

# NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

## Guideline scope

### Thyroid disease: assessment and management

The Department of Health in England has asked NICE to develop a clinical guideline on thyroid disease.

The guideline will be developed using the methods and processes outlined in [Developing NICE guidelines: the manual](#).

This guideline will also be used to develop the NICE quality standard for thyroid disease.

## 1 Why the guideline is needed

### Key facts and figures

Thyroid disease comprises thyroid enlargement and thyroid hormonal dysfunction. Thyroid enlargement may be benign, resulting in nodules or goitre, or malignant in people with thyroid cancer. Conditions causing abnormal thyroid function can be broadly divided into those that result in thyroid gland underactivity (hypothyroidism) or overactivity (thyrotoxicosis).

Thyroid enlargement is common. Clinically detectable goitres or thyroid nodules are present in 15% of the UK population, and the lifetime risk of developing a thyroid nodule is estimated at 5–10%. In many cases, thyroid glands harboring malignancy are clinically indistinguishable from those that do not. Most people with a non-malignant enlarged thyroid gland and normal thyroid function need no treatment.

Hypothyroidism is a condition of thyroid hormone deficiency and is usually caused by autoimmune Hashimoto's thyroiditis. Hypothyroidism is prevalent in 2% of the UK population and in more than 5% of people aged over 60, with

28 women being 5–10 times more commonly affected than men. Long-term  
29 consequences of hypothyroidism include cardiovascular disease and an  
30 increase in cardiovascular risk factors, including hypercholesterolaemia.

31 Thyrotoxicosis is a disorder of excess circulating thyroid hormones caused by  
32 increased production and secretion (hyperthyroidism) or by release of stored  
33 thyroid hormones (thyroiditis). In the UK, autoimmune hyperthyroidism  
34 (Graves' disease) is the most common form in 60–80% of cases and  
35 Thyrotoxicosis is a common endocrine disorder with a prevalence of 2% in UK  
36 women and 0.2% in men. Graves' disease is caused by a genetic  
37 predisposition to the development of stimulating thyroid auto-antibodies and  
38 occurs mostly in women aged 30–60 years. Thyrotoxicosis affects 1-2 per  
39 10,000 children who may be severely affected, with poor educational  
40 performance often being an early feature. Long-term consequences of  
41 hyperthyroidism include increased cardiovascular morbidity and mortality and  
42 bone-related complications including osteoporosis.

43 Subclinical thyroid dysfunction is a biochemical diagnosis of abnormal levels  
44 of serum thyroid stimulating hormone with normal circulating thyroid hormone  
45 levels (thyroxine [T4] and tri-iodothyronine [T3]). It is often detected  
46 incidentally, although some people may have symptoms of hypothyroidism or  
47 hyperthyroidism. The prevalence of subclinical thyrotoxicosis is 0.5–10% and  
48 that of subclinical hypothyroidism is 4–20%, these wide ranges reflecting  
49 differences in the studied populations Data on long-term consequences of  
50 subclinical thyroid dysfunction have been largely derived from populations aged  
51 more than 65 years. They include increased cardiovascular morbidity and  
52 mortality, increased risk of osteoporosis and potential links to dementia.

### 53 **Current practice**

54 There is variation in how thyroid disease is investigated and managed in  
55 primary and secondary care settings. There are currently no standardised  
56 diagnostic or referral criteria in the UK to guide decision-making in primary  
57 care for people with structural thyroid abnormalities or enlargement. In  
58 secondary care there is significant variation in the types of diagnostic tests  
59 and imaging used, as well as in surgical and non-surgical management and

60 follow-up protocols. Standardisation in thyroid hormone replacement  
61 strategies for people with hypothyroidism is currently lacking. In addition,  
62 guidance on optimal treatment and follow-up strategies is needed for  
63 managing thyrotoxicosis, which is usually done in a shared care setting  
64 between primary and secondary care. Opinions regarding the need to treat  
65 subclinical thyroid dysfunction, especially in older people, are widely varied  
66 globally.

