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Does this child have a urinary tract infection?

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CONTEXT: Urinary tract infection (UTI) is a frequently occurring pediatric illness that, if left untreated, can lead to permanent renal injury. Accordingly, accurate diagnosis of UTI is important. **OBJECTIVE:** To review the diagnostic accuracy of symptoms and signs for the diagnosis of UTI in infants and children. **DATA SOURCES:** A search of MEDLINE and EMBASE databases was conducted for articles published between 1966 and October 2007, as well as a manual review of bibliographies of all articles meeting inclusion criteria, 1 previously published systematic review, 3 clinical skills textbooks, and 2 experts in the field, yielding 6988 potentially relevant articles. **STUDY SELECTION:** Studies were included if they contained data on signs or symptoms of UTI in children through age 18 years. Of 337 articles examined, 12 met all inclusion criteria. **DATA EXTRACTION:** Two evaluators independently reviewed, rated, and abstracted data from each article. **DATA SYNTHESIS:** In infants with fever, history of a previous UTI (likelihood ratio [LR] range, 2.3-2.9), temperature higher than 40 degrees C (LR range, 3.2-3.3), and suprapubic tenderness (LR, 4.4; 95% confidence interval [CI], 1.6-12.4) were the findings most useful for identifying those with a UTI. Among male infants, lack of circumcision increased the likelihood of a UTI (summary LR, 2.8; 95% CI, 1.9-4.3); and the presence of circumcision was the only finding with an LR of less than 0.5 (summary LR, 0.33; 95% CI, 0.18-0.63). Combinations of findings were more useful than individual findings in identifying infants with a UTI (for temperature >39 degrees C for >48 hours without another potential source for fever on examination, the LR for all findings present was 4.0; 95% CI, 1.2-13.0; and for temperature <39 degrees C with another source for fever, the LR was 0.37; 95% CI, 0.16-0.85). In verbal children, abdominal pain (LR, 6.3; 95% CI, 2.5-16.0), back pain (LR, 3.6; 95% CI, 2.1-6.1), dysuria, frequency, or both (LR range, 2.2-2.8), and new-onset urinary incontinence (LR, 4.6; 95% CI, 2.8-7.6) increased the likelihood of a UTI. **CONCLUSIONS:** Although individual signs and symptoms were helpful in the diagnosis of a UTI, they were not sufficiently accurate to definitively diagnose UTIs. Combination of findings can identify infants with a low likelihood of a UTI.

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