# 2022 RACGP curriculum and syllabus for Australian general practice

# **Endocrine and metabolic health**

#### Rationale

#### Instructions

This section provides a summary of the area of practice for this unit and highlights the importance of this topic to general practice and the role of the GP.

Endocrine and metabolic health is a core component of Australian general practice. Endocrine disease represents the ninth largest cause of total disease burden in Australia. Diabetes is the fastest growing chronic disease in Australia and affects approximately 5% of the population, with Aboriginal and Torres Strait Islander Australians almost four times more likely than non-Indigenous Australians to have type 2 diabetes. It is believed that around 30% of Australians with diabetes are undiagnosed. Metabolic syndrome is a significant problem, affecting 20–30% of Australian adults. Sixty-seven per cent of Australians are overweight and obese.

Osteoporosis affects more than one million Australians. Bone health is often overlooked by both general practitioners (GPs) and patients, meaning osteoporosis is often not diagnosed until a fracture occurs. It is considered underdiagnosed and undertreated, and the condition's prevalence has continued to increase in Australia over time.

GPs play an important role in paediatric conditions, for instance, in the early diagnosis, ongoing management and coordination of care for type 1 diabetes. GPs must be broadly aware of the various inborn errors of metabolism and refer patients on for genetic screening where appropriate.

The nature of endocrine disease means that clinical presentations can be non-specific and may initially present a diagnostic conundrum. Unnecessary testing carries a risk of incidental findings, which can result in a cascade of investigations, procedures and unnecessary stress for patients. GPs must therefore possess highly developed diagnostic skills, balancing the need to prevent both overinvestigation and under-investigation. For instance, thyroid testing is increasing in Australia, despite evidence that some of those tests may be unnecessary, but uncommon endocrinological diseases such as Addison's disease are often associated with delays in diagnosis due to their non-specific symptoms.

Pharmaceutical and technological advancements in this area continue to improve health outcomes, demonstrated by the increasing pharmacological options for type 2 diabetes <sup>12</sup> and the development of continuous glucose monitoring devices. <sup>13</sup> Similarly, osteoporosis has seen remarkable progress in its pharmacological treatment over the years. <sup>14</sup> GPs need to remain up to date with these ongoing developments.

Patient health behaviours are an essential component in the prevention and management of many endocrine and metabolic diseases. Lifestyle interventions to address obesity and insulin resistance are the mainstay in the management of metabolic syndrome, <sup>15</sup> and an important part of the overall management of polycystic ovary syndrome <sup>16</sup> and type 2 diabetes. <sup>17</sup> Counselling offered by GPs on this has the potential to make a significant positive impact on patients. <sup>18</sup>

Many Australians encounter barriers that hamper the management of their endocrinological and metabolic conditions. Aboriginal and Torres Strait Islander peoples, for instance, are limited by factors such as experiences of discrimination and poor or inappropriate communication by healthcare professionals. Australians living in rural and remote areas generally have poorer access to services than their urban counterparts. OPs should try to mitigate these factors wherever possible.

GPs therefore play a fundamental role in endocrine and metabolic health, needing to be highly skilled in prevention, diagnosis and management across a variety of conditions to offer patients the best quality care.

