

CLINICAL AUDIT

Improving safety for patients taking **an ACE inhibitor/ARB + diuretic**



Valid to May 2023

Background


Angiotensin converting enzyme (ACE) inhibitors, angiotensin-II receptor blockers (ARBs), diuretics and non-steroidal anti-inflammatory drugs (NSAIDs) all have the potential to decrease renal function. When any of these medicines are prescribed together the patient's risk of acute kidney injury (AKI) is increased. ACE inhibitors/ARBs and diuretics are often taken concurrently, either as individual medicines or combination formulations. In patients taking ACE inhibitors/ARBs and diuretics particular care is required to avoid NSAIDs (the "triple whammy") due to the increased risk of AKI. The addition of a NSAID to the patient's treatment may also reduce the blood pressure-lowering effect of the ACE inhibitor and reduce the volume depleting effect of the diuretic.

When treatment with an ACE inhibitor/ARB and a diuretic initiated, it is helpful to highlight the need to avoid NSAIDs in the patient's notes to alert other clinicians who may consider prescribing a NSAID in the future. Patients taking an ACE inhibitor/ARB and a diuretic should be warned of the risks of using NSAIDs and should be advised to avoid using over-the counter (OTC) NSAIDs, including combination products that contain NSAIDs, e.g. paracetamol and ibuprofen.

If a NSAID must be prescribed to a patient already taking an ACE inhibitor/ARB and diuretic, the lowest effective dose should be used for the shortest possible duration. Patients should also be advised to:

- Maintain adequate fluid intake at all times
- Avoid additional NSAIDs
- Manage periods of acute illness carefully, e.g. by maintaining good fluid intake, stopping the NSAID and seeking medical attention if their condition deteriorates

Before the triple whammy is initiated, a baseline measurement of serum creatinine is essential as it may be required later to diagnose AKI. A follow-up assessment, with repeat measurements of body weight, blood pressure, serum creatinine and electrolytes, within the first month of treatment may also be beneficial, due to the increased risk of AKI during this period.

 Further information is available from: "Avoiding the "triple whammy" in primary care: ACE inhibitor/ARB + diuretic + NSAID", www.bpac.org.nz/2018/triple-whammy.aspx

Plan

Summary

This audit identifies patients who are taking ACE inhibitors/ARBs and diuretics. Patient management is then assessed to determine if appropriate steps have been taken to maximise safety, including patient advice, avoidance of NSAIDs and testing of renal function in patients who do require NSAIDs

Audit standards

Ideally, all patients who are taking an ACE inhibitor/ARB with a diuretic will have documented evidence in their patient record of a discussion about the need to avoid NSAIDs. Patients who are prescribed a NSAID at any time while also prescribed an ACE inhibitor/ARB and a diuretic, should also have a baseline renal function test recorded prior to the NSAID prescription, e.g. in the last three months, and have documented evidence that strategies to avoid the adverse effects of treatment have been discussed.

Data

Eligible patients

All patients who are currently taking an ACE inhibitor/ARB and a diuretic are eligible for this audit.

Identifying patients

A system is required to identify patients who are taking an ACE inhibitor/ARB and a diuretic. Practices who use the Medtech Practice Management System (PMS) can build a query to identify patients in their practice who are taking specific medicines. Having identified the patients taking an ACE inhibitor/ARB and a diuretic, the patient's notes should then be reviewed to identify if they have been concurrently prescribed a NSAID at any time.

Sample size

A sample size of 30 patients who are currently taking an ACE inhibitor/ARB and a diuretic is sufficient for the purposes of this audit.

Criteria for a positive result

A positive result is if a patient who is currently taking ACE inhibitor/ARB and a diuretic has documented evidence in their patient record of a discussion about the need to avoid NSAID use. Ideally, the notes would also be flagged to alert other clinicians in the practice to avoid prescribing NSAIDs.

If the patient has also been concurrently prescribed a NSAID at any time they should have:

- The results of a renal function test recorded in the three months prior to the NSAID prescription
- Documented evidence that strategies to avoid adverse effects have been discussed, e.g. maintaining fluid intake, avoiding other NSAIDs and managing acute illness

Data analysis

For each patient who is currently taking an ACE inhibitor/ARB and a diuretic, record whether or not there is documented evidence in their record that the need to avoid NSAIDs has been discussed. If the patient has also been prescribed a NSAID at any time, note if a renal function test has been performed in the three months prior to the NSAID prescription and if there is documented evidence of a discussion about strategies to avoid adverse effects.

