General Plan of Patient‘s Examination

Clinical semiology

is the science that studies **symptoms** and **signs** of disease, as are grouped into **syndromes,** with the goal of building diagnostics. Used as a work order is known as **clinical method**.

This method includes

- questioning,
- physical examination,
- analysis of laboratory and diagnostic imaging.
- diagnosis
- treatment

The registration of this information is known as Medical Records.

GENERAL ORDER OF CLINICAL EXAMINATION

I. INTERVIEW

II. INSPECTION

III. PALPATION

IV. PERCUSSION

V. AUSCULTATION

I. Interview
(questioning)

I. Identifications and vital statistics
II. Complains:
    - main
    - general
III. History of the disease (or Anamnezis morbi)
IV. History of the life (or Anamnesis vitae)

I. Identifications and vital statistics

- **Name**
- **Date of birth, Place of birth**
- **Gender**
- **Race**
- **Residence**
- **Marriage status**
- **Professional occupation**

Source of information: patient, others

Interpreter (e.g. relatives)

II. Complains

- Main complains (are typically for one or few diseases), for example cough, dyspnea, pain in the chest can be present in pneumonia and acute bronchitis
- General complains (can be meet in many diseases), for example fever, weakness (fatique), headache can present in many diseases

III. History of the diseases (or Anamnezis morbi)

- Onset of the disease
- Evolution of the disease
- Previous treatment and efficacy
- Previous investigations
- Cause of the last exacerbation
- Reason of the present request for hospitalization or access to doctor

IV. History of the life
(or Anamnesis vitae)

1. Essential biografical data (childhood, schoolhood)
2. Professional activity (labor)
3. Physiological data (Sexual development and anamnesis)
4. Past illnesses
5. Bad Habits **(**diet, smoking, alcohol cosumption, drugs etc.)
6. Allergological anamnesis
7. Social anamnesis
8. Anamnesis of Heredity

8. **Anamnesis of Heredity** (Family history)

Parents, Siblings

- **Age and health**
- **Death and causes**
- **History of diseases**

Hypertension, Hearth disease, Diabetes
Obesity, Endocrine disorders
Tuberculosis, Syphilis, AIDS
Malignancies
Alcoholism, Mental disturbances, etc.

V. Present status of the patient (Status Preasance)

1. General examination
2. Respiratory system
3. Cardiovascular system
4. Digestiv system
5. Urogenital system
6. Blood system
7. Endocrin system
8. Nervous system

Physical examination

- It is the process of examining the patient's body to determine the presence or absence of physical problems
- The goal of the physical examination is to obtain valid information concerning the health of the patient
- The examiner must be able to identify, analyze, and synthesize the accumulated information into a comprehensive assessment

Important aspects of physical examination----physician

- Elegant appearance
- Decent manner
- Kind attitude
- Highly responsibility
- Good medical morals

Important aspects of physical examination---physician

- Wash your hands, preferably while the patient is watching
- Washing with soap and water is an effective way to reduce the transmission of disease

Sequential

- Conducted in head to toe order: head ---neck---chest---abdomen---spine---extremities---anal---genital---nerve system
- Patients tire quickly when asked to “sit up”, “lie down”, “turn on your left side”, “sit up”, “lie down” and so on

Important aspects of physical examination---patient

- The patient should be made as comfortable as possible during the examination
- The patient should be properly draped

Important aspects of physical examination

Where is the bed placed?

- **When possible, the examining table/bed be situated so that the examiner has access to both sides of the patient**
- **An ideal arrangement is to have the table located in the center of the examining room**

Important aspects of physical examination

Where does the examiner stand?

- Stand right side of the bed
- Exam with one' right hand

Important aspects of physical examination

- The examiner should continue speaking to the patient
- Showing care to his disease and answer to patient's questions
- It can not only release patient's nervousness, but also help to establish the good physician-patient relationship

Precaution to take

- The use of gloves should provide adequate protection when performing the physical examination or when handling blood-soiled or body fluid-soiled sheets or clothing

- Gloves should be worn when examining any individuals with exudative lesions or weeping dermatitis

Precaution to take

- Hands or other contaminated skin surfaces should be washed thoroughly and immediately it accidentally soiled with blood or other body fluids
- All sharp items, such as needle, must be handled with extraordinary care to prevent injuries
- A patient may be in isolation or on special precautions if he/she is suffering from a contagious disease

METHODS IN THE PHYSICAL EXAMINATION

General measures:

- **Inspection**
- **Palpation**
- **Percussion**
- **Auscultation**

Physical Examination Techniques

- ***Inspection*** = observation of the client (may at times include use of penlight, otoscope, and/or ophthalmoscope)
- ***Palpation*** = use of touch to assess client
  - Use light pressure first to assess body surface
  - Next use deep palpation to assess underlying structures
  - Assess areas of pain/tenderness/discomfort last
- ***Percussion*** = tapping fingers on the client's skin using short strokes to assess underlying structures to determine size/density/location
- ***Auscultation*** = use of hearing to assess client

Inspection

- Method of observation used during physical examination
- First step in examining a patient or body part
- It includes a general survey of the patient's
  - mental status
  - body movement
  - breath odor
  - speech
  - state of nutrition
  - posture
  - gait
  - skin
  - stature

How to inspect

- Make sure the room is in a comfortable temperature
- Use good lighting, preferably sunlight
- Look and observe before touching
- Completely expose the body part you are inspecting while draping the rest
- Compare symmetrical body parts

