Physical Assessment: Head-to-Toe – Performing

What Is a Head-to-Toe Physical Assessment?

› The head-to-toe assessment is a noninvasive physical examination performed to obtain preliminary information on a patient’s body system function, mental/emotional status, and overall health. It is performed regularly during outpatient sick- and well-visits. In the inpatient setting, physical assessments are performed by nurses at least once each nursing shift depending upon the level of care, the patient’s condition, and facility protocol
  - What: A physical assessment is the systematic process of evaluating a patient’s physical, mental, and emotional status. The purpose of the assessment is to identify abnormal findings that signal the presence of an underlying disease or a change in the patient’s condition. The head-to-toe assessment described in this Nursing Practice & Skill is typical of the patient evaluation performed by nursing staff once per shift or as needed when a patient’s condition changes or to assess the effect of therapeutic interventions
  - How: During the head-to-toe assessment, the clinician uses inspection, auscultation, palpation, and percussion to assess the patient’s body systems sequentially from the head and neck toward the toes. This assessment is typically performed at the patient’s bedside and takes approximately 10 minutes under most circumstances
  - Where: Physical assessment may take place in any health care setting, including an inpatient facility and, in the case of homecare or emergency medical care, within the community
  - Who: Head-to-toe physical assessments may be performed by nurses, physicians and other advanced practice practitioners, and emergency medical staff, and should not be delegated to assistive medical personnel. With the patient’s permission and with measures taken to promote patient privacy, it is appropriate for family members to be present during the procedure. It is usually helpful and encouraged to have a parent or other adult family member present during the physical assessment of a child, as this can put the child at ease and facilitate cooperation with the procedure (for information specific to physical assessment in children, see Nursing Practice and Skill ... Physical Assessment in Children: Performing)

What is the Desired Outcome of the Head-to-Toe Physical Assessment?

› The goal of the head-to-toe physical assessment is to gather preliminary information about a patient’s physical condition to identify abnormalities that warrant further evaluation and/or intervention. The head-to-toe physical assessment can
  - establish a baseline against which future measurements are compared
  - identify current or potential problems
  - evaluate the effectiveness of nursing and medical interventions

Why Is the Head-to-Toe Physical Assessment Important?

› It is during the physical assessment that physiological abnormalities are first detected. These abnormal findings identify the need for more in-depth examination of the affected body system (e.g., an abnormal heart rate and/or chest discomfort may prompt the treating clinician to order an EKG or echocardiogram)
› If the physical assessment is performed on a conscious individual, this assessment can serve as a means to identify psychological and emotional conditions in addition
to physical abnormalities. If the patient’s responses to clinician questions suggest the possible presence of a psychological or emotional disturbance (e.g., depression, anxiety, psychosis), this will prompt additional mental health evaluation and/or prescribed treatment (e.g., antidepressant medication)

**Facts and Figures**

› Researchers analyzed data from the National Health and Nutrition Examination Survey (NHANES), which included 21,350 participants aged 3 to 19 years and found that 20% of boys and girls as young as 9–11 years old required standard adult BP cuffs for accurate BP measurement, and that one-third of obese children of any age required adult cuffs (Ostchega et al., 2014)

› Results of a systematic review of sixteen studies examining the accuracy of blood pressure measuring devices indicated that, while the use of automated blood pressure devices is increasing in clinical practice, auscultatory devices (i.e., traditional sphygmomanometers) provide the most accurate blood pressure readings in patients with an arrhythmia, a diagnosis of hypertension, a recent history of trauma, and/or clinical signs of deterioration (Skirton et al., 2011)

› Infrared ear thermometers are frequently used to screen for fever. But in a meta-analysis of 28 studies, researchers reported that the accuracy of infrared ear thermometers is poor, and that they should not replace the use of rectal thermometers in clinical evaluation of fever in children (Zhen et al., 2014)

› Typically, a physician or other advance practice clinician utilizes his or her clinical judgment in determining the completeness of clinical data gathered during the physical assessment. However, use of clinical decision support systems (CDSS; i.e., automated systems that analyze health data) can aid clinicians in performing health examinations by prompting users to seek additional health data when gaps are identified. Researchers in China found that use of the Health Examination Automatic Logic System (HEALS) assisted clinicians in improving the thoroughness of health examinations, and that novice physicians improved in their clinical decision-making by 18% using HEALS (Kuo et al., 2010)

