Physical Assessment of the Abdomen in Adults: Performing

What Is Physical Assessment of the Abdomen in Adults?
› Physical assessment of the abdomen in adults is performed to obtain preliminary information on the patient’s gastrointestinal functioning and to evaluate for anatomic or pathologic abnormalities of the abdomen. As part of the diagnostic process, findings of the physical assessment are combined with subjective information obtained from the patient and family about physical symptoms
• What: Abdominal assessment in adults is performed in response to the presence of objective signs of abdominal abnormalities and/or subjective patient report of acute abdominal pain. Physical assessment of the abdomen is also a routine part of the physical assessment that is performed in the inpatient setting by registered nurses during each shift, depending on the patient’s condition, level of required care, and facility protocols. For general information about the head-to-toe physical assessment, see Nursing Practice & Skill ... Physical Assessment: Head-to-Toe --Performing
• How: The clinician interviews the patient and/or family to identify signs and symptoms that could be the result of abnormalities within the abdominal space, then performs inspection, auscultation, percussion, and palpation of the abdomen. Standard precautions are followed and minimal equipment (e.g., stethoscope) is necessary for the abdominal assessment
• Where: Physical assessment of the abdomen can be performed in any healthcare setting, including inpatient and outpatient facilities and in the community setting if the patient requires in-home care or emergency medical care
• Who: Physical assessment of the abdomen is performed by nurses, physicians, and emergency medical staff, and should not be delegated to assistive medical personnel. With the patient’s permission, and assuming care is taken to protect the patient’s privacy, it is appropriate for family members to be present during physical assessment of the abdomen

What Is the Desired Outcome of Performing Physical Assessment of the Abdomen in Adults?
› The desired outcome of assessing the abdomen is to identify any anatomic or pathologic abnormalities

Why Is Physical Assessment of the Abdomen in Adults Important?
› Abnormal findings of the physical assessment can help guide the healthcare team in identifying pathology within the abdominal space or in organs that are within the abdominal cavity. Abnormalities detected during the abdominal assessment should be reported to the treating clinician, who can perform a more detailed physical assessment and order relevant diagnostic tests
› The presence of acute abdominal pain is a common reason for seeking emergency medical attention. Abdominal pain is a nonspecific symptom that should be intensively evaluated because serious and benign abdominal conditions can exhibit similar initial signs and
symptoms (e.g., nausea, vomiting, diarrhea, anorexia), and identifying patients who have a life-threatening condition can be difficult early in the disease course.

Nurses performing the initial assessment of a patient with acute abdominal pain should consider the possibility that the patient has appendicitis, which is a surgical emergency. Such an emergency requires careful diagnosis, rapid surgical intervention, and the need to perform cardiopulmonary resuscitation (CPR) in some cases.

**Facts and Figures**

Abdominal pain accounts for 4–5% of all emergency department (ED) visits. Common causes of abdominal pain in adults include (Ostendorf, 2014; Saccomano et al., 2013)

- appendicitis, characterized by right lower quadrant pain, fever, nausea, and vomiting
  - Appendicitis is diagnosed in 14% of patients presenting to the ED with abdominal pain
  - In less than 1% of patients presenting to the ED with abdominal pain have a perforated peptic ulcer

- gastroenteritis, characterized by generalized abdominal cramping, nausea, vomiting, and diarrhea
  - Less than 1% of patients presenting to the ED with abdominal pain have gastroenteritis

- pancreatitis, characterized by severe epigastric pain radiating to the back, decreased bowel sounds, and abdominal rigidity
  - Pancreatitis accounts for 5% of ED visits for abdominal pain

- peptic ulcer, characterized by epigastric pain that is either relieved or exacerbated by eating according to the location of the ulcer (e.g., in the stomach or duodenum)
  - More than 150,000 patients are hospitalized each year with diverticulitis

- bowel obstruction, characterized by colicky abdominal pain and distention, nausea, vomiting, constipation, and hypoactive bowel sounds
  - About 20% of patients presenting to the ED with abdominal pain are diagnosed with small bowel obstruction; 60% of these cases are caused by postsurgical adhesions

