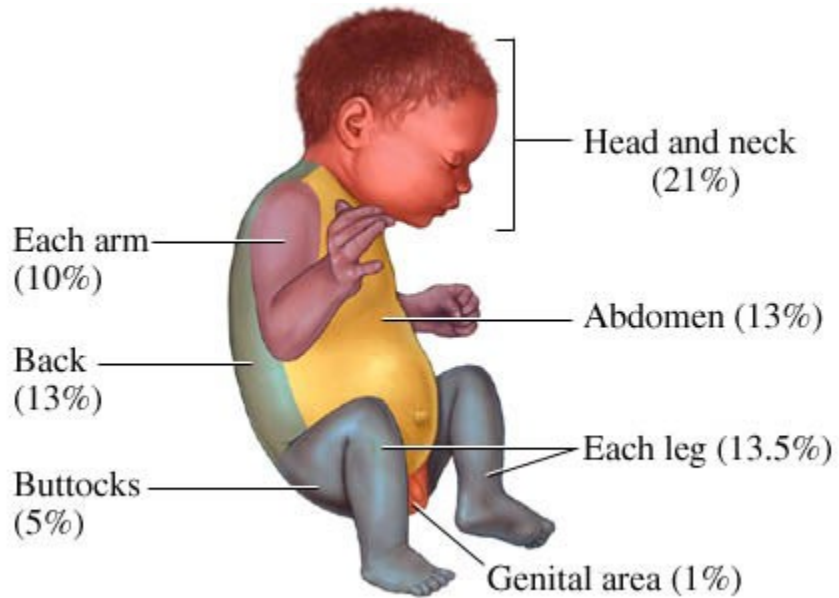
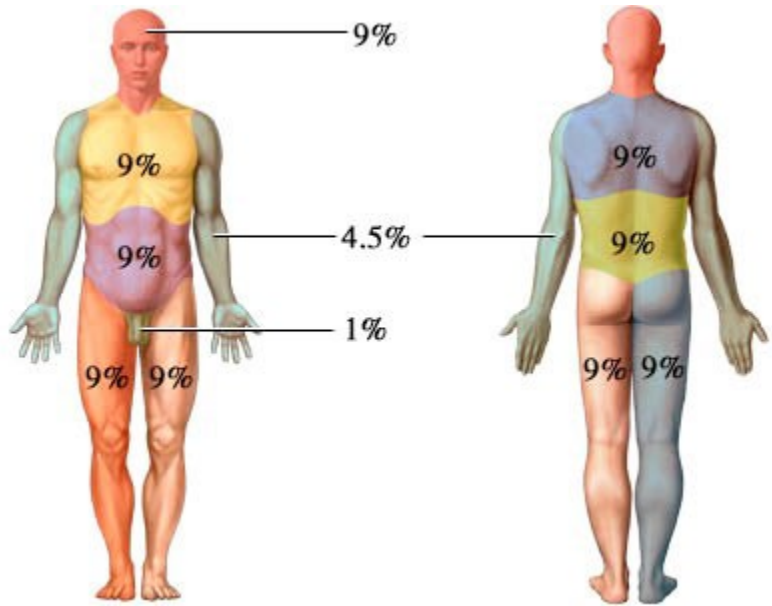First degree burn injury

Second degree burn injury

Third degree burn injury

burn 1st degree

burn 2st degree

burn 3st degree

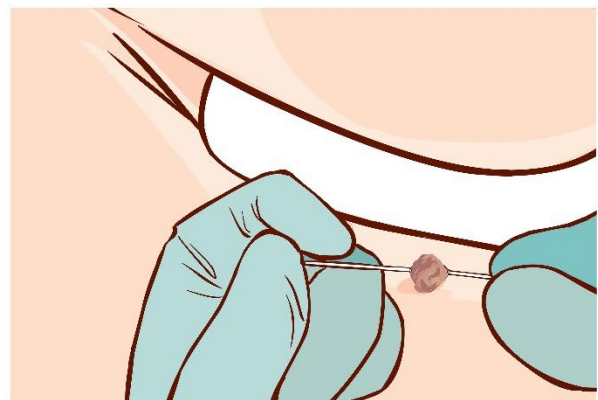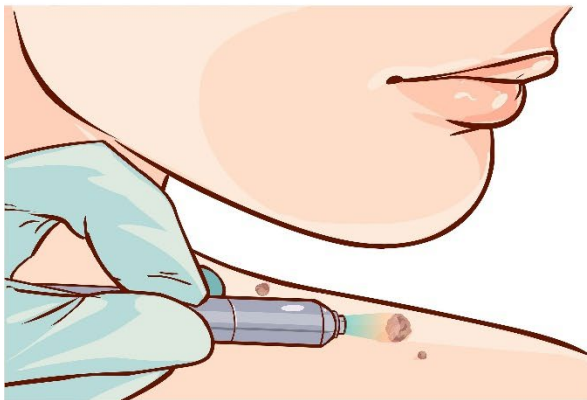FIRST DEGREE BURN

SECOND DEGREE BURN

THIRD DEGREE BURN

EPIDERMIS

DERMIS

HYPODERMIS

Rule of Nines (Adult vs Infant)

9%

9%

9%

4.5%

1%

9% 9%

9%

9%

9% 9%

Each arm
(10%)

Back
(13%)

Buttocks
(5%)

Head and neck
(21%)

Abdomen (13%)

Each leg (13.5%)