› In an integrative review of 12 studies, researchers concluded that the use of patient assessment frameworks enhanced clinician performance by providing structure to the assessment process. There were no studies identified that specifically addressed nursing assessment; the included frameworks were those used by paramedics and medical practitioners in acute in-hospital settings (Munroe et al., 2013)

› Telemedicine can allow medical specialty consultation under some circumstances when such evaluation is not available on location. Researchers conducting a comparison study of circulatory and neurologic examination findings reported by pediatric intensive care physicians evaluating 55 pediatric patients in-person versus remotely via telemedicine found substantial to perfect agreement in physical assessment findings in the two groups of examiners. These investigators concluded that telemedical physical assessment can reliably identify normal and abnormal findings regarding many aspects of circulatory and neurologic examinations in pediatric patients in an intensive care setting (Yager et al., 2014)

› The Massachusetts Health Quality Partners (MHQP) released guidelines, Adult Preventive Care Guidelines in 2017. These guidelines recommend best practices preventive care for adult patients pertaining to periodic health evaluations. A complete version of the guidelines are accessible here [http://www.mhq.org/EmailLinks/MHQP%20Adult%20Preventative%20Care%20Guidelines%202017.pdf](http://www.mhq.org/EmailLinks/MHQP%20Adult%20Preventative%20Care%20Guidelines%202017.pdf) (MHQP, 2017)

**What You Need to Know Before Performing a Head-to-Toe Physical Assessment**

› Knowledge of normal anatomy and physiology is critical prior to performing a physical assessment
  - Variations in physical appearance occur among age groups, so the clinician should be familiar with normal findings for different age groups
  - It is important to recognize that patients with developmental disabilities, young children, and older adults with dementia may be less capable of understanding or cooperating with the physical assessment, and therefore a systematic, strictly head-to-toe approach to the assessment might not be possible
    – For information specific to physical assessment in children, see *Physical Assessment in Children: Performing*, cited above
    – For information specific to physical assessment in older adults, see *Nursing Practice and Skill … Physical Assessment in Older Adults: Performing*

› An understanding of the basic components of physical assessment is essential
  - During the head-to-toe physical assessment, the clinician uses inspection, auscultation, palpation, and percussion to identify physiologic abnormalities
    – Inspection is often described as the most important assessment technique because it begins immediately upon meeting the patient, is continued during the entire patient interaction, and helps to guide the clinician’s attention to obvious abnormalities
Auscultation is the use of a stethoscope to listen to the different sounds produced by the body. Auscultation is an especially important technique for assessing the heart, lungs, and bowel. The clinician typically listens for the strength, rate, and rhythm of heart sounds; the clarity of breath sounds; and the presence and frequency of bowel sounds. For details about proper technique during auscultation, see *Nursing Practice & Skill ... Stethoscopes: Using and Caring for*.

Palpation is the use of the hands to feel for abnormalities of the skin and underlying tissues. Palpation can detect skin turgor, abnormal growths in or below the skin, edema, bladder or abdominal distention, the location and quality of peripheral pulses, and the temperature, texture, and moisture level of the skin. When performing palpation, keep the fingernails short, warm the hands to promote patient comfort, and wear gloves if contact with mucus membranes or body fluids is anticipated.

- Light palpation is applied by depressing the skin .5–.75 inches (1–2 cm) with the pads of the fingers.
- Deep palpation is applied by depressing the skin 1.5–2 inches (4–5 cm) using firm pressure, and is used to assess for pain or for the size, shape, and tenderness of internal organs or masses.

Percussion, which is typically not used as often as the other assessment techniques, is the use of the fingers to tap or gently strike different body parts to produce sounds that indicate whether the underlying structure is air- or fluid-filled as well as solid or hollow. Percussion can help the clinician detect the presence of abnormal fluid or estimate the size of certain internal organs, such as the liver.

