RACGP

Curriculum and syllabus for Australian general practice (7th edition)

Kidney and urinary health

RACGP Curriculum and syllabus for Australian general practice (7th edition): Kidney and urinary health.

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The Royal Australian College of General Practitioners Ltd

100 Wellington Parade

East Melbourne, Victoria 3002

Tel 03 8699 0414

Fax 03 8699 0400

www.racgp.org.au

ABN 34 000 223 807

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We acknowledge the Traditional Custodians of the lands and seas on which we work and live, and pay our respects to Elders, past, present and future.

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Kidney and urinary health

Context

Kidney and urinary tract diseases (from kidneys to urethra) account for 1.1% of Australia's total disease burden, with chronic kidney disease (CKD) contributing 86% of this.[1] Despite its prevalence, CKD remains under-recognised[2] and represents a major cost to the health system, responsible for 18% of hospitalisations.[3] Aboriginal and Torres Strait Islander peoples experience disproportionate levels of kidney disease, regardless of whether they live in urban, regional or rural settings.[4] Mortality from renal failure is four times higher in Aboriginal and Torres Strait Islander peoples,[5] reflecting ongoing inequities in access to kidney care, particularly transplantation.[6] CKD increases all-cause and cardiac mortality,[3] contributing to one in nine deaths in Australia annually, with rates nearly twice as high in remote and lower socioeconomic areas.[7] Early detection and management can reduce deterioration in kidney function by up to 50%, and in some cases, damage is reversible.[3] GPs are central to identifying at-risk patients, implementing screening, early management, and prevention strategies such as patient education and medication reviews.[8] GPs also provide ongoing support for post-transplant and kidney failure patients.[9]

Other frequent presentations include bladder emptying disorders, dysuria, and haematuria. Urinary tract infections (UTIs) affect up to 50% of women and are significantly more common in women than men. Recurrent UTIs cause significant morbidity and healthcare cost[10] and can also affect children, comprising 12% of paediatric UTI hospitalisations.[11] In men over 50, benign prostatic hyperplasia (BPH) is a common cause of lower urinary tract symptoms.[12] Urinary incontinence affects about 30% of the Australian population. It is often under-recognised and has substantial effects on emotional health and wellbeing as well as high economic costs. Women are twice as likely as men to experience urinary incontinence.[13]

Urinary tract malignancies (prostate, kidney, and bladder) comprise three of the 20 most common cancers and cancer deaths.[14] GPs play a key role in early detection by recognising red flags such as haematuria,[15] and initiating appropriate screening and referrals.[16] They also coordinate appropriate care pathways and facilitate timely referral to nephrology or urology services when red flags are present.[10]

References

1. Australian Institute of Health and Welfare. Chronic kidney disease: Overview. Canberra: AIHW, 2024. Available at www.aihw.gov.au/reports-data/health-conditions-disability-deaths/chronic-kidney-disease/overview [Accessed 14 Oct 2025].
2. Samuel S. Chronic kidney disease: Engaging our patients to change the course of this illness. *Aust J Gen Pract* 2021;50(4):181.
3. Kidney Health Australia. Chronic Kidney Disease (CKD) Management in Primary Care. 5th edn. Melbourne: Kidney Health Australia, 2024. Available at https://kidney.org.au/health-professionals/ckd-management-handbook [Accessed 22 Jan 2026].
4. Kidney Health Australia. First Nations Australians. Kidney Health Australia, 2025. Available at https://kidney.org.au/health-professionals/hp-resources-first-nations-australians/ [Accessed 27 Jan 2026].
5. Australian Institute of Health and Welfare. Chronic kidney disease: Australian facts, Canberra: AIHW, 2024. Available at www.aihw.gov.au/reports/chronic-kidney-disease/chronic-kidney-disease/contents/deaths-from-chronic-kidney-disease#atsi [Accessed 26 Mar 2026].
6. Jesudason S. Renal tract. *Aust J Gen Pract* 2021;50(7):437–37.
7. Australian Institute of Health and Welfare. Geographical variation in chronic kidney disease: diabetes, cardiovascular and chronic kidney disease. Canberra: AIHW, 2021. Available at www.aihw.gov.au/reports/chronic-kidney-disease/geographical-variation-ckd/contents/contents [Accessed 22 Jan 2026].
8. Manski-Nankervis JA, McMorrow R, Nelson C, Jesudason S, Sluggett JK. Prescribing and deprescribing in chronic kidney disease. *Aust J Gen Pract* 2021;50(4):183–87.
9. Australian Indigenous Health*InfoNet*. End-stage kidney disease. Mt Lawley, WA: Australian Indigenous Health*InfoNet*, [date unknown]. Available at https://healthinfonet.ecu.edu.au/learn/health-topics/kidney/end-stage-kidney-disease/ [Accessed 26 Mar 2026].
10. McKertich K, Hanegbi U. Recurrent UTIs and cystitis symptoms in women. *Aust J Gen Pract* 2021;50(4):199–205.
11. Desai DJ, Gilbert B, McBride CA. Paediatric urinary tract infections: Diagnosis and treatment. *Aust Fam Physician* 2016;45(8):558-563.

