*Extract from -* [*EBI\_Guidance\_List3\_0523.pdf (aomrc.org.uk)*](https://ebi.aomrc.org.uk/wp-content/uploads/2023/03/EBI_Guidance_List3_0523.pdf)

Published in 2023

**Non-visible haematuria**

Non-visible haematuria is blood that is present but not visible in urine. It is usually found on the dipstick test and can indicate cancer (between 3- 9% of people with nonvisible haematuria go on to be shown to have cancer). It is also common in other, benign conditions such as infections or bladder / kidney stones. There is guidance on how to manage and refer people with non-visible haematuria in primary care but no evidence-based guidance on how this should be investigated in hospitals. Due to this, there is a marked difference in how this is done across England.

The EBI programme proposes clear, evidence-based criteria for use across England.

**Clinical overview**

Non-visible haematuria (blood in the urine) can be present in people with a urological cancer, in particular bladder cancer. However, it can also be present in a number of benign urological conditions, such as urinary tract infection, renal or ureteric stones or an enlarged prostate, as well as in the presence of kidney disease. Non-visible haematuria is common and the majority of people, if investigated, will not turn out to have a cancer or any other urological cause found for their symptoms.

The typical initial investigation of people with non-visible haematuria who are referred to secondary care involves imaging and cystoscopy. Further investigations may be indicated depending on the findings of these.

Imaging practice varies, with most centres using ultrasound as their first line modality. While computed tomography (CT) urography has higher sensitivity for upper tract cancers than ultrasound, it carries a high dose of ionising radiation.

Cystoscopy is a diagnostic procedure used to examine the lining of the bladder and urethra. Either a flexible or rigid endoscope may be used, under local or general anaesthesia, respectively. Typically, flexible cystoscopy under local anaesthesia is used as first line to investigate non-visible haematuria.

**Guidance**

This guidance applies to those 18 years and over.

Patients should be referred from primary care to secondary care for investigation of non-visible haematuria in line with guideline NG12 from the National Institute for Health and Care Excellence (NICE).

Refer people to secondary care using a suspected cancer pathway referral (for an appointment within 2 weeks) for bladder cancer if they are:

— Aged 60 and over

**AND**

— Have unexplained non-visible haematuria

**AND**

— Either dysuria OR a raised white cell count on a blood test.

Consider non-urgent referral for bladder cancer in people aged 60 and over with recurrent or persistent unexplained urinary tract infection.

The NICE guidance also includes recommendations on patient information and support, safety netting and the diagnostic process which are applicable both to patients who do and who do not meet the above referral criteria.

Secondary care urological investigation of non-visible haematuria should consist of:

— Imaging

— Ultrasound scan (USS) should be first line imaging modality

— DO NOT routinely perform CT urography if USS is normal

**AND**

— Cystoscopy

— Flexible cystoscopy under local anaesthesia should be the preferred approach unless patient choice or other factors make this inappropriate

**AND**

— A discussion regarding the rationale, risks, benefits and likely outcomes of investigation with patients as part of a shared decision-making process.

Where, following investigation with imaging and cystoscopy, no cause for non-visible haematuria is found, patients should be discharged from secondary care follow up. They should not be referred or investigated again for future episodes of non-visible haematuria unless there is a change in their symptoms or signs (most notably the development of visible haematuria in the absence of urinary tract infection).

Please note that this guidance is intended as a standard threshold for access. However, if you/ your patient falls outside of these criteria, the option to apply for an Individual Funding Request is still available to you.

**Rationale for recommendation**

There is no existing national evidence-based guidance on the investigation of non-visible haematuria referred to secondary care according to NICE NG12 criteria and there is evidence of significant variation in practice. There is marked variation in the recommendations made in international guidelines.

The NICE guidance on primary care management (NG12) recognises the importance of striking a balance between minimising the number of people without bladder cancer who get inappropriately referred and maximising the number of people with bladder cancer who get appropriately referred. It therefore recommends referral to secondary care for those symptoms with a positive predictive value of 3% or above.

A similar balance of advantages and disadvantages applies to secondary care investigations. Given that between 3.04% and 6.38% of patients referred to secondary care with non-visible haematuria will be diagnosed with a urological cancer as a result, it is important that the approach to investigation be both proportionate and appropriately discussed with the patient.

CT urogram has similar sensitivity to ultrasound for the detection of renal tumours but superior sensitivity for upper tract urothelial cancers (UTUC). However, the incidence of upper tract tumours (renal and UTUC) in non-visible haematuria is low (0.4%) with UTUC extremely rare and CT urogram carries a high dose of ionising radiation as well as potential for harms associated with administration of intravenous contrast medium and investigation of incidental imaging findings.

Several recent studies have used modelling to compare ultrasound to CT urogram in patients with non-visible haematuria and suggested that the harms associated with radiation exposure, with only small increases in cancer detection, make CT urogram an inappropriate first line imaging modality. Ultrasound imaging is also likely to be less resource-intensive than CT urogram. It is important to note that older age, male sex, and, in particular, current or previous smoking history are associated with increased risk of cancer in people with non-visible haematuria. Non-visible haematuria is common, with prevalence estimated at 2.5% of the population, rising to 18% in males of 70 years and older. The vast majority of patients (93.6-97%) will have no urological cancer found following secondary care investigation of non-visible haematuria.