#### References

- Australian Institute of Health and Welfare. Burden of disease. Canberra: AIHW, 2020 (<a href="http://www.aihw.gov.au/reports/australias-health/burden-of-disease">http://www.aihw.gov.au/reports/australias-health/burden-of-disease</a>) [Accessed 18 November 2021].
- Diabetes Australia. Diabetes in Australia. Canberra: Diabetes Australia, 2021
   (http://www.diabetesaustralia.com.au/about-diabetes/diabetes-in-australia/)
   [Accessed 18 November 2021].
- 3. <u>Australian Institute of Health and Welfare. Diabetes. Canberra: AIHW, 2020 (http://www.aihw.gov.au/reports/diabetes/diabetes/contents/impact)</u> [Accessed 18 November 2021].
- Sainsbury, E., Shi, Y., Flack, J., & Colagiuri, S. (2020). The diagnosis and management of diabetes in Australia: does the "Rule of Halves" apply? Diabetes Research And Clinical Practice, 170 (https://doi.org/10.1016/j.diabres.2020.108524) [Accessed 18 November 2021].
- 5. <u>Healthdirect. Metabolic syndrome. Haymarket, NSW: Healthdirect, 2021</u> (<a href="http://www.healthdirect.gov.au/metabolic-syndrome">http://www.healthdirect.gov.au/metabolic-syndrome</a>) [Accessed 18 November 2021].
- 6. <u>Australian Institute of Health and Welfare. Overweight and Obesity. 2020</u>
  <a href="http://www.aihw.gov.au/reports/australias-health/overweight-and-obesity">http://www.aihw.gov.au/reports/australias-health/overweight-and-obesity</a>) [Accessed 18 November 2021].
- 7. Ebeling PR, Daly RM, Kerr DA, Kimlin MG. Building healthy bones throughout life: An evidence-informed strategy to prevent osteoporosis in Australia. Med J Aust 2013;199(7):S1. doi: 10.5694/mjao12.11363.
- 8. <u>Osteoporosis National Action Plan Working Group. Osteoporosis National Action Plan</u> 2016. <u>Sydney: Osteoporosis National Action Plan Working Group, 2016</u>
  (<a href="http://www.garvan.org.au/news-events/files/osteoporosis-national-action-plan-2016.pdf">http://www.garvan.org.au/news-events/files/osteoporosis-national-action-plan-2016.pdf</a>) [Accessed 18 November 2021].
- 9. Woods A. The ongoing challenge of diagnosing endocrine diseases. Aust J Gen Pract 2021;50(1-2) (http://www1.racgp.org.au/ajgp/2021/january-february/the-ongoing-challenge-of-diagnosing-endocrine-dise) [Accessed 18 November 2021].
- NPS MedicineWise. Thyroid disease: Challenges in primary care. Strawberry Hills, NSW: NPS MedicineWise, 2019 (http://www.nps.org.au/news/thyroid-diseasechallenges-in-primary-care) [Accessed 18 November 2021].
- 11. <u>National Organization of Rare Disorders. Addison's disease. Danbury, CT: NORD, 2018</u>
  (<a href="https://rarediseases.org/rare-diseases/addisons-disease">https://rarediseases.org/rare-diseases/addisons-disease</a>) [Accessed 18 November 2021].
- 12. Libianto R, Davis TME, Ekinci El. Advances in type 2 diabetes therapy: A focus on cardiovascular and renal outcomes. Med J Aust 2020;212(3). doi: 10.5694/mja2.50472.
- 13. <u>Tsirtsakis A. Diabetes monitoring technology an 'empowering' patient tool. East Melbourne, Vic: RACGP newsGP, 2020</u>
  (<a href="http://www1.racgp.org.au/newsgp/clinical/diabetes-monitoring-technology-an-empowering-patie">http://www1.racgp.org.au/newsgp/clinical/diabetes-monitoring-technology-an-empowering-patie</a>) [Accessed 18 November 2021].
- 14. Naik-Panvelkar P, Norman S, Elgebaly Z, et al. Osteoporosis management in Australian general practice: An analysis of current osteoporosis treatment patterns and gaps in practice. BMC Fam Pract 2020;21(32). doi: (https://doi.org/10.1186/s12875-020-01103-2)
- 15. <u>Harris M. The metabolic syndrome. Aust Fam Physician 2013;42(8)</u>
  <a href="mailto:(http://www.racgp.org.au/afp/2013/august/the-metabolic-syndrome">(http://www.racgp.org.au/afp/2013/august/the-metabolic-syndrome</a>) [Accessed 18 November 2021].
- 16. Monash University. International evidence-based guideline for the assessment and management of polycystic ovary syndrome. Melbourne: Monash University, 2018 (http://www.monash.edu/ data/assets/pdf file/0004/1412644/PCOS Evidence-Based-Guidelines 20181009.pdf) [Accessed 18 November 2021].
- 17. The Royal Australian College of General Practitioners. Management of type 2 diabetes: A handbook for general practice. East Melbourne, Vic: RACGP, 2020 (http://www.diabetesaustralia.com.au/wp-content/uploads/Available-here.pdf) [Accessed 18 November 2021].
- Beattie J, Binder M, Harrison C, Miller GC, Pedler D. Lifestyle risk factors and corresponding levels of clinical advice and counselling in general practice. Aust Fam Physician 2017;46(10) (http://www.racgp.org.au/afp/2017/october/lifestyle-risk-factors-and-corresponding-levels-of-clinical-advice/) [Accessed 18 November 2021].
- Davy C, Harfield S, McArthur A, et al. Access to primary health care services for Indigenous peoples: A framework synthesis. Int J Equity Health 2016;15(163). doi: (https://doi.org/10.1186/s12939-016-0450-5)
- 20. Australian Institute of Health and Welfare. Rural & remote health. 2019. Canberra: AIHW (http://www.aihw.gov.au/reports/rural-remote-australians/rural-remote-health/contents/access-to-health-care) [Accessed 18 November 2021].