Assessment of vital signs is a key part of the physical assessment. The clinician should possess understanding of normal vital sign parameters and variations for the patient's age as well as appropriate intervention(s) if vital sign measurements are outside normal limits. For more information, see the following reference papers:

- *Nursing Practice & Skill ... Blood Pressure Reading, Indirect: Taking -- Adult Patient* or *Nursing Practice & Skill ... Blood Pressure Reading, Indirect: Taking -- Pediatric Patient*
- *Nursing Practice & Skill ... Arterial (Radial) Pulse: Taking*
- The *Nursing Practice & Skill* series on body temperature assessment, including oral, axillary, tympanic, and rectal temperature taking

Competition in pain assessment and familiarity with facility pain assessment tool(s) are important.

- Pain is often referred to as the “fifth vital sign.” Patients should be evaluated for the presence of pain and level of pain intensity during every physical assessment and after administration of pain interventions.
- Ask patients whether or not they feel pain, and monitor their body language and vital signs throughout the procedure for indications of pain (e.g., flinching, guarding, increased heart rate, increased respiratory rate).
- Whenever possible, utilize a facility-approved, age-appropriate pain scale to measure the patient’s pain.
- For more information, see the *Nursing Practice & Skill* series on pain assessment in specific patient groups.

Preliminary steps that should be performed before beginning the head-to-toe physical assessment include the following:

- Review the facility/unit specific protocol for the procedure, if one is available. Take note of unit-specific guidelines for the frequency of the physical assessment and how to notify the treating clinician of abnormalities.
- Review the treating clinician’s order for the physical assessment, if one exists, although it is generally not necessary to obtain a physician’s order as the head-to-toe assessment is a standard part of nursing duties.
- Review the manufacturer’s instructions for all equipment to be used and verify that the equipment is in good working order.
- Verify completion of facility informed consent documents.
- Typically, the general consent for treatment that is executed by patients on admission to a healthcare facility includes standard provisions that encompass the physical assessment.
- Review the patient’s history/medical record to assess for:
  - any acute or chronic illness or physical impairment.
  - results of previous assessments for comparison.
  - any allergies (e.g., to latex or other procedure materials); use alternative materials, as appropriate.

Gather the necessary supplies, which typically include the following:

- Nonsterile gloves; additional personal protective equipment (PPE; e.g., gown, mask, eye protection) may be needed if exposure to body fluids is anticipated.
- Patient gown.
- Thermometer (e.g., oral, axillary), depending on facility protocol.
- Pulse oximeter.
• Stethoscope
• Penlight
• Blood pressure machine with a cuff of appropriate size for the patient
• Floor or bed scale
• Measuring tape
• Facility-approved pain assessment tool
• Additional supplies to be provided for well-patient physical assessment (i.e., more detailed assessment performed by advanced practice nurses, physician assistants, and physicians, often assisted by nurses), such as
  – otoscope/ophthalmoscope
  – reflex hammer

