CLINICAL AUDIT

Testing **renal function** in elderly people

Valid to April 2020

bpac nz
better medicine

Background

Laboratory testing is essential to monitor renal health in elderly people, particularly those people at risk of, or with, renal disease. Most people aged over 75 years will require a renal function test at least once per year due to declining health or the initiation and use of medicines that require monitoring. Most practitioners will have "a healthy few" aged over 75 years who do not require routine renal testing; however, these patients are likely to be the exception.

Recommendations

This audit addresses the appropriate use of renal function tests in people aged over 75 years. It will allow practitioners to identify and assess those patients who have not received renal monitoring, e.g. estimated glomerular filtration rate (eGFR) from serum creatinine, an albumin:creatinine ratio (ACR) or protein:creatinine ratio (PCR), during the previous year, and determine whether they should have. Patients aged over 75 years, with any of the following risk factors, should have undergone a renal function test within the last year:

- Chronic kidney disease (CKD) or other renal disease or abnormality
- A family history of CKD
- Diabetes mellitus
- Hypertension
- Treatment with a potentially nephrotoxic medicine or a medicine that is secreted primarily by the kidneys (see "Monitoring medication")
- Māori or Pacific ethnicity
- Body mass index (BMI) > 30 kg/m^2
- Current smoker or have smoked in the previous 12 months
- Established cardiovascular disease resulting in reduced renal perfusion and endothelial dysfunction
- Prostatic syndrome/urologic disease that could cause obstructive nephropathy

Patients aged over 75 years without a renal function test in the previous 12 months should be assessed to determine whether there were indications for testing.

Diabetic renal disease

Urinary ACR and a serum creatinine, with eGFR, are the recommended tests for assessing diabetic renal disease. General practitioners should aim to perform the tests on all patients with diabetes at diagnosis and then at diabetes check-ups at least annually.

Chronic kidney disease

Renal function assessment is essential in people who are at risk, or have symptoms, of CKD, and in differentiating patients with stable CKD from those with progressive CKD, i.e. where the patient's rate of loss of glomerular filtration rate (GFR) > 5 mL/min/year. The New Zealand consensus statement for the management of CKD in primary care recommends serum creatinine and ACR testing to detect CKD, and to monitor progression of CKD in people with established disease.

Monitoring medicines

Older people taking medicines that are primarily excreted by the kidneys require renal function monitoring in order to determine if dose adjustments are required or whether the medicine needs to be discontinued. Common medicines that require regular renal function monitoring include:

- ACE-inhibitors, e.g.cilazapril, quinapril
- Anticoagulants, particularly dabigatran
- Diuretics, e.g.as furosemide
- NSAIDs, e.g. naproxen
- Lithium
- Aminoglycosides, e.g. digoxin

Medicine clearance is usually measured with an estimated creatinine clearance via the Cockcroft-Gault equation, from a serum creatinine measurement, age and weight.

Other indications

The New Zealand consensus statement for the management of CKD in primary care recommends that serum creatinine and ACR be routinely measured at the same time as cardiovascular risk assessments and HbA_{1c} measurements are performed. Cardiovascular risk assessments should be conducted every five years from age 45 years in asymptomatic males without known risk factors and from age 55 years in asymptomatic females without known risk factors. However, testing of renal function is likely to be required more regularly after age 75 years, particularly when other risk factors are present, e.g. BMI > 30 kg/m^2 or Māori ethnicity.

For further information see "Testing for CVD, diabetes and renal disease in elderly people", Best Tests (Mar, 2012).

Audit plan

Indications

1. Most elderly people (>75 years) should have their renal function tested at least yearly

2. If an elderly person (>75 years) has not received a renal function test in the previous 12 months confirm that the patient did not have an indication for a renal function test.

Criteria for a positive result

1. A patient aged over 75 years has had a renal function test in the previous 12 months (Tested = Yes)

2. A patient aged over 75 years has not had a renal function test within the previous 12 months (Tested = No) and there were no indications for the patient to have had a renal function test (CKD, Diabetes, Medicines, etc = No)

Audit standards

a) >80% of patients aged over 75 years have had a renal function test in the previous 12 months

b) >80% of patients aged over 75 years who have not had a renal function test in the previous 12 months, did not have had an indication for testing

Data

Eligible people

All patients aged over 75 years are eligible for this audit.

Identifying patients

You will need to have a system in place that allows you to identify eligible patients. Many practices will be able to identify patients by running a 'query' through their practice management software.

