Approach to the patient

As with all medical specialties, the important elements in the assessment of the surgical patient are a thorough history and examination. The diagnosis is usually apparent from the history, and confirmed by clinical examination. In the acute situation a rapid appraisal of the patient's condition is necessary, and initiation of treatment for haemorrhage or septic shock may take priority over completion of a detailed history.

History

Document what the patient said, rather than your interpretation of what was said. Open questions are more helpful, and will direct you to what the patient wants to bring to your attention rather than what you perceive the patient's complaint to be. Hence questions like 'When were you last completely well?', and 'What happened next?' are more useful. When the history reveals a positive finding, such as pain, rectal bleeding or vomiting for instance, do not leave the subject until you know all that there is to know, for instance: when did the pain start; how did it start (sudden versus gradual); what made it better/worse; what associated features were there? Examples of such questions are given in Table 1.

Patients rarely share your knowledge of anatomy, so be sure to know what they mean, for instance, by stomach – it is usually taken to mean the peritoneal cavity rather than the J-shaped muscular tube in the epigastrium.

Remember the anatomical derivation of the abdominal organs when thinking about abdominal pain, and distinguish between visceral and parietal pain. Visceral pain relates to the organ itself, and is referred according to its embryological derivation. Hence gastritis is epigastric pain, because the stomach is a foregut structure and foregut pain is experienced in the epigastrium. Similarly the pancreatic ducts and bile ducts derive from the foregut, so pancreatitis, cholangitis and biliary colic give pain in the epigastrium. The midgut, from the mid-duodenum to the proximal two-thirds of the transverse colon, produces visceral pain, which is experienced in the umbilical region. Hence the pain of appendicitis, a midgut structure, is initially experienced in the epigastrium. Hindgut pain, arising from the distal colon and bladder, is experienced suprapubically. Parietal pain is derived from the parietal peritoneum, and localizes to the overlying dermatome. Hence in appendicitis, as the inflammatory process progresses, the inflammation involves the overlying parietal peritoneum, producing a pain that starts off centrally and migrates to the right iliac fossa.

Referred pain can cause difficulties with diagnosis. There are two circumstances that commonly cause problems, one is testicular pain, such as that of torsion, which radiates to the periumbilical region, the other is the pain of diaphragmatic irritation, which manifests as shoulder tip pain.

Past history is important, particularly details of any previous surgery. However, a patient's understanding of what occurred is often at odds with what actually occurred, or lacks sufficient detail so it is important that, wherever possible, you try to obtain copies of previous operation notes. Also enquire of any operative or anaesthetic difficulties that were encountered, since these may alter any future surgical or anaesthetic approach.

Examination

Examination follows the standard quartet of inspection, palpation, percussion and auscultation. Careful in-spection is important, and may reveal signs that eager fingers miss. Note the general appearance of the patient: is he resting comfortably or in pain and restless or still; are there features of recent weight loss (clothes too big, gaunt face); is he tachypnoeic, or just breathing shallowly because deep inspiration hurts? After a general inspection, start the next phase by examination of the hands, then face, head and neck, chest and abdomen. Where appropriate examine the breasts in women and men (for example, where there is axillary lymphadenopathy).

Table 1 Example of features to determine in the history of patients presenting with pain or rectal bleeding.

Pain	Rectal bleeding
Time of onset	Estimation of amount of blood loss
Rate of onset	Colour of blood
Length of history	Timing of blood loss
Exact site	Relationship to passage of stool: Mixed in Following defaecation Not related to defaecation Present on paper only Present in pan, separate from stool
Radiation	
Periodicity	
Nature – colicky or constant	Colour – bright red, dark red, black
Severity	Accompanying features – vomiting, haematemesis, pain
Relieving and exacerbating factors	Presence of shock/fainting
Additional features, e.g. jaundice, vomiting, haematuria	