## Competencies and learning outcomes

# **Instructions**

This section lists the knowledge, skills and attitudes that are expected of a GP for this contextual unit. These are expressed as measurable learning outcomes, listed in the left column. These learning outcomes align to the core competency outcomes of the seven core units, which are listed in the column on the right.

Communication and the patient-doctor relationship	
Learning outcomes	Related core competency outcomes
The GP is able to:	
demonstrate clear communication, adapted for the patient's background and needs, regarding complex, chronic endocrinological and metabolic disorders	1.1.1, 1.1.3, 1.1.6, 1.2.1, 1.3.1, 1.4.3, AH1.3.1
<ul> <li>demonstrate appropriate and effective communication to the parents of children with endocrinological and metabolic disorders</li> </ul>	1.1.1, 1.1.3, 1.1.5, AH1.1.1, 1.2.1, 1.3.1, 1.4.1, 1.4.3
<ul> <li>effectively collaborate and communicate with other relevant health providers (such as diabetic educators and dieticians) to appropriately manage the patient's condition/s</li> </ul>	1.1.3, RH1.4.1, 1.4.2
demonstrate appropriate motivational interviewing techniques to improve patients' lifestyle behaviours and medication adherence, where appropriate	1.1.2, 1.1.4, 1.2.2, 1.3.2, 1.4.3, 1.4.4

Applied knowledge and skills	
Learning outcomes	Related core competency outcomes
The GP is able to:	
display appropriate clinical decision-making in investigating and monitoring endocrinological and metabolic disorders	2.1.6, 2.1.7, 2.1.8, 2.2.2
demonstrate appropriate examination skills relating to endocrinological and metabolic disorders	2.1.2
describe the Australian guidelines for the screening of metabolic syndrome risk factors and diabetes, and the differences between screening for the general population and Aboriginal and Torres Strait Islander peoples	2.1.6, AH2.3.1
<ul> <li>prescribe medications for endocrinological and metabolic conditions and obesity in accordance with guidelines and established evidence-based practice</li> </ul>	2.1.8, 2.1.9
describe the various non-pharmacological options for the management of metabolic syndrome and some endocrinological diseases	2.1.8
appropriately identify and manage life-threatening conditions associated with endocrinological diseases	2.1.3
appropriately administer injections relevant to endocrinological and metabolic diseases	2.1.9

Population health and the context of general practice	
Learning outcomes	Related core competency outcomes

Population health and the context of general practice	
The GP is able to:	
<ul> <li>describe the determinants of health as they pertain to metabolic syndrome, obesity and endocrinological diseases, and advocate for positive change in these areas</li> </ul>	3.2.3, AH3.2.1
describe the unique disadvantages that Aboriginal and Torres     Strait Islander peoples have with respect to social determinants     of health and barriers to accessing care	AH3.2.2
advocate for health promotion activities relevant to the local community as they pertain to the prevention of chronic endocrinological and metabolic diseases and obesity	3.2.2, 3.2.4, AH3.2.2, RH3.2.1