Patients who do not meet the criteria for a positive result, i.e. they have "N" recorded in any column the data sheet, should be flagged for review.

Identifying opportunities for Audit of Medical Practice

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.

Once a set of priorities for change have been decided on, an action plan should be developed to implement any changes.

Taking action

It may be useful to consider the following points when developing a plan for action (RNZCGP 2002).

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

- Identifying barriers can provide a basis for 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 developed previously 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 the doctor completes the first part of the Audit of Medical Practice summary sheet (Appendix 1).

Undertaking a second cycle

In addition to regular reviews of progress with the practice team, 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 practices complete the remainder of the Audit of Medical Practice summary sheet.



The Royal New Zealand
College of General Practitioners

Claiming MOPS credits

This audit has been endorsed by the RNZCGP as an Audit of Medical Practice activity (previously known as Continuous Quality Improvement – CQI) for allocation of MOPS credits; 10 credits for a first cycle and 10 credits for a second cycle. General practitioners taking part in this audit can claim credits in accordance with the current MOPS programme.

To claim points go to the RNZCGP website: www.rnzcgp.org.nz

Record your completion of the audit on the MOPS Online credit summary, under the Audit of Medical Practice section. From the drop down menu, select the audit from the list or select "Approved practice/ PHO audit" and record the audit name in "Notes", the audit date and 10 credits.

General practitioners are encouraged to discuss the outcomes of the audit with their peer group or practice.

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. An Audit of Medical Practice (CQI) Activity summary sheet (included as Appendix 1).

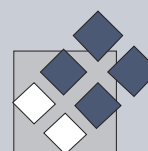


The Royal New Zealand
College of General Practitioners
Te Whare Tohu Rata o Aotearoa

Endorsed CPD Activity

bpac^{nz}

10 George Street
PO Box 6032, Dunedin
phone 03 477 5418
free fax 0800 bpac nz



bpac^{nz}
better medicine

www.bpac.org.nz/audits

Data sheet – cycle 1 Improving safety for patients taking an ACE inhibitor/ARB + diuretic

Patient concurrently prescribed an ACE inhibitor/ARB + diuretic	Evidence of advice to patient to avoid NSAIDs Yes/No	If the patient was prescribed a NSAID at any time while also prescribed an ACE inhibitor/ARB + diuretic		A positive result, i.e. ✓, or flagged for review, i.e. ✗
		Renal function tested in three months prior to NSAID prescription Yes/No	Evidence of advice about avoiding adverse effects Yes/No	
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

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

Data sheet – cycle 2 Improving safety for patients taking an ACE inhibitor/ARB + diuretic

Patient concurrently prescribed an ACE inhibitor/ARB + diuretic	Evidence of advice to patient to avoid NSAIDs Yes/No	If the patient was prescribed a NSAID at any time while also prescribed an ACE inhibitor/ARB + diuretic		A positive result, i.e. ✓, or flagged for review, i.e. ✗
		Renal function tested in three months prior to NSAID prescription Yes/No	Evidence of advice about avoiding adverse effects Yes/No	
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

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



SUMMARY SHEET

Audit of medical practice (CQI activity)

Topic:

Improving safety for patients taking an ACE inhibitor/ARB + diuretic

Date:

Activity designed by (name of organisation, if relevant):

Bpac^{nz}

Doctor's name:

Results discussed with peer group or colleagues?

Yes

No

Date:

FIRST CYCLE

DATA: Date of data collection:

CHECK: Describe any areas targeted for improvement as a result of analysing the data collected. (If the findings have any implications for health equity, please include this.)

ACTION: Describe how these improvements will be implemented.

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

SECOND CYCLE

DATA: Date of data collection:

CHECK: Describe any areas targeted for improvement as a result of analysing the data collected. (If the findings have any implications for health equity, please include this.)

ACTION: Describe how these improvements will be implemented.

MONITOR: Describe how well the process is working.

COMMENTS: