CLINICAL AUDIT

The appropriate requesting of laboratory urinalysis in **adults with a suspected UTI**

Valid to November 2026

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Audit focus

This audit helps healthcare professionals identify whether laboratory requests for microscopy, culture and sensitivity analysis of urine samples (urinalysis) were clinically appropriate in adults with a suspected urinary tract infection (UTI). Laboratory urinalysis is not required in most adults with an uncomplicated lower UTI as it is unlikely to affect treatment decisions.

Background

UTIs are one of the most common reasons for antibiotic prescribing in New Zealand. The lower urinary tract is most often affected due to bacteria, usually from the gastrointestinal tract, entering the urethra and proliferating in the bladder. In many cases, the isolate causing an uncomplicated UTI is highly predictable: 70 – 95% result from *Escherichia coli* infection, with other potential causative species including *Staphylococcus saprophyticus*, *Proteus spp*., *Klebsiella spp*. and *Enterococcus spp*. Complicated UTIs are also more commonly caused by *E. coli*, however, the range of possible causative species is much broader than for uncomplicated infections. Although rare in the community, complicated UTIs can occur as the result of fungal infection, which is generally associated with *Candida* species, e.g. in people with an indwelling catheter.

Uncomplicated lower UTIs can be diagnosed with a high level of confidence in females with a focused history of lower urinary tract symptoms in the absence of complicating factors or red flags. Subtle or atypical presentations are possible, however, the combination of two or more "classic" features of a UTI – without vaginal irritation or discharge in females – generally indicates that a UTI is likely:[2]

- New onset dysuria
- Increased urinary frequency
- Increased urinary urgency
- Suprapubic abdominal pain

If there is uncertainty based on symptoms alone for any reason, a urine dipstick analysis can be used to assess for the nitrite and leukocyte esterase status. Positivity for either category is usually sufficient to confirm a lower UTI. In most cases, obtaining a midstream urine sample for laboratory urinalysis (i.e. microscopy, culture and sensitivity testing) is not recommended for most adults with an uncomplicated UTI as the causative bacteria and antibiotic sensitivity profile are predictable. Therefore, the initial antibiotic choice in such cases should be empiric to avoid unnecessary use of laboratory time and resources.

For further information on diagnosing and treating lower UTIs in adults, see: "**Urinary tract infections (UTIs) – an overview of lower UTI management in adults**", avalible from **bpac.org.nz/bpj-e/three.aspx**

Clinically appropriate reasons for requesting laboratory urinalysis in patients with a suspected UTI

Requesting laboratory urinalysis is only indicated if there is suspicion of a UTI based on clinical symptoms in certain circumstances. This includes:

- When dipstick testing is negative, but a UTI is still strongly suspected after investigating differential diagnoses
- People with recurrent UTIs, atypical symptoms or persistent symptoms despite antibiotic treatment
- People with suspected pyelonephritis, e.g. presence of significant flank pain or tenderness
- Females with complicating factors, e.g. pregnancy, catheterisation, urinary tract abnormalities, immunosuppression, renal impairment, diabetes
- Other high-risk groups, including males, children aged 14 years and under and people living in residential care facilities

Audit plan

Summary

This audit focuses on the appropriate requesting of laboratory urinalysis for adults with a suspected UTI.

Recommended audit standards

Ideally, all adults with a suspected UTI who have had laboratory urinalysis requested should have an appropriate clinical justification documented. This may not be achieved on the first cycle of the audit but should be the aim for the second cycle.

Audit Data

Eligible people

Any patient aged ≥15 years who has had laboratory urinalysis requested following suspicion of a UTI based on clinical symptoms in the past 12 months.

N.B. Do not include asymptomatic urinalysis screening in pregnant females as this is routinely recommended.

Identifying patients

You will need to have a system in place that allows you to identify eligible patients who have had laboratory urinalysis (i.e. microscopy, culture and sensitivity testing) requested following suspicion of a UTI and audit their clinical notes. Many practices will be able to identify patients by running a "query" through their PMS system.

Sample size

It is likely that this audit will return a large number of eligible patients. If this is the case, select a random sample of 30 patients whose notes you will audit

Criteria for a positive result

A positive audit result is for an eligible patient to have a valid clinical reason documented for the laboratory urinalysis request. This includes:

- When dipstick testing is negative, but a UTI is still strongly suspected
- People with recurrent UTIs, atypical symptoms or persistent symptoms despite treatment
- People with suspected pyelonephritis
- Females with complicating factors
- Other high-risk groups, including males and people living in residential care facilities

Data analysis

Use the sheet provided to record your data. A positive result is any patient with a suspected UTI where laboratory urinalysis was requested and a valid clinical reason was documented in their notes. The percentage achievement can be calculated by dividing the number of patients with a positive result by the total number of patients audited.

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 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 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 credits for Continuing Professional Development (CPD)

This audit has been endorsed by The Royal New Zealand College of General Practitioners (RNZCGP) and has been approved for 10 CME credits for a first cycle and 10 CME credits for a second cycle for Continuing Professional Development (CPD) purposes. The second cycle is optional and only two cycles are permissible.

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

Record your completion of the audit on the CPD Online Dashboard, under the Audit of Medical Practice section. From the drop down menu select "Approved practice/PHO audit" and record the audit name.

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).

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Data sheet – cycle 1

The appropriate requesting of laboratory urinalysis in adults with a suspected UTI

Patient (suspected UTI, urinalysis requested)	Was there a valid clinical reason for urinalysis? (refer to criteria in text)	
	Yes	No
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Audit outcome: Patients with "YES" divided by the total number of patients audited:

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

Data sheet – cycle 2

The appropriate requesting of laboratory urinalysis in adults with a suspected UTI

Patient (suspected UTI, urinalysis requested)	Was there a valid clinical reason for urinalysis? (refer to criteria in text)	
	Yes	No
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Audit outcome: Patients with "YES" divided by the total number of patients audited:

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

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Te Whare Tohu Rata o Aotearoa

APPENDIX 1

SUMMARY SHEET
Audit of medical practice (CQI activity)

Topic:
The appropriate requesting of laboratory urinalysis in adults with a suspected UTI

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?

AUGUST 2016

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:

AUGUST 2016