

Diagnosis and management of urinary tract infection (UTI) in under 16s accordance with NICE CG54: clinical audit and lessons learnt

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Introduction

- **UTIs** are a **common** and **potentially serious** bacterial infection in children
- The mainstay for diagnosis is urine testing, however, urine collection can be challenging in children.
- Our **aim** was to audit the compliance of **UTI diagnosis and management** to the standards set out in **NICE CG54**¹.

Methods

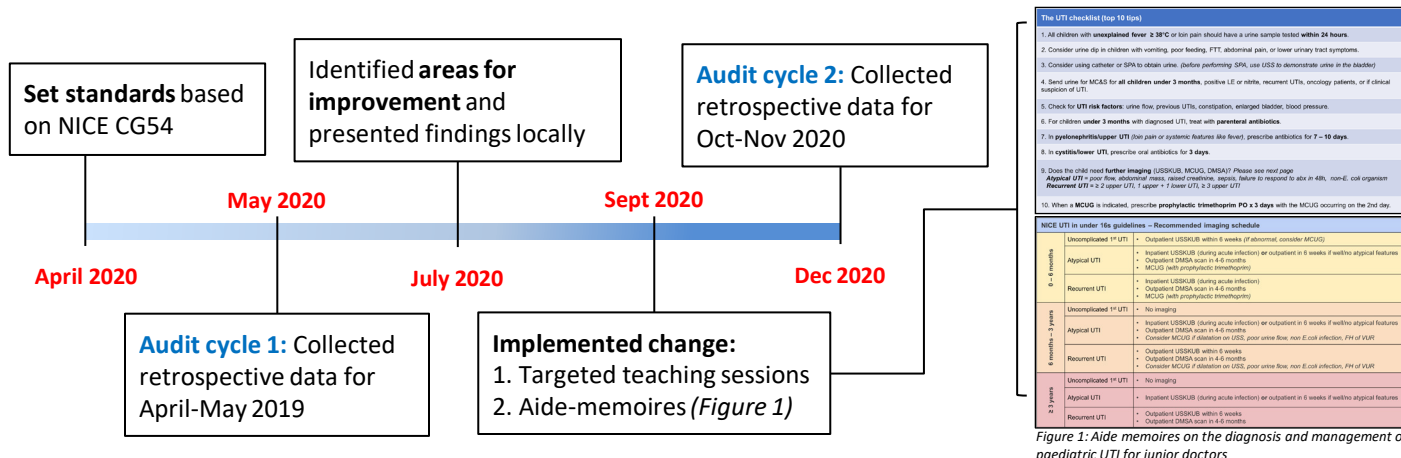


Figure 1: Aide memoires on the diagnosis and management of paediatric UTI for junior doctors

Results

Areas done well in our 1st audit cycle

- **92% (23/25)** of children with unexplained fever, and **95% (21/22)** of children with signs of UTI had a **urine sample within 24 hours of admission**.
- **95% (21/22)** of those above 3-years-old had a **urine dip performed** as first-stage strategy for urine testing.
- **92% (11/12)** of children had **renal ultrasound in accordance with guidelines**.

Areas requiring improvement from our 1st audit cycle

- **71% (5/7)** of those <3-months-old had a **urine culture** performed.
- Of the children diagnosed with UTI, **56% (9/16)** were **prescribed antibiotics appropriately**.
- **None (0/6)** of the children who required a **DMSA** were scanned according to schedule.

Results from the **second audit cycle** in demonstrated an **improvement in criteria compliance** in these aspects (Figure 2).

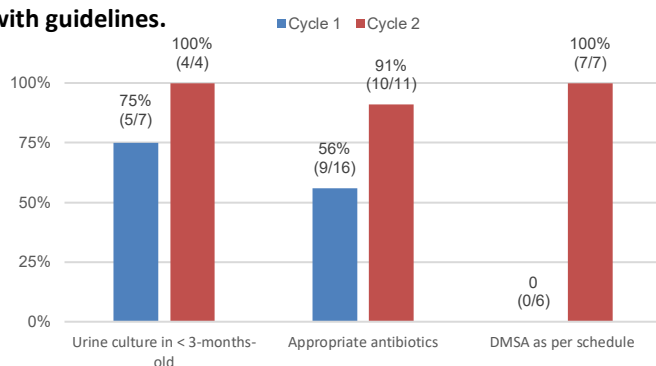


Figure 2: Areas demonstrating improvement in compliance during re-audit

Lessons learnt and conclusions

1. One reason for inappropriate antibiotic regimes in cycle one was a lack of clarity amongst clinicians regarding the **definition of upper and lower UTIs**.
 2. It was often not recognised that **< 3-month-olds** should have a **urine culture** performed.
 3. Poor compliance in performing **imaging** was often due to **lack of knowledge and complexity** of NICE imaging schedule.
- We addressed these areas for improvement through introducing **departmental teaching sessions** and **aide-memoires**. We then demonstrated an **improvement in compliance** to NICE CG54 in our second cycle. Hence we recommend the use of these methods to improve adherence to complex guidelines.

References

¹ NICE Clinical Guidance 54 (CG54): Urinary tract infection in under 16s: diagnosis and management. Published August 2007. Updated October 2018. <https://www.nice.org.uk/guidance/cg54>