Physical Examination (physical assessment).
Is performed in a manner of ROS(review of systems)

Purpose of physical examination;
1- As a part of regular, preventive health care.
2- To observe the general physical and emotional status.
3- To make a diagnosis and prognosis.
4- To evaluation a patient physical response to therapy.

Nursing role before physical examination;
• Prepare the client;
  - Inform the client about the benefit of the procedure.
  - Explain to the client the type of assistance needed during the procedure.
  - Helping the patient in putting on gown for exam.
  - Ensure the patient’s draping correctly ,so not cold.

• Prepare the environment;
  - Gathering the necessary equipment and supplies.
  - Preparing the examining room or patient unit. (The room needs to be quiet, warm, without drafts, and adequately lightening ).
  - preparation of necessary equipment needed for examination.
• Record objective data clearly & concisely.

Component of assessment;
1- Height ,weight ,vital signs.
2- Clients appearance ,behavior , perception about health & his emotion .
3- General survey ( head –to- toe)information includes, mental status, body type, nutritional status, sex, grooming and age.

The examiner usually requires the following equipment:-
1- Scale with a height measuring rod: to take height and weight measurements.
2- Thermometer, stethoscope , sphygmomanometer to assess vital signs .
3- an otoscope – for examining ears nose.
4- Ophthalmoscope ----to assess vision.
5- Bronchoscope ----to assess bronchi.
6- Tuning fork-- to assess hearing.
7- Laryngeal mirror and head mirror ---to examine the mouth and throat.
8- A percussion hammer to test reflexes.
9- Tap measure

**Skills of physical assessment .**

1- **Inspection** – is the process of observation, to detect body parts, normal characteristics, & physical sighs. 
   Ex; skill full nurse pay attention to clients movements, and looking carefully to body parts, skin dryness & wrinkles.

   **To inspection body part accurately.**
   a- Make sure good lighting is available.
   b- Position and expose body part.
   c- Inspect each area for size, shape, color, symmetry, position and abnormalities.
   d- Compare each area to be inspected with other side.

2- **Palpation** – assessment body parts through the sense of touch. The hand can make delicate and sensitive measurement of specific physical signs.

   Types of palpitation ;
   a- Light
   b- Deep, both types controlled by amount of pressure applied by the fingers.

   **area examined by palpation**
   a- Skin. temp, texture.
   b- Organs {e.g. liver and intestine}.
   c- Glands thyroid and lymph.
   d- Blood vessels {e.g. carotid or femoral artery}

3- **Percussion** – taping the body with finger or striking one object with another to produce sound or vibration to aid in diagnosis. Helpful in confirming other assessment finding such as evaluate the size, borders of the body cavity.
Types of percussion;
   a- Direct; striking body surface directly.
   b- Indirect; the middle finger strikes the base of other hand.

4-. **Auscultation** – is listen to sound created in body organs to detected variations from normal by using the stethoscope.

Characteristics of sounds:
   a- Frequency.
   b- Loudness.
   c- Quality.
   d- Duration. or length of time that sound vibration lasts.

5-. **Olfaction** – to detect abnormalities in nature of body odor, infection, unfamiliar odor.

**Position in physical examination:**
Standing position {erect position –
Sitting position –
Supine position –
Sims position –
Knee – chest position – lithotomy position}.

Examination

The **integumentary system** (skin, hair, scalp, and nails) **Inspect and Palpate**
Skin (Color,. Lesions, Moisture (wetness and oiliness) ,Temperature ,Mobility and turgor (elasticity), Dependent edema

**Hair:**
1. Quality, distribution, pattern of hair loss,
2. Texture and oiliness.
3. Body hair for amount

**Scalp:**
The scalp should be shiny and smooth(without lesios, lumps, or masses).

**Nails**
1. Note the nail color, shape, and texture. vascular with a pink color ,Angle between the fingernail and base is about 160°. When palpated the nail base is firm.