- inflammatory bowel disease (e.g., Crohn’s disease, ulcerative colitis), characterized by right lower quadrant pain, loose and bloody stools, fever, and nausea
  - Inflammatory bowel disease accounts for 5% of ED visits for abdominal pain

- cholecystitis, an inflammation of the gallbladder (usually caused by gallstones), characterized by colicky pain in the right upper quadrant accompanied by nausea and vomiting
  - Cholecystitis accounts for 5% of ED visits for abdominal pain

- diverticulitis, typically characterized by localized pain in the left lower abdomen, accompanied by changes in bowel habits (usually constipation)
  - Many diverticular patients have abdominal pain and other manifestations of an abdominal abnormality often do not match the severity of the presenting condition. For example, older adults are less likely to experience the classic signs and symptoms of appendicitis (e.g., fever, right lower quadrant pain, nausea, vomiting); older adults who have an infectious disease process are more likely to have (Peters, 2010)
  - Mental status changes (e.g., lethargy, confusion)
  - Changes in appetite
  - Changes in bowel and bladder function (e.g., urgency, constipation)

- peptic ulcer, characterized by epigastric pain that is either relieved or exacerbated by eating according to the location of the ulcer (e.g., in the stomach or duodenum)

What You Need to Know Before Performing Physical Assessment of the Abdomen in Adults

It is important to have a basic understanding of abdominal anatomy and physiology, including the ability to identify the location of each abdominal organ.

Knowledge of abdominal pain as a nonspecific symptom associated with a number of medical and mental health conditions, some of which are potentially life-threatening, is important.

Competence in physical assessment and patient interviewing skills is essential.

- During the abdominal assessment, the clinician uses inspection, auscultation, palpation, and percussion to evaluate for abnormalities
  - Visual inspection of the abdomen is performed to identify areas of distention, pulsation, asymmetry, skin changes, and other abnormal findings. A stethoscope is used to listen for changes in bowel sounds (e.g., dull sounds, tympanic sounds) that could be due to anatomic or pathologic abnormalities. Pain experienced during percussion can help identify certain pathologies. For example, flank pain on percussion in combination with other signs and symptoms can be related to kidney infection or other kidney pathology. Palpation can identify a mass that is related to a pathologic condition

- Important information is gathered during the physical assessment by talking with the patient and/or family. Certain emotional changes (e.g., chronic sadness, decreased appetite, lack of interest in usually pleasurable activities) reported by the patient and/or family can indicate the presence of depression, which can manifest as abdominal symptoms...
- Patients with signs and symptoms that could be the result of clinical depression should undergo mental health evaluation by the treating clinician or be referred to a mental health clinician.

Because abdominal pain is the primary reason for performing the abdominal assessment, the nurse should be competent in pain assessment and be familiar with facility pain assessment tool(s).

- The patient should be asked whether or not he/she feels pain, the precise location of the pain, and pain severity; the patient’s body language and vital signs should be monitored while performing abdominal assessment in order to evaluate for indications of pain (e.g., flinching, guarding, increased heart rate, increased respiratory rate).
- Whenever possible, a facility-approved, age-appropriate pain scale should be used to evaluate the patient’s pain.

Preliminary steps that should be performed before initiating physical assessment of the abdomen in adult patients include the following:

- Review the facility/unit-specific protocol for performing physical assessment of the abdomen, if one is available, noting:
  - Unit-specific guidelines for the frequency of the physical assessment
  - Protocols for notifying the treating clinician of abnormalities

- Review the treating clinician’s orders related to the abdominal assessment, if any exist.
  - It is generally not necessary to obtain an order for abdominal assessment because it is included in head-to-toe assessment as a standard part of nursing duties.

- Review the patient’s medical history/medical record for any allergies (e.g., to latex, medications, or other substances); use alternative materials, as appropriate.

