Background information

Guideline issue date: 2007
3 year review: 2010
National Collaborating Centre: Women’s and Children’s Health

Review recommendation

- The guideline should not be updated at this time.
- The guideline should be reviewed again once the randomised intervention for children with vesicoureteral reflux (RIVUR) trial, the diagnosis of urinary tract infection in young children (DUTY) study and Healthcare Quality Improvement Partnership (HQIP) audit are published.

Factors influencing the decision

Literature search
1. From initial intelligence gathering and a high-level randomised control trial (RCT) search clinical areas were identified to inform the development of clinical questions for focused searches. Through this stage of the process 71 studies were identified relevant to the guideline scope. The identified studies were related to the following clinical areas within the guideline:
   1.1 Urine collection and diagnosis of urinary tract infection (UTI)
1.2 Acute management of UTI (antibiotic treatment and symptomatic treatment)

1.3 Long-term management of UTI (prophylactic antibiotics, imaging tests for structural abnormality, renal scarring and vesicoureteral reflux and surgical management of vesicoureteral reflux)

2. Six clinical questions were developed based on the clinical areas above, qualitative feedback from other NICE departments and the views expressed by the Guideline Development Group, for more focused literature searches. In total, 77 studies were identified through the focused searches but no conclusive evidence was identified that would invalidate current guideline recommendations.

3. No evidence was identified that was specifically relevant to research recommendations in the original guideline.

4. Several ongoing clinical trials (publication dates unknown) were identified focusing on antibiotic prophylaxis, diagnosis of UTI, antibiotic treatment and surgery for vesicoureteral reflux. The results of these trials have not been published at this time but may contribute towards the evidence base relating to management of UTI in children in the next update review.

Guideline Development Group and National Collaborating Centre perspective

5. A questionnaire was distributed to GDG members and the National Collaborating Centre to consult them on the need for an update of the guideline. Six responses were received with respondents highlighting that since publication of the guideline more literature has become available on urine collection, diagnosis, antibiotic prophylaxis, antibiotic treatment and imaging tests. This feedback contributed towards the development of the clinical questions for the focused searches.
6. In addition, respondents highlighted that a Health Technology Assessment project entitled: The diagnosis of urinary tract infection in young children (DUTY) study is underway with a proposed publication date of 2014. The aim of the study is to develop and validate a clinical algorithm for the diagnosis of UTI in children under the age of five. Furthermore, the randomised intervention for children with vesicoureteral reflux (RIVUR) trial was highlighted. The aim of the RIVUR trial is to determine whether all children with vesicoureteral reflux should be treated with antibiotics.

7. Respondents also drew attention to variations in current practice and acknowledged that the guideline has not been universally implemented. GDG members also stated that a multi-centre audit of guideline implementation has been funded by the Healthcare Quality Improvement Partnership (HQIP) with results to follow.

Implementation and post publication feedback

8. No new evidence relating to guideline recommendations was identified through post publication feedback. Key themes emerging from post-publication feedback included enquiries relating to diagnosis and treatment of UTI in children. This feedback contributed towards the development of the clinical questions for the focused searches.

9. Implementation feedback indicated that a few organisations found some of the recommendations set out in the guideline confusing.

Relationship to other NICE guidance

10. NICE guidance related to CG54 can be viewed in Appendix 1.
Summary of Stakeholder Feedback

Review proposal put to consultees:
The guideline should not be updated at this time.
The guideline will be reviewed again according to current processes.

11. In total eleven stakeholders commented on the review proposal recommendation during the 2 week consultation period.

12. Stakeholder responses were divided with half being in agreement with the review proposal recommendation that this guideline should not be updated at this time although they felt it should be revised in the future when the RIVUR and DUTY studies report. One stakeholder provided no comment. The stakeholders that disagreed with the review decision stated that the imaging strategy presented in the guideline may have the potential to miss abnormalities. This was an issue that was raised at consultation of the guideline and the algorithm for imaging was developed through GDG consensus due to a lack of evidence to inform the recommendations. As such, evidence on clinical effectiveness of imaging tests for detecting vesicoureteral reflux and structural abnormalities was evaluated for the in-house review of CG54. The identified studies compared different imaging tests and reported inconsistent results and as such, the current body of evidence does not seem conclusive. Therefore, no conclusive new evidence was identified that would invalidate current guideline recommendations.

13. Data was submitted from three audits (two retrospective and one prospective) conducted in the North-East region comparing local imaging strategies with those in the NICE guideline. The results of the audits suggest that less children with abnormalities considered clinically significant would have been detected following the imaging strategy presented in the NICE guideline. The results of the prospective
audit conducted in Newcastle have been submitted for publication although the expected publication date of this study is unknown.

14. Two forthcoming studies described in the consultation document were reiterated as potentially significant through stakeholder consultation. The diagnosis of urinary tract infection in young children (DUTY) study is underway with a proposed publication date of 2014. The aim of the study is to develop and validate a clinical algorithm for the diagnosis of UTI in children under the age of five. Furthermore, the randomised intervention for children with vesicoureteral reflux (RIVUR) trial was highlighted. The estimated completion date for this study is October 2011.

15. During consultation, several additional areas to consider in an update of the guideline were highlighted including the inclusion of children with uropathy, drug dosage advice and use of rotating antibiotics in UTI prophylaxis.

**Anti-discrimination and equalities considerations**

16. No evidence was identified to indicate that the guideline scope does not comply with anti-discrimination and equalities legislation. The original scope provides advice on diagnosis and management of UTI in children from birth up to the age of 16 with first or recurrent upper or lower UTI who are not already known to have underlying uropathy.

**Conclusion**

17. Through the process no additional areas were identified which were not covered in the original guideline scope. Variations in practice are reported to exist, particularly relating to imaging tests for detecting vesicoureteral reflux and structural abnormalities, however conclusive new evidence is required particularly in the research areas identified by the guideline.
18. Issues relating to imaging following a UTI were highlighted during stakeholder consultation and as such, the publication of relevant studies and audits which may provide significant new evidence will be monitored.

19. The UTI in children guideline should not be updated at this time but will be reviewed again once the RIVUR study (estimated completion date is October 2011), HQIP audit (expected to be late 2011/2012) and DUTY study (estimated publication date early 2014) report.

**Relationship to quality standards**

20. This topic is not currently being considered for inclusion in the scope of a quality standard.

Fergus Macbeth – Centre Director  
Sarah Willett – Associate Director  
Emma McFarlane – Technical Analyst

Centre for Clinical Practice  
May 2011
Appendix 1

The following NICE guidance is related to CG54:

<table>
<thead>
<tr>
<th>Guidance</th>
<th>Review date</th>
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<tbody>
<tr>
<td>CG47: Feverish illness in children, 2007.</td>
<td>An update of this guideline is currently in the process of being scheduled into the work programme (review decision date: January 2011).</td>
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