2022 RACGP curriculum and syllabus for Australian general practice

Kidney and urinary 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.

Kidney and urinary tract diseases (extending from kidneys to urethra) account for 1.4% of Australia's total burden of disease. Of this, the majority (86%) is from chronic kidney disease (CKD)¹ which represents a significant cost to the health system, accounting for about one in six (17%) hospitalisations. Hospitalisation due to kidney failure is 70 times more likely in Aboriginal and Torres Strait Islander peoples than non-Indigenous people in rural and remote areas. Deaths due to renal failure are four times higher in Aboriginal and Torres Strait Islander peoples, ³ with critical gaps in access to kidney care, particularly transplantation.⁴ CKD increases all-cause mortality and cardiac death by two to threefold, and represents one in nine deaths in Australia every year. The rates of CKD-related deaths are almost twice as high in remote and lower socioeconomic areas when compared to major cities.

CKD is still an under-recognised condition in Australia. Fewer than 10% of people with CKD attending general practice are aware that their kidney health is compromised. Early detection and management reduces the risk of further deterioration in kidney function by up to 50%, and in some cases damage can be reversible. 5 General practitioners (GPs) are well placed to undertake identification of high-risk patients, screening, early detection and appropriate management of kidney disease, as well as to reduce the risk of kidney injury by implementing strategies such as patient education and medication reviews. GPs also play a role in identifying community resources, appropriate care pathways and initiating early referral to a urologist or nephrologist for further assessment in patients with red flags. They also play a role in providing supportive care for post-renal transplant patients and people with kidney failure. 10

Acute kidney injury (AKI) affects 8–20% of adults admitted to hospital. Acute renal replacement therapy is initiated in approximately 1% of all hospitalised patients and doubles the risk of subsequent death. 11 The period after AKI represents an

opportunity to improve care provided in general practice especially in rural and remote communities to reduce the disease burden.

Urinary tract malignancies (prostate, kidney and bladder cancers) account for three of the 20 most commonly diagnosed malignancies and cancer deaths. ¹² GPs therefore play a significant role in early identification of urinary tract malignancies by being alert to possible indicators such as haematuria or progressive lower urinary tract symproms, ¹³ and conducting screening as appropriate. ¹⁴

Other presentations such as bladder emptying disorders, dysuria and haematuria are common in adults. Urinary tract infections (UTIs) are extremely common in women; up to half of all women will get a UTI in their lifetime, and they are 50 times more likely to develop a UTI than men. ¹⁵ While an occasional uncomplicated UTI is simple to treat, recurrent UTIs and cystitis with variable or negative urine culture are a complex diagnostic and therapeutic challenge. UTIs in women are a cause of great personal morbidity as well as cost to the health system. ⁹ UTIs also occur in children and account for 12% of all UTI hospital admissions. ¹⁶ Other common paediatric presentations include bladder emptying disorders such as enuresis, ¹⁷ congenital anomalies, dysuria, proteinuria and haematuria. Lower urinary tract symptoms are also common among Australian men over the age of 45 years, most of whom will have benign prostatic hyperplasia (BPH) 18. GPs need to identify and manage these presentations to prevent recurrence and kidney damage. Those with uncertain diagnoses may require referral to a urologist.

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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:	
adapt their communication approach to meet the needs of patients, families and carers when discussing kidney and urinary tract health and disease	1.1.1, 1.1.2, 1.1.3, 1.1.6, AH1.3.1, 1.2.1, 1.3.1, 1.3.2, 1.4.1

Communication and the patient-doctor relationship	
 engage the patient in their own care by adopting a shared decision-making approach about their kidney or urinary condition 	1.1.2, 1.2.1, 1.2.2, 1.4.4, 1.4.5, AH1.4.1

Applied knowledge and skills		
Learning outcomes	Related core competency outcomes	
The GP is able to:		
 take a comprehensive history to diagnose kidney and urinary tract presentations 	2.1.1, 2.1.3, 2.1.4, 2.1.7, 2.1.8	
 conduct a relevant examination, and organise and interpret investigations as needed to diagnose kidney and urinary tract presentations 	2.1.2, 2.1.3, 2.1.5, 2.1.6, 2.1.7, 2.1.8, 2.1.10	
 create management plans in conjunction with appropriate non- GP specialist teams, patients, families and carers in the treatment of kidney and urinary tract disease 	2.3.1, 2.3.2, 2.3.4, AH2.3.1, AH2.3.2, RH2.3.1	
 identify significantly ill and potentially life-threatening kidney and urinary conditions and organise timely referral to non-GP specialist services 	2.1.3	