Genital area (1%)
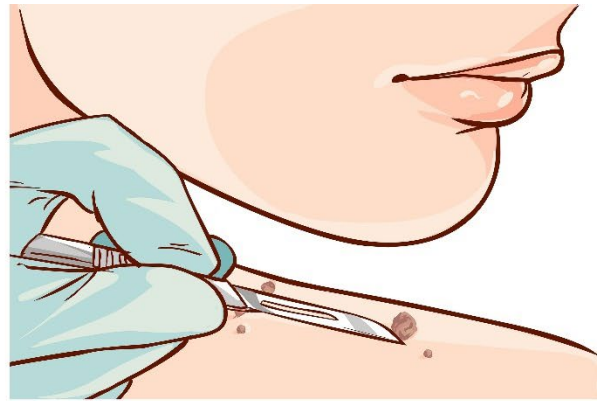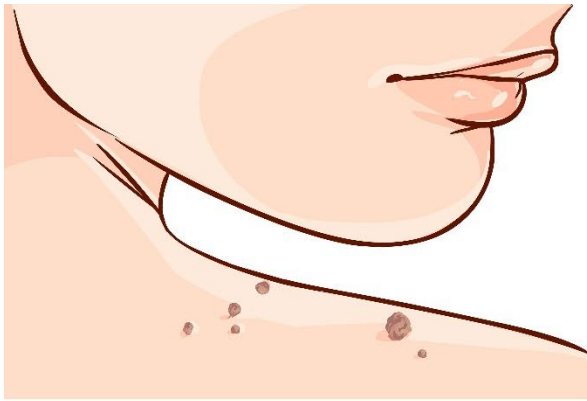
Skin Tag Removal
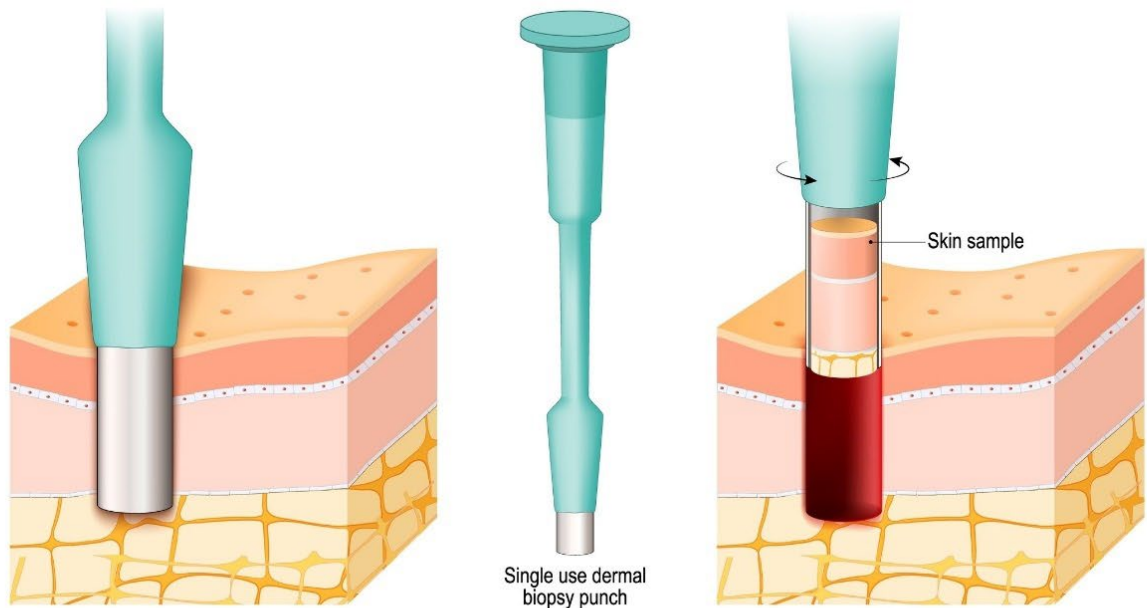
In the CPT® Index look for Skin/Tags/Removal and you are directed to codes 11200, 11201. Code selection is based on the number of skin tags removed.

In the ICD-10-CM Alphabetic Index look for Tag/skin and you are directed to L91.8. Verify code selection in the Tabular List.

![Legacy Medical Billing & Coding logo]
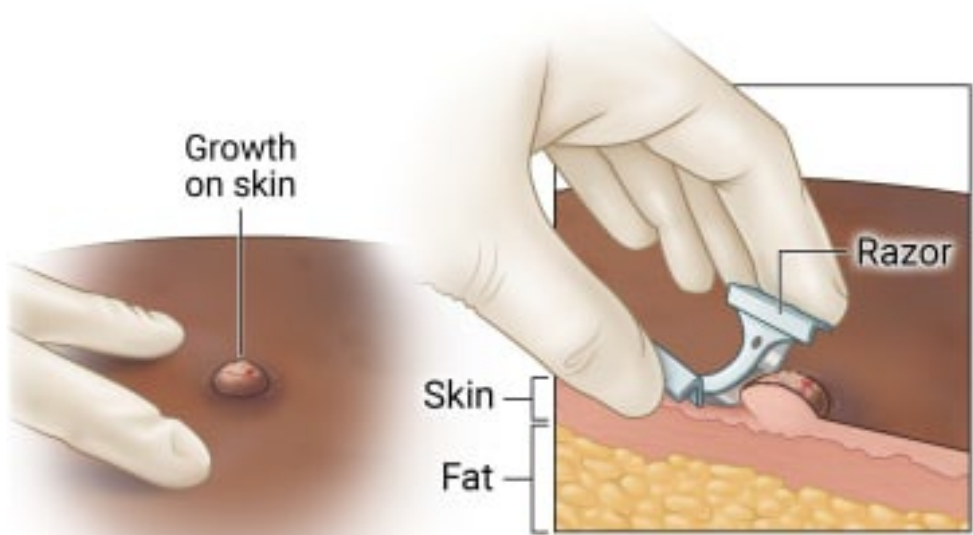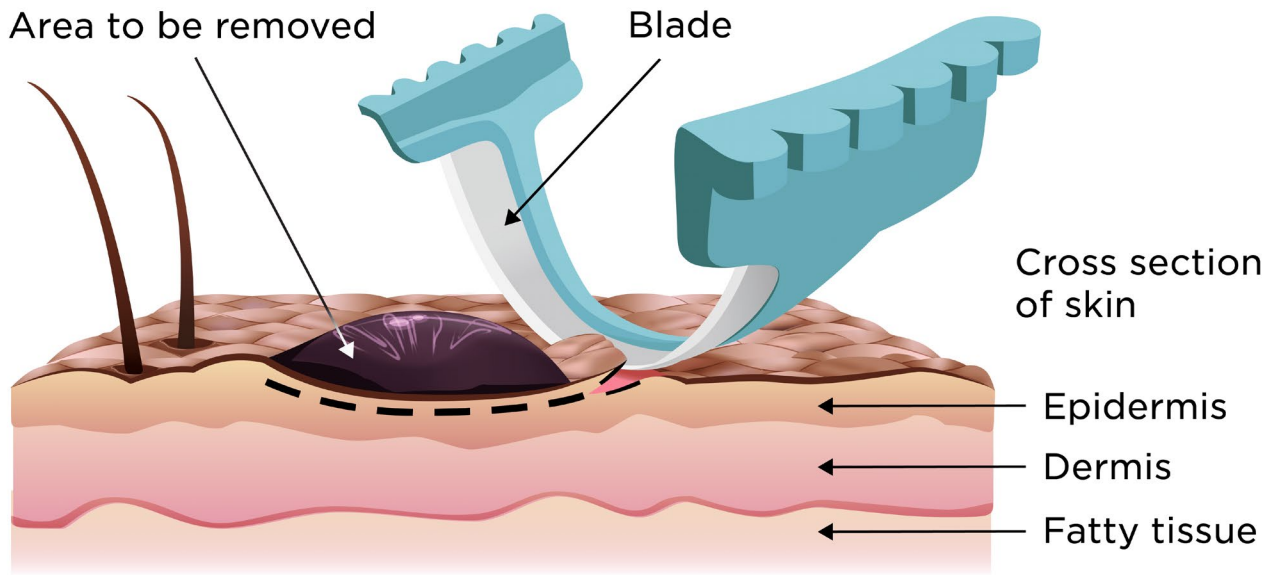
Skin biopsy