Professional and ethical role	
Learning outcomes	Related core competency outcomes
The GP is able to:	
<ul> <li>remain up to date with developments in medications and other treatments as they pertain to endocrinological and metabolic disorders and obesity</li> </ul>	4.4.1, 4.4.2, AH4.4.1, AH4.4.2
<ul> <li>self-reflect on own knowledge and skills in relation to endocrinological and metabolic disease and act on areas for professional development as identified</li> </ul>	4.2.1, 4.2.2
<ul> <li>ensure the care offered to patients is always given in a way that is non-judgemental and free from bias, especially relating to issues of lifestyle behaviours and weight</li> </ul>	4.1.1, 4.1.2, 4.2.2, 4.2.4, AH4.2.1, AH4.2.2, AH4.2.3
demonstrate critical analysis skills in assessing new research on endocrinological and metabolic disease, knowing how and when to implement this into clinical practice	4.4.1

Organisational and legal dimensions	
Learning outcomes	Related core competency outcomes
The GP is able to:	
utilise appropriate Medicare items to assist in the coordination and facilitation of holistic care of patients with chronic endocrinological and metabolic conditions	AH5.1.1, 5.2.3, 5.2.4
effectively use recalls to assist in the monitoring of endocrinological and metabolic disorders and relevant associated health screening	5.1.1, AH5.1.2, AH5.1.3
demonstrate awareness of the relevance of certain endocrinological and metabolic diseases in relation to fitness to drive	5.2.1, 5.2.3

# Words of wisdom

## **Instructions**

This section includes tips related to this unit from experienced GPs. This list is in no way exhaustive but gives you tips to consider applying to your practice.

**Extension exercise:** Speak to your study group or colleagues to see if they have further tips to add to the list.

- 1. Remember to consider osteoporosis. It is underdiagnosed and undermanaged in Australia and occurs not just in elderly people but also in people with other medical conditions. Remember to consider a patient's eligibility for Medicare-rebateable screening.
- 2. A good GP sees the whole patient in the context of their life (both past and present). This may mean, for instance, acknowledging the link between obesity and mental health issues, such as adverse childhood experiences and prior or current abuse. Don't be afraid to take complex histories from your patient and be ready to assist and support them, where necessary.
- 3. Make sure that your management plans are practical and tailored to the patient, rather than a generic list of things that you feel should be done. For example, if a patient is unable to administer daily insulin, consider an alternative prescription, such as weekly injectable hypoglycaemic agents. Be realistic and include your patient in treatment planning.
- 4. Always bear in mind how endocrinological and metabolic conditions can impact fitness to drive. As a patient's condition changes, so too may their safety in driving. Always refer to the <u>fitness to drive guidelines (https://austroads.com.au/drivers-and-vehicles/assessing-fitness-to-drive)</u>, refer to a non-GP specialist if necessary, discuss the issue with your patient, and report to the local transport authority if necessary.
- 5. A good GP does not judge their patients who are struggling with weight problems. Many people are uncomfortable to discuss this topic with their doctor for fear of bias and stigma. Show your patients support without criticism, acknowledging the many challenges of weight loss.

## Case consultation example

## **Instructions**

- 1. Read this example of a common case consultation for this unit in general practice.
- 2. Thinking about the case example, reflect on and answer the questions in the table below.

You can do this either on your own or with a study partner or supervisor.

The questions in the table below are ordered according to the <u>RACGP clinical exam assessment areas</u> (<a href="https://www.racgp.org.au/getmedia/f93428f5-c902-44f2-b98a-e56d9680e8ab/Clinical-Competency-Rubric.pdf.aspx">https://www.racgp.org.au/getmedia/f93428f5-c902-44f2-b98a-e56d9680e8ab/Clinical-Competency-Rubric.pdf.aspx</a>) and domains, to prompt you to think about different aspects of the case example.

Note that these are <u>examples only</u> of questions that may be asked in your assessments.