Gather the following supplies:

- Nonsterile gloves; additional personal protective equipment (PPE; e.g., gown, mask, eye protection) if exposure to body fluids is anticipated
- Stethoscope
- Ruler or non-stretchable measuring tape
- Marking pen
- Facility-approved pain assessment tool
- Hospital-grade disinfectant pad

**How to Perform Physical Assessment of the Abdomen in Adults**

- Perform hand hygiene
- Identify the patient 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 and family and for knowledge deficits and anxiety regarding the 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 physical assessment of the abdomen; answer any questions and provide emotional support as needed.
- Take a brief medical history to identify unusual or newly developed signs and symptoms.
  - Ask the patient how he/she feels generally and whether any signs and symptoms have recently developed or changed.
  - Ask about bowel/bladder habits and whether these have recently changed. Ask whether there have been changes in appetite, difficulty swallowing, or appearance of other gastrointestinal symptoms (e.g., nausea or vomiting, pain, heartburn, dysphagia, belching, food intolerance, cough, or shortness of breath).
  - If symptoms are present, ask whether symptoms are relieved or exacerbated by eating.
  - Screen for signs and symptoms of altered emotional and psychological status, including chronic sadness, which can trigger abdominal symptoms.
- Complete a pain assessment using an age-appropriate, facility-approved pain assessment tool. In patients experiencing acute abdominal pain, determine the nature, onset, location, severity, frequency and radiation of pain, as well as precipitating and/or aggravating factors and the presence or absence of other gastrointestinal signs and symptoms (e.g., nausea, vomiting, changes in appetite).
- Ask the patient whether the current manifestations or a similar condition occurred in the past.
- As appropriate, ask the patient to empty the bladder to promote comfort during the physical assessment of the abdomen.
- Perform hand hygiene and don PPE.
› Assist the patient into the supine position with his/her arms parallel to the body. Place a small pillow beneath the knees to relax the abdominal muscles and make palpation easier.

› Explain what to expect as you move through each step of the assessment, particularly when discomfort could occur (e.g., during deep abdominal palpation).

› Arrange the patient’s gown/clothing to expose the abdomen completely.

› Visually inspect the abdomen:
  • Note its contour (e.g., flat, rounded, scaphoid, the presence of any bulges).
  • Observe for symmetry of the abdomen, visible peristalsis, and arterial pulsations.
  • Check the umbilical contour (e.g., asymmetry can indicate the presence of a hernia).
  • Examine the abdominal skin for striae, varicosities, lesions, and scars.
  • Measure the abdominal girth if distention is suspected.

› Auscultate the abdomen prior to percussion or palpation, as these assessment techniques can change the frequency and/or character of bowel sounds:
  • For patient comfort, warm the stethoscope prior to placing it on the abdomen.
  • Note the frequency and character of bowel sounds and their presence or absence in each abdominal quadrant. Normal findings are 5–20 bowel sounds per minute of a “growling” quality. If bowel sounds are absent, listen for 5 minutes over each quadrant to make the determination.
  • Listen for bruits over the descending aorta, renal arteries (over the upper abdominal quadrants), and iliac arteries (over the lower abdominal quadrants), the presence of which can indicate arterial narrowing.

› Perform percussion:
  • Using finger percussion, proceed methodically from the left upper, right upper, right lower, and left lower quadrants, noting tympany and dullness. Tympany in the upper left quadrant at the anterior border of the ribcage indicates the location of the gastric air bubble.
  • Estimate the size of the spleen by percussing the lowest intercostal interspace at the left axillary line. The tone should be tympanic. Ask the patient to take a deep breath, and percuss the area again. The tone should remain tympanic. A change to dullness on inspiration can indicate an enlarged spleen.
  • Estimate the size of the liver:
    – Begin at an area of tympany in the right lower quadrant and percuss upward to the point at which you detect dullness. Make a small mark at that point with the marking pen.
    – Percuss downward from an area of lung resonance above the right upper quadrant to the point of dullness. Mark that point as well. The distance between this and the above point is the liver span. The normal range for this value is 6–11 cm. A wider liver span suggests an enlarged liver.