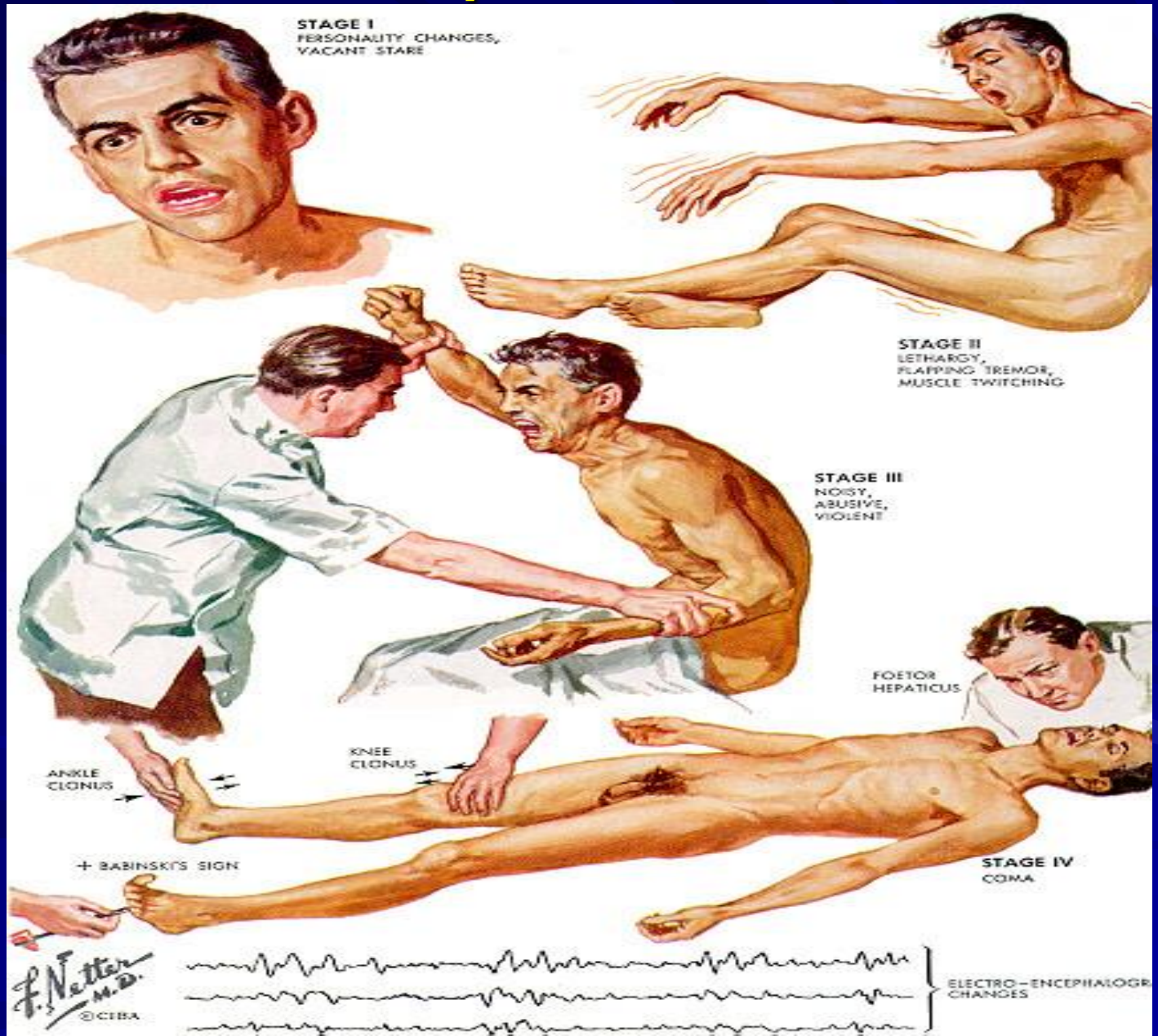
1. General state

- **good,**
- **Satisfactory,**
- **medium grave,**
- **grave,**
- **very grave**

2. Consciousness of patient

- Clear
- Stupor
- Sopor
- Coma (for example – hepatic, hyperglicemic or hypoglicemic, uremic etc)
- delirium

Hepatic coma



3. Posture (or position in the bed)

- Active
- Passive (for example – coma)
- Forced (for example in brocnchial asthma)

4. Face expression

hippocratic, Parkinson's, mitral, nefrotic, mixedematous, Bazedov, acromegalic, Corvizar, lyon type, sardonix etc.

5. Constitutional type

- **Asthenic**
- **Normosthenic**
- **Hypersthenic**

6. Skin

- Color
- Elasticity (Turgor)
- Humidity (Moisture)

- Pathological changes of the skin (hyperpigmentation, depigmentation, rashes, scratching, xanthomas, xanthelasma, ulcerations, fistulas etc.)

Skin Assessment

- Skin characteristics
  - Color
    - Varies per age, culture, ethnicity
    - Mongolian spots = blue-black areas that are sometimes present on the lower back or buttocks of African American, Native American, and Asian babies
    - Capillary hemangiomas ('stork bites') = small, irregular pink-red areas present around the face/neck of newborns
  - Moisture
    - Should be warm and dry (but excessively dry skin may indicate dehydration)
  - Temperature
    - Compare upper and lower extremities, and bilaterally
    - Excessive warmth may indicate fever, whereas excessive coolness may indicate poor circulation, shock, or hypothyroidism

Common Skin Color Variations

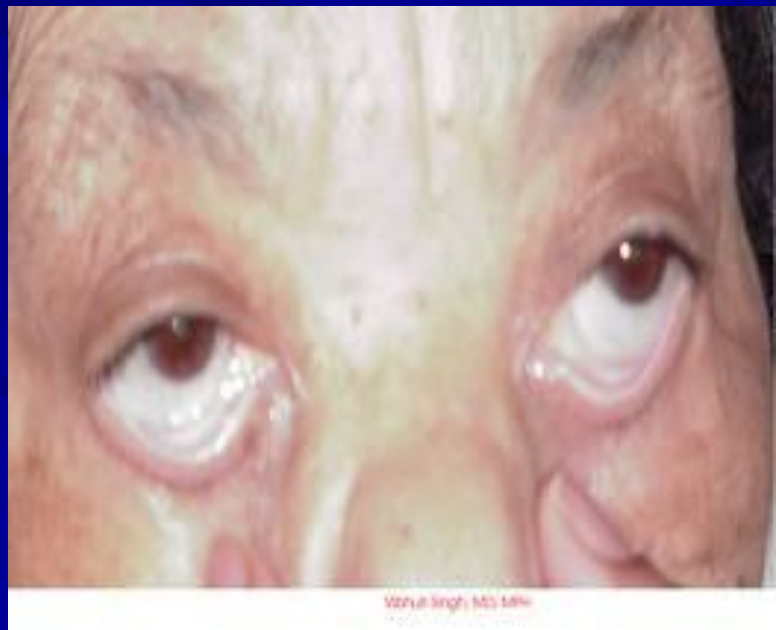
Color Variation	Description	Significance
Pallor	Loss of pink/yellow tones or extreme paleness in light-skinned clients Loss of red tones in dark-skinned clients	Poor circulation, low hemoglobin level Assess via oral mucosa, conjunctiva, nail beds, soles of feet, palms of hands
Cyanosis	Blue-gray coloration of the skin; ashen	Central cyanosis is R/T hypoxia May be seen in extremities after exposure to extreme cold
Jaundice	Yellow-orange cast to the skin	Associated with liver disorders Assess via sclera, oral mucosa, palms and soles
Flushing	Widespread, diffuse area of redness	Results from fever, excessive room temperature, sunburn, polycythemia, vigorous exercise
Erythema	A reddened area	Associated with rashes, skin infections, prolonged pressure on the skin
Ecchymosis	Bruised (blue-green-yellow) area	Bruising may indicate physical abuse
Petechiae	Tiny, pinpoint red or reddish-purple spots	Extravasation of blood into the skin May be associated with a disorder or medication