Extension exercise: Create your own questions or develop a new case to further your learning.



Lena is a 35-year-old woman with type 1 diabetes who presents for a general review at the urging of her endocrinologist. Although she regularly visits her endocrinologist, she infrequently attends the GP practice. Lena is on insulin through an insulin pump and has an intrauterine device.

Questions for you to consider		Domains
How would you address Lena's infrequent attendance to the practice? How could you engage Lena?	1. Communication and consultation skills	1,2,5
How would your communication style change if Lena had an intellectual disability? What if she presented with a family member or other carer?		
How would your communication change if you were working in a remote Aboriginal community?		
What specific questions should you ask Lena at this appointment? What examination would you do?	2. Clinical information gathering and interpretation	2
What is the most relevant and important information you would look for in the letter from Lena's endocrinologist?		
Are there any mental health conditions you need to consider? If so, which ones and how would you screen for them?		
What are the associated (non-diabetic) conditions that should be screened for in Lena because she has type 1 diabetes?	3. Making a diagnosis, decision making and reasoning	2
Which complications of diabetes does Lena need to be screened for and how often?		
What if Lena were a child or adolescent? How would your screening for complications differ?		
What guidelines or resources would you use in caring for Lena?		

Questions for you to consider		Domains
What if Lena told you she would like to become pregnant for the first time? What should you discuss with her?	4. Clinical management and therapeutic reasoning	2
What if Lena were an 85-year-old woman in an aged care home? How would that change your management?		
What if Lena told you that she uses complementary therapies at the encouragement of a diabetes support group on Facebook? What questions would you ask and what advice would you give her about this?		
How would your management change if you were in a remote Aboriginal or Torres Strait Islander community with no visiting dieticians or diabetes educators, and no way for the patient to see one elsewhere?		
If Lena were making unhealthy lifestyle choices (eg smoking, unhealthy diet), what could you do to help her? What if she were an Aboriginal or Torres Strait Islander, what government initiatives could assist Lena to make lifestyle changes?	5. Preventive and population health	1,2,3
When you read the endocrinologist's letter, you decide that their management plan is not appropriate for Lena given what you know about her. What would your next step be?	6. Professionalism	4
What strategies can you implement in your practice to encourage Lena to present to a GP more regularly? What are your medico-legal obligations in terms of contacting Lena? For example, regarding abnormal pathology investigations	7. General practice systems and regulatory requirement	5
If Lena reported having trouble with her insulin pump, what would your next step be?	8. Procedural skills	2
If Lena presented to your clinic very unwell (with either hypoglycaemia or hyperglycaemia), how would you immediately manage this?		
How would you manage the consultation if Lena had just arrived from overseas and had limited information with her about her condition?	9. Managing uncertainty	2
What potentially life-threatening situations do you need to know about in Lena's case and how would you manage them if they occurred in your general practice?	10. Identifying and managing the significantly ill patient	2
What advice would you give Lena in identifying and self-managing those conditions?		

## **Learning strategies**

#### Instructions

This section has some suggestions for how you can learn this unit. These learning suggestions will help you apply your knowledge to your clinical practice and build your skills and confidence in all of the broader competencies required of a GP.

There are suggestions for activities to do:

- on your own
- with a supervisor or other colleague
- in a small group
- with a non-medical person, such as a friend or family member.

Within each learning strategy is a hint about how to self-evaluate your learning in this core unit.



### On your own

Conduct an informal literature review on the management of type 2 diabetes in Aboriginal and Torres Strait Islander peoples.

• What did you learn from your literature search? Did anything surprise you? How does it change your practice?

Identify your local referral pathways for bariatric surgery.

- Does your local health network offer this service? If so, what are the inclusion and exclusion criteria?
- When should you offer this option to a patient?

Make a list of all the screening (for both complications and associated conditions) that should occur in patients with type 1 or type 2 diabetes, and write a plan on how often this should be done.

- How can this be incorporated into a patient's management plan so that it does not get missed?
- What are the differences in screening for types 1 and 2 diabetes?

Identify the indications in Australia for vitamin D deficiency screening.