Population health and the context of general practice	
Learning outcomes	Related core competency outcomes
The GP is able to:	
 use planned and opportunistic approaches to discuss screening and preventive care with patients at risk of long-term kidney and urinary conditions 	3.1.1, 3.1.4
advocate for improved access to appropriate care and services for patients with ongoing kidney and urinary conditions	3.2.2, 3.2.4, AH3.2.1, RH3.2.1

Professional and ethical role	
Learning outcomes	Related core competency outcomes
The GP is able to:	
conduct clinical audits to evaluate identification processes and management of chronic kidney disease in the practice	4.4.2

Organisational and legal dimensions	
Learning outcomes	Related core competency outcomes
The GP is able to:	
 use clinical information systems effectively to manage recalls and maintain continuity of care in patients presenting with kidney and urinary conditions 	5.1.3, 5.2.1, 5.2.3

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. Urinary tract infections (UTIs) can present with atypical symptoms in young children and the elderly. Consider a UTI if fever without focus persists after 48 hours in young children. A urine sample is required to diagnose or exclude UTI where it is clinically suspected. A urine sample is not required if there is another clear focus of fever and the child is not unwell.
- 2. Urinary symptoms can have a wide range of differentials. For example, consider prostatitis in men with UTI. Consider chlamydial urethritis in patients presenting with dysuria. Consider UTIs in patients with urge incontinence. Even a single episode of macroscopic haematuria should be thoroughly evaluated. There is no role for kidney, ureter, and bladder (KUB) X-ray, and CT urography is the investigation of choice. Referral for cystoscopy is indicated even if urine cytology is negative. Men with lower urinary tract symptoms (LUTS) and haematuria should be referred to rule out malignancy.
- **3.** Be vigilant for signs of glomerular disease, such as dysmorphic red cells, cellular casts and proteinuria. Refer early to nephrology services.
- **4.** Remember to rule out acute kidney injury in significantly ill patients presenting with extreme malaise, nausea and vomiting plus confusion with or without oliguria.
- 5. Be vigilant to screen for chronic kidney disease (CKD) in high-risk populations as early disease remains mostly asymptomatic. Screening for CKD must include both renal function (ie eGFR) AND proteinuria (ie urinary ACR). High-risk populations include age 60 years or older, family history of CKD, Aboriginal and Torres Strait Islander people 30 years or older, and patients with history of acute kidney injury, hypertension, diabetes, cardiovascular disease or obesity. CKD is an under-recognised condition in Australia, so be vigilant to screen for kidney injury in all population groups.

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> (https://www.racgp.org.au/getmedia/f93428f5-c902-44f2-b98a-e56d9680e8ab/Clinical-Competency-Rubric.pdf.aspx) 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.



Choy, a 68-year-old male of Cambodian origin presents with a history of 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.

Questions for you to consider		Domains
What communication strategies could you use to gather information and explore Choy's ideas, concerns and expectations?	1. Communication and consultation skills	1,2,5
What services are available to help you communicate with people of non-English speaking background? How do you access them?		
What medico-legal issues do you need to consider when a close family member is interpreting (eg consent, confidentiality, privacy)?		
What further history and office tests would help you arrive at a diagnosis and differential diagnoses?	2. Clinical information gathering and interpretation	2
What information would help you assess risk factors for possible underlying malignancies (eg occupation, radiotherapy, smoking)?		
How would you modify your approach if Choy was a child?		
What possible malignant causes for this presentation would you consider, and how will you arrive at the diagnosis?	3. Making a diagnosis, decision making and reasoning	2
What are the possible differentials to consider if the haematuria is transient?		
What are the possible non-malignant causes of haematuria?		
What are the possible causes of haematuria in young sexually active adults?		
What would you consider in a child presenting with haematuria?		
How would you approach this presentation if your practice was in a rural or remote location with limited access to imaging and specialist urology services?		