Cyanosis

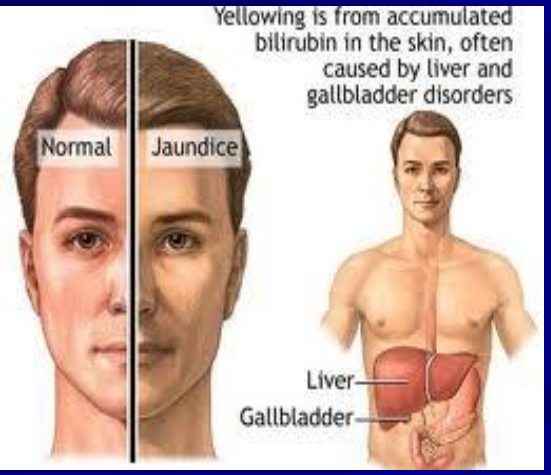

Low oxygen levels in the blood cause the lips, fingers, and toes to look blue (cyanotic)

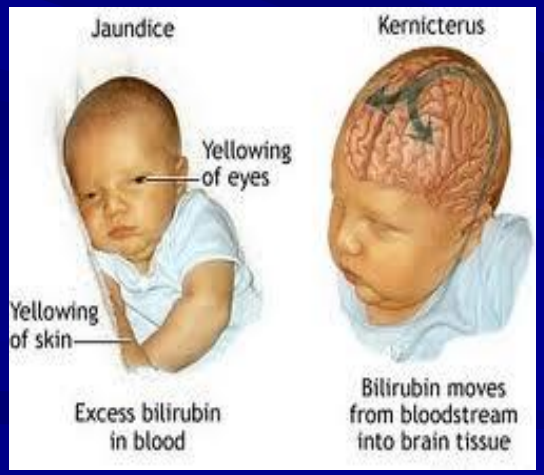
Pallor

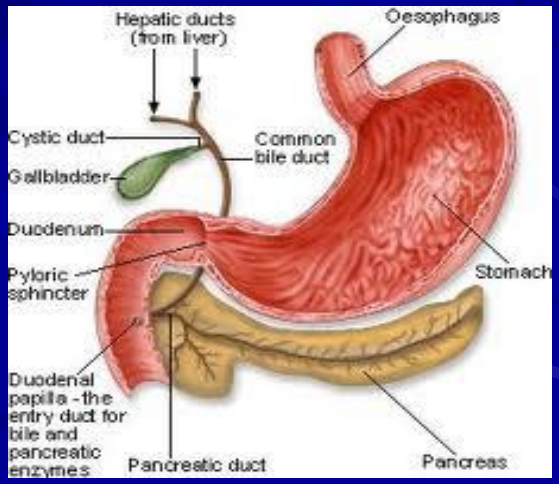

Medscape
www.medscape.com
Source: Wounds © 2003 Health Management Publications, Inc.



Jaundice


Yellowing is from accumulated bilirubin in the skin, often caused by liver and gallbladder disorders
Normal
Jaundice
Liver
Gallbladder


Jaundice
Kernicterus
Yellowing of eyes
Yellowing of skin
Excess bilirubin in blood
Bilirubin moves from bloodstream into brain tissue


Hepatic ducts (from liver)
Oesophagus
Cystic duct
Common bile duct
Gallbladder
Duodenum
Pyloric sphincter
Stomach
Duodenal papilla - the entry duct for bile and pancreatic enzymes
Pancreatic duct
Pancreas

Types of jaundice

- Mechanical
- Hemolitic
- Parenchymatus

Erythema

Petechiae

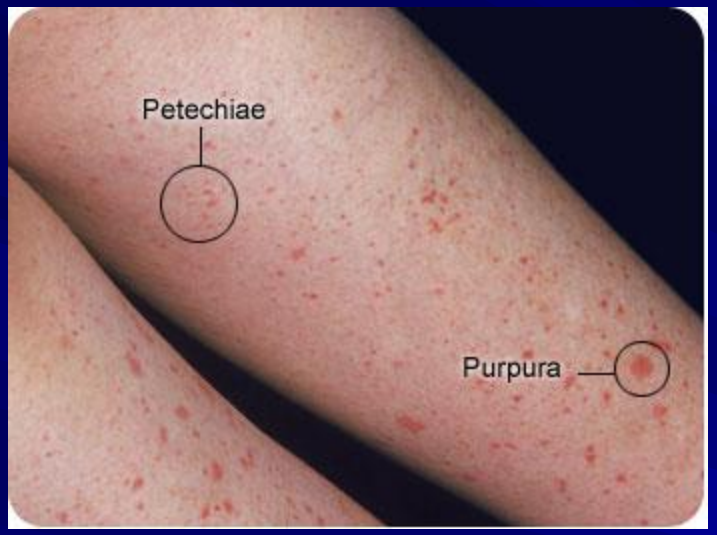

Petechiae
Purpura


Fig. 2-5 Periodontal disease seen in scurvy.