- When is screening for this funded under the MBS and when is it not? How often should it occur in those who are eligible?
- How should people be treated if deficiency has been found?



#### With a supervisor

Do a role play where your supervisor is a patient with type 1 diabetes and take them through a 'sick day plan'.

• Did you miss anything in your sick day plan? Where might you find more information (and patient handouts) on this? Does your supervisor have any suggestions?

With your supervisor, do a case review of two or three of your patients with type 2 diabetes and discuss how they were managed.

- Were there differences in your management approaches between patients? If so, why (or why not)?
- How did your management align with recommended guidelines?

Do an informal presentation to your supervisor on the major adrenal diseases and the role of the GP in these conditions.

- Did your supervisor agree with your summary on the role of the GP in these conditions?
- Where would you find resources relevant to GPs on this topic?
- Does your supervisor have any patients they have managed with adrenal disease that they can discuss with you?

Discuss the different types of thyroid imaging, and when it is appropriate to order them.

- Where can you find information on this?
- Does your supervisor have any tips on diagnosing and managing thyroid disease?



## In a small group

Discuss how you might sensitively approach the topic of weight and lifestyle risk factors (such as diet and exercise) with a patient or parent (of an overweight child).

• What strategies does the evidence suggest in this area? Are some strategies better than others? How can you help patients to feel empowered about making good lifestyle choices?

Practise with your peers giving a new diagnosis of type 2 diabetes to a patient.

- Are there online resources (including YouTube videos) that can help you with this?
- Consider how you might adapt your discussion for different patient demographics; for example, people in remote
   Aboriginal or Torres Strait Islander communities, patients of differing education levels, and culturally and linguistically diverse groups.

Discuss when you would order calcium levels on a patient and what you would do if they came back high or low.

- Where can you find relevant information on this?
- Does all your group agree about when calcium testing should be done?

Have each person draw a diagram (off the top of their head) of the relationship between parathyroid hormone, vitamin D and calcium. Then get together and explain these interactions to each other.

Compare your diagrams with each other and then to an official source – do they match?



## With a friend or family member

Discuss what your friend or family member understands about osteoporosis, with an emphasis on how to prevent it, then fill in the gaps in their knowledge.

- How can you tailor your advice on osteoporosis prevention so that it is meaningful to the person?
- Do you have any practical suggestions to overcome the barriers people may face in making the necessary lifestyle changes?

Give a short talk (10–15 minutes) to a friend or family member in lay terminology on hypothyroidism and hyperthyroidism. Include the differences between the thyroid function tests (ie TSH, T4 and T3) and sub-clinical hypo/hyperthyroidism.

• Ask for feedback. Did they clearly understand everything you said? If not, how can you explain it more simply? Are there patient handouts that could help?

## **Guiding topics and content areas**

## **Instructions**

These are examples of topic areas for this unit that can be used to help guide your study.

Note that this is not a complete or exhaustive list, but rather a starting point for your learning.

