The Royal College of Pathologists
Pathology: the science behind the cure

Tissue pathways for endocrine pathology

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Foreword

The tissue pathways published by the Royal College of Pathologists (RCPath) are guidelines that enable pathologists to deal with routine surgical specimens in a consistent manner and to a high standard. This ensures that accurate diagnostic and prognostic information is available to clinicians for optimal patient care and ensures appropriate management for specific clinical circumstances. This guideline has been developed to cover most common circumstances. However, we recognise that guidelines cannot anticipate every pathological specimen type and clinical scenario. Occasional variation from the practice recommended in this guideline may, therefore, be required to report a specimen in a way that maximises benefit to the patient.

The guidelines themselves constitute the tools for implementation and dissemination of good practice.

The following stakeholder was contacted to consult on this document:

- the UK Endocrine Pathology Society (UKEPS).

No major organisational changes or cost implications have been identified that would hinder the implementation of the tissue pathway.

Statements and advice are supported by published evidence, where possible. Information is from various sources, including peer reviewed publications, best practice documents, expert opinion and standard textbooks. Recommendations and evidence from established clinical and pathological guidelines are also taken into account. The latter include documents produced by RCPath, World Health Organization (WHO), International Collaboration on Cancer Reporting (ICCR) and other groups.

The information used to develop this tissue pathway was obtained by undertaking a systematic search of PubMed. Key terms searched included ‘thyroid’, ‘parathyroid’, ‘adrenal’ and ‘macroscopic examination’; dates searched were between January 2020 and June 2025. 45 studies met the selection criteria and were considered for review. Published evidence was evaluated using modified SIGN guidance (see Appendix A). Consensus of evidence in the guideline was achieved by expert review. Gaps in the evidence was identified by College members via feedback received during consultation.

A formal revision cycle for all tissue pathways takes place on a 5-yearly basis. However, each year, the College will ask the author/s of the tissue pathways, in conjunction with the relevant sub-specialty adviser to the College, to consider whether the document needs to

be updated or revised. A full consultation process will be undertaken if major revisions are required. If minor revisions are required, an abridged consultation process will be undertaken whereby a short note of the proposed changes will be placed on the College website for 2 weeks for members' attention. If members do not object to the changes, the short notice of change will be incorporated into the pathways and the full revised version (incorporating the changes) will replace the existing version on the College website.

This tissue pathway has been reviewed by the Professional Guidelines team, Working Group on Cancer Services and Lay Advisory Group and was placed on the College website for consultation with the membership from 5 February to 5 March 2026. All comments received from the Working Group and membership were addressed by the author to the satisfaction of the Chair of the Working Group and the Clinical Leads for Guideline Adjudication.

This pathway was developed without external funding to the writing group. The College requires the authors of tissue pathways to provide a list of potential conflicts of interest; these are monitored by the Professional Guidelines team and are available on request. The authors have declared no conflicts of interest.

1 Introduction

This document provides guidance on the specimen handling and reporting of non-cancer specimens from thyroid, parathyroid and adrenal glands. For endocrine tumours in particular, the diagnosis of malignancy may not have been made at the time of tissue resection; this must be considered when the tissue is examined and sampled for histology. It is, therefore, essential that pathologists are also familiar with the corresponding endocrine cancer datasets.

The previous version of *Tissue pathways in endocrine pathology* was published in 2019; this has now been revised to ensure that all recommendations are up to date and that the document complies with the tissue pathway series. In addition to updating references to more recently published guidelines, guidance is included on dealing with thyroid core biopsies.

1.1 Key changes to previous guideline

Key changes made to the previous guideline are outlined in Table 1 below.

Table 1: Key changes to this guideline.

Section	Explanation
3 Adrenal	Use of CYP11B2 immunohistochemistry
6 Thyroid	Guidance on how to deal with THY3F/encapsulated follicular lesions
6 Thyroid	Section on thyroid tissue outside the thyroid gland

1.2 Target users of this tissue pathway

The primary users of the tissue pathway documents are trainee and consultant cellular pathologists, advanced practitioners (APs), biomedical scientists and, on their behalf, the suppliers of IT products to laboratories and health service managers responsible for service delivery and service improvement.

2 Generic issues relating to staffing, workload and facilities

The following recommendations should be met for a general level of acceptable practice.