67 This guideline will aim to improve the diagnosis, management and follow-up of  
68 people with non-malignant thyroid enlargement associated with normal thyroid  
69 function.

## 70 **2 Who the guideline is for**

71 People using services, their families and carers, and the public will be able to  
72 use the guideline to find out more about what NICE recommends, and help  
73 them make decisions.

74 This guideline is for:

- 75 • Healthcare professionals
- 76 • People with non-malignant thyroid enlargement
- 77 • People with suspected or confirmed thyroid disease

78

79 NICE guidelines cover health and care in England. Decisions on how they  
80 apply in other UK countries are made by ministers in the [Welsh Government](#),  
81 [Scottish Government](#), and [Northern Ireland Executive](#).

### 82 ***Equality considerations***

83 NICE has carried out [an equality impact assessment](#) during scoping. The  
84 assessment:

- 85 • lists equality issues identified, and how they have been addressed
- 86 • explains why any groups are excluded from the scope.

## 87 **3 What the guideline will cover**

### 88 **3.1 *Who is the focus?***

#### 89 **Groups that will be covered**

- 90 • Children, young people and adults with thyroid disease.

91 No specific subgroups of people have been identified as needing specific  
92 consideration.

#### 93 **Groups that will not be covered**

- 94 • Neonates.
- 95 • Pregnant women (guidance is currently being developed by the Royal  
96 College of Obstetricians & Gynaecologists).

### 97 **3.2 *Settings***

#### 98 **Settings that will be covered**

99 The guideline will cover all settings in which NHS-funded healthcare is  
100 received.

### 101 **3.3 *Activities, services or aspects of care***

#### 102 **Key areas that will be covered**

103 We will look at evidence in the areas below when developing the guideline,  
104 but it may not be possible to make recommendations in all the areas.

105 Note that guideline recommendations for medicines will normally fall within  
106 licensed indications; exceptionally, and only if clearly supported by evidence,  
107 use outside a licensed indication may be recommended. The guideline will  
108 assume that prescribers will use a medicine's summary of product  
109 characteristics to inform decisions made with individual patients.

110 **1 Investigation of thyroid dysfunction or thyroid enlargement**

- 111 – Indications for thyroid function tests
- 112 – Indications for other tests or imaging

- 113 2 Management of non-malignant thyroid enlargement with normal thyroid  
114 function
- 115 – Referral for surgery
- 116 – Non-surgical treatment
- 117 – Monitoring non-malignant thyroid enlargement
- 118 3 Management of primary hypothyroidism
- 119 – Treatment options: T4; T3; combination of both
- 120 – Monitoring hypothyroidism
- 121 4 Management of thyrotoxicosis
- 122 – Treatment options: antithyroid drugs; radioiodine; surgery
- 123 – Monitoring thyrotoxicosis
- 124 5 Management of subclinical thyroid dysfunction
- 125 – Treating subclinical hypothyroidism
- 126 – Treating subclinical thyrotoxicosis
- 127 – Monitoring subclinical thyroid dysfunction
- 128 6 Information for people with thyroid disease, their families and carers

129 **Areas that will not be covered**

- 130 1 Management of thyroid eye disease
- 131 2 Thyroid cancer (except preliminary investigation)
- 132 3 Screening for congenital hypothyroidism
- 133 4 Acute thyroid dysfunction (thyroid storm and myxoedema coma)
- 134 5 Thyroid disease in pregnant women
- 135 6 Management of thyroid diseases with iodine and selenium  
136 supplementation
- 137 7 Drug-induced thyroid dysfunction
- 138 8 Management of thyroid diseases with dietary and lifestyle interventions

139 **Related NICE guidance**

- 140 • [Osteoporosis: assessing the risk of fragility fracture](#) (2012, last updated  
141 2017) NICE clinical guideline CG146
- 142 • [Ultrasound-guided percutaneous radiofrequency ablation for benign thyroid  
143 nodules](#) (2016) NICE interventional procedure guidance 562.