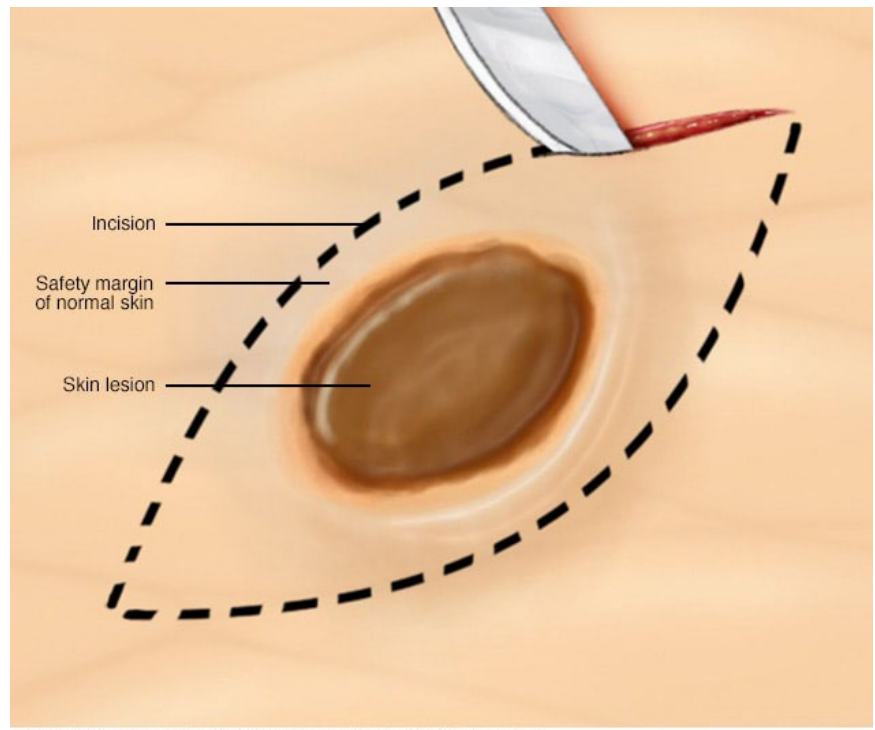Single use dermal biopsy punch

Skin sample

PUNCH BIOPSY

Skin Shave Biopsy

Area to be removed

Blade

Cross section
of skin

Epidermis

Dermis

Fatty tissue

Growth
on skin

Razor

Skin

Fat

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EXCISION

TUMOUR

TUMOUR AND SMALL AMOUNT OF NORMAL TISSUE REMOVED

NORMAL TISSUE

SURGICAL MARGIN

Incision

Safety margin of normal skin

Skin lesion

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MOHS SURGERY

VISIBLE LESION

EPIDERMIS

DERMIS

FIRST LAYER IS DIVIDED INTO SECTION

TUMOR TISSUE ARE EXAMINED BY THE MICROSCOPIC

STEP 1

FIRST TUMOR LAYER REMOVED

STEP 2

THE REMAINING TUMORS ARE REMOVED

STEP 3

FINAL LAYER REMOVED UNTIL NO MORE TUMOR CELLS REMAINING

LESION ON SKIN

EPIDERMIS

DERMIS

Mohs surgery

REMOVED

Step 1: The roots of a skin cancer may extend beyond the visible portion of a tumour. If these roots are not removed, the cancer will recur
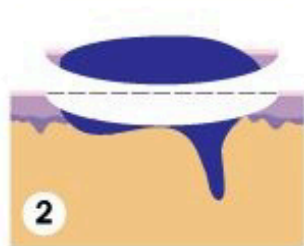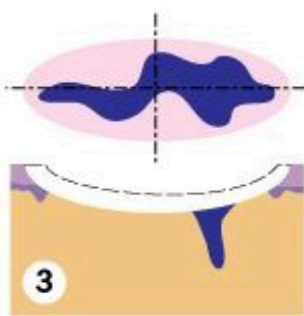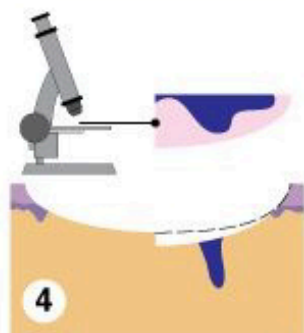
Step 2: The visible portion of the tumour is surgically removed

