Flowchart for women (under 65 years) with suspected UTI

Excludes women with recurrent UTI (2 episodes in last 6 months, or 3 episodes in last 12 months) or urinary catheter
This flow chart will be suitable for some women over 65 years in the community setting

### Urinary signs/symptoms

**First exclude vaginal and urethral causes of urinary symptoms:**
- vaginal discharge: 80% do not have UTI
- urethritis - inflammation post sexual intercourse, irritants
- check sexual history to exclude sexually transmitted infections
- genitourinary syndrome of menopause (vulvovaginal atrophy)

**THINK SEPSIS - check for signs/symptoms using local/national tool such as NICE, RCGP or NEWS2**
- check for any new signs/symptoms of pyelonephritis *see box below*

**Does patient have any of 3 key diagnostic signs/symptoms?**
- dysuria (burning pain when passing urine)
- new nocturia (passing urine more often than usual at night)
- urine cloudy to the naked eye

2 or 3 symptoms | 1 symptom | no

**Are there other urinary symptoms that are severe?**
- urgency
- visible haematuria
- frequency
- suprapubic tenderness

**Dipstick not needed**

![Urine Dipstick Test](image)

When reading test, follow manufacturer recommended timing and instructions

- **POSITIVE** nitrite OR leukocyte and RBC **POSITIVE**
  - UTI likely
  - Send urine culture if risk of antibiotic resistance or pregnant
  - If not pregnant and mild symptoms, watch & wait with back-up antibiotic
  - Consider immediate antibiotic (if pregnant always immediate) using NICE/PHE guideline on lower UTI: antimicrobial prescribing

- **NEGATIVE** nitrite **POSITIVE** leukocyte
  - UTI equally likely to other diagnosis
  - Review time of specimen (morning is most reliable)
  - Send urine for culture to confirm diagnosis
  - Consider immediate or back-up antibiotic (if not pregnant) depending on symptom severity using NICE/PHE guideline on lower UTI: antimicrobial prescribing

- **NEGATIVE** for ALL nitrite, leukocyte, RBC
  - UTI LESS likely
  - No urine culture unless pregnant
  - Reassure that UTI less likely
  - Consider other diagnosis

**ALL PATIENTS:** share self-care and safety-netting advice using TARGET UTI leaflet
- If pregnant always send urine culture – follow national treatment guidelines if any bacteriuria

*Signs of pyelonephritis:
- kidney pain/tenderness in back under ribs
- new/different myalgia, flu like illness
- shaking chills (rigors) or temperature 37.9°C or above
- nausea/vomiting

**Key:**
- Suspected sepsis alert
- UTI symptom
- Action advised
- Other advice
Table summary: diagnostic points for women under 65 years

Excludes women with recurrent UTI (2 episodes in last 6 months or 3 episodes in last 12 months) or urinary catheter
This flow chart will be suitable for some women over 65 years in the community setting

Using symptoms and dipsticks to help diagnose UTI: no individual or combination are completely reliable in diagnosing UTI, thus severity of symptoms and safety-netting are important in all

First exclude other genitourinary causes of urinary symptoms
- 75 to 80% with vaginal discharge will not have UTI
- in sexually active check sexual history for STIs for example chlamydia and gonorrhoea
- urethritis - urinary symptoms may be due to urethral inflammation post sexual intercourse, irritants, or STIs
- genitourinary symptoms of menopause/atrophic vaginitis/vaginal atrophy

In all, check for new signs of pyelonephritis, systemic infection, or risk of suspected sepsis
If pyelonephritis or suspected sepsis: send urine for culture to inform definitive treatment and immediately start antibiotic using NICE/PHE guideline on pyelonephritis: antimicrobial prescribing or local/national guidelines for sepsis; refer if signs or symptoms of serious illness or condition

In women <65yrs use signs/symptoms of dysuria, new nocturia or cloudy urine to guide treatment
- 2 or more of these 3 signs/symptoms in general practice are likely to have a UTI: consider immediate antibiotic, or back-up if mild symptoms and woman is not pregnant
- 1 sign/symptom: UTI possible as 68% will have a culture confirmed UTI (≥10⁶ cfu/L) therefore use urine dipstick to increase diagnostic certainty
- none of the 3: UTI less likely - use urine dipstick if other severe urinary symptoms (frequency, urgency, haematuria, suprapubic tenderness)

Using urine dipsticks to predict UTI in women <65 years with only 0 or 1 of dysuria, new nocturia, cloudy urine increases the diagnostic certainty, and reduces unnecessary antibiotics
Follow the manufacturer’s guidance for accurate use of urine dipstick tests, including test timing requirements
- positive nitrite OR positive leukocyte and blood: UTI likely - offer empirical antibiotics for lower UTI OR if not pregnant and milder symptoms consider back-up antibiotic with self-care and safety-netting
- leukocyte positive but nitrite negative: UTI equally likely to other diagnosis - review time of specimen (morning is best); send urine for culture; use back-up (if not pregnant) or immediate antibiotic depending on symptom severity
- ALL nitrite, leukocyte and blood negative: UTI less likely – no urine culture unless pregnant; consider other diagnosis; reassure; give self-care and safety-netting advice
If pregnant and any bacteriuria: always offer immediate antibiotics and send urine culture; follow NICE/PHE guideline on lower UTI: antimicrobial prescribing
ALL patients: share self-care and safety-netting advice using TARGET UTI leaflet

For all patients please refer to the information and reference tables in joint NICE/PHE guidance: NICE guidelines on UTI (lower): antimicrobial prescribing or NICE guidelines on pyelonephritis (acute): antimicrobial prescribing

<table>
<thead>
<tr>
<th>Dysuria, new nocturia or cloudy urine present</th>
<th>% of GP patients with suspected UTI presenting with these sign/symptoms</th>
<th>% with these symptoms who have culture confirmed UTI (≥10⁶ cfu/L)</th>
<th>Suggested management</th>
</tr>
</thead>
<tbody>
<tr>
<td>All 3</td>
<td>29%</td>
<td>82%</td>
<td>Consider immediate antibiotic (if pregnant always immediate) OR back-up if mild symptoms and not pregnant</td>
</tr>
<tr>
<td>≥2</td>
<td>71%</td>
<td>74%</td>
<td>Use urine dipstick to increase diagnostic certainty</td>
</tr>
<tr>
<td>1</td>
<td>25%</td>
<td>68%</td>
<td>Use urine dipstick if other severe urinary symptoms</td>
</tr>
<tr>
<td>None</td>
<td>4%</td>
<td>not specified</td>
<td></td>
</tr>
</tbody>
</table>

For antibiotic choice: use NICE/PHE guideline on lower UTI: antimicrobial prescribing; check history to determine resistance risk

For all patients please refer to the information and reference tables in joint NICE/PHE guidance: NICE guidelines on UTI (lower): antimicrobial prescribing or NICE guidelines on pyelonephritis (acute): antimicrobial prescribing