- 144 • [Coeliac disease: recognition, assessment and management](#) (2015) NICE  
145 guideline NG20.
- 146 • [Type 1 diabetes in adults: diagnosis and management](#) (2015) NICE  
147 guideline NG17.
- 148 • [Minimally invasive video-assisted thyroidectomy](#) (2014) Interventional  
149 procedure guidance 499.
- 150 • [Intraoperative nerve monitoring during thyroid surgery](#) (2008) Interventional  
151 procedure guidance 255.

## 152 **NICE guidance about the experience of people using NHS services**

153 NICE has produced the following guidance on the experience of people using  
154 the NHS. This guideline will not include additional recommendations on these  
155 topics unless there are specific issues related to thyroid disease:

- 156 • [Medicines optimisation](#) (2015) NICE guideline NG5
- 157 • [Patient experience in adult NHS services](#) (2012) NICE guideline CG138
- 158 • [Medicines adherence](#) (2009) NICE guideline CG76

## 159 **3.4 Economic aspects**

160 We will take economic aspects into account when making recommendations.  
161 We will develop an economic plan that states for each review question (or key  
162 area in the scope) whether economic considerations are relevant, and if so  
163 whether this is an area that should be prioritised for economic modelling and  
164 analysis. We will review the economic evidence and carry out economic  
165 analyses, using an NHS and personal social services (PSS) perspective, as  
166 appropriate.

## 167 **3.5 Key issues and draft questions**

168 While writing this scope, we have identified the following key issues, and key  
169 questions related to them:

- 170 1 Investigating thyroid dysfunction or thyroid enlargement
- 171 1.1 Who should be investigated for thyroid disease?
- 172 1.2 Which thyroid function tests should be requested?
- 173 1.3 When should thyroid antibodies be tested?

- 174 1.4 Which imaging tests should be requested?
- 175 1.5 Which people with structural thyroid abnormalities should have a  
176 fine-needle aspiration biopsy and should this be under ultrasound  
177 guidance?
- 178 2 Managing non-malignant thyroid enlargement with normal thyroid  
179 function
- 180 2.1 Which people with non-malignant thyroid enlargement should be  
181 referred for surgery?
- 182 2.2 What is the clinical and cost effectiveness of non-surgical treatments  
183 for non-malignant thyroid enlargement?
- 184 2.3 How should non-malignant thyroid enlargement be monitored?
- 185 3 Managing primary hypothyroidism
- 186 3.1 What is the clinical and cost effectiveness of using levothyroxine [L-  
187 T4], liothyronine [L-T3], combination of L-T4 and L-T3 and thyroid  
188 extracts to treat primary hypothyroidism?
- 189 3.2 How should hypothyroidism be monitored?
- 190 4 Managing thyrotoxicosis
- 191 4.1 What is the clinical and cost effectiveness of using radioactive iodine  
192 vs antithyroid drugs vs surgery to treat thyrotoxicosis secondary to  
193 Graves' disease?
- 194 4.2 What is the clinical and cost effectiveness of using radioactive iodine  
195 vs surgery to treat thyrotoxicosis secondary to toxic nodular goitre?
- 196 4.3 When anti-thyroid drugs are used, what is the most clinical and cost  
197 effective way of using these drugs to treat thyrotoxicosis (for example  
198 choice of drugs, different treatment regimens)?
- 199 4.4 When radioactive iodine is used, what is the most clinical and cost  
200 effective way of using this treatment to treat thyrotoxicosis (for example  
201 different dosing strategies)?
- 202 4.5 When surgery is indicated, what is the most clinical and cost  
203 effective way of using surgery to treat thyrotoxicosis (for example total vs  
204 subtotal thyroidectomy)?
- 205 4.6 How should thyrotoxicosis be monitored?
- 206 5 Managing subclinical thyroid dysfunction

- 207 5.1 What is the clinical and cost effectiveness of treating subclinical  
208 hypothyroidism?  
209 5.2 What is the clinical and cost effectiveness of treating subclinical  
210 thyrotoxicosis?  
211 5.3 How should subclinical thyroid dysfunction be monitored?  
212 6 Information for people with thyroid disease, their families and carers  
213 6.1 What information should people with thyroid disease, their family and  
214 carers receive?  
215 The key questions may be used to develop more detailed review questions,  
216 which guide the systematic review of the literature.