Step 3: A layer of skin is removed and divided into sections. The ACMS surgeon then colour-codes each of these sections with dyes and makes reference marks on the skin to show the source of these sections. A map of the surgical site is then drawn

Step 4: The undersurface and edges of each section are microscopically examined for evidence of remaining cancer
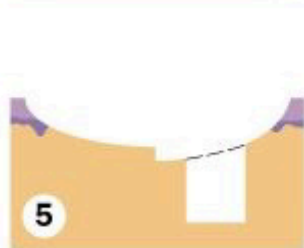
Step 5: If cancer cells are found under the microscope, the ACMS surgeon marks their location onto the "map" and returns to the patient to remove another layer of skin – but only from precisely where the cancer cells remain
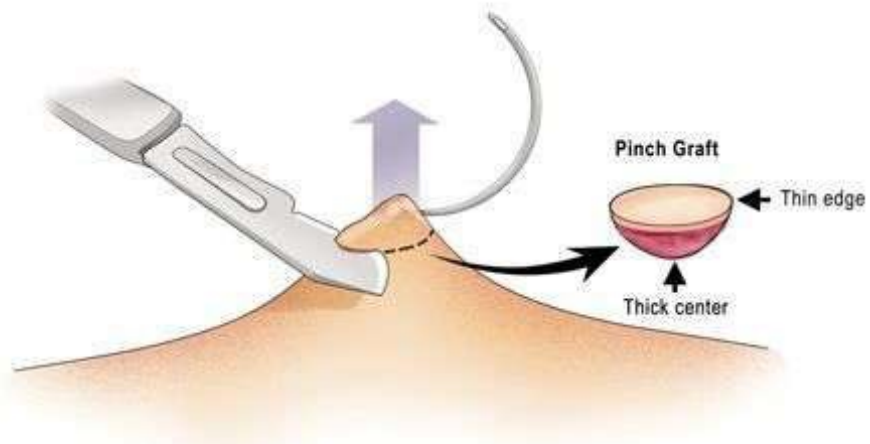
