Diagnostic criteria for Urinary Tract Infection in non-catheterised adults (including complicated UTI and pyelonephritis, excluding pregnant women)

Does the patient have any convincing symptoms of a suspected UTI?
Common symptoms include dysuria, frequency, urgency, new incontinence, suprapubic pain/tenderness. Occasionally haematuria and polyuria.

OR

Does the patient have clinical features suggestive of pyelonephritis?
Symptoms include fever, rigors, vomiting, loin/flank tenderness/pain.

Yes

≥3 Urinary symptoms

- Send MSU
- Treat with empirical antibiotics (see these guidelines)

- Review antibiotic with culture and sensitivity results

1-2 Urinary symptoms

- Perform urinalysis for leucocyte and nitrite

Positive Nitrite (+/- leucocyte)

- Send MSU
- Treat with empirical antibiotics (see these guidelines)

Positive leucocyte and negative nitrite

- Send MSU
- Only treat with empirical antibiotics if clinically septic (see local guidelines)

No

If NO symptoms present:
- x - DO NOT perform urinalysis
- x - DO NOT initiate empirical antibiotics for UTI

- Review antibiotic with culture and sensitivity results and clinical progress
- √ Stop antibiotics if UTI excluded and systemically well
Urinalysis
Urinalysis only has a role in the diagnosis of UTI after initial clinical assessment of the patient. If the patient has no urinary symptoms (as listed above) then performing urinalysis to screen for, or diagnose UTI, has no role whatsoever.

The only elements of urinalysis using dipsticks that are relevant to the diagnosis of UTI are leucocyte esterase and nitrite. Urinalysis results for protein, glucose, ketones, blood and pH have no relevance when trying to find evidence of a patient having UTI.

In catheterised patients, after a few days all catheters will be colonised and many will have caused some degree of catheter irritation leading to pyuria and bacteriuria. Therefore performing urinalysis on a catheterised patient has no diagnostic value for UTI.

Urine Samples
* Collect carefully taken urine sample before commencing antibiotic and send for microbiological testing.
Mid-stream specimen of urine (MSU) is the commonest sample of choice.
CSU specimens are generally of poor quality and the results of microbiological testing of CSUs correlate poorly with genuine clinical infection of the urinary tract. See note on catheters below.
NB: CSU specimens will only be routinely processed if accompanied by clinical details indicating systemic infection or loin pain, or if the request indicates that the catheter is newly inserted.

If the patient is systemically unwell or has features of pyelonephritis send blood cultures.

Asymptomatic bacteriuria of the Elderly
In the elderly (>65years), do not treat asymptomatic bacteriuria (AB). It occurs in 25% women and 10% men and is not associated with increased morbidity. Inappropriate treatment of AB increases side effects and antibiotic resistance.

Catheters
All urinary catheters become colonised with micro-organisms after a few days. Asymptomatic colonisation does not require urinalysis to check for suspected infection or sending a CSU for microbiological testing. Asymptomatic catheter colonisation does not require antibiotic treatment. In the presence of a urinary catheter, antibiotics will not eradicate bacteriuria. If the patient has catheter colonisation consider catheter change or removal.
Only treat a suspected catheter-associated UTI if patient systemically unwell or pyelonephritis symptoms present. Treatment is antibiotics combined with catheter removal / change.

Information taken from
- Guidelines on Urological Infections 2010 written by the European Association of Urology
- Diagnosis of UTI – Quick reference guide for Primary Care HPA
- SIGN guidelines – Management of suspected bacterial urinary tract infection in adults, July 2006