How to Perform a Head-to-Toe Physical Assessment
› Perform hand hygiene and don PPE
› Identify the patient using 2 unique identifiers, according to facility protocol
› Establish privacy by closing the door to the patient’s room and/or drawing the curtain surrounding the patient’s bed
› Introduce yourself to the patient and family member(s), if present; explain your clinical role; assess the coping ability of the patient/family and for knowledge deficits and anxiety regarding the head-to-toe physical assessment
  • Determine if the patient/family requires special considerations regarding communication (e.g., due to illiteracy, language barriers, or deafness); make arrangements to meet these needs if they are present
    – Use professional certified medical interpreters, either in person or via phone, when language barriers exist
  • Explain the procedure for the head-to-toe physical assessment and its purpose; answer any questions and provide emotional support as needed
› Assist the patient as necessary to don a gown if he/she is not already wearing one
› Position the patient for privacy, comfort, and accessibility
› Begin the head-to-toe assessment with inspection to assess the patient’s overall appearance and to identify any obvious physical abnormalities. At the same time, ask the patient about any unusual symptoms. This will provide important preliminary information that can guide the physical assessment
  • Ask the patient how he/she feels, and about any physical symptoms that have developed or changed recently. Briefly inquire about each of the body systems; ask about changes in appetite or bowel, bladder, or sleep habits; presence of nausea or vomiting; emotional disturbances; and pain
  • Consider the general appearance of the patient while looking for clues to poor health. Note restlessness and any indication that the patient is experiencing pain, whether or not the patient verbally reports pain. Observe patient affect and body position, and note the presence or absence of self-care measures such as hygiene and grooming. Consider whether the patient’s age is congruent with his/her appearance
› Measure the patient’s vital signs—temperature, pulse, respiratory rate, and blood pressure. Compare findings with established reference values appropriate to the age of the patient to identify abnormalities
› Assess for pain by utilizing the self-report method (i.e., asking the patient directly whether or not he or she has pain, where it is located, the type of pain [e.g., burning, aching], and how severe it is), and/or by utilizing a facility-approved pain rating scale or measurement tool
  • Be sure that any pain assessment tool used is appropriate to the age and developmental stage of the patient
› Measure the patient’s height, weight, and waist circumference; do not rely on self-report as patients are often unreliable when reporting height and weight. Calculate the patient’s body mass index (BMI; i.e., an index of weight-for-height) and compare with established reference values to determine if the patient is underweight, overweight, or obese, and/or has an abnormal proportion of abdominal fat, which can contribute to risk for diabetes mellitus
  • A BMI calculator and weight classifications are available online at http://www.nhlbi.nih.gov/health/educational/lose_wt/BMI/bmicalc.htm
› Verify that there is adequate lighting to perform the assessment
› Examine each of the body systems, as follows:
  • Skin (for detailed information, see Nursing Practice & Skill ... Skin Assessment: Performing)
    – Assess the skin as you assess each of the body systems, exposing only the area of skin to be assessed and keeping the rest of the body covered to promote privacy
    – Ask the patient about any skin lesions, areas of irritation, or other changes in the skin, and any precipitating factors
    – Inspect the patient’s skin for scars, lesions, wounds, injuries, rashes, irritation, color, and areas of redness or cyanosis
- Take care to assess within folds of skin, the sclera, mucus membranes, the nailbeds, the scalp, the palms of the hands, and the soles of the feet
–Palpate the patient’s skin to assess for temperature, elasticity/turgor, moisture, edema, and pain

• Neurological system (for detailed information, see Nursing Practice & Skill ... Neurological Assessment: General Considerations, or another paper in the series of papers regarding components of the neurological assessment)
–Assess level of alertness, consciousness, and orientation, and for sensory deficits
  - If the patient is awake and alert (i.e., responsive to stimuli), assess the patient’s understanding of person, place, time, and situation, the four spheres of orientation. This can be done through conversation or, more explicitly, by asking the following four questions:
    - “What is your name?”
    - “Can you tell me where you are?”
    - “What day is it?”
    - “Why are you here?”
  - If the patient can answer all four questions, he or she is awake, alert, and oriented to all four spheres of orientation. If the patient knows his or her name, but is unable to answer the other three questions, he or she is considered awake, alert, oriented to person, and disoriented to place, time, and situation
–Inspect pupillary size, symmetry, and reaction to light using penlight
–Assess hand strength (e.g., strength and symmetry of grip)
–Use the reflex hammer to check for the presence and strength of the patellar reflex and other reflexes as desired

• Head (including eyes, ears, nose, and throat)
–Inspect the skin, eyes, sclera, inner and outer ears, mucus membranes, and scalp
  - A yellow-orange hue to the sclera indicates elevated bilirubin level, a sign of jaundice; opacity of the lens is suggestive of a cataract
  - Note moisture and color of mucous membranes
  - Note presence of discharge from eyes, ears, or nose
  - Note the texture and distribution of hair
–Inspect and palpate the thyroid gland for enlargement, nodules, or masses
–Assess breath odor; halitosis (i.e., foul breath odor) may indicate poor oral hygiene or tooth decay
–Assess for problems with speech (e.g., aphasia or dysphasia) or swallowing, which can be the result of stroke or other brain injury
–Palpate for swelling or masses, lesions in the mouth or elsewhere, and for pain or tenderness
–Percuss over the sinuses to assess for pain or tenderness

