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Magnetic resonance imaging (MRI) gives better soft-tissue definition and is preferred for primary tumour staging except for paranasal sinus cancers. Drawbacks of this approach include a reduction in image quality as a result of movement artefact, poorer definition of bony and cartilaginous structures and upstaging of tumours as a result of oversensitivity (Figure 52.14). Ultrasound scanning can be useful in di ff erentiating solid lesions (e.g. malignant lymph nodes) from cystic lesions such as a branchial cyst and is particularly helpful when fine-needle aspiration is needed to establish the diagnosis; this modality is also invaluable for salivary gland pathology . If a head and neck malignancy is suspected, then CT imag - ing of the thorax should also be performed to detect distant

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metastases and synchronous primary bronchogenic tumours (approximately 5%), as the presence of these diagnoses will change treatment options. Positron emission tomography (PET)-CT scans are per formed during a single examination, in which the cross- sectional anatomical detail of a CT is fused with the metabolic information available from using a radiotracer. 18-Fluorodeoxyglucose (FDG) is the most commonly used radiotracer , with molecules similar to glucose; it accumulates in areas of high metabolic activity , which may represent tumour or inflammation. PET-CT is particularly used in patients being investigated for carcinoma of unknown primary to help identify the primary site of tumour, to look for distant metastases and to assess response to cancer treatment.

Figure 52.14 An axial magnetic resonance imaging scan at the same level as Figure 52.13 . Figure 52.15 A rigid Hopkins’ rod or endoscope.

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