

The CKD4/5 Patient. What's going on? Practical Advice

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Case Study

- 52-year-old Chinese New Zealander, living in East Auckland
- Owns a successful family-run business
- Two university-aged children
- Busy schedule, little time for health management



Presents for prescription renewal



- **Hypertension** (10 years)
- **Type 2 Diabetes** (15 years, suboptimal control, HbA1c ~80 mmol/mol)
- -retinopathy and required x2 laser therapy
- **BMI 32,**
- Ex-smoker
- Mild ankle swelling, BP: 160/95mmHg
- **Bloods:** eGFR 28 mL/min/1.73m² Hb 128g/L
- Urine ACR: 250 mg/mmol → CKD Stage G4A2

GFR and ACR categories and risk of adverse outcomes			ACR categories (mg/mmol), description and range		
			<3 Normal to mildly increased	3–30 Moderately increased	>30 Severely increased
			A1	A2	A3
GFR categories (ml/min/1.73 m ²), description and range	>90 Normal and high	G1	No CKD in the absence of markers of kidney damage		
	60–89 Mild reduction related to normal range for a young adult	G2			
	45–59 Mild–moderate reduction	G3a ¹			
	30–44 Moderate–severe reduction	G3b			
	15–29 Severe reduction	G4		X	
	<15 Kidney failure	G5			

Increasing risk

Increasing risk

¹ Consider using eGFR_{cystatinC} for people with CKD G3aA1 (see KDIGO recommendations 1.1.14 and 1.1.15)

Abbreviations: ACR, albumin:creatinine ratio; CKD, chronic kidney disease; GFR, glomerular filtration rate

Adapted with permission from Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group (2013) KDIGO 2012 clinical practice guideline for the evaluation and management of chronic kidney disease. Kidney International (Suppl. 3): 1–150

Calculating Risk of Progression

- [CVD Risk Assessment](#)

www.nzssd.org.nz

CVD and ESRD Risk Assessment
for people with type 2 diabetes in New Zealand

INPUT

Age: 52
Duration of Diabetes: 15 years
Sex: Male Female
Smoker: Previously smoked
Systolic BP: 160 mmHg
HbA1c: 82 mmol/mol %
Ethnicity: Asian
Previous CVD: Yes No

Total Cholesterol: 3.2 mmol/L
HDL: 2.1 mmol/L
Urine ACR: 200 mg/mmol
Serum creatinine: 200 µmol/L
BP lowering medication: Yes No Unknown

Calculate Reset

OUTPUT

5 year CVD Risk: 28.9%
5 year MI Risk: 9.6%
5 year ESKD Risk: 55.3%

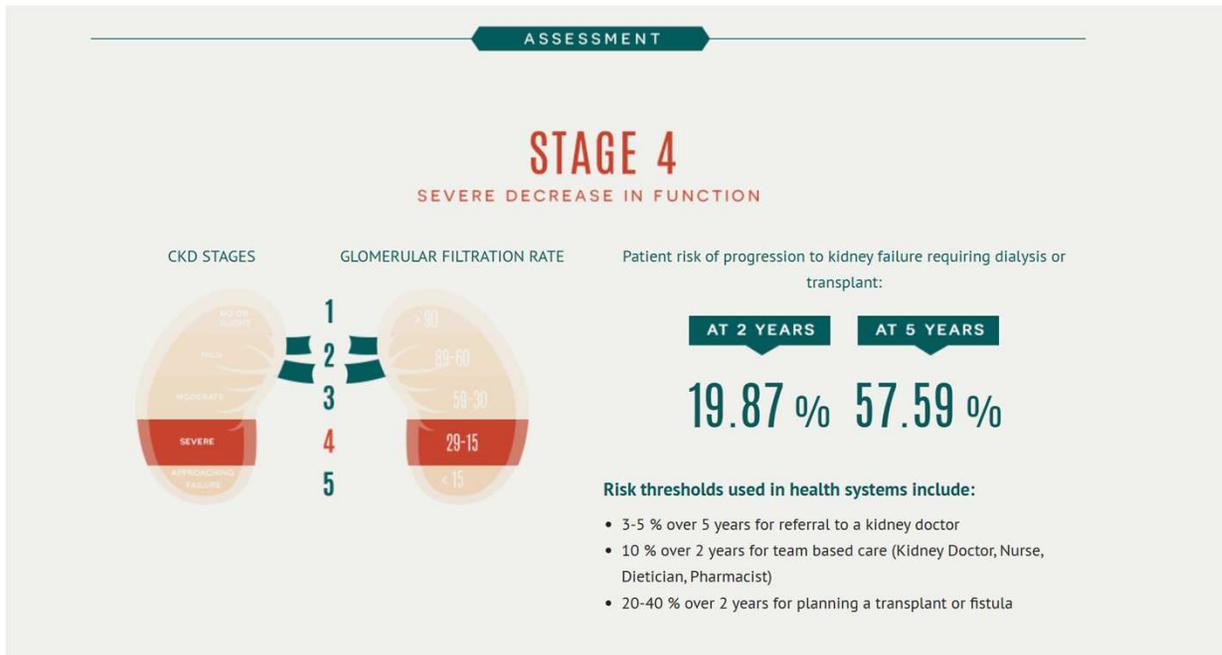
0 2.5% 5% 10% 15% 20% 30% 100%

Print

5 year ESKD risk 55.3%

The Kidney Failure Risk Equation

- <https://kidneyfailurerisk.com>



What would you do for him?

- ACE inhibitor and SGLT-2,
- Adjust diabetes meds
- Stop metformin?
- Stop any Egfr dependent regular medications
 - -> need to look up, nephrologists don't carry in their heads *
- Avoid NSAIDs
- Refer to Renal



Drugs to be mindful of when eGFR <30



DOACs

Dabigatran, Rivoroxiban 15mg od, stop at egfr 15.

Metformin – stop, risk of lactic acidosis, esp if intercurrent illness

Sulphonylureas – dose reduce,

Insulin – often need dose reduction when eGFR goes lower

Empagloflozin dose reduce 25mg-> 10mg

ACEi/ARBs – try hard to continue max dose if potassium allows

Bendrofluazide ineffective -> change to chlorthalidone (effective anti-HTN in CKD4 in CLICK Trial) or use frusemide for diuretic

Clexane – treatment dose 1mg/kg once daily (from bd)

Morphine – avoid

Colchicine – dose reduce

Gabapentin- dose reduce

Digoxin – dose reduce, check levels

In practice, always check NZF when prescribing for eGFR <30.

DCKD Treatment Targets

Maximum RAS Blockade possible

SGLT2 Inhibitor

Any other meds to achieve **BP 130/80**

Hba1c <55

Statin to keep Tot. **Chol <5**

Finerenone