Questions for you to consider		Domains
How would your management change if Choy had recently started taking an oral anticoagulant?	4. Clinical management and therapeutic reasoning	2
How would your management change if the haematuria is microscopic and Choy is asymptomatic?		
How would your management change if a patient with a history of recurrent UTI presents with haematuria?		
What investigations or referrals would you arrange to detect an underlying urinary tract malignancy in patients presenting with haematuria or asymptomatic microscopic haematuria?		
What other resources could you consider to support Choy? What resources could you consider for Aboriginal or Torres Strait Islander patients with urinary tract presentations? Or patients from culturally and linguistically diverse backgrounds?		
How would you support a patient with haematuria as a symptom of advanced malignancy who prefers to stay in the community for end-of-life care?		
How would you approach a situation where an Aboriginal or Torres Strait Islander patient presents with haematuria and diagnosed malignancy, but does not consent to further treatment?	5. Preventive and population health	1,2,3
What screening procedures/investigations would you consider to detect an early asymptomatic urinary tract malignancy or chronic kidney disease?		
How would you access evidence-based resources to help you both during and after the consultation?	6. Professionalism	4
Reflect on what your attitude and approach may be to patients who choose not to get treated for urinary tract malignancy or kidney replacement therapy.		
How would you use your practice software system to make sure that you review Choy's investigation results and follow up with him?	7. General practice systems and regulatory requirement	5
What are the legal and ethical considerations in managing haematuria and urinary tract malignancies in people with disability (eg dementia)?		

Questions for you to consider		Domains
For non-English speaking patients, how would you obtain and document informed consent for sensitive examinations such as examination of the external genitalia?	8. Procedural skills	2
How would you organise to obtain a catheter sample for urinalysis in babies and toddlers with haematuria? (Consider issues such as parental concerns and consent.)		
How confident are you to insert/replace an indwelling or suprapubic catheter for patients presenting with bladder outlet obstruction?		
What follow-up measures would you consider in patients presenting for ongoing care following negative urological workup for haematuria?	9. Managing uncertainty	2
What additional resources could you consider for patients with negative initial workup for haematuria?		
What follow-up measures would you consider in patients presenting for ongoing care following negative urological workup for haematuria?	10. Identifying and managing the significantly ill patient	2
What additional resources could you consider for patients with negative initial workup for haematuria?		

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

Review the <u>Chronic kidney disease management handbook (https://kidney.org.au/health-professionals/ckd-management-handbook)</u> from Kidney Health Australia. Then use practice software to identify two patients with chronic kidney disease (CKD) and conduct a review.

- Are all their listed medications appropriately dosed? Are investigations being done regularly to monitor kidney function? Are there appropriate recalls and reminders set up to regularly monitor them? Are their vaccinations up to date? Have you assessed cardiovascular risk? Identify any comorbidities in these patients. Are they being managed according to guidelines?
- Are there specific guidelines for Aboriginal and Torres Strait Islander patients?
- Discuss the case management with other healthcare providers; for example, do a medication review with a pharmacist.

Recall two practice patients with chronic disease that is a risk factor for CKD, such as diabetes or hypertension, and provide education to promote kidney and urinary health.

- Are investigations being done regularly to screen for CKD? Are there appropriate recalls and reminders set up to screen regularly?
- Identify any comorbidities in these patients. Are they being managed according to guidelines?

Conduct a personal case audit on how acute or recurrent UTIs are managed. Check if antibiotics were prescribed according to guidelines.

• What did you find, and how did management compare to guidelines? If management was different to the guidelines, what was the reason, and what can you learn from this to change and improve your practice?



With a supervisor

Do a role play or observe your supervisor in a consultation that involves getting informed consent for a prostatic examination, or pre-test counselling for prostate specific antigen (PSA) screening (and have your supervisor observe you in a similar consultation).

- What did you learn from observing your supervisor? What feedback did your supervisor give you? What would you do differently next time?
- What barriers to getting consent might you need to consider?
- How would you manage this consultation if the patient had a cognitive impairment or disability, or if there was a language barrier?
- What resources or evidence might you need before you provide pre-test counselling for prostate cancer screening?

Discuss best practice management of recurrent UTIs in women at different stages of life.

• What approach does your supervisor take to each of these patient groups: young sexually active women, perimenopausal women and post-menopausal women?



In a small group

Discuss the following case: a patient with diabetes or hypertension and CKD comes to your clinic after a routine investigation shows a sudden drop in kidney function.

- What are possible causes of acute kidney injury in a patient with CKD? What changes in management could you make to avoid a deterioration of kidney function? What are the current guidelines? Compare different management strategies. When should this patient be referred for kidney services?
- How would your management be different if your practice was in a rural setting with restricted access to kidney replacement therapy?
- How would you change your management of CKD for Aboriginal and Torres Strait Islander patients?