**Head and Neck**
Areas to be included in the head and neck examination are the skull, face, eyes, ears, nose, mouth, pharynx, and neck
Skull and Face
Assessment of the skull and face involves inspection and palpation. The client’s face has its own unique characteristics influenced by factors such as race, state of health, emotions, and environment.

Eyes
The assessment of visual acuity is a simple, (is performed with the use of a Snellen chart)

Ears
inspection and palpation of the external ear, and otoscopic assessment. The nurse should observe the client for signs of hearing difficulty during the physical examination,

Nose and Sinuses
Assessment is limited to inspection and palpation of the external nose and nasal passages using a penlight. An examination with a nasal speculum to inspect the nasal chambers palpate the frontal and maxillary sinuses for tenderness, determine whether has had discharge, epistaxis, pain, or difficulty smelling.

Mouth and Pharynx
Physical assessment of the oral cavity includes the breath, lips, tongue, buccal mucosa, gums and teeth, hard and soft palate, and pharynx. The oral cavity can yield significant information regarding the client’s health because systemic diseases may manifest initially in the oral cavity. Ask if he's had tongue or gum soreness, bleeding gums, taste or voice changes, a sore throat or difficulty chewing or swallowing.

Neck
Physical examination of the neck includes the neck muscles, lymph nodes of the head and neck, thyroid gland, and trachea. The lymph nodes are normally not easily palpable. If the client has an enlarged thyroid gland, the blood supply will be increased, causing a fine vibration that can be auscultated with the diaphragm of the stethoscope.

Thorax and Lungs
Physical assessment includes inspection, palpation, percussion, and auscultation of the posterior, lateral, and anterior thorax and lungs for accurate documentation of findings. Respiratory auscultation reveals the presence of normal and abnormal breath sounds. During auscultation, the client should be instructed to breathe only through the mouth because mouth breathing decreases air turbulence that could interfere with an accurate assessment. There are three distinct types of normal breath sounds with their own unique pitch,
intensity, quality, location, and relative duration in the inspiratory and expiratory phases of respiration:

- **Vesicular sounds**: soft, breezy, and low-pitched sounds heard longer on inspiration than expiration that result from air moving through the smaller airways over the lung’s periphery, with the exception of the scapular area

- **Bronchovesicular sounds**: medium-pitched and blowing sounds heard equally on inspiration and expiration from air moving through the large airways, posteriorly between the scapula and anteriorly over bronchioles lateral to the sternum at the first and second intercostal spaces

- **Bronchial sounds**: loud and high-pitched sounds with a hollow quality heard longer on expiration than inspiration from air moving through the trachea

**Heart and Vascular System**

Heart and vascular system assessment techniques consist of inspection, palpation, and auscultation. The nurse should review the client’s profile relative to the health history for cardiac risk factors such as family history, cigarette smoking, and dietary and exercise habits.

**Breast and axillae**: Stand in front of patient, examine her breasts—first with her arms relaxed, then with her arms elevated and, finally with her hands on her hips. With the patient lying down, palpate the axillary nodes. Has patient had pain, swelling, lumps, breast tenderness, nipple changes, or discharge?

**Cardiovascular system**: Inspect and palpate carotid pulsations, and auscultation for carotid bruits. Then elevate the bed about 30 degrees, observe jugular venous pulsation, and measure jugular venous pressure, assess the apical impulse.

**Abdomen**: With the patient supine and the head of the bed flat, inspect, auscultate, palpate, and percuss the abdomen. Palpate lightly, then deeply, to assess the liver, spleen, kidney, and aorta. Ask about pain, dysphagia, nausea, vomiting, diarrhea, and hematemesis.

**Legs**: Observe the muscle mass of the legs, varicose vein, ask him about coldness, numbness, edema, or discoloration in the legs. With standing examine the alignment of the legs. Palpate all pulses and inguinal lymph nodes test range of motion; ask about pain, cramping, stiffness.