Skin Assessment (cont'd)

- Skin characteristics (cont'd) –
  - Texture
    - Should be smooth and soft
    - May be affected by exposure, age, endocrine disorder, and impaired circulation
  - Turgor
    - Refers to the elasticity of the skin, and indicates hydration status
    - Skin that takes 3 seconds or longer to return to its original position is termed 'tenting', and indicates dehydration
  - Lesions
    - Primary = result of disease or irritation
    - Secondary = develops from primary lesions as a result of continued illness, exposure, injury, or infection
    - Evaluate for size, shape, pattern, tenderness, pain, etc

7. Assessing the Mouth Mucosa

- Buccal mucosa should be **smooth, moist, and pink:**

Common Buccal/Oral Variations	
Condition of Mouth/Oral Mucosa	***Indications or Concerns***
Paleness	**Anemia or inadequate oxygenation**
Canker sores	**Painful vesicles that erupt with allergies and stress**
Gingivitis	**Red, swollen or spongy, bleeding gingiva with receding gum lines; tenderness may be present; this is a sign of periodontal disease**
Parotitis	**Inflammation of the parotid salivary gland**
Stomatitis	**Inflammation of the oral mucosa**
Leukoplakia	**Thick, elevated white patches that do not scrape off; may be precancerous lesions**
Thrush	**White, curdy patches that scrape off and bleed caused by a fungal infection**
Aphthous ulcers	**Small, painful vesicles with a reddened periphery and white/pale yellow base; caused by viral infection, stress, or trauma**

8. Assessing the Hair

- Assess for color, texture, condition, and distribution
  - Pediculosis = head lice infestation
  - Nits (lice eggs) may be found on the hair shaft close to the scalp
- Alterations in hair distribution may be the sign of disease
  - Alopecia = hair loss
    - Chemotherapy
    - Nutritional deficiencies
  - Hirsutism = excess facial or trunk hair
    - Endocrine disorders
    - Steroid use
- Assess scalp (dandruff, dermatitis, psoriasis, etc)

Hirsutism

Allopecia

9. Assessing the Nails

Condition of Nail/Nail Bed	*Indications or Concerns*
Pale or cyanotic beds	Circulatory or respiratory disorders that result in anemia or hypoxia
Half-and-half nails	Appears as a distal band of reddish-pink that covers 20-60% of the nail; caused by low levels of albumin or renal disease
Mee's lines	Appears as transverse white lines in the nail bed; results from severe illness
Splinter hemorrhages	Small hemorrhages under the nail bed that are associated with bacterial endocarditis or trauma
Black nails	Related to blood under the nail–occurs after a local trauma
White spots	Zinc deficiency
Clubbing	Refers to an angle of the nail bed that is 180° or more (normal is 160°); associated with hypoxic states (i.e. chronic lung disease)
Spooning	Iron deficiency
Thickened nails	Poor circulation or fungal infection
Brittle nails	Hyperthyroidism, malnutrition, calcium and iron deficiency
Soft, boggy nails	Poor oxygenation

10. Subcutaneous fat assessment

- Distribution (type and uniformity)
- Sites of local accumulation or local atrophy
- Grade of nutrition

Subcutaneous fat assessment

11. Peripheral edema

Differential diagnosis between cardiac and renal edema

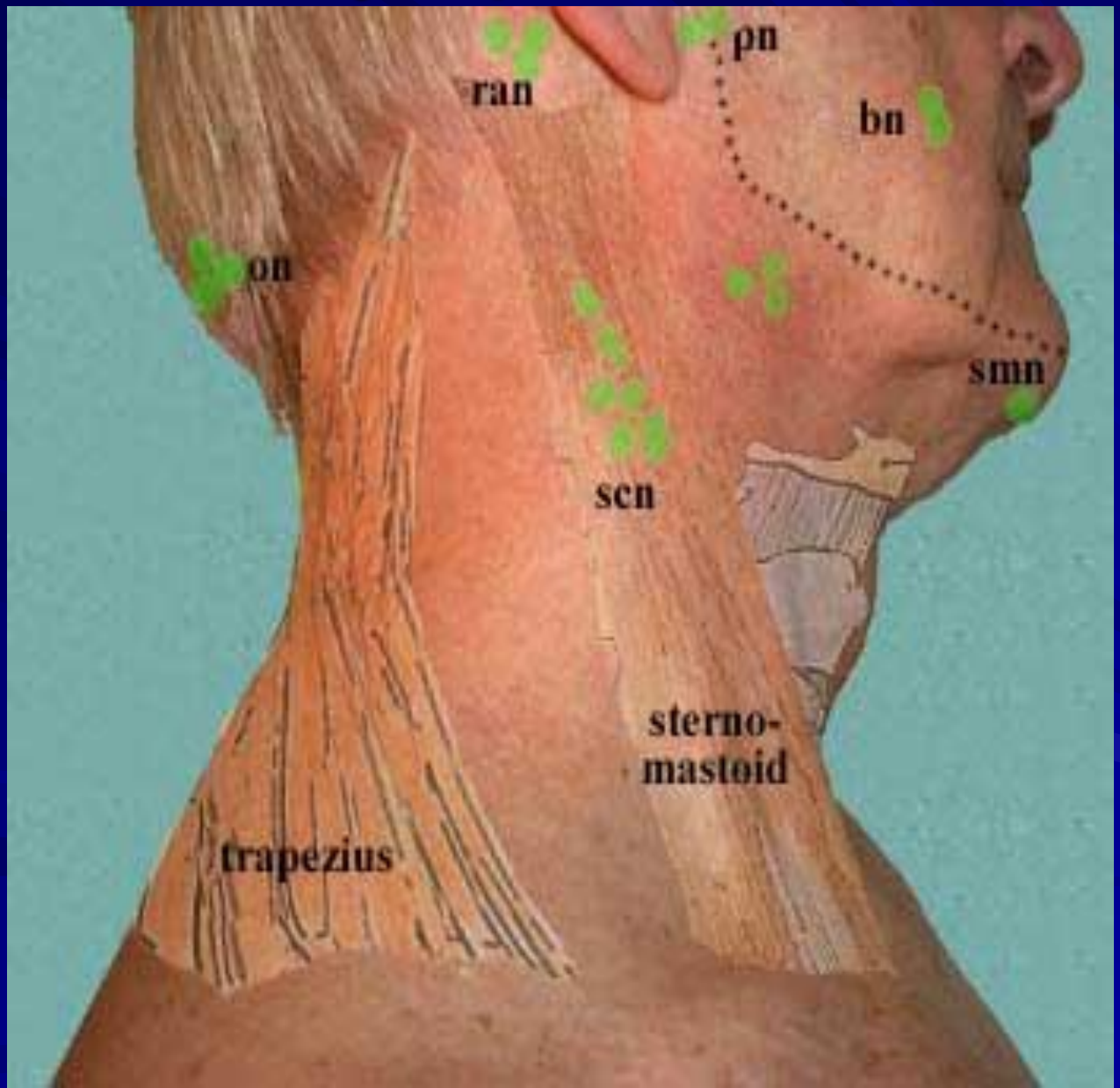
Cardiac	Renal
Cyanotic	Pallor
Occurs in the evening	Occurs in the morning
Cold	Warm
Hard	Soft
Diuretics +	Diuretics -
From lower extremities	Diffuse