12. Yanada BA, Homewood D, Reeves F, Bolton D. Minimally invasive interventions for lower urinary tract symptoms: What sits between medical therapy and transurethral resection of the prostate. *Aust J Gen Practc* 2024;53(5):258-263.

13. Deloitte Access Economics. Economic Cost of Incontinence in Australia. Continence Foundation of Australia, 2024. Available at: https://continence.my.salesforce.com/sfc/p/#A0000000KUc9/a/Oa0000020saL/iJTh_Ma1v3D.KahszbIFNWbLpcgF7EjUveoXuKVlF58 [Accessed 29 Jun 2026].

14. Australian Institute of Health and Welfare. Cancer data in Australia: Cancer rankings data visualisation. Canberra: AIHW, 2025. Available at www.aihw.gov.au/reports/cancer/cancer-data-in-australia/contents/cancer-rankings-data-visualisation [Accessed 14 Octr 2025].

15. O'Connor E, McVey A, Demkiw S, Lawrentschuk N, Murphy GD. Assessment and management of haematuria in the general practice setting. *Aust J Gen Pract* 2021;50(7):467–71.

16. The Royal Australian College of General Practitioners. Guidelines for preventive activities in general practice. 10th edn. East Melbourne: RACGP, 2024.

Learning outcomes

The GP is able to:

- diagnose, investigate appropriately, and manage emergency kidney and urinary tract presentations in children and adults
- diagnose, investigate appropriately, and manage reduced kidney function and chronic kidney disease
- understand and engage patients in appropriate screening for chronic kidney disease and identifying risk factors
- diagnose, investigate appropriately, and manage acute kidney injury
- understand the approach to haematuria and urinary symptoms including consideration of red flags
- understand the approach to dysuria including consideration of red flags
- diagnose, investigate appropriately, and manage incontinence and lower urinary tract symptoms (LUTS)
- understand the approach to congenital kidney and urinary conditions
- diagnose, investigate appropriately, and manage flank, groin, or abdomen pain symptoms.

Key areas of learning

Diagnose, investigate appropriately, and manage emergency kidney and urinary tract presentations in both children and adults due to:

- acute urinary retention
- acute pyelonephritis / urosepsis
- haemolytic uraemic syndrome
- acute kidney injury (AKI)
- nephrotic or nephritic syndrome
- obstructive uropathy
- renal colic
- malignant hypertension / hypertensive emergency
- acute glomerulonephritis.

Diagnose, investigate appropriately, and manage reduced kidney function and chronic kidney disease due to:

- diabetes mellites
- glomerulonephritis
- hypertension
- vascular disease
- connective tissue disease
- polycystic kidney disease
- obstructive nephropathy
- multiple myeloma
- medications
- rare causes (eg amyloidosis).

Diagnose, investigate appropriately, and manage acute kidney injury caused by:

- pre-renal
    - hypovolemia
    - hypotension or shock
    - reduced cardiac output
    - renal artery stenosis
    - medications
- renal
    - acute tubular necrosis
    - acute glomerulonephritis
    - acute interstitial nephritis
    - vascular causes
- post-renal
    - ureteric obstruction
    - bladder outlet obstruction
    - urethral obstruction.

Diagnose, investigate appropriately and manage, dysuria, incontinence, and LUTS caused by:

- dysuria:
  - urinary tract infection (UTI)
  - sexually transmissible infection (STI)
  - BPH
  - vaginal prolapse
  - trauma
  - calculus
- incontinence (urge, stress, mixed or overflow)
  - overactive bladder
  - cauda equina syndrome
  - neurogenic bladder (Neurogenic Lower Urinary Tract Dysfunction)
  - chronic urinary retention.
- LUTS:
  - Benign prostatic hyperplasia (BPH)
  - prostatitis
  - prostate cancer
  - urethral stricture
  - urethritis
  - urethral calculi
  - cystitis
  - bladder cancer or neurogenic bladder secondary to medical condition.
  - Females: vaginal atrophy and urethral caruncle.