- The diagnostic laboratory should have sufficient pathologists, APs, biomedical scientists and clerical staff to cover all of its functions. In general, staffing levels will follow the workload guidelines of RCPath key assurance indicators and key performance indicators. For common specimen types, it is not intended to provide detailed guidance in the tissue pathways. For some less common or more specialised specimen types, additional guidance is provided in the relevant section.
- Pathologists should:
  - participate in audits
  - participate in an approved CPD scheme
  - participate in relevant external quality assessment (EQA) schemes of a general or specialist nature
  - have access to specialist referral opinions on a local network or national basis.
- The laboratory should:
  - be equipped to allow the recommended technical procedures to be performed safely
  - be accredited by the UK Accreditation Service to the internationally recognised standard 'ISO 15189:2022 Medical Laboratories – requirements for quality and competence'
  - participate in the UK National EQA Scheme for cellular pathology technique
  - participate in the UK National EQA Scheme for immunocytochemistry and fluorescent in situ hybridisation (when these techniques are used in the diagnostic pathway).
- Reports should be held on an electronic database that has facilities to search and retrieve specific data items, and that is indexed according to SNOMED CT body structure and morphologic abnormality codes. It is acknowledged that existing laboratory information systems may not meet this standard; however, the ability to store data in this way should be considered when laboratory systems are replaced or upgraded.
- Workload data should be recorded in a format that facilitates the determination of the resources involved and that, if applicable, is suitable for mapping to Healthcare Resource Groups.

3 Adrenalectomy specimens

Adrenalectomy for suspected adrenal cortical carcinoma and phaeochromocytoma are covered elsewhere in the relevant cancer dataset for adrenal tumours.[1]

3.1 Indications

3.1.1 Functional or non-functioning adenoma, hyperplasia

- Unilateral adrenalectomy for non-functional adrenal adenoma, or for adrenal tumours associated with Cushing's syndrome and Conn's syndrome (primary aldosteronism).
- Bilateral adrenalectomy as treatment for Cushing's disease, where pituitary surgery is not possible or has failed.
- Bilateral adrenalectomy as treatment for ectopic adrenocorticotrophic hormone (ACTH) syndrome, where the source of ACTH has not been identified, or surgical removal of the tumour secreting ACTH is not possible or is incomplete.
- Bilateral adrenalectomy as treatment for Cushing's syndrome in primary pigmented nodular adrenocortical disease (part of Carney complex and other mutations).[2]
- Bilateral adrenalectomy in Cushing's syndrome associated with nodular hyperplasia and suppressed ACTH.
- Bilateral adrenalectomy at the stage of adrenal medullary hyperplasia in multiple endocrine neoplasia type 2.

3.1.2 Adrenalectomy for other indications

For example, adrenal mass or cyst on imaging, infective lesion, congenital conditions and uncertain diagnosis.

3.2 Staffing and workload

Each department should have access to at least 1 consultant pathologist with a special interest in endocrine pathology, who is part of a specialist network of endocrine pathologists. Currently, there is no relevant EQA scheme, although occasional adrenal cases may be included in general histopathology EQAs. In addition, pathologists who regularly handle endocrine cases are encouraged to participate in relevant educational slide circulations and meetings, such as those provided by the UKEPS.

3.3 Specimen submission

These specimens are usually received in formalin, which should be of adequate volume. If received fresh, formalin is added. Larger specimens may be sliced to aid fixation.

3.4 Specimen dissection

Where there is a single nodule, the specimen should be dealt with according to the RCPath guidelines for reporting of adrenal cortical carcinoma, phaeochromocytoma and paraganglioma.[1]

The specimen will usually comprise the adrenal gland and surrounding fat. The weight and dimensions of the specimen and, if possible, those of the adrenal tissue, should be recorded. Specimens removed by laparoscopic procedure may be disrupted. If there is any suspicion that there may be a tumour, the specimen surface should be inked. The head, body and tail of the gland should be identified, and the gland sliced from head to tail. The appearance of the cortex should be described, including the presence or absence of nodules (the maximum dimension of large nodules should be recorded). The distribution of the medulla should be noted as extension into the tail indicates hyperplasia.[3] In most cases, 1 block taken from each of the head, the body and the tail should be sufficient. However, additional blocks may be required if there are focal abnormalities. In some cases, it can be useful to have photographs of the gross and dissected specimen for orientation and discussion.

[Level of evidence – D.]

3.5 Sectioning and staining

A single haematoxylin and eosin (H&E)-stained section per block is adequate for examination.