Step 6: The removal process stops when there is no longer any evidence of cancer remaining in the surgical site. Because Mohs surgery removes only tissue containing cancer, it ensures that the maximum amount of healthy tissue is kept intact
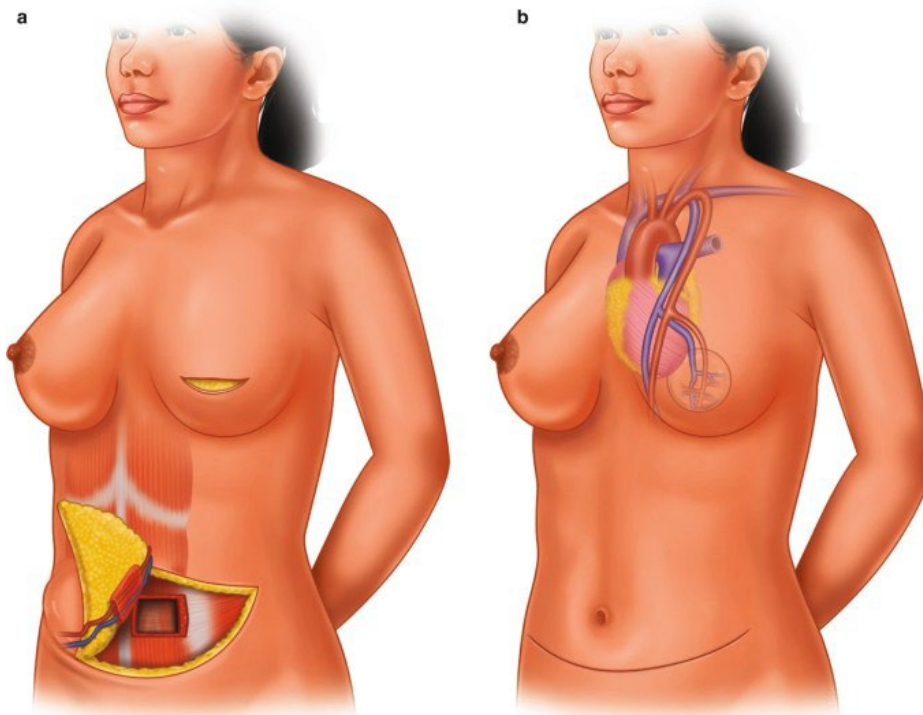
V-Y Advancement Flap
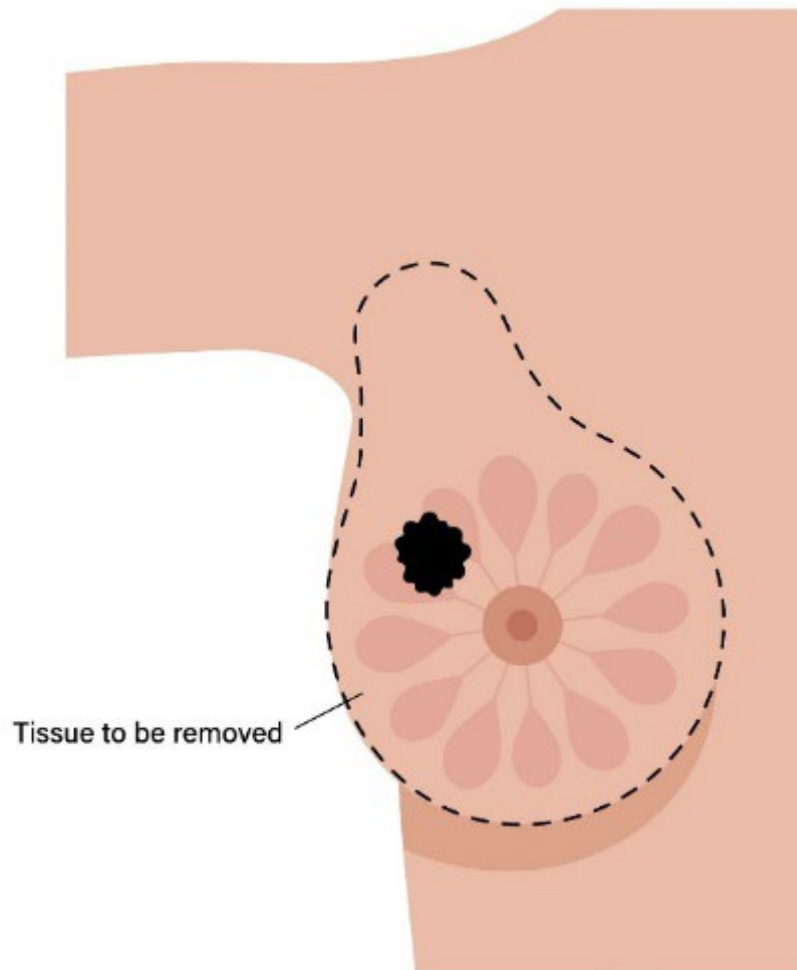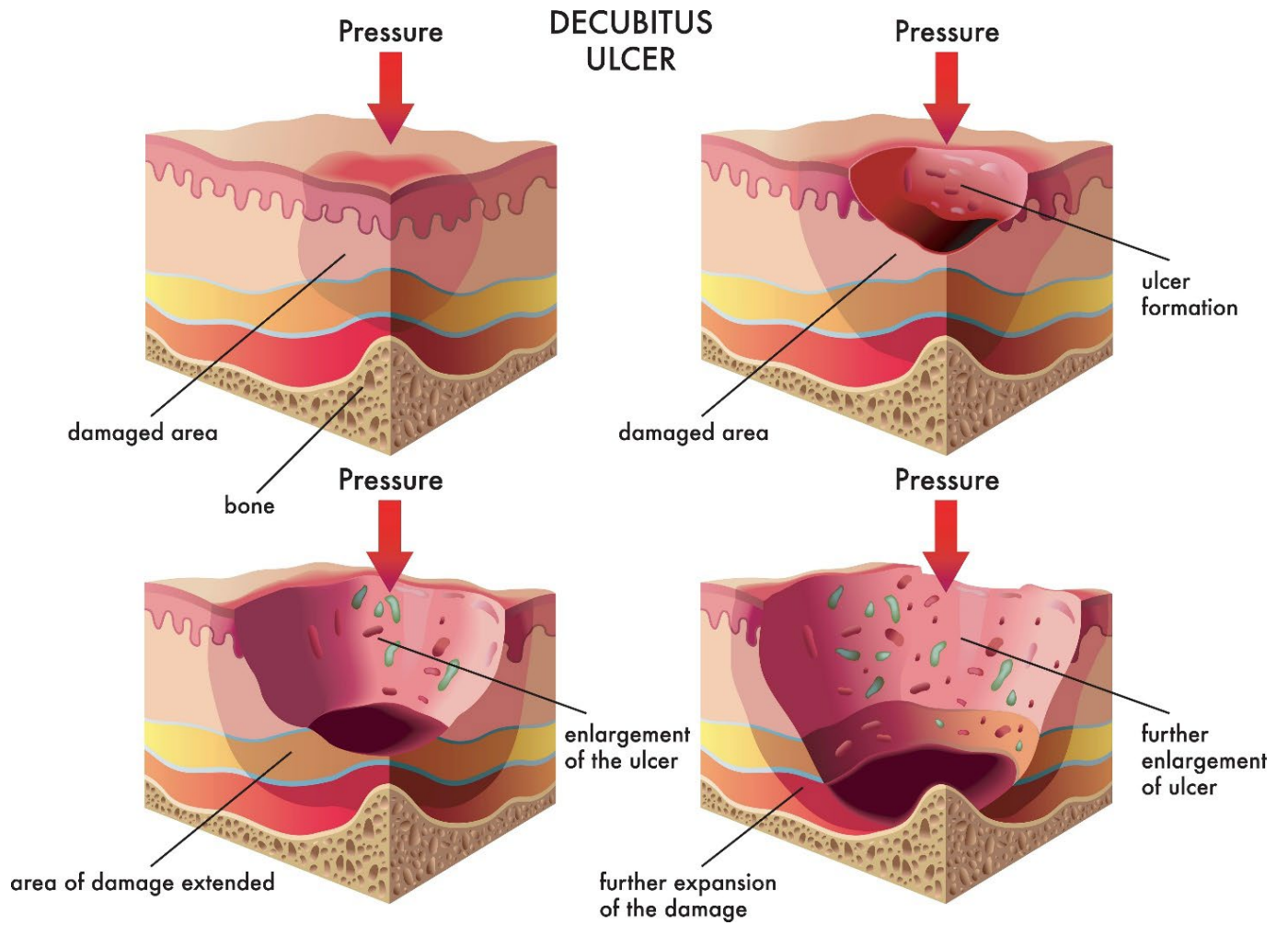
A   B   C
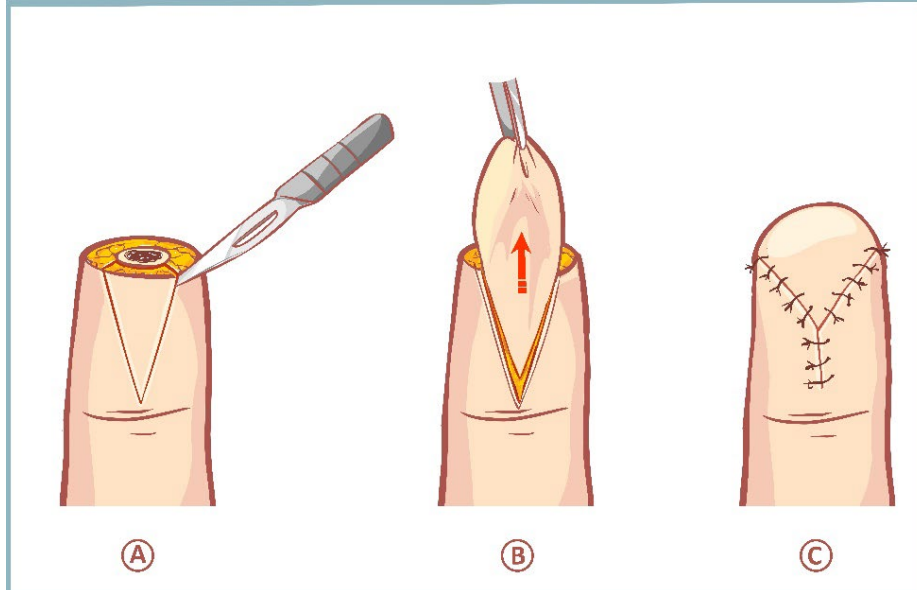
TRANSPLANTATION OF SKIN
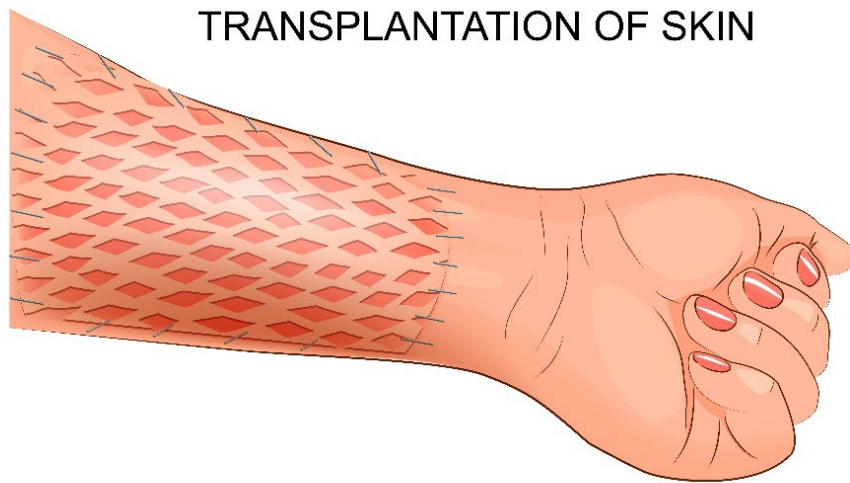
TRAM is a transverse rectus abdominis myocutaneous flap method of breast reconstruction. For the TRAM flap, in the CPT® Index, look for TRAM Flap/Breast Reconstruction and you are directed to codes 19367-19369.