### 217 **3.6 Main outcomes**

218 The main outcomes that will be considered when searching for and assessing  
219 the evidence are:

- 220 1 Quality of life.
- 221 2 Mortality.
- 222 3 Resource use.
- 223 4 Adverse effects of treatment.

## 224 **4 NICE quality standards and NICE Pathways**

### 225 **4.1 NICE quality standards**

226 **NICE quality standards that may use this guideline as an evidence**  
227 **source when they are being developed**

- 228 • Thyroid disease. Publication date to be confirmed.

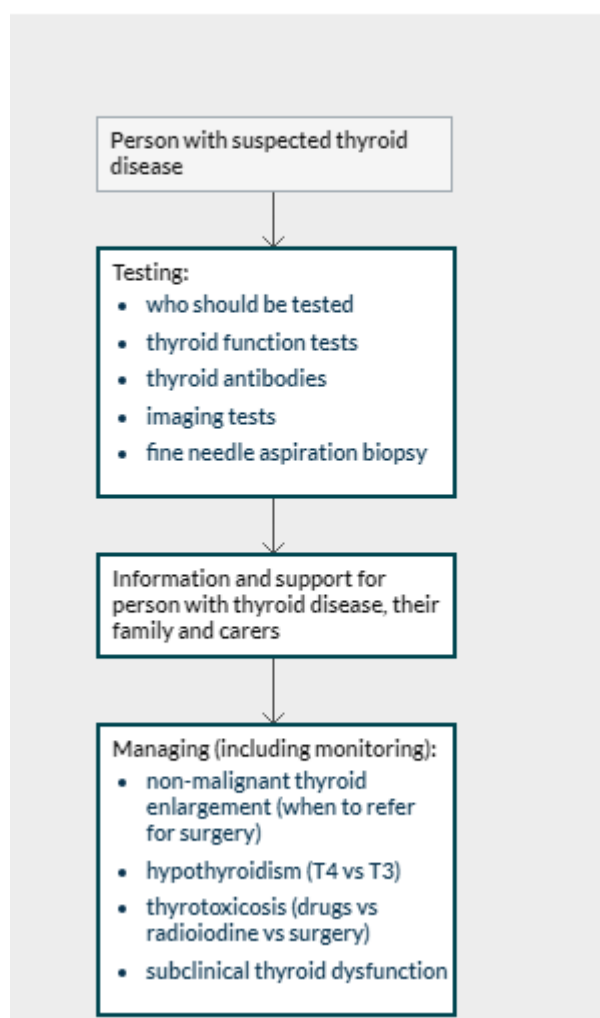
### 229 **4.2 NICE Pathways**

230 [NICE Pathways](#) bring together everything we have said on a topic in an  
231 interactive flowchart. When this guideline is published, the recommendations  
232 will be included in the NICE Pathway on thyroid disease (in development).



233 An outline based on this scope is included below. It will be adapted and more  
234 detail added as the recommendations are written during guideline  
235 development.

## Thyroid disease overview



236

## 237 5 Further information

This is the draft scope for consultation with registered stakeholders. The consultation dates are 16 October to 13 November 2017.

The guideline is expected to be published in November 2019.

You can follow progress of the guideline at

<https://www.nice.org.uk/guidance/indevelopment/gid-ng10074>.

Our website has information about how [NICE guidelines](#) are developed.

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