3.6 Further investigations

For patients with primary aldosteronism, CYP11B2 immunohistochemistry is useful in confirming the source of aldosterone production and identifying multifocal lesions or diffuse hyperplasia, which correlate with a higher risk of biochemical and clinical relapse when a unilateral adrenalectomy has been performed.[4,5]

3.7 Report content

The report should contain a summary of the gross and histological findings, and the diagnosis.

3.7.1 Cortical lesions

For cortical neoplasms, the absence of any adverse features used in the diagnosis of malignancy should be stated.[1] The pattern of zonation and the presence of any nodules should be described. If nodular, the appearance of the intervening cortex should be noted. In pituitary-dependent Cushing's disease, the whole cortex is hyperplastic with preserved zonation. Nodular hyperplasia is not common in ectopic ACTH syndrome and is usually seen as diffuse compact cell hyperplasia which makes the adrenal cortex look eosinophilic.[6] In cases of primary pigmented nodular hyperplasia, which are rare, the intervening cortex is usually atrophic. The medulla and the presence of any additional features or lesions should be described. Histologically, different cortical zones should be noted; for example, in Conn's syndrome, the zona glomerulosa hyperplasia is best evaluated by CYP11B2 immunohistochemistry.[7]

3.7.2 Adrenal medullary hyperplasia

The distribution of medullary tissue should be described and the type of hyperplasia (nodular or diffuse) noted. Medullary nodules <10 mm are now classified as microphaeochromocytoma. Diffuse medullary hyperplasia is suspected when medullary tissue is identified expanding the alae and tail of the adrenal.

[Level of evidence – D.]

4 Parathyroidectomy specimens

4.1 Indications

- Removal of hyperfunctioning parathyroid tissue in primary, secondary or tertiary hyperparathyroidism.

The surgeon may request intraoperative confirmation of tissue type by frozen section, although this is becoming less frequent with preoperative imaging, intraoperative blood sampling for parathormone and targeted surgery (often unilateral).

4.2 Staffing and workload

Reporting of parathyroid frozen sections does not necessarily require specialist expertise in endocrine pathology, but familiarity with frozen section appearances of lesions in the head and neck region is essential.

Each department should have access to at least 1 consultant pathologist with a special interest or experience in endocrine pathology, who is part of a specialist network of endocrine pathologists. Currently, there is no relevant EQA scheme, although occasional parathyroid cases may be included in general histopathology or head and neck EQAs. In addition, pathologists who regularly handle endocrine cases are encouraged to participate in relevant educational slide circulations and meetings, such as those provided by the UKEPS.

4.3 Specimen submission

These may be received fresh for intraoperative frozen sections. After frozen section examination has been completed, the whole specimen should be placed in formalin.

If no intraoperative consultation is required, the specimen should be sent to the laboratory in formalin.

4.4 Specimen dissection

For each parathyroid gland, the site, weight, dimensions, colour and consistency must be recorded. Small glands should be bisected. Larger glands should be cut into parallel slices, cutting through the vascular pole where possible (i.e. bread loaf the gland perpendicular to its longest axis). Bread loafing allows visualisation of most of the gland circumference and also the vascular pedicle, enabling optimal identification of compressed remnant parathyroid parenchyma, which is essential in the distinction of adenoma from hyperplasia. Glands should have margins inked prior to frozen section if a diagnosis of carcinoma is being considered. Carcinoma should be considered when glands are large, have a thick capsule or where the surgeon has indicated difficulty in removing the gland, although these findings can occur with degenerative changes and in atypical parathyroid tumour.

For frozen sections, 1 representative block should be taken. All tissue must be processed to paraffin blocks after frozen section examination. If a frozen section is not required, embed all the tissue.

Some parathyroid glands are intrathyroidal. If a thyroid lobectomy or partial lobectomy specimen is received, it should be measured. The specimen is then sliced (3–4 mm thickness) and any nodule(s) embedded. If no nodules are identified, embed all the slices.

4.5 Sectioning and staining

A single H&E-stained section per block is adequate for examination.

4.6 Further investigations

While the majority of parathyroid lesions are benign, occasionally the diagnosis of atypical parathyroid tumour or parathyroid carcinoma may come into the differential diagnosis. A recent national audit of parathyroid lesions showed significant variation in UK and Irish pathology practice.[8]

Immunohistochemical stains for the CDC73 gene product, parafibromin, with clinical and biochemical correlation, may be helpful to exclude parathyroid carcinoma or atypical parathyroid tumour.[7,9]

4.7 Report content

The report should contain a summary of the gross and histological findings, and the diagnosis.