- Metabolic syndrome and obesity:
  - Define metabolic syndrome.
  - List the risk factors for metabolic syndrome and obesity.
  - Describe the pharmacological and non-pharmacological management options for those conditions.
- Type 1 diabetes:
  - Describe the theorised pathogenesis of type 1 diabetes.
  - Outline the screening that should occur in all patients with type 1 diabetes.
  - o Describe the symptoms of diabetic ketoacidosis.
  - o Describe the emergency management of diabetic ketoacidosis.
  - Describe the potential complications of type 1 diabetes.
- Type 2 diabetes:
  - Appropriately screen for type 2 diabetes and know how screening can be varied in different populations.
  - Promote lifestyle options for both the management and possible remission of type 2 diabetes.
  - Understand the different pharmacological options for type 2 diabetes management and how to individualise prescribing.
  - Describe the necessary clinical assessments to identify potential macrovascular and microvascular complications of type
     2 diabetes.
  - Know when to refer a patient to an endocrinologist for type 2 diabetes.
- Osteoporosis:
  - Describe the conditions that warrant referral for bone densitometry testing.
  - Describe the medical definition of osteoporosis.
  - Advise a patient on the various pharmacological and non-pharmacological options for the management of osteoporosis.
  - Describe how osteoporosis can be prevented.
- Vitamin D deficiency:
  - Understand when vitamin D screening is indicated (and rebated through Medicare).
  - Know how to appropriately manage vitamin D deficiency.
- Adrenal disease:
  - Describe the causes and symptoms of Cushing's disease; know when and how to investigate for it, interpret investigation results, and provide management options.
  - Describe the causes and symptoms of Addison's disease; know when and how to investigate for it, interpret investigation results, and provide management options.
- Thyroid conditions:
  - Identify through history and examination when it is appropriate to investigate for thyroid disease.
  - Interpret investigation results and provide management options (including education, pharmacological therapy and referral if needed) for:
    - goitre
    - hyperthyroidism
    - hypothyroidism
    - thyroiditis
    - nodules and/or malignancy.
- Parathyroid conditions:
  - Identify through history, examination, and existing pathology results when it is appropriate to investigate for parathyroid disease.
  - Interpret investigation results and provide management options (including education, pharmacological therapy and referral if needed) for:
    - hypoparathyroidism

- hyperparathyroidism.
- Pituitary adenomas:
  - Describe the symptoms and examination findings and identify the appropriate investigation/s and the next appropriate management step/s if the condition is detected.
- Phaeochromocytoma:
  - Describe the symptoms, know what investigations to order when it is suspected, and describe the next step in management if the investigations are positive.
- Growth hormone disorders:
  - Describe the cause, symptoms, investigations and general management of growth hormone deficiency and growth hormone excess.
- Diabetes insipidus:
  - Describe its cause, symptoms, investigations, and general management.
- Inborn errors of metabolism:
  - Describe examples of these conditions and what GPs need to know about genetic screening for these disorders, and know how to discuss this with parents and potential parents.

## **Learning resources**

## Instructions

The following list of resources is provided as a starting point to help guide your learning only and is not an exhaustive list of all resources. It is your responsibility as an independent learner to identify further resources suited to your learning needs, and to ensure that you refer to the most up-to-date guidelines on a particular topic area, noting that any assessments will utilise current guidelines.

#### Journal articles

The management of hypothyroidism, hyperthyroidism, thyroid nodules, thyroid cancer and thyroid issues during and immediately after pregnancy.

• Walsh JP. <u>Managing thyroid disease in general practice (http://www.mja.com.au/journal/2016/205/4/managing-thyroid-disease-general-practice)</u>. Med J Aust 2016; 205(4):179–84.

The types, causes of, investigation approach to, and general management of adrenal disease in general practice.

• Libianto R, Yang J, Fuller PJ. <u>Adrenal disease: An update (https://www1.racgp.org.au/ajgp/2021/january-february/adrenal-disease-an-update)</u>. Aust J Gen Pract 2021;50(1–2).

A summary of the latest on pharmacotherapy for obesity.

• Lee PC, Dixon J. <u>Pharmacotherapy for obesity (http://www.racgp.org.au/afp/2017/july/pharmacotherapy-for-obesity)</u>. Aust Fam Physician 2017;46(7).

Advice for GPs on how to investigate thyroid disease.

Croker EE, McGrath SA, Rowe CW. <u>Thyroid disease – Using diagnostic tools effectively</u>
 (<a href="https://www1.racgp.org.au/ajgp/2021/january-february/thyroid-disease-using-diagnostic-tools-effectively">https://www1.racgp.org.au/ajgp/2021/january-february/thyroid-disease-using-diagnostic-tools-effectively</a>). Aust J Gen Pract 2021;50(1–2).

## **Textbooks**

Practical words of wisdom on the approach to endocrine disorders.

Endocrine tales. In: Murtagh J, Bird S, editors. <u>Murtagh's Cautionary Tales, 3rd edn</u>
 (<a href="https://murtagh.mhmedical.com/content.aspx?bookid=2675§ionid=220124440">https://murtagh.mhmedical.com/content.aspx?bookid=2675§ionid=220124440</a>). Sydney: McGraw Hill, 2019.