Understand the approach to haematuria and urinary symptoms (including consideration of red flags) due to:

- transient haematuria:
  - trauma
  - exercise
  - vaginal atrophy
- malignancy:
  - renal cell carcinoma
  - urothelial carcinoma including bladder cancer, prostate cancer
- infections:
  - pyelonephritis
  - lower urinary tract infection
  - urethral caruncle
- medical disease including chronic kidney disease.

Understand the approach to Chronic Kidney Disease (CKD), such as due to:

- Glomerulonephritis
- congenital conditions:
- polycystic kidney disease
- obstructive disease:
- urolithiasis
- BPH.

Diagnose, investigate appropriately, and manage flank, groin, or abdomen pain symptoms due to:

- urolithiasis
- pyelonephritis
- cystitis
- malignancy
- referred pain due to testicular torsion, epididymitis / orchitis.

Understand the approach to proteinuria, including asymptomatic proteinuria.

- Understand the approach to congenital kidney and urinary conditions such as:
- hypospadias
- cryptorchidism
- labial adhesions in female babies
- signs of hyper or under virilisations such as clitoromegaly or micro penis.
- vesico-ureteric reflux
- posterior urethral valve
- congenital anomalies such as duplication or absence.

Understand and engage patients in appropriate screening for chronic kidney disease and identifying risk factors.

Opportunities for learning

Words of wisdom

- UTIs may present with atypical symptoms in both young children and the elderly. Consider a UTI if fever without an identifiable focus persists beyond 48 hours in young children. A urine sample is essential to confirm or exclude a UTI where clinically suspected but is not required if another clear source of fever is identified and the child appears well.

- Urinary symptoms have a broad differential diagnosis. Consider prostatitis in men with UTI-like symptoms, chlamydial urethritis in patients presenting with dysuria, and UTIs in those with urge incontinence. Even a single episode of macroscopic haematuria warrants thorough evaluation. Men with LUTS and haematuria should always be referred to exclude malignancy. Be alert for features of glomerular disease, such as dysmorphic red cells, cellular casts, or proteinuria, and refer promptly to nephrology services.

- Always rule out AKI in significantly unwell patients presenting with profound malaise, nausea, vomiting, or confusion, with or without oliguria.

- CKD remains under-recognised in Australia; vigilance in screening and early detection is essential across all population groups. It's important to screen for CKD in high-risk populations, as early disease is typically asymptomatic. High-risk groups include:
    - Adults aged 60 years or older
    - Aboriginal and Torres Strait Islander people aged ≥30 years
    - Individuals with a family history of CKD
    - Those with a history of AKI, hypertension, diabetes, cardiovascular disease, or obesity

Learning strategies

On your own

Review the CKD management handbook from Kidney Health Australia. Then, use your practice software to identify two patients with CKD and conduct a detailed case review.

- *Are all medications appropriately dosed for the patient's level of renal function?*
- *Are investigations being performed at recommended intervals to monitor kidney function?*
- *Are appropriate recalls and reminders in place for ongoing monitoring?*
- *Are there specific management considerations or guidelines relevant to patients who identify as Aboriginal and Torres Strait Islander?*

Conduct a case review of three patients with regards to the management of acute or recurrent UTIs in your practice. Review whether antibiotics were prescribed in accordance with current clinical guidelines.

- *What did you find, and how did the management align with guideline recommendations?*
- *If management differed from the guidelines, what were the reasons?*
- *What insights can you take from this audit to improve your future clinical practice?*

With a supervisor

Review two cases (one male and one female patient) with dysuria.

- *Create a differential diagnosis list that includes 'not to be missed' diagnoses and red flags.*
- *What did you think was the most likely cause of the symptoms? What investigations were completed for this patient? What additional investigations, if any, would you consider?*
- *How would you manage this patient? What suggestions does your supervisor have? Do they have any tips for managing this type of presentation?*

Review and discuss the best practice management of benign prostatic enlargement.