For each parathyroid gland, the site should be stated (if provided by the surgeon), and a note made of whether or not the gland is enlarged, has a diffuse or nodular pattern and whether any nodules are encapsulated. The presence or absence of fat in nodules and in background parathyroid tissue should be recorded, and the cell types documented.

Other specimens may be submitted as possible parathyroid glands (e.g. thyroid or lymph node); the nature of the submitted tissue and any abnormality should be reported.

The main purpose of the histology report is to confirm that parathyroid tissue has been removed, to assess the extent of any enlargement and to exclude malignancy. The gland architecture and types of cells present should be described. In the context of hyperparathyroidism, identification of compressed rim of remnant parathyroid parenchyma around a non-invasive mass lesion indicates a diagnosis of parathyroid adenoma. In a small number of cases, it is recognised that the distinction between an adenoma and hyperplasia may be difficult histologically, particularly if only a single gland has been removed.[10]

[Level of evidence – D.]

Where intraoperative frozen section has been performed, the final report should document who gave the result to whom and should specify the date and time of the verbal report.

More detailed instructions on handling can be found elsewhere.[9,10]

5 Thyroid specimens

5.1 Indications

- Total thyroidectomy as treatment for thyrotoxicosis or Graves' disease when medical treatment has been unsuccessful.
- Total or hemithyroidectomy to relieve symptoms of compression, or for cosmetic reasons in multinodular goitre, Hashimoto thyroiditis, IgG4 disease or fibrosing thyroiditis.
- Diagnostic hemithyroidectomy (lobectomy), or occasionally isthmusectomy, when cytology suggests a follicular neoplasm, where the diagnosis is uncertain or where there is a risk of malignancy. In these situations, refer to the College's guidelines for thyroid cancer specimens.[11]
- Completion thyroidectomy, in cases where radioactive iodine therapy is indicated for the treatment of differentiated thyroid carcinoma initially managed by a lobectomy/hemithyroidectomy.
- Core biopsy of thyroid, usually ultrasound guided, has very limited indications – i.e. in the diagnosis of fibrosing thyroid diseases, lymphoma (where thyroid is the only or most amenable site of disease), anaplastic carcinoma or metastasis (to confirm diagnosis and collect material for molecular diagnostics) or after repeated unsuccessful Thy1 FNA. Core biopsies of the thyroid are not advised as a substitute for an initial thyroid FNA cytological work up or in the evaluation of solitary follicular lesions. Refer to the College's guidelines for thyroid cancer specimens for more detailed guidance.[11]

5.2 Staffing and workload

Each department should have access to at least 1 consultant pathologist with a special interest or experience in thyroid pathology, who is part of a specialist network of thyroid pathologists. Currently, there is no thyroid EQA scheme, although thyroid cases are

included in the head and neck pathology EQA, and occasional endocrine cases may be included in general histopathology EQA schemes. In addition, pathologists who regularly handle thyroid cases are encouraged to participate in relevant educational slide circulations and meetings, such as those provided by the UKEPS.

5.3 Specimen submission

These specimens are usually sent in formalin, which should be of adequate volume to ensure proper fixation. If received fresh, formalin must be added. Larger specimens should be sliced to aid fixation.

5.4 Specimen dissection

The dissector should be familiar with the previous relevant biochemical, cytological and/or biopsy findings, ultrasound or other imaging characteristics before dissecting the thyroid specimen, as this information will inform the approach to specimen handling in the pathology laboratory. Reviewing ultrasound images prior to cut up (if available) facilitates identification, localisation and appropriate sampling of nodule/s of interest.

The nature of the specimen and laterality (in lobectomy or hemithyroidectomy specimens) should be noted and, if possible, the specimen orientated. The specimen should be inspected for attached parathyroid glands and lymph nodes. The thyroid capsule should be examined to assess whether or not it appears intact, and the resection margins inked if there is suspicion of neoplasia. The specimen should be weighed, described and the dimensions of each lobe recorded.

Fresh specimens or bulky specimens should be sliced at 1–2 cm intervals to allow blood entrapped with the specimen to be released and to allow formalin to penetrate for optimal and uniform fixation. Once fixed, the specimen should be serially sectioned into 3–5 mm slices in the horizontal plane although for smaller focal lesions 2–3 mm thick slices may be appropriate. The lobes can be separated from the isthmus to facilitate slicing. Any possible parathyroid glands or lymph nodes identified should be processed.