Clubbing (COPD, Cirrhosis, Congenital Heart deseases)

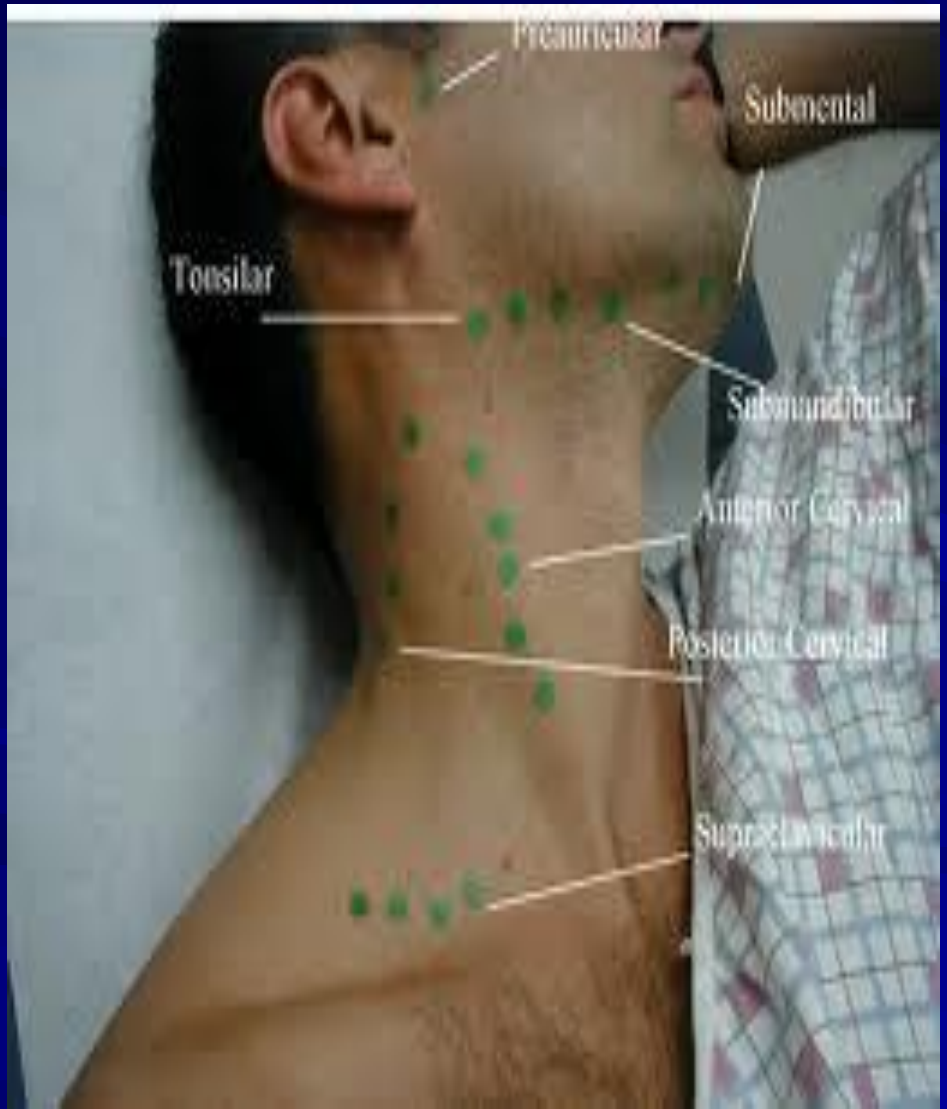
13. Palpation of lymph nodes

- Location
- Form
- Size
- Consistence (hard or soft)
- Tenderness
- Coalescence (between themselves and with adiacence tissues)
- Condition of the Skin above them

Lymph nodes



Lymph nodes


Preauricular
Submental
Tonsilar
Submandibular
Anterior Cervical
Posterior Cervical
Supraclavicular

Lymph nodes

12. Assessing the Head and neck

- Form
- Symmetry of features, facial expressions
  - Abnormal facial features may indicate genetic or chronic disorder (i.e. Graves' disease, hypothyroidism/myxedema, Cushing's syndrome)
  - Acromegaly, a disorder of excessive growth hormone, may result in enlarged head in adolescents and adults
  - Microcephaly is an abnormally small head size that may accompany mental retardation
  - Hydrocephalus may present in infants and children, indicating an accumulation of excessive cerebrospinal fluid
- Painfull points of the head . Assess jaw motion for clicking, pain, or crepitus, which may indicate temporomandibular joint syndrome (TMJ)
- Measure head circumference if indicated

Acromegaly

14. Muscle system assessment

Muscle system assessment (con' d)

- Development of muscle
- Muscle power (tonus of muscles)
- Tenderness, indurations and atrophy