RADICAL MASTECTOMY
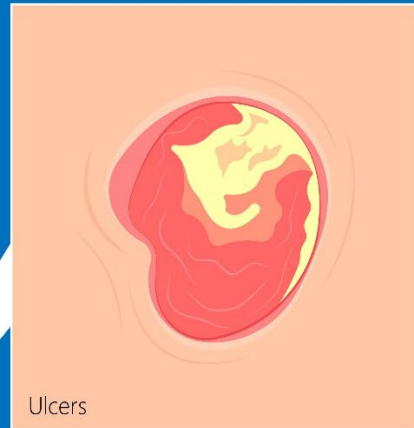

Tissue to be removed
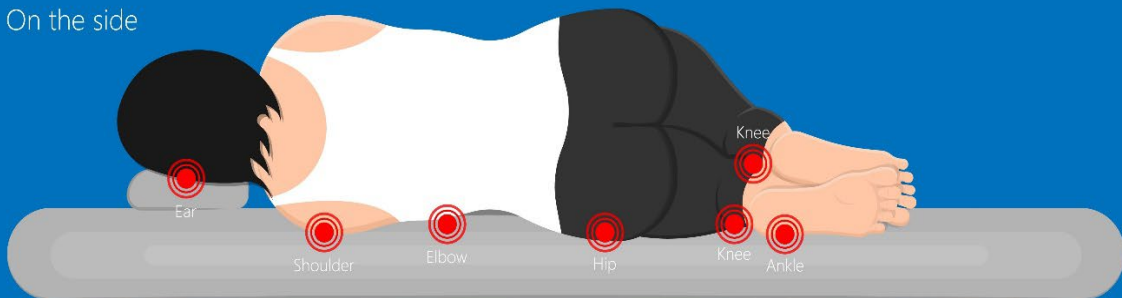
DECUBITUS ULCER

Pressure

Pressure

damaged area

bone

ulcer formation

damaged area

Pressure

Pressure

enlargement of the ulcer

area of damage extended

further enlargement of ulcer

further expansion of the damage

Bedsores (Pressure Ulcers)

Injuries of the skin and underlying tissue resulting from prolonged pressure on the skin

Ulcers

On the back

Back of head | Shoulder | Elbow | Tailbone | Heel

On the side

Ear | Shoulder | Elbow | Hip | Knee | Knee | Ankle

Dead tissue prevents repair

Dead tissue can trap bacteria and cause infection

When dead tissue is removed, new tissue can grow

DIABETIC FOOT

NAIL DISEASES

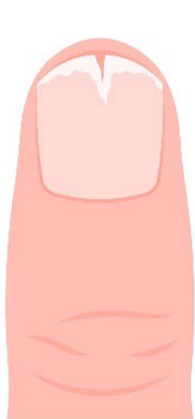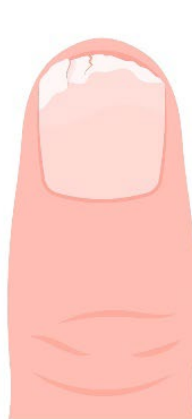HEALTHY NAIL   PARONYCHIA   ONYCHOMYCOSIS   ONYCHOLYSIS   NAIL PITTING
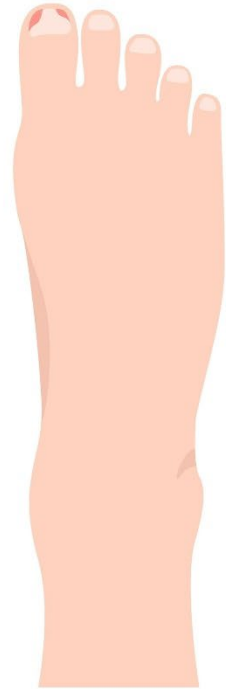
ONYCHOSCHIZIA   ONYCHOGRYPHOSIS   BRITTLE NAILS   LEUKONYCHIA   RIDGES ON NAILS
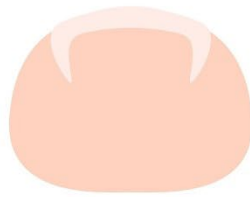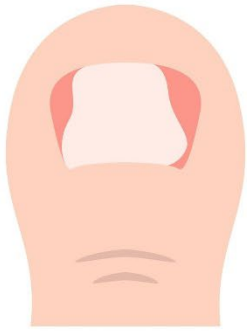
LEGACY
MEDICAL BILLING & CODING