In some cases, specimen photography is valuable to aid clinicopathological correlation and correlation with the imaging and clinical findings.

5.4.1 Multinodular disease

Evaluate the nodules and provide a size range and appearance of cut surface in the macroscopic description. 1 block should be submitted from representative nodules, up to a maximum of 4 from each lobe. If certain nodule(s) have been previously targeted for FNA

an attempt to identify and correlate these with the FNA findings should be made. If some nodules have a solid firm or have a grey or white consistency, these may need more extensive sampling. If there are multiple nodules, try and incorporate more than 1 nodule in each block. The use of megablocks is helpful if the nodule/s are large in size. Any encapsulated nodule should be treated as a potential follicular tumour and sampled according to the College's guidelines for thyroid cancers.[11] Any unusual foci should be also processed.

5.4.2 Inflammatory and diffuse conditions and thyroid tissue outside the thyroid gland

In addition to Graves' disease and autoimmune thyroiditis, rare inflammatory conditions that can mimic carcinoma, such as Riedel thyroiditis, will occasionally be encountered. In straightforward cases, at least 1 representative block from each lobe should be taken. Cases removed for fibrosing thyroid disease or complex cases will require additional sampling.

In specimens with no focal macroscopic abnormality (e.g. total thyroidectomy for Graves' disease), limited sampling is often sufficient as surgery has been done for therapeutic purposes either to manage symptoms or lack of response to medical management.[12,13]

Thyroid tissue may be found outside the normal anatomical thyroid gland; in thyroglossal duct cyst, as ectopic thyroid tissue elsewhere, e.g. lingual thyroid or as Struma Ovarii, in cervical lymph nodes and as parasitic thyroid nodules.

The criteria for malignancy at other sites are similar to those used in the thyroid gland. Benign thyroid tissue may also be seen in perithyroidal connective tissue or muscle. Thyroid tissue in cervical lymph nodes is a particular diagnostic problem. Benign intranodal thyroid inclusions are usually very small in size (2–3 follicles), located in subcapsular or cortical areas of lymph node(s) and tend to involve 2 or fewer lymph nodes, and are usually found in the midline or medial to the jugular vein.

If intranodal inclusions are seen lateral to the carotid sheath or the jugular vein or if the nodal involvement by thyroid follicles is more extensive, then this most likely would represent thyroid carcinoma.[14] Evaluation of thin H&E sections and levels is helpful in determining if nuclear features of papillary carcinoma can be identified. BRAF V600E immunohistochemistry and molecular evaluation of lymph node tissue may help support a diagnosis of malignancy.

Parasitic thyroid nodules are another area of diagnostic difficulty. These lesions tend to be more prominent in patients with Hashimoto thyroiditis;[15] the key diagnostic features are that they lack the structure of a lymph node, so a subcapsular sinus is absent, which can be confirmed by lack of D2-40 or podoplanin staining. If there is diagnostic uncertainty, excision of the whole nodule may be required to confirm the diagnosis.

[Level of evidence – D.]

5.4.3 Core biopsies

These should be embedded in their entirety. When the indication is for lymphoma or a diagnosis of malignancy that may require additional immunohistochemistry, FISH or molecular testing, it would be prudent to embed each core in a separate block to ensure that tissue is not cut out and is available for all relevant tests.

5.5 Sectioning and staining

A single H&E-stained section on each block is adequate for examination.

5.6 Further investigations

In general, these are not usually required in total and hemithyroidectomy specimens but if a follicular derived neoplasm is present with equivocal nuclear features and the diagnosis of non-invasive follicular neoplasm with papillary-like nuclear features (NIFTP) or encapsulated classical type papillary carcinoma is being considered, then immunohistochemistry or molecular analysis for BRAF V600E can be useful, as BRAF V600E mutation is not present in follicular adenomas or NIFTP. If the histological features in a case of Hashimoto thyroiditis or a core biopsy raise the possibility of lymphoma, expert haematopathological review is required.

5.7 Report content

The report should provide a summary of the gross and histological features and include a diagnosis.

There is a wide range of histological appearances in non-malignant thyroid disease, including thyroiditis (infective, autoimmune or fibrosing), colloid and hyperplastic nodules, diffuse and multinodular goitre, and degenerative and iatrogenic changes (see standard thyroid histology texts for details). The reporting pathologist should have access to the full clinical history, preoperative cytology and imaging, together with the opportunity to review previous cytology and histology slides, radiology images and reports, and any other

relevant investigations. For encapsulated follicular-patterned lesions, accurate and up-to-date diagnostic classification hinges on the identification of papillary thyroid carcinoma-like nuclei, and whether there is capsular and/or vascular invasion.[2,11]

[Level of evidence – D.]