- *What are the key history and examination features in assessing the severity of LUTS?*
- *What is your supervisor's approach to diagnosis, investigation, and management?*
- *Discuss with your supervisor about when to refer to a specialist.*

In a small group

Discuss the following scenario: a patient with diabetes or hypertension and CKD presents to your clinic after a routine investigation reveals a sudden decline in kidney function.

- *What are the possible causes of AKI in a patient with pre-existing CKD?*
- *What changes in management could help prevent further deterioration of kidney function? How do current guidelines inform your approach?*
- *When should this patient be referred to kidney services or a nephrologist?*
- *How would your management differ if your practice were in a rural or remote setting?*
- *How would your approach to CKD management differ for patients who identify as Aboriginal and Torres Strait Islander?*

Role-play a consultation with a patient presenting with urinary incontinence. Take a comprehensive history and discuss appropriate investigations as well as management options, including non-pharmacological, pharmacological, and surgical approaches.

- *How did you go? How did the 'patient' feel, and how well did they understand the discussion? Get feedback from the group.*
- *Discuss the risk factors for urinary incontinence across different age groups and genders.*
- *Explore appropriate investigations and management strategies for each group, considering both conservative and interventional options.*

With a friend or family member

Discuss screening for CKD with a family member or friend.

- *Have they been tested for CKD? What would they have liked to know about it? What made them complete the test?*
- *If they haven't done the test, explain to them what is involved.*
- *Were the results explained in clear, patient-friendly language?*

Talk with a friend or family member about their experience with a child with nocturnal enuresis. It maybe someone they know of, rather than their own experience.

- *How did they address the nocturnal enuresis? What did they find helpful? Where did they find information? Did they have any unmet needs?*
- *What did you learn that you can apply to your practice?*

Case example

Choy, a 68-year-old male of Cambodian origin presents with blood in his urine. Choy is new to your practice. He has been brought in by his daughter as he does not speak fluent English.

In a case-based discussion, questions relating to each role could be:

Communicator

- What communication strategies could you use to effectively gather information and explore Choy's ideas, concerns, and expectations?
- What services are available to assist with communication for patients from non-English speaking backgrounds, and how can these be accessed in your practice?
- What additional supports or resources could you consider to assist Choy navigate his care?
- What culturally appropriate resources or services are available for patients who identify as Aboriginal and Torres Strait Islander, or those from culturally and linguistically diverse backgrounds, presenting with urinary tract conditions?

Clinician

- What further history and office-based tests would help you arrive at a diagnosis and establish differential diagnoses?
- What red flags are important to screen for in this case?
- What information would help you assess risk factors for possible underlying malignancy?
- What would be your differential diagnoses list if there was or was not pain associated with the haematuria?
- What investigations would you consider and what would be the indications to order them?
- How would your approach differ if Choy were a child?
- What would be the differential diagnoses if the patient were a 36-year-old female?
- How would your management change if the haematuria were microscopic and Choy was asymptomatic?
- How would you approach haematuria if Choy had a history of recurrent urinary tract infections?
- How would your management differ if Choy had recently started taking an oral anticoagulant?
- How would you modify your approach if your practice were in a rural or remote location?
- Under what circumstances would you send Choy directly to hospital?

Health advocate and leader

- How could you use your practice software to ensure timely review of Choy's investigation results and appropriate follow up?
- What screening procedures or investigations would you consider for the early detection of asymptomatic urinary tract malignancy or CKD?

Professional

- What medico-legal considerations arise when a close family member acts as an interpreter?
- Reflect on your own attitudes and approach toward patients who decline treatment for urinary tract malignancy or kidney replacement therapy.

Scientist, educator and researcher

- How would you access and apply evidence-based resources to support your clinical decision-making both during and after the consultation?
- What additional resources or follow-up strategies could you consider for patients with a negative initial workup for haematuria?

Learning resources

The curriculum website includes learning resources within each unit.

Assessment

Content in this unit will be assessed in a variety of ways.

Workplace based assessments

Mini-CEX	RCA	MSF	CBD	Reflective exercise	Audit	Mid and end term assessment

Fellowship examinations

AKT	KFP	CCE

KEY

- Expected to be assessed here always
- Often assessed here but not in every example / case / assessment
- May at times be here or contribute to the assessment

ABBREVIATIONS

Mini-CEX – Mini-clinical evaluation exercise
RCA – Random case analysis
MSF – Multi source feedback
CBD – Case-based discussion
AKT – Applied knowledge test
KFP – Key feature problem
CCE – Clinical competency exam