› Perform palpation:
  • Palpate each quadrant systematically (e.g., from the right upper to left upper quadrants, then from the right lower to left lower quadrants), gently and slowly but firmly with one hand, using the least amount of pressure necessary to achieve the above objectives.
  • Perform light palpation to identify areas of muscle tension, guarding, or tenderness. If present, these signs can indicate peritonitis or other abdominal pathology.
  • Perform deeper palpation to identify the location, outline, and shape of abdominal organs and the presence of any masses. Note tenderness, mobility, and any irregularity in shape or consistency of the masses, if present. Assess each quadrant systematically (e.g., from the right upper to upper quadrants, then from the right lower to left lower quadrants).
  – Ask the patient to take a deep breath and slowly breathe out several times during deep palpation to help him/her relax and to reduce abdominal muscle tension.
  – Defer palpation of painful areas, if significant pain is present, for assessment by imaging and/or other means.
  – Use two hands, placing one hand on top of the other to achieve adequate depth of palpation in patients who are obese or muscular. Use your upper hand to provide the pressure and your lower hand to palpate the abdominal organs and assess for masses.
  • Test for rebound tenderness by quickly releasing the pressure of your hand on the abdominal wall during deep palpation. Patient report of pain during this maneuver suggests peritoneal irritation.

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

› Clean and disinfect the stethoscope using a disinfectant pad.

› Dispose of used materials in proper receptacles and perform hand hygiene.

› Update the patient’s plan of care, as appropriate, and document physical assessment of the abdomen in the patient’s medical record, including the following information:
• Date and time the assessment was performed
• Patient history findings, including history of abdominal problems or subjective complaints (e.g., pain, fullness, or other discomfort) expressed by the patient, if any
• Any physical abnormalities identified (e.g., asymmetry, hyperactive bowel sounds), if present
• Patient’s response to the procedure, including pain, discomfort, or anxiety
• Any unexpected patient events or outcomes, interventions performed, and whether the treating clinician was notified
• Patient/family 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 Physical Assessment of the Abdomen in Adults**

› Notify the treating clinician of any abnormal findings and/or significant changes from previous assessments so that the treatment plan can be established or modified
› Reassessment will be conducted in accordance with facility protocol, usually once every nursing shift (every 8–12 hours). Reassessment should be conducted more frequently
  • to evaluate the outcome of interventions performed
  • if the patient’s condition changes
  • if the patient is medically unstable
› For patients with physical findings suggestive of abdominal pathology, additional clinical evaluation can include the following:
  • Chest X-ray
  • Abdominal ultrasound
  • Endoscopy
  • Colonoscopy
  • Abdominal X-ray to assess for intestinal obstruction and inflammatory bowel disease
  • Imaging studies (e.g., CT scan, MRI) of the abdomen if masses or swelling are detected
  • EKG to evaluate for cardiac abnormalities
  • Laboratory testing, including
    – urine level of human gonadotropic hormone to assess for pregnancy
    – urinalysis to evaluate for increased WBC count (likely due to bladder or kidney infection) and increased number of RBCs (possibly due to kidney stones)
    – fecal occult blood test (guaiac test)
    – stool culture and/or stool ova and parasite (O&P) test

**What to Expect After Performing Physical Assessment of the Abdomen in Adults**

› The patient will have undergone a systematic evaluation of the abdomen and any abnormalities will be identified. If acute abdominal pain or other signs and symptoms are present, the patient will undergo further diagnostic evaluation to determine the cause of the pain

**Red Flags**

› Abdominal distention in combination with fever ≥ 103 °F/39.4 °C, with or without abdominal pain, can indicate the presence of a **severe infection** within the abdomen (e.g., **peritonitis** caused by rupture of an infected appendix). These signs and symptoms should be reported immediately to the treating clinician. Severe infection within the abdomen is a medical emergency that can progress rapidly to **sepsis** and **septic shock**. Expect that a phlebotomist will obtain a blood test for microbial culture and sensitivity testing. Prepare to administer a broad-spectrum antibiotic after the blood specimen has been drawn if intra-abdominal infection or sepsis is suspected. Be prepared to perform CPR if signs and symptoms of septic shock proceed to cardiac arrest. Signs and symptoms of septic shock include fever, alterations in other vital signs, and abdominal distention, with or without alteration in level of consciousness

**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 of the abdomen will be performed, and what to expect during and after the procedure
If laboratory testing or other diagnostic procedures are ordered, explain how these procedures are performed and when the results will likely become available.

**Note**

Recent review of the literature has found no updated research evidence on this topic since previous publication on January 29, 2016.

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**References**