#### Online resources

The most up-to-date and comprehensive Australian guidelines on type 1 diabetes.

• Australian Diabetes Society. <u>National evidence-based clinical care guidelines for type 1 diabetes in children, adolescents and adults (http://diabetessociety.com.au/documents/Type1guidelines14Nov2011.pdf)</u>.

Helpful guidelines on type 1 diabetes in children.

• The Royal Children's Hospital Melbourne. <u>Clinical Practice Guideline on diabetes mellitus</u> (<a href="https://www.rch.org.au/clinicalguide/guideline\_index/Diabetes\_Mellitus/">https://www.rch.org.au/clinicalguide/guideline\_index/Diabetes\_Mellitus/</a>).

The RACGP's type 2 diabetes management guidelines.

• The Royal Australian College of General Practitioners. <u>Management of type 2 diabetes: A handbook for general practice</u> (<a href="https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/diabetes/introduction">https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/diabetes/introduction</a>).

Guidelines on osteoporosis, with the information most relevant to GPs.

• The Royal Australian College of General Practitioners and Osteoporosis Australia. <u>Osteoporosis prevention, diagnosis and management in postmenopausal women and men over 50 years of age (https://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/osteoporosis).</u>

A summary of the guidelines and position statements relevant to osteoporosis.

• Healthy Bones Australia. Guidelines and statements (https://healthybonesaustralia.org.au/hcps/guidelines-statements/).

ANZBMS position statements on the management of osteoporosis.

• Australia and New Zealand Bone and Mineral Society. Position statements (http://www.anzbms.org.au/policies.asp).

A summary of the ESA's guidelines and toolkits on issues including thyroid cancer and growth hormone replacement.

• Endocrine Society Australia. <u>Guidelines and toolkits (http://www.endocrinesociety.org.au/guidelines.asp)</u>.

A summary of when to investigate for and how to manage vitamin D deficiency.

• Therapeutic Guidelines Limited. <a href="Introduction to vitamin D deficiency">Introduction to vitamin D deficiency</a> (<a href="http://www.tg.org.au/)</a>.

A practical clinical tool to implement existing guidelines for the treatment of obesity.

Australian Diabetes Society. <u>The Australian Obesity Management Algorithm</u>
 (https://diabetessociety.com.au/documents/ObesityManagementAlgorithm18.10.2016FINAL.pdf).

#### Learning activities

Free online learning modules and presentations; including a link to the AUSDRISK calculator, a diabetes map and links to more information.

• Diabetes Australia. Tools & eLearning (http://www.diabetesaustralia.com.au/for-health-professionals/tools-elearning).

eLearning modules on endocrine disease.

- Royal Australian College of General Practitioners. *gplearning* (http://www.racgp.org.au/education/professional-development/online-learning/gplearning):
  - Type 2 diabetes in general practice.
  - o check, unit 560, May 2019: Endocrine.

#### This contextual unit relates to the other unit/s of:

- <u>Cardiovascular health (https://www.racgp.org.au/curriculum-and-syllabus/units/cardiovascular-health)</u>
- Child and youth health (https://www.racgp.org.au/curriculum-and-syllabus/units/child-and-youth-health)
- Kidney and urinary health (https://www.racgp.org.au/curriculum-and-syllabus/units/kidney-and-urinary-health)
- Men's health (https://www.racgp.org.au/curriculum-and-syllabus/units/mens-health)
- Older persons' health (https://www.racgp.org.au/curriculum-and-syllabus/units/older-person-s-health)
- <u>Pregnancy and reproductive health (https://www.racgp.org.au/curriculum-and-syllabus/units/pregnancy-and-reproductive-health)</u>
- Women's health (https://www.racgp.org.au/curriculum-and-syllabus/units/womens-health)

Printed from the RACGP website at https://www.racgp.org.au/education/education-providers/curriculum/curriculum-and-syllabus/units/metabolic-and-endocrine-health 6/05/2022