15. Bones

- visible deformations
- Tenderness in percussion of plate and tubular bones

16. Assesssment of joints

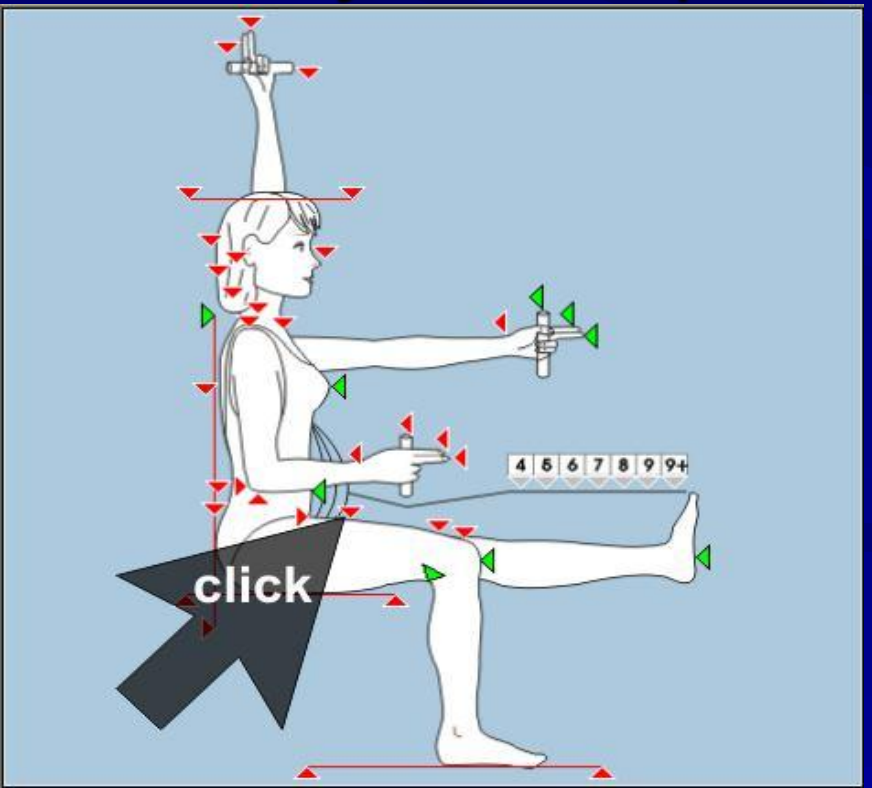
- Shape
- Size
- Mobility (amplitude in active and passive movement)
- Tenderness
- Local temperature and skin condition

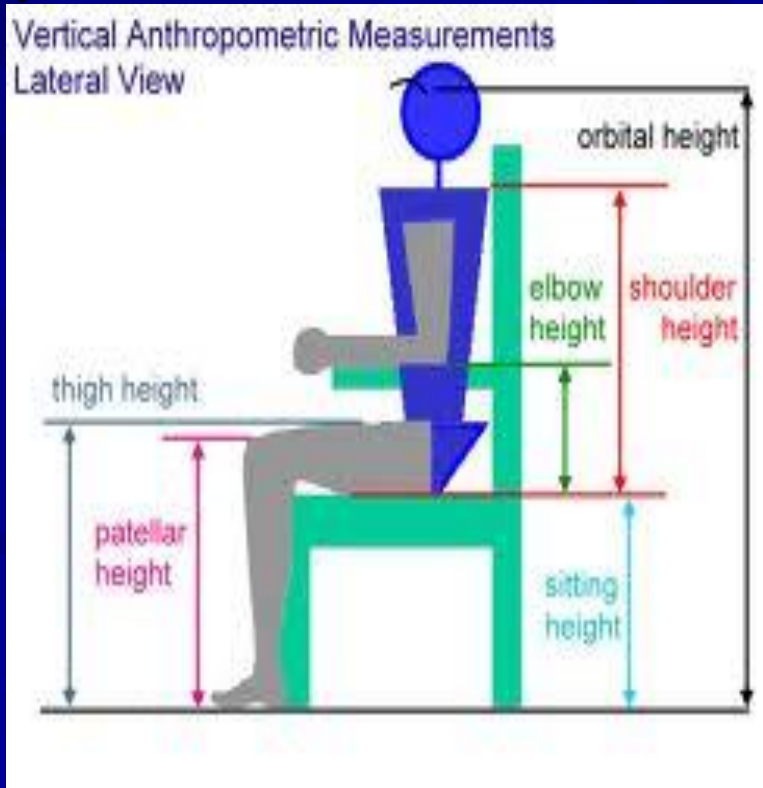
Palpation of the bones and joints

Rheumatic fever,

ANTHROPOMETRY

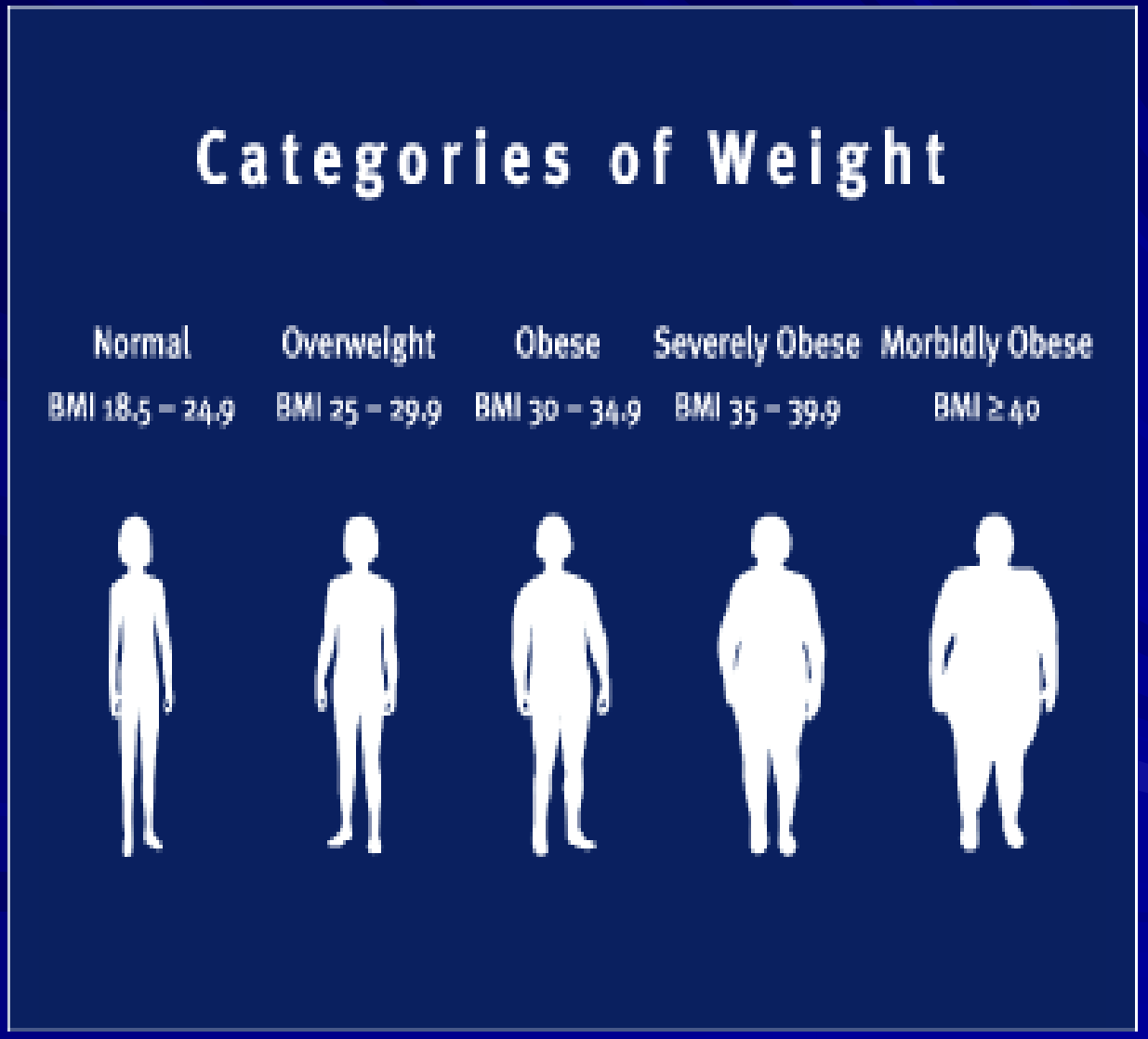
- **Definition of *"anthropometry"* -** measurement and study of the human body and its parts and capacities