Core biopsies have a diagnostic role when used selectively, to enable histological assessment in fibrosing thyroid diseases, anaplastic carcinoma, metastasis and lymphoma. Thyroid core biopsies should be undertaken only after discussion with members of the multidisciplinary team. The histological report should consider relevant radiology and previous cytology and, when a nodule has been biopsied, should state if there is evidence of a capsule.[11]

[Level of evidence – D.]

6 Criteria for audit

Implementation of this tissue pathway may be monitored by audit of:

- completeness of report content (100% of cases)
- accuracy of frozen section reporting (100% of cases)
- correlation of histology with pre-operative cytology and/or radiological findings
- correlation of core biopsy reporting with subsequent resection histology
- adherence to minimum histological sampling guidance (100% of cases)
- turnaround time of histology reports
- accuracy and completion of SNOMED coding (100% of cases).

7 References

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Appendix A Summary table – Explanation of grades of evidence

(modified from Palmer K et al. BMJ 2008;337:1832)

Grade (level) of evidence	Nature of evidence
Grade A	At least 1 high-quality meta-analysis, systematic review of randomised controlled trials or a randomised controlled trial with a very low risk of bias and directly attributable to the target population or A body of evidence demonstrating consistency of results and comprising mainly well-conducted meta-analyses, systematic reviews of randomised controlled trials or randomised controlled trials with a low risk of bias, directly applicable to the target population.
Grade B	A body of evidence demonstrating consistency of results and comprising mainly high-quality systematic reviews of case-control or cohort studies and high-quality case-control or cohort studies with a very low risk of confounding or bias and a high probability that the relation is causal and which are directly applicable to the target population or Extrapolation evidence from studies described in A.
Grade C	A body of evidence demonstrating consistency of results and including well-conducted case-control or cohort studies and high- quality case-control or cohort studies with a low risk of confounding or bias and a moderate probability that the relation is causal and which are directly applicable to the target population or Extrapolation evidence from studies described in B.
Grade D	Non-analytic studies such as case reports, case series or expert opinion or Extrapolation evidence from studies described in C.
Good practice point (GPP)	Recommended best practice based on the clinical experience of the authors of the writing group.

Appendix B AGREE II guideline monitoring sheet

The tissue pathways of the Royal College of Pathologists comply with the AGREE II standards for good quality clinical guidelines. The sections of this tissue pathway that indicate compliance with each of the AGREE II standards are indicated in the table.

AGREE standard	Section of guideline
Scope and purpose	
1 The overall objective(s) of the guideline is (are) specifically described	Introduction
2 The health question(s) covered by the guideline is (are) specifically described	Introduction
3 The population (patients, public, etc.) to whom the guideline is meant to apply is specifically described	Foreword
Stakeholder involvement	
4 The guideline development group includes individuals from all the relevant professional groups	Foreword
5 The views and preferences of the target population (patients, public, etc.) have been sought	Foreword
6 The target users of the guideline are clearly defined	Introduction
Rigour of development	
7 Systematic methods were used to search for evidence	Foreword
8 The criteria for selecting the evidence are clearly described	Foreword
9 The strengths and limitations of the body of evidence are clearly described	Foreword
10 The methods for formulating the recommendations are clearly described	Foreword
11 The health benefits, side effects and risks have been considered in formulating the recommendations	Foreword and Introduction
12 There is an explicit link between the recommendations and the supporting evidence	2–5
13 The guideline has been externally reviewed by experts prior to its publication	Foreword
14 A procedure for updating the guideline is provided	Foreword
Clarity of presentation	
15 The recommendations are specific and unambiguous	2–5
16 The different options for management of the condition or health issue are clearly presented	2–5
17 Key recommendations are easily identifiable	2–5

Applicability	
18 The guideline describes facilitators and barriers to its application	Foreword
19 The guideline provides advice and/or tools on how the recommendations can be put into practice	2–5
20 The potential resource implications of applying the recommendations have been considered	Foreword
21 The guideline presents monitoring and/or auditing criteria	6
Editorial independence	
22 The views of the funding body have not influenced the content of the guideline	Foreword
23 Competing interest of guideline development group members have been recorded and addressed	Foreword