Role-play a consultation with a patient with incontinence. Take a history and discuss any investigations needed and management options: non-pharmacological and pharmacological, as well as surgical management.

- What went well and what could be improved? Did the 'patient' understand the options discussed?
- What are the risk factors for urinary incontinence in different age groups in males, females and children? Discuss the choices of investigations and management for these groups.



With a friend or family member

Practise obtaining informed consent for various examinations and procedures, such as catheterisation in a child or rectal examination for suspected benign prostatic hyperplasia.

• Ask your friend or family member how well you communicated the procedure and any possible complications. What was their feedback?

Role-play giving information to a parent about managing their child's nocturnal enuresis.

• Did they understand the options and the pros and cons of each? Were you able to explore why they might prefer a particular option?

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 <u>not a complete or exhaustive list</u>, but rather a starting point for your learning.

- Identify common conditions causing chronic kidney disease (CKD) in asymptomatic individuals. Plan for appropriate screening tests to aid early diagnosis, monitor and prevent progression of CKD.
- In collaboration with the patient, develop a management plan for CKD and consider comorbidities.
- Be aware of significant causes of CKD:
 - o diabetes mellites
 - glomerulonephritis
 - hypertension
 - vascular disease
 - o connective tissue disease
 - polycystic kidney disease
 - obstructive nephropathy
 - o multiple myeloma
 - medication and other rare causes such as amyloidosis.
- Appropriately screen and manage patients presenting with acute kidney injury.
- Develop a patient-centred management plan in collaboration with the patient, family and non-GP specialist to support renal transplant recipients in the community.
- Conduct a detailed history, examination and assessment of patients presenting with haematuria and consider differential diagnoses including risk factors for malignancy. Arrange appropriate investigations to arrive at a diagnosis and formulate a patient-centred management plan, considering biopsychosocial aspects.
- Identify and distinguish between the different causes of haematuria:
 - 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:
 - CKD
 - glomerulonephritis
- congenital conditions:
 - polycystic kidney disease
- o obstructive disease:
 - urolithiasis
 - benign prostatic hyperplasia (BPH).
- Conduct a detailed history, examination and assessment of patients presenting with lower urinary tract symptoms (LUTS), including frequency, urgency, urethral discharge, flow disturbances.
- Identify and distinguish between the different causes of LUTS, including:
 - o BPH
 - prostatitis
 - o prostate cancer
 - urethral stricture
 - urethritis
 - o urethral calculi
 - cystitis
 - bladder cancer or neurogenic bladder secondary to medical condition.
- Conduct a detailed history, examination and assessment of patients presenting with dysuria and consider differential diagnoses, including:
 - urinary tract infection (UTI)
 - sexually transmissible infection (STI)
 - o BPH
 - vaginal prolapse
 - trauma
 - o calculus.
- In patients presenting with incontinence, identify and differentiate between causes such as:
 - urge, stress or mixed type incontinence
 - o overactive bladder
 - cauda equina syndrome
 - neurogenic bladder.
- In collaboration with the patient, develop an incontinence management plan that includes pharmacological, non-pharmacological and surgical options.
- In patients presenting with flank, groin or abdomen pain identify causes, including:
 - urolithiasis
 - pyelonephritis
 - cystitis
 - malignancy
 - o referred pain due to testicular torsion, epididymitis/orchitis.
- Screen paediatric patients presenting for newborn check or immunisation for:
 - hypospadias
 - cryptorchidism
 - labial adhesions in female babies
 - o signs of hyper or under virilisations such as clitoromegaly or micro penis.

- Identify urosepsis and treat as per best evidence in significantly unwell individuals in the community and in residential aged care facilities.
- Screen for UTI with a mid-stream, clean catch or catheter sample in patients presenting with fever with no obvious cause.
- Be vigilant and screen asymptomatic individuals in high-risk populations for signs and symptoms of kidney or urological disease, including:
 - o proteinuria and microscopic haematuria (polycystic kidney disease, glomerulopathies, CKD, malignancies)
 - asymptomatic bacteriuria (pregnancy)
 - hyperuricemia in CKD
 - o prostate cancer.
- In babies and young children presenting with culture positive UTIs, screen for underlying conditions, including:
 - vesico-ureteric reflux
 - posterior urethral valve
 - o congenital anomalies such as duplication or absence.
- In patients presenting with urinary retention, identify common aetiological factors and manage accordingly.
- Conduct a urine dipstick test as part of examination and information gathering.
- Perform clinical examination of external genitals and speculum examination of women presenting with LUTS to rule out vaginal atrophy and urethral caruncle, before organising extensive investigation.
- Competently insert an indwelling catheter and replace supra-pubic catheters to:
 - relieve distress in acute urinary retention
 - o collect appropriate specimens, including for children.