• Respiratory system (for detailed information, see Nursing Practice & Skill ... Physical Assessment: Respiratory Assessment in Adults – Performing)
–Use inspection to note whether the patient is using the normal respiratory muscles or is relying on use of accessory muscles (i.e., sternocleidomastoid, scalene, trapezius, intercostal, and rhomboid muscles) to breathe. Assess for equal chest expansion, the position of the trachea, and for cyanosis
  - Note oxygen saturation level (see Nursing Practice & Skill ... Oxygen Saturation Measuring: Pulse Oximetry.) Assess for any clubbing of the fingertips, which is an indication of chronic respiratory insufficiency
  - Verify the presence of airway devices/oxygen therapy (e.g., endotracheal tube) and confirm that they are positioned and working correctly
–Auscultate breath sounds over the anterior and posterior chest and all lobes of the lungs. Note the character and quality of sounds
–Palpate for fremitus (i.e., a palpatory vibration) to assess for lung consolidation (increased fremitus) or pleural effusion (decreased fremitus). Assess for subcutaneous emphysema (i.e., small pockets of air under the skin that can occur with pneumothorax or other thoracic trauma; also called crepitus)
–Percuss over the chest wall to assess for areas of consolidation or other changes. Measure lung/diaphragmatic excursion as desired

• Cardiovascular system (for detailed information, see Nursing Practice & Skill ... Physical Assessment: Performing a Cardiovascular Assessment in Adults)
–Inspect over the area of the heart for bulging or heaving. Place the patient at a 45° angle and assess for jugular venous distention (JVD)
–Lightly palpate over the area of the heart for thrills/vibrations that may be caused by murmurs
Assess the carotid, radial, femoral, posterior tibial, and dorsalis pedis pulses. Compare the strength of pulses on each side of the body. Assess the color of the nail beds and capillary refill time. Normal capillary refill time is < 3 seconds.

- Assess the carotid pulses one side at a time
- Percuss to determine the borders of the heart
- Auscultate the apical pulse for rate, rhythm, and strength, ideally while the patient is in the sitting position
  - Note S1 and S2 heart sounds, the combination of which equals one heartbeat
  - Assess heart rate by counting the number of heartbeats over the course of one minute; assess heart rhythm by comparing the intervals between heartbeats, which should be evenly spaced, or regular; assess the strength of the apical pulse by noting whether heart sounds are easy or difficult to hear. Be aware that a weak apical pulse can indicate insufficient pumping of blood by the heart
  - For detailed information, refer to Nursing Practice & Skill ... Physical Assessment: Auscultation of Heart Sounds in Adults – Performing, and Nursing Practice & Skill ... Physical Assessment: Auscultation of Heart Sounds in Children – Performing
- Auscultate over the carotid arteries to assess for bruits
- Palpate the radial pulse while auscultating the apical pulse. Note whether the radial pulse is slower than the apical pulse, as is common in patients with atrial fibrillation; this is considered a pulse deficit
- Assess blood pressure in each arm

- Lymphatic system
  - Palpate lymph nodes in the neck, supraclavicular, axillary, and inguinal areas for tenderness or swelling. Note size, shape, motility, and tenderness
  - The supraclavicular nodes are typically not palpable unless enlarged
- Abdomen (for detailed information, see Nursing Practice & Skill ... Physical Assessment of the Abdomen in Adults: Performing)
  - Inspect the abdomen for color, rashes, scars, distended blood vessel, distention, and obvious areas of swelling (e.g., hernias)
  - Auscultate bowel sounds over the four abdominal quadrants
    - For the purposes of the physical assessment, the abdomen is divided into the right lower quadrant (RLQ), right upper quadrant (RUQ), left upper quadrant (LUQ), and left lower quadrant (LLQ), with the umbilicus as the midpoint. Auscultating in this order tracks the path of the large intestine from the ascending colon to the transverse colon to the descending colon and sigmoid
    - Auscultation is performed prior to palpation because palpation may temporarily alter bowel sounds
  - Auscultate over the abdominal aorta for bruits
  - Percuss over the four abdominal quadrants, noting any abnormalities. The abdomen should sound tympanic other than over abdominal organs. Percuss in the RUQ for the borders of the liver and in the LUQ for splenic enlargement
  - Palpate over the four quadrants for tenderness, distention, or masses
    - Perform light palpation to assess for tenderness or distention by depressing the skin 0.5–0.75 inches (1–2 cm) with the pads of the fingers (Figure 1)
Figure 1: Light palpation is performed by depressing the skin .5—.75 inches (1—2 cm) with the pads of the fingers. Copyright ©2015, EBSCO Information Services