ANTHROPOMETRY

BODY MASS INDEX



BODY MASS INDEX

CELEBRITIES BMI

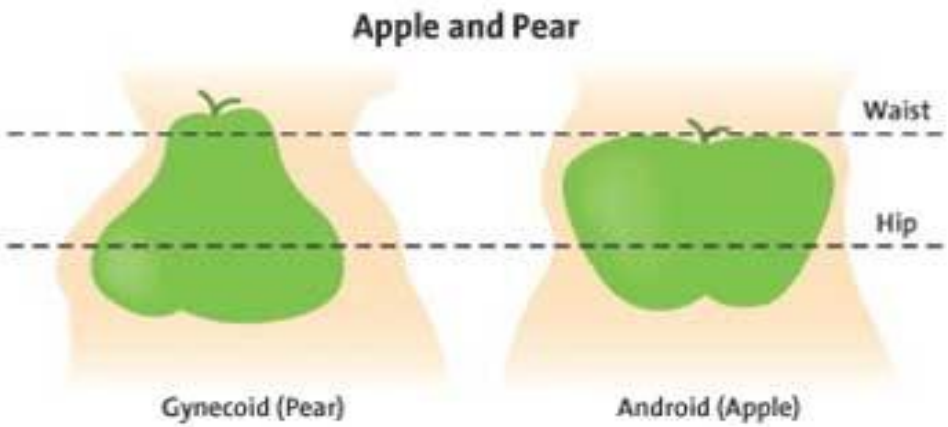
- Ashley Judd: 5'7 ” 125 bmi: 19.6
Anna Kournikova, 5'8", 113 pounds, BMI 17.2
Adriana Lima, 5'10", 125 pounds, BMI 17.9
Britney Spears: 5'5", 105 bmi: 17.5
Beyonce Knowles, 5'5", 150 pounds BMI 25
Christina Aguilera: 5'2 100 bmi: 18.3
Cameron Diaz, 5'9", 120 pounds, BMI 17.8
Calista Flockhart, 5'6", 97 pounds, BMI 15.5
Denise Richards 5'6", 119 pounds, BMI 18.8
Faith Hill, 5'8", 121 pounds, BMI 18.4
Fiona Apple, 5'3", 105 pounds, BMI 18.6
Gwyneth Paltrow: 5'9", 112 bmi: 16.5
Giselle Bundchen, 5'11", 115 pounds, BMI 16
Geri Halliwell, 5'2", 99 pounds, BMI 18.2
Heidi Klum: 5'9 119 bmi:18
Heather Locklear: 5'5", 105 bmi:17
Jennifer Lopez: 5'6", 120 bmi: 19.3
Julia Roberts: 5'10", 120 bmi: 17.3
James King, 5'9", 120 pounds, BMI 17.7