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

Comprehensive and effective management of haematuria.

• O'Connor E, McVey A, Demkiw S, Lawrentschuk N, Murphy DG. <u>Assessment and management of haematuria in the general practice setting (https://www1.racgp.org.au/ajgp/2021/july/haematuria-in-the-general-practice-setting)</u>. Aust J Gen Pract, 2021;50(7):467–71.

The importance of rational prescribing skills in managing CKD.

Manski-Nankervis J, McMorrow R, Nelson C, Jesudason S, Sluggett JK. <u>Prescribing and deprescribing in chronic kidney</u>
 <u>disease (https://www1.racgp.org.au/ajgp/2021/april/prescribing-and-deprescribing-in-chronic-kidney-di)</u>. Aust J Gen Pract
 2021:50(4):183–87.

Health promotion and preventive care in kidney and urinary health in the elderly.

• Lau L. <u>Promoting urinary continence in older people: proactive primary care</u>

(https://medicinetoday.com.au/2018/february/feature-article/promoting-urinary-continence-older-people-proactive-primary-care). Medicine Today, 2018;19(2):21–29. (Registration required to access.)

This article facilitates rational prescribing and patient safety in patients with CKD.

• Stefani M, Singer RF, Roberts DM. <u>How to adjust drug doses in chronic kidney disease (http://www.nps.org.au/australian-prescriber/articles/how-to-adjust-drug-doses-in-chronic-kidney-disease)</u>. Aust Prescr 2019;42:163–7.

Online resources

A comprehensive guide on CKD management for GPs, including the criteria for identification for referral to a nephrologist.

• Kidney Health Australia. <u>Chronic kidney disease management handbook (https://kidney.org.au/health-professionals/ckd-management-handbook)</u>.

Prevention and management of CKD in Aboriginal and Torres Strait Islander peoples.

National Aboriginal Community Controlled Health Organisation and The Royal Australian College of General Practitioners.
 <u>Chronic kidney disease prevention and management. In: National guide to a preventive health assessment for Aboriginal and Torres Strait Islander people (http://www.racgp.org.au/clinical-resources/clinical-guidelines/key-racgp-guidelines/view-all-racgp-guidelines/national-guide).</u>

Comprehensive and up-to-date clinical practice guidelines for kidney and urinary tract conditions, including UTIs and haematuria.

• The Royal Children's Hospital, Melbourne. Clinical Practice Guideline (http://www.rch.org.au/clinicalguide).

Learning activities

CPD activities on a range of topics, including kidney and urinary health presentations.

• AusDoc. How to treat series (https://www.ausdoc.com.au/howtotreat).

eLearning module on identifying and managing CKD in Aboriginal and Torres Strait Islander peoples.

- The Royal Australian College of General Practitioners. *gplearning* (https://www.racgp.org.au/education/professional-development/online-learning/gplearning):
 - Closing the gap: Addressing chronic kidney disease in Aboriginal and Torres Strait Islander peoples.

Other

Information and resources for patients.

• Continence Foundation Australia (http://www.continence.org.au).

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

- Cardiovascular health (https://www.racgp.org.au/curriculum-and-syllabus/units/cardiovascular-health)
- Child and youth health (https://www.racgp.org.au/curriculum-and-syllabus/units/child-and-youth-health)
- Emergency medicine (https://www.racgp.org.au/curriculum-and-syllabus/units/emergency-medicine)
- Endocrine and metabolic health (https://www.racgp.org.au/curriculum-and-syllabus/units/metabolic-and-endocrine-health)
- Men's health (https://www.racgp.org.au/curriculum-and-syllabus/units/mens-health)
- Musculoskeletal presentations (https://www.racgp.org.au/curriculum-and-syllabus/units/musculoskeletal-presentations)
- Sexual health and gender diversity (https://www.racgp.org.au/curriculum-and-syllabus/units/sexual-health-and-genderdiversity)
- Women's health (https://www.racgp.org.au/curriculum-and-syllabus/units/womens-health)

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