- Perform deep palpation to assess for the size, shape, and tenderness of internal organs or masses by depressing the skin 1.5–2 inches (4–5 cm) using firm pressure. Place a second hand over the first to provide firmer pressure, as needed, particularly if the patient is obese or muscular (Figure 2)

Figure 2: Deep palpation is performed by depressing the skin 1.5—2 inches (4—5 cm) using firm pressure. Copyright ©2015, EBSCO Information Services

- Palpate the liver, spleen, and kidneys, assessing for tenderness and/or enlargement. Normally only the liver edge is palpable, the kidneys and spleen are not felt unless enlarged
- Ask about bowel patterns, verifying that the patient has had a bowel movement within the past three days
- If the patient has a colostomy or ileostomy, assess the surrounding skin for signs of irritation and assess the contents of the stoma pouch (for more information, see Nursing Practice & Skill ... Ostomy Care: an Overview)

• Genitourinary system
  - Ask about voiding patterns and urine characteristics
    - Determine whether the patient is continent or incontinent
    - Verify that the patient has voided sometime within the last 8 hours. If the patient has not, percuss over the bladder to check for distention
    - Inquire about any discomfort during urination or whether the patient has urinary urgency or frequency
  - Note the presence of assistive devices (e.g., indwelling urinary catheter) and confirm that they are working correctly

• Musculoskeletal system
  - Inspect for symmetry, deformities (e.g., breaks, contractures), and range of motion (ROM). Observe gait and posture
  - Ask about any leg or calf pain during passive ankle flexion, which could indicate deep vein thrombosis (DVT)
  - Assess the strength of the patient’s grip when asked to squeeze your hand
– Palpate the lower extremities for edema and, if present, the extent of any pitting, which is determined by applying pressure over a bony prominence with one fingertip for approximately 2 seconds, releasing the pressure, and noting how long it takes for the indentation to refill. With trace pitting edema, the indentation refills as soon as the pressure is removed; with 4+ pitting edema, the indentation remains for at least 2 minutes after pressure is removed.

– Palpate the joints for crepitus, which is often present with osteoarthritis.

› Assist the patient into a comfortable position in a bed or chair

› Provide the patient with privacy to redress or help the patient to redress, as appropriate

› Clean/disinfect and store reusable equipment according to facility protocol

› Dispose of PPE and other used procedure materials and perform hand hygiene

› Update the patient’s plan of care, as appropriate, and document the head-to-toe physical assessment in the patient’s medical record, including the following information:
  • Date and time the assessment was completed
  • Patient assessment findings from each portion of the assessment, including pain experienced and any deviation from normal
  • Patient’s response to the procedure, including pain/discomfort/anxiety during and immediately following the assessment
  • Any unexpected patient events or outcomes, interventions performed, and whether or not the treating clinician was notified
  • Patient/family member education, including topics presented, response to education provided/discussed, plan for follow-up education, and details regarding any barriers to communication and/or techniques that promoted successful communication

Other Tests, Treatments, or Procedures That May Be Necessary Before or After Performing a Head-to-Toe Physical Assessment

› Notify the treating clinician of abnormal findings and/or significant changes in previous assessments so that the treatment plan may be established or modified

› The patient may be referred for further testing to evaluate any abnormal findings

› Reassessment will be conducted in accordance with facility protocol, usually once every shift (every 4–12 hours). Reassessment should be conducted more frequently
  • to evaluate the outcome of interventions
  • if the patient’s condition changes
  • if the patient is medically unstable

What to Expect After the Head-to-Toe Physical Assessment

› The patient’s physical condition will be systematically evaluated and any abnormalities will be identified, reported, and managed accordingly

Red Flags

› Abnormal findings noted in the head-to-toe assessment should be reported to the treating clinician, who will perform a more detailed physical assessment and will order diagnostic procedures and treatment as needed

What Do I Need to Tell the Patient/Patient’s Family?

› Before beginning your assessment, educate the patient and family about why a physical assessment will be performed, what to expect during and after the procedure, and any follow-up testing that may be necessary
  • Use developmentally appropriate terminology when communicating with children or adolescents

References