NAIL DISEASES
INGROWN TOENAIL
onychocryptosis

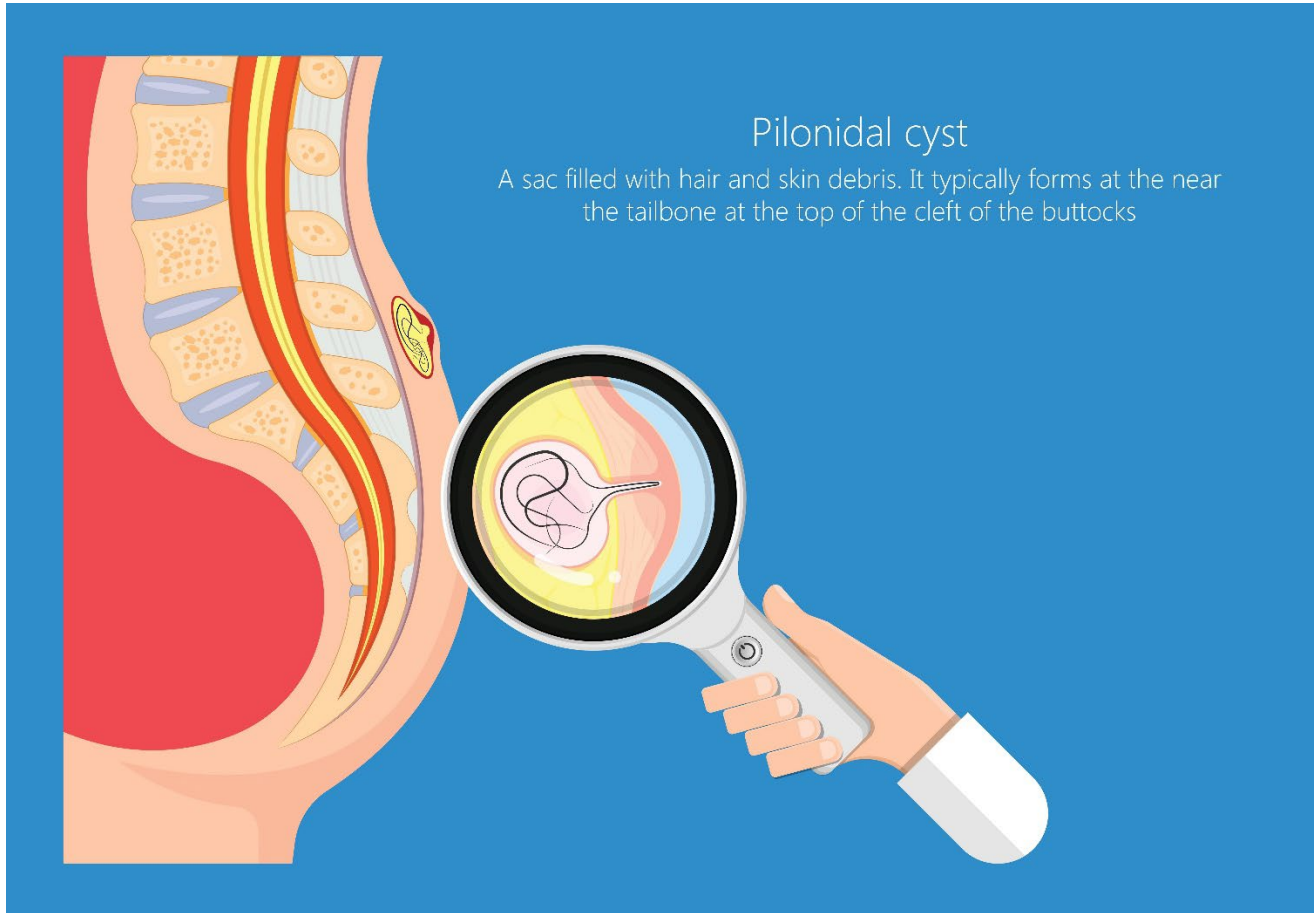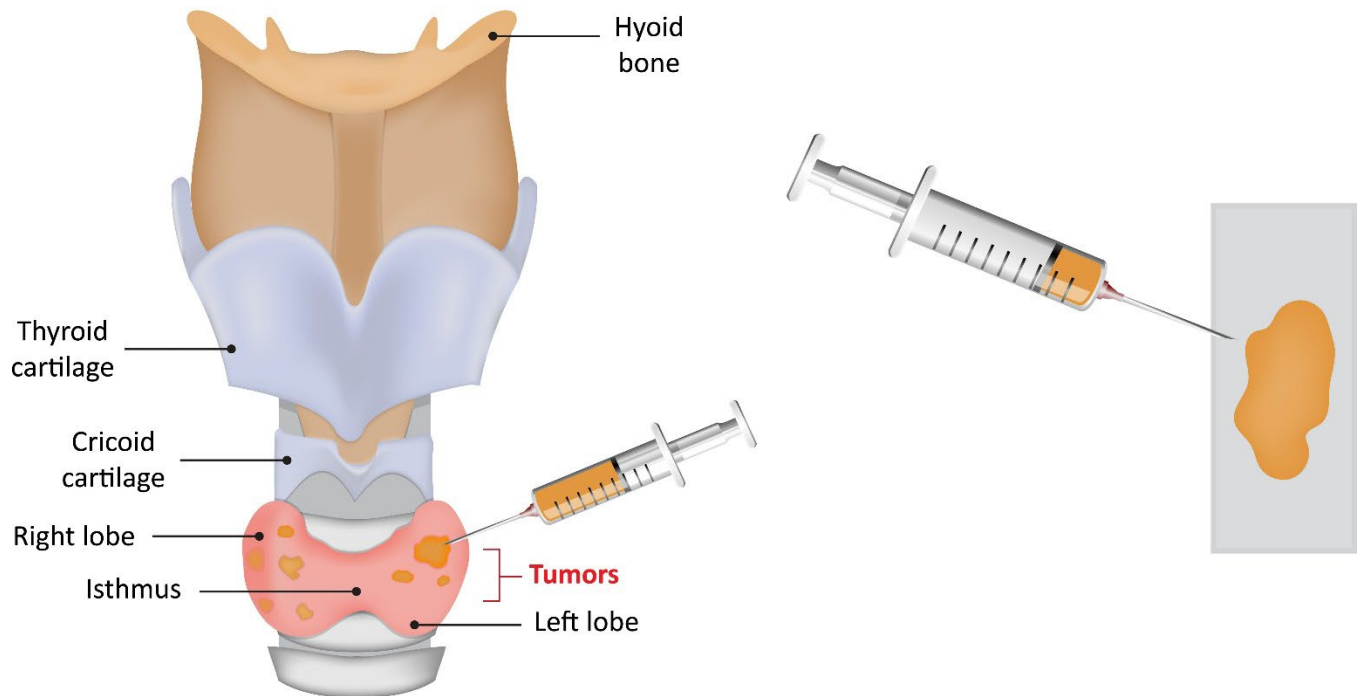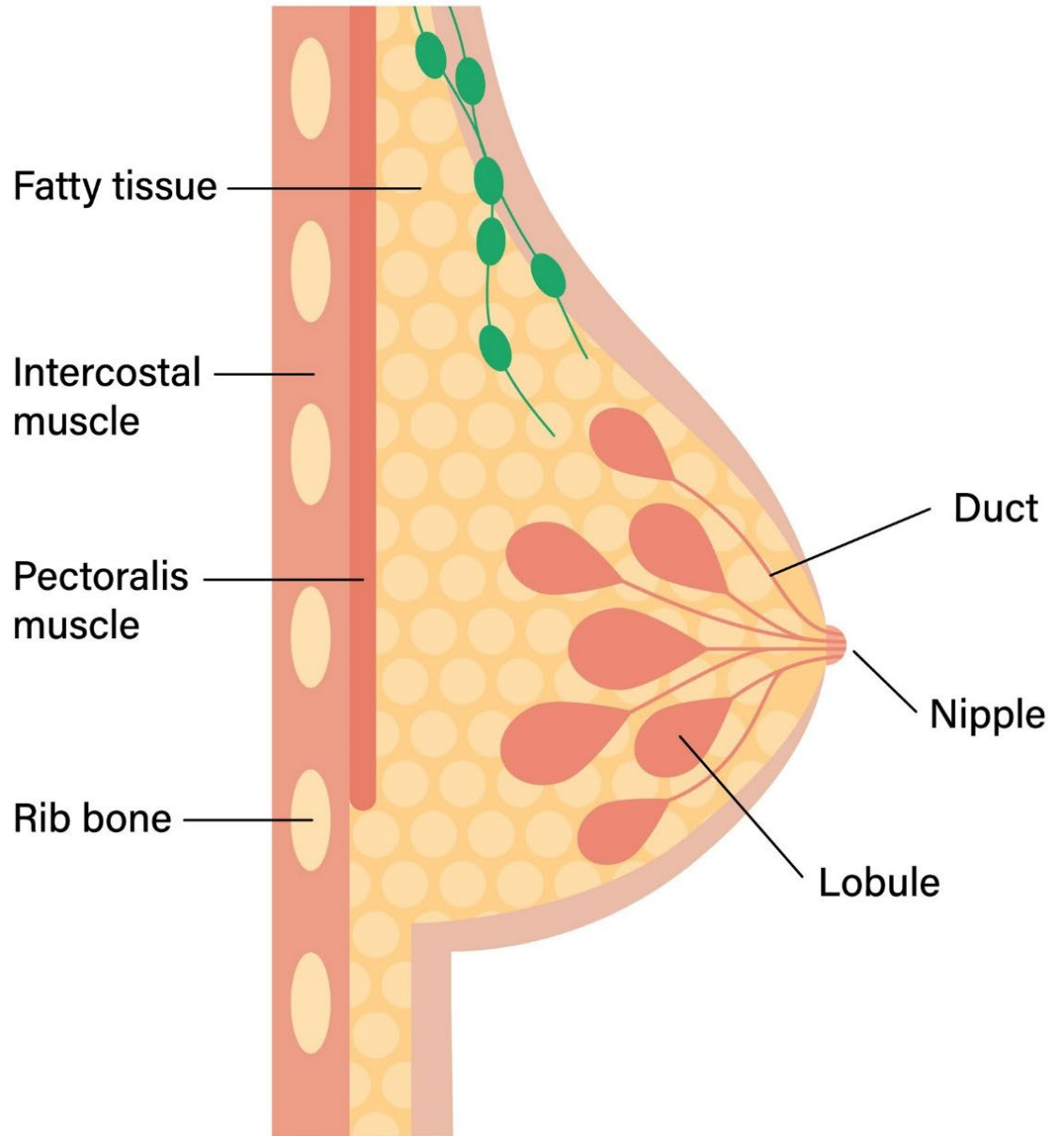NAIL CLIPPING   MATRIXECTOMY   VANDENBOS PROCEDURE

wrong   right

Pilonidal cyst

A sac filled with hair and skin debris. It typically forms at the near the tailbone at the top of the cleft of the buttocks

Fine Needle Aspiration of Thyroid Nodules

Hyoid bone

Thyroid cartilage

Cricoid cartilage

Right lobe

Isthmus

Tumors

Left lobe

LEGACY MEDICAL BILLING & CODING

Fatty tissue

Intercostal muscle

Pectoralis muscle

Rib bone

Duct

Nipple

Lobule

DISEASE FEMALE BREAST

Muscle

Cyst

Ducts

Nipple

Abscess

Tumor

Lobe