

# Simple urinary tract infection (UTI) patient decision aid

## What this decision aid is for

This decision aid is intended to assist health professionals in consultations with women with signs and symptoms suggestive of a simple UTI when consideration is being given to treatment with an antibiotic. It is not intended for use in complicated UTI, such as UTI in men or children, pregnant women, recurrent UTI or when pyelonephritis is suspected. Leaflets for patients explaining UTI can be found on the CKS website <http://cks.library.nhs.uk/home>.

## Benefits and harms of antibiotics

Symptoms of UTI usually resolve spontaneously within a few days and, if symptoms are mild, an antibiotic may be unnecessary.<sup>1</sup> Clinical guidelines such as those produced by CKS<sup>1</sup> and SIGN<sup>2</sup> recommend considering a three-day course of antibiotics (trimethoprim or nitrofurantoin) in women with multiple typical symptoms and signs of simple UTI (e.g. dysuria, frequency, suprapubic discomfort). Choosing to take an antibiotic involves a trade-off between possible benefits (greater chance of swifter improvement in symptoms) and increased risk of side effects. The Cates plots on the following pages express those risks and benefits in graphical form.

## Technical note

The benefits and harms of antibiotics are taken from a meta-analysis of randomised controlled trials (RCTs). The quality of those trials was limited, but represent the best data available. Data come from four trials comparing the safety and effectiveness of antibiotics versus placebo in 1062 women with uncomplicated cystitis. Clinical success was defined as complete absence of or improvement in symptoms at the first evaluation after the end of treatment (usually 3–10 days after initiation). Harms were defined as any adverse event. Antibiotics used were amoxicillin, cefixime, co-trimoxazole, nitrofurantoin, ofloxacin and pivmecillinam administered as single doses or three day courses (a very small number of patients in one trial received seven days of antibiotics). Results were consistent between the RCTs.

## Source of images

The images have been produced using Dr Chris Cates's software VisualRx 3.0. More information can be obtained from the website [www.nntonline.net](http://www.nntonline.net)

## References

1. Clinical knowledge Summaries: Urinary tract infection (lower) – women. Last updated July 2006. Available from [http://cks.library.nhs.uk/uti\\_lower\\_women](http://cks.library.nhs.uk/uti_lower_women)
2. Scottish Intercollegiate Guidelines Network: Management of suspected bacterial urinary tract infection in adults (SIGN 88). July 2006
3. Falagas M, Kotsantis I, Vouloumanou E and Rafailidis P. Antibiotics versus placebo in the treatment of women with uncomplicated cystitis: a meta-analysis of randomized controlled trials. J Inf 2009;58:91–102

## Benefits from taking antibiotics for simple UTI

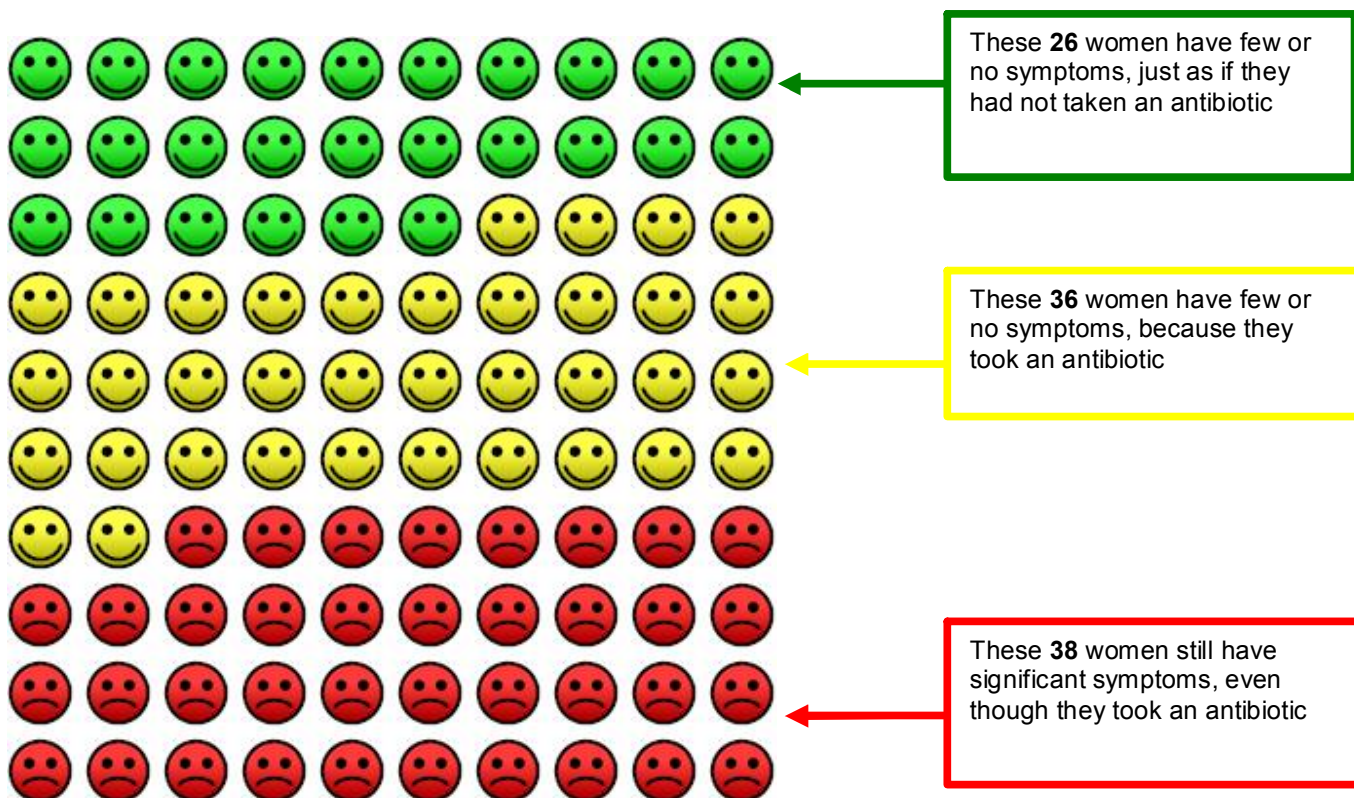
Imagine 100 women aged who present with signs and symptoms suggestive of simple UTI. If none of them takes an antibiotic, after 3–10 days 26 of them will have few or no UTI symptoms, but 74 of them will still have significant symptoms.

However, if all 100 take an antibiotic for up to three days, at 3–10 days:

1. About 36 women will have few or no symptoms, because they took the antibiotic (the **yellow** faces).
2. About 26 women will have few or no symptoms, just as they would have done if they had not taken the antibiotic (the **green** faces).
3. About 38 women will still have symptoms, even though they took the antibiotic (the **red** faces).

But remember

- It is impossible to know for sure what will happen to each individual person.
- All 100 women have to take an antibiotic.



## Harms from taking antibiotics for simple UTI

Imagine 100 women aged who present with signs and symptoms suggestive of simple UTI. If none of them takes an antibiotic, 13 of them will experience adverse events and 87 of them will not.

However, if all 100 take an antibiotic for up to three days:

1. About 6 will experience adverse events because they have taken an antibiotic (the **green** faces with the **red** cross).
2. About 81 will not experience adverse events, whether or not they take an antibiotic (the **green** faces).
3. About 13 will experience adverse events, whether or not they take an antibiotic (the **red** faces).

But remember

- It is impossible to know for sure what will happen to each individual person.

