






# Thyroid disease

Thyroid disease includes thyroid dysfunction (hypo- and hyperthyroidism), and structural disease (goitre, nodules and cancer), and is commonly encountered in Australian general practice. Investigation and management of thyroid disease is usually straightforward, but inappropriate testing and screening is well recognised and can lead to patient harm.

<p><b>TEACHING AND LEARNING AREAS</b></p> 	<ul style="list-style-type: none"> <li>• Basic physiology of the hypothalamus-pituitary-thyroid gland axis</li> <li>• Typical and atypical symptoms and signs of thyroid dysfunction</li> <li>• Appropriate investigations for different presentations of thyroid disease (abnormal TSH, nodule, goitre etc.)</li> <li>• Treatment options and adverse effects of medications</li> <li>• Indications for referral and local pathways</li> </ul>				
<p><b>PRE- SESSION ACTIVITIES</b></p> 	<ul style="list-style-type: none"> <li>• Read the 2016 MJA article <a href="#">Managing thyroid disease in general practice</a></li> </ul>				
<p><b>TEACHING TIPS AND TRAPS</b></p> 	<ul style="list-style-type: none"> <li>• Approximately 10-15% of the population have positive thyroid antibodies</li> <li>• TSH is the test of choice to diagnose thyroid dysfunction</li> <li>• Elevated TSH with normal T4 may be caused by non-thyroidal, systemic illness</li> <li>• <a href="#">Don't routinely order a thyroid ultrasound in patients with abnormal TFTs if there is no palpable abnormality</a> (Choosing Wisely recommendation) - up to 70% of older people have nodules on thyroid ultrasound!</li> <li>• Instructions for storing and taking thyroxine are complex</li> <li>• Monitor hypothyroidism with TSH, not T4/T3</li> <li>• <a href="#">Don't test thyroid function as population screening for asymptomatic patients</a> (Choosing Wisely recommendation)</li> <li>• Thyroid disease in pregnancy is complicated and may need specialist input</li> </ul>				
<p><b>RESOURCES</b></p> 	<table border="1"> <tbody> <tr> <td data-bbox="336 1630 432 1798"><b>Read</b></td> <td data-bbox="432 1630 1498 1798"> <ul style="list-style-type: none"> <li>• Australian Prescriber article (2016) – <a href="#">Thyroid function tests</a></li> <li>• RACGP AFP article (2012) – <a href="#">Thyroid Therapy – tips and traps</a></li> <li>• RACGP AFP article series (2012) – <a href="#">Hypothyroidism</a>, <a href="#">Thyrotoxicosis</a>, <a href="#">Goitre</a>, <a href="#">Thyroid disease in pregnancy</a></li> </ul> </td> </tr> <tr> <td data-bbox="336 1798 432 1861"><b>Listen</b></td> <td data-bbox="432 1798 1498 1861"> <ul style="list-style-type: none"> <li>• RACGP AFP podcasts (2012) – <a href="#">Hypothyroidism</a></li> </ul> </td> </tr> </tbody> </table>	<b>Read</b>	<ul style="list-style-type: none"> <li>• Australian Prescriber article (2016) – <a href="#">Thyroid function tests</a></li> <li>• RACGP AFP article (2012) – <a href="#">Thyroid Therapy – tips and traps</a></li> <li>• RACGP AFP article series (2012) – <a href="#">Hypothyroidism</a>, <a href="#">Thyrotoxicosis</a>, <a href="#">Goitre</a>, <a href="#">Thyroid disease in pregnancy</a></li> </ul>	<b>Listen</b>	<ul style="list-style-type: none"> <li>• RACGP AFP podcasts (2012) – <a href="#">Hypothyroidism</a></li> </ul>
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<p><b>FOLLOW UP/ EXTENSION ACTIVITIES</b></p> 	<ul style="list-style-type: none"> <li>• Registrar to undertake the clinical reasoning challenge and discuss</li> </ul>				

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## Clinical Reasoning Challenge

Jane, age 36 years, presents with a two month history of tiredness, weight loss and feeling generally unwell. She says that she has no significant PMH and takes no medications. Her LMP was 3 weeks prior.

On examination, you identify that she is tachycardic and has a fine tremor. You suspect thyrotoxicosis.

QUESTION 1. Apart from those already identified, what are the **MOST COMMON** key features of history in supporting a diagnosis of thyrotoxicosis? List up to **SIX**

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QUESTION 2. You examine her further and find a moderately large, smooth goitre. What is the **MOST LIKELY** diagnosis at this stage? List **ONE** diagnosis.

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QUESTION 3. You request thyroid function tests and the results are as follows:

- TSH: <0.01 mIU/L (normal range 0.5–4.0 mIU/L)
- T4: 58 pmol/L (normal range 10–25 pmol/L)

What are the **MOST IMPORTANT** next investigations? Select up to **THREE**

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## ANSWERS

### QUESTION 1

Apart from those already identified, what are the MOST COMMON key features of history in supporting a diagnosis of thyrotoxicosis?

- Intolerance to heat
- Nervousness/anxiety
- Palpitations
- Dyspnoea
- Diarrhoea
- Proximal muscle weakness

### QUESTION 2

What is the MOST LIKELY diagnosis at this stage?

- Grave's disease

### QUESTION 3

What are the MOST IMPORTANT next investigations?

- CRP
- TSH receptor antibodies
- Radionuclide thyroid scan

The most useful antibody test in suspected Grave's disease is TSH receptor antibodies.

A radionuclide thyroid scan is the imaging test of choice to differentiate between causes of thyrotoxicosis. In the absence of a palpable abnormality, and ultrasound is not required.

A CRP may be useful if a viral thyroiditis is suspected.