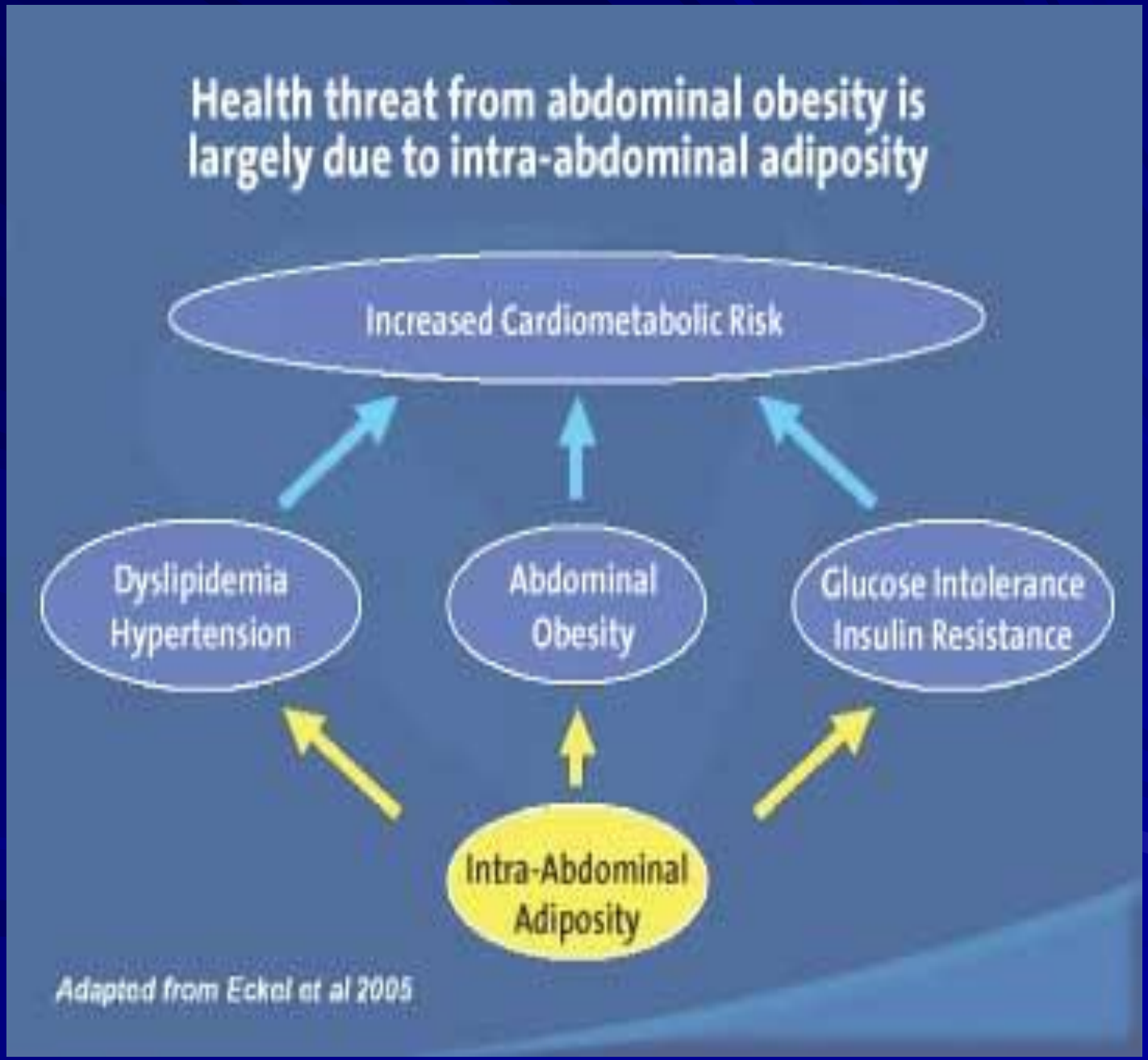
Jennifer Aniston, 5'6", 110 pounds, BMI 17.8
Kirsten Dunst, 5'4", 100 pounds, BMI 17.2
Katie Holmes, 5'8", 120 pounds, BMI 18
Kate Moss, 5'7", 107 pounds, BMI 17.3
Lisa Kudrow, 5'7", 123 pounds, BMI 18.8
Mandy Moore, 5'8", 108 pounds, BMI 16.4
Mayra Hornbacher, 5"1, 52 pounds, BMI 9.8
Nikki Taylor: 5'10" 118 BMI 16.9
Nicole Kidman: 5'10 120 bmi: 17.2
Nicole Richie: 5’1” 83 lbs bmi: 15.3
Naomi Campbell, 5'10", 110 pounds, BMI 15.8
Neve Campbell, 5'5", 123 pounds, BMI 20.5
Pamela Anderson: 5'7 105 bmi: 16.4
Paris Hilton, 5'8", 115 pounds BMI 17.5
Reese Witherspoon: 5'6", 122 bmi: 19.6
Salma Hayek: 5'7", 115 bmi: 18
Sandra Bullock: 5'8", 110 bmi: 16.7
Sarah Michelle Gellar: 5'3", 98 bmi: 17

WAIST CIRCUMFERENCE

- Waist circumference (distance around the waist) is a common measure used to check for fat held around the stomach. Having extra body fat around the stomach—more than 35 in (89 cm) for women and more than 40 in (102 cm) for men—increases your risk of heart disease and diabetes.
- How to measure waist circumference: Place a tape measure around your body at the top of your hipbone. This is usually at the level of your belly button, as shown in the picture above.

WAIST CIRCUMFERENCE




Health threat from abdominal obesity is largely due to intra-abdominal adiposity
Increased Cardiometabolic Risk
Dyslipidemia
Hypertension
Abdominal
Obesity
Glucose Intolerance
Insulin Resistance
Intra-Abdominal
Adiposity
Adapted from Eckel et al 2005

WAIST CIRCUMFERENCE

Thermometry

- Temperature is a physical quantity and hence, measurable.
- The science of measurement of temperature is known as **thermometry**. The devices used to measure temperatures are known as thermometers.

Key scale relations

	Kelvin	Celsius	Fahrenheit
Absolute zero (precisely, by definition)	0 K	−273.15 °C	−459.67 °F
Melting point of ice (approximate)[8]	273.15 K	0 °C	32 °F
Water's triple point (precisely, by definition)	273.16 K	0.01 °C	32.018 °F
Water's boiling point at 1 atm (101.325 kPa) (approximate: see Boiling point)[9]	373.1339 K	99.9839 °C	211.9710 °F

How to Measure Body Temperature: Oral

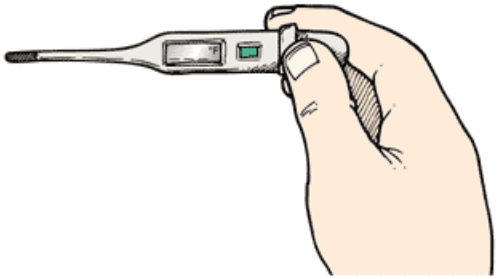
Normal body temp: 98.6˚F

Oral fever temp: > 100˚F

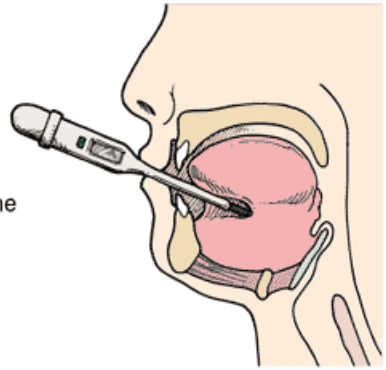
Rectal fever temp: > 100.5˚F

A.D.A.M.

1. Turn on thermometer according to package directions.

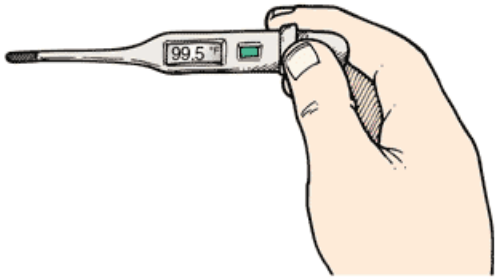


2. Place the tip of the thermometer under one side of tongue toward the back. Close mouth and breathe through nose.



3. Remove the thermometer after you hear the signal (usually a series of beeps) and read the temperature on the screen.

A fever is a temperature over 99.5 ˚F.



Normal body temp: 98.6˚F

Oral fever temp: > 100˚F

Rectal fever temp: > 100.5˚F

A.D.A.M.

- http://www.youtube.com/watch?v=QReR2r8Kujk
- http://www.learnerstv.com/Free-Medical-Video-lectures-ltv032-Page1.htm