Once a patient has been identified assess whether they have had a renal function test in the previous 12 months, then for those people who have not had a test, determine from the patient's disease classifications, medicine list and clinical notes whether testing was indicated.

Sample size

Number of eligible patients will vary according to your practice demographic. If you identify a large number of patients, take a random sample of 30 patients whose notes you will audit.

Data analysis

Use the data sheet to record your data and calculate percentages.

Identifying opportunities for CQI

Taking action

The first step to improving medical practice is to identify the criteria where gaps exist between expected and actual performance and then to decide how to change practice.

Decide on a set of priorities for change and develop an action plan to implement any changes.

The plan should also include steps to identify any patients identified in the course of the audit who require renal function testing for any reason but have not had a test within the previous 12 months.

It may be useful to consider the following points when developing a plan for action.

Problem solving process

- What is the problem or underlying problem(s)?
- Change it to an aim
- What are the solutions or options?
- What are the barriers?
- How can you overcome them?

Overcoming barriers to promote change

- What is achievable – find out what the external pressures on the practice are and discuss ways of dealing with them in the practice setting
- Identify the barriers
- Develop a priority list
- Choose one or two achievable goals

Effective interventions

- No single strategy or intervention is more effective than another, and sometimes a variety of methods are needed to bring about lasting change
- Interventions should be directed at existing barriers or problems, knowledge, skills and attitudes, as well as performance and behaviour

Review

Monitoring change and progress

It is important to review the action plan develop previously against the timeline at regular intervals. It may be helpful to review the following questions:

- Is the process working?
- Are the goals for improvement being achieved?
- Are the goals still appropriate?
- Do you need to develop new tools to achieve the goals you have set?

Following the completion of the first cycle, it is recommended that practitioners complete the first part of the CQI activity summary sheet (Appendix 1).

Undertaking a second cycle

In addition to regular reviews of progress, a second audit cycle should be completed in order to quantify progress on closing the gaps in performance.

It is recommended that the second cycle be completed within 12 months of completing the first cycle. The second cycle should begin at the data collection stage. Following the completion of the second cycle it is recommended that practitioners complete the remainder of the CQI activity summary sheet.

The Royal New Zealand College of General Practitioners

Claiming MOPS credits

This audit has been endorsed by the RNZCGP as a CQI Activity for allocation of MOPS credits. General practitioners taking part in this audit can claim credits in accordance with the current MOPS programme. This status will remain in place until **April 2020.**

To claim points for MOPS or CPD online please enter your credits on your web records. Go to the RNZCGP website **www.rnzcgp.org.nz** and claim your points on 'MOPS online' for vocationally registered doctors, or 'CPD online' for general registrants. Alternatively MOPS participants can indicate completion of the audit on the annual credit summary sheet which is available from the College on request.

As the RNZCGP frequently audit claims you should retain the following documentation, in order to provide adequate evidence of participation in this audit:

1. A summary of the data collected
2. A Continuous Quality Improvement (CQI) Activity summary sheet (included as Appendix 1).

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Data sheet – cycle 1 Testing renal function in elderly people

Patient	Tested?	If No, are there indications for testing?	If Yes (indications), recalled for test?
	Yes/No	Yes/No	Yes/No
1			
2			
3			
4			
5			
6			
7			
8			
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% of patients tested =

% of patients not tested with no indications for testing =

Please retain this sheet for your records to provide evidence of participation in this audit.

Data sheet – cycle 2 Testing renal function in elderly people

Patient	Tested?	If No, are there indications for testing?	If Yes (indications), recalled for test?
	Yes/No	Yes/No	Yes/No
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3			
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% of patients tested =

% of patients not tested with no indications for testing =

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APPENDIX 1

Audit of Medical Practice (CQI activity) Summary Sheet

Topic:	**Testing renal function in elderly people**
The activity was designed by (name of organisation if relevant):	**Bpac^{nz}**
Doctors Name:	

FIRST CYCLE

DATA:	Date of data collection:

CHECK:	Describe any areas targeted for improvement as a result of analysing the data collected.

ACTION:	Describe how these improvements will be implemented.

MONITOR:	Describe how well the process is working. When will you undertake a second cycle?

Please retain this sheet for your records to provide evidence of participation in this audit.

SECOND CYCLE

DATA:	Date of data collection:

CHECK:	Describe any areas targeted for improvement as a result of analysing the data collected.

ACTION:	Describe how these improvements will be implemented.

MONITOR:	Describe how well the process is working.

COMMENTS:	

Please retain this sheet for your records to provide evidence of participation in this audit.