






# Chronic kidney disease

Chronic kidney disease (CKD) affects approximately 1 in 10 Australians aged over 18 years. While it can progress to end stage renal failure and death, it is also a risk factor for other conditions like cardiovascular disease. There are significant benefits in early diagnosis and aggressive management of CKD. While registrars will have been exposed to more acute presentations of renal disease in the hospital setting, the assessment and management of the patient with CKD is likely to be a new area of practice.

<p><b>TEACHING AND LEARNING AREAS</b></p> 	<ul style="list-style-type: none"> <li>• Definition of CKD</li> <li>• Epidemiology, risk factors and natural history of CKD</li> <li>• Approach to initial detection of CKD</li> <li>• Key management approaches, including management of CKD with comorbid conditions</li> <li>• <a href="#">Prescribing and deprescribing in CKD</a></li> <li>• CKD in Aboriginal and Torres Strait Islander peoples</li> <li>• <a href="#">Assessing risk of progression</a>, indications for referral and local pathways</li> </ul>				
<p><b>PRE-SESSION ACTIVITIES</b></p> 	<ul style="list-style-type: none"> <li>• Read <a href="#">2021 AJGP. Advances in chronic kidney disease pathophysiology and management</a></li> </ul>				
<p><b>TEACHING TIPS AND TRAPS</b></p> 	<ul style="list-style-type: none"> <li>• CKD should be detected by performing a Kidney Health Check every 1-2 years on individuals who have risk factors for CKD</li> <li>• CKD is not a specific diagnosis and an underlying cause should be sought</li> <li>• Aboriginal and Torres Strait Islander peoples are twice as likely to have CKD, and more likely to have stages 4-5 CKD, than other Australians</li> <li>• CKD is a stronger risk factor for CVD and all-cause mortality than diabetes</li> <li>• CV risk should assessment be performed on adults with CKD from age 45 (and from age 35 for Aboriginal and Torres Strait Islander people)</li> <li>• The threshold for using a statin for primary prevention of CVD is low</li> <li>• SGLT2 inhibitors have an emerging role in management of CKD</li> <li>• The combination of ACEi (or ARB), diuretic and NSAID can result in acute kidney injury (the “triple whammy”), especially in the patient with CKD</li> </ul>				
<p><b>RESOURCES</b></p> 	<table border="1"> <tbody> <tr> <td data-bbox="323 1751 432 1883"><b>Read</b></td> <td data-bbox="432 1751 1493 1883"> <ul style="list-style-type: none"> <li>• <a href="#">Chronic Kidney Disease (CKD) Management in Primary Care guidance (2020)</a></li> <li>• <a href="#">National Guide to a preventive health assessment for Aboriginal and Torres Strait Islander people – chronic kidney disease</a></li> </ul> </td> </tr> <tr> <td data-bbox="323 1883 432 1944"><b>Listen</b></td> <td data-bbox="432 1883 1493 1944"> <ul style="list-style-type: none"> <li>• <a href="#">MJA podcast 2018. CKD and CVD</a></li> </ul> </td> </tr> </tbody> </table>	<b>Read</b>	<ul style="list-style-type: none"> <li>• <a href="#">Chronic Kidney Disease (CKD) Management in Primary Care guidance (2020)</a></li> <li>• <a href="#">National Guide to a preventive health assessment for Aboriginal and Torres Strait Islander people – chronic kidney disease</a></li> </ul>	<b>Listen</b>	<ul style="list-style-type: none"> <li>• <a href="#">MJA podcast 2018. CKD and CVD</a></li> </ul>
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<p><b>FOLLOW UP &amp; EXTENSION ACTIVITIES</b></p> 	<ul style="list-style-type: none"> <li>• Registrar to undertake clinical reasoning challenge and discuss with supervisor</li> </ul>				

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## Clinical Reasoning Challenge

Denise, a 64-year-old retired office manager, presents to you as a new patient to the practice. Her only significant past medical history is hypertension, for which she takes irbesartan 150mg daily. Denise does not smoke and has minimal alcohol intake. She does not identify as Aboriginal or Torres Strait Islander.

You are keen to perform a kidney health check.

QUESTION 1. What are the most important risk factors for CKD? List as many as appropriate.

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You request pathology tests and the results are as follows.

- eGFR 58 mL/min/1.73m<sup>2</sup>
- Chol 4.6 (3.9-5.2) mmol/L
- Trig 1.8 (0.5-1.7) mmol/L
- HDL 1.1 (1.0-2.0) mmol/L
- LDL 2.8 (1.5-3.4) mmol/L

There is no microalbuminuria.

QUESTION 2. Denise has stage 3a CKD. What broad goals of management would you discuss with her? List up to FIVE.

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You calculate Denise's absolute cardiovascular risk at 5% using the [Australian absolute CVD risk calculator](#).

QUESTION 3. Based on Denise's medical history and CV risk, should she be offered a statin?

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## ANSWERS

### QUESTION 1

What are the most important risk factors for CKD? List as many as appropriate.

- Diabetes
- Hypertension
- Established CVD
- Family history of CKD
- Obesity (BMI >30kg/m<sup>2</sup>)
- Smoker
- Age >60 years
- Aboriginal or Torres Strait Islander
- History of AKI

### QUESTION 2

Denise has stage 3a CKD. What broad goals of management would you discuss with her? List up to FIVE.

- Determine underlying cause of CKD
- Estimate risk and reduce progression of CKD
- Assess and manage CVD risk
- Avoid nephrotoxic medications or volume depletion
- Early detection and management of complications

### QUESTION 3

Based on Denise's medical history and CV risk, should she be offered a statin?

- Yes. The [Chronic Kidney Disease \(CKD\) Management in Primary Care guidance \(2020\)](#) state that a statin should be offered to all patients aged ≥50 years with any stage of CKD, irrespective of lipid levels.