# Palpation

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Palpation should be performed in a systematic manner, check - ing all nine regions of the abdomen ( Figure 63.2 ). Palpation should start in the region furthest away from the site of pain and the patient instructed to let the examiner know if tender ness is elicited. The examination should be gentle and the hands warm. The patient’s facial expression will immediately reveal discomfort. Superficial palpation is followed by deep palpation if tenderness will allow . To avoid ‘poking’ during palpation, the forearm is kept horizontal, the whole of the palm is kept lightly on the abdomen and hand movement is made only at the metacarpophalangeal joints; never at the interphalangeal to identify the lower margins of the liver and spleen as they move with respiration. Palpation of the abdomen in a patient with ascites will often demonstrate a doughy feel in the tuber cular abdomen. Signs of parietal peritoneal irritation (tenderness, guarding, rebound tenderness, rigidity) In the presence of abdominal pain, the degree of abdominal wall rigidity and involuntary guarding should be assessed. Guarding represents contraction of the abdominal wall muscles over the area of pain. This might occur ‘voluntarily’ when the patient wishes to avoid the pain from examination or ‘involuntarily’ when the muscles go into spasm as the inflamed viscus touches the parietal peritoneum. This produces a reflex spasm of the overlying abdominal wall muscles. The presence of rebound tenderness indicates underlying peritoneal inflam mation and is examined best using gentle percussion, although pain on coughing is also found when there is rebound tender ness. When the underlying peritoneal inflammation becomes generalised, the abdomen is ‘board-like rigid’ to palpation, and selective tenderness can no longer be elicited. This sign represents widespread involuntary guarding. Abdominal masses A mass arising from the anterior abdominal wall will usually be mobile when the patient is relaxed. On contracting the abdominal wall muscles (ask the patient to lift his or her legs with the knees extended or perform Valsalva’s manoeuvre for laterally placed swellings), lumps superficial to the abdominal wall muscles will become more obvious, and those attached to the deep fascia will become less mobile. Those arising within the muscle layer will become fixed and remain unchanged in size. Lumps arising deep to the abdominal wall (i.e. within the peritoneal cavity or behind the peritoneum) will become impalpable or less prominent on tensing the anterior abdom inal wall muscles. An intraperitoneal mass in contact with the diaphragm will move on respiration whereas retroperitoneal masses are usually fixed and do not move with respiration; an enlarged kidney is ‘ballotab le’ and bimanually palpable. Normal aortic pulsations can be both seen and felt in a thin abdomen, but expansile pul sation is characteristic of an abdominal aortic aneurysm. This should be di ff erentiated from transmitted pulsation of a mass sitting on the aorta (e.g. pseudocyst of the pancreas). When ‘palpating during inspiration’, the examining hand is placed distal to the normal site of the org an and is held there until the edge of the organ descends and touches the examiner’s fingers. Liver, spleen, gallbladder and kidneys are best palpated during inspiration. An abdominal mass in a female, the lower limit of which cannot be distinguished, is likely to arise from the pelvis. If the mass can be moved in a transverse direction, it is likely to be a uterine or ovarian mass. The movement of a mesenteric cyst is perpendicular to the direction of attachment of the root of the mesentery . Antonio Maria Valsalva , 1666–1723, Professor of Anatomy , Bologna, Italy , of whom Morgagni wrote ‘there is

nobody of those times who goes ahead of him, very few who are his equals’. In a healthy patient the spleen is not normally palpable. An enlarged spleen descends downwards, forwards and medially . - Palpation for an enlarged spleen is best performed in a supine patient. The examining hand should start in the right lower abdomen, with the tips of the fingers pointing upwards and pressed inwards. The patient is then asked to take a deep breath; if the spleen is enlarged the lower edge with the characteristic notch will touch the fingers. If it is not palpable, then the hand is gradually moved upwards in the direction of the position of the edge of the normal-sized spleen with each breath. If the spleen is still not palpable, the patient is moved to the right lateral position and the examination repeated. Liver In a supine patient, the hand is placed in line with the potential enlarged liver edge lateral to the rectus muscle. The patient - is then asked to take a deep breath. If the liver is enlarged su ffi ciently below the costal margin, then surface irregularities - can also be felt.

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