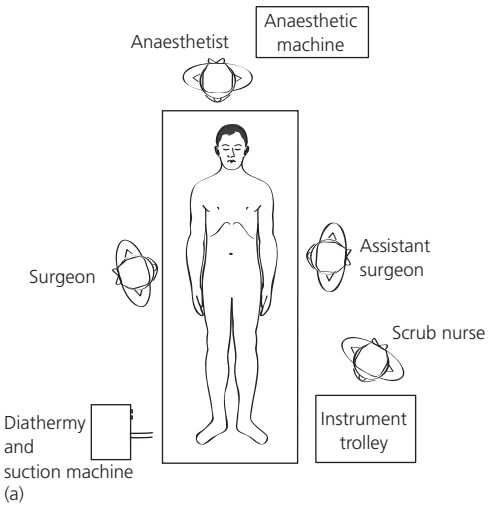
Examine the abdomen with the patient lying flat and comfortable. Complete exposure is important – failure to expose the upper abdomen may miss an abdominal aortic aneurysm, and failure to expose the groins will certainly render the diagnosis of an inguinal hernia impossible. Testicular cancer or torsion cannot be detected without examination of the scrotal contents. Any embarrassment you may feel in exposing the patient properly will be much less than the embarrassment of missing a life-threatening diagnosis.

Ask the patient to cough – not only will this demonstrate a hernia but it will also indicate whether there is any peritoneal irritation. In the presence of peritonitis, coughing causes severe pain as the peritoneal surfaces move. Following inspection, palpation should determine the presence and extent of any masses, cutaneous and subcutaneous lumps, and areas of tenderness. Percussion is important to confirm organomegaly, and elicit rebound tenderness. Auscultation should be used to listen for vascular bruits, the diagnosis of arteriovenous fistulae, and determining the presence and nature of bowel sounds. Finally, a rectal examination should be performed on any patient with gastrointestinal symptoms or an acute abdomen.

Introduction to the operating theatre

One of the more exciting, and intimidating, events in medicine is the visit to the operating theatre. Exciting, because it is a true theatre, with performances of art and skill in an atmosphere at one moment calm and at another tense and fraught. Anatomy is displayed, pathology demonstrated and treatments effected, with the surgeons reacting to the responsibility somewhere on a spectrum between calmness and anxiety. Nevertheless there is a code of conduct without which a trip to theatre will be a series of requests not to touch this, and exhortations not to go near to that.

At the centre of the theatre is the patient (Fig. 1). For most surgical procedures the anaesthetist stands at the head of the table next to the anaesthetic machine, a combination of ventilator and monitoring aids including electrocardiogram and oximeter. The patient is first anaesthetized, and then placed in the appropriate position for surgery. For an open nephrectomy or thoracotomy this would be lying in the lateral position; for laparotomies or other operations on the abdomen, the heart, breasts or head and neck, the patient is placed supine, facing up. The area to be operated on is prepared with an antiseptic such as iodine, and the prepared area then surrounded by sterile drapes. These are traditionally green in colour, but are now more commonly blue. Since they are sterile they should not be touched by anyone who is not 'sterile' (has scrubbed their hands and is gowned in an operating gown). A scrub nurse usually stands opposite the surgeon, and next to a trolley containing instruments that are appropriate for the operation to be performed. As an observer it is important not to desterilize personnel or instruments by touching



(a)

(b)

Figure 1 (a) Typical operating theatre layout. (b) Photo of operating theatre.

anything sterile, or crowding in on the operating personnel such that they inadvertently touch you.

Communication between surgeon, scrub nurse and anaesthetist is vital for a successful outcome. While they may talk between themselves about unrelated subjects, there will be times when they are silent when the procedure is taxing, or difficulties are encountered. It is distracting for the surgical team to hear unrelated conversations occurring in the background during such times of tension, so the observer is advised to keep quiet unless it is relevant to the case in question. This is particularly important when the patient is awake and having surgery under a local anaesthetic.