key points

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Haematuria has been defined as > 2 red blood cells/high power field on two separate urinalyses in the absence of exercise, menses, sexual activity or instrumentation. However, in practice urine microscopy and the counting of red cells is both impractical and unnecessary. Both visible (VH) and non-visible haematuria (NVH) may herald serious pathology e.g. malignancy or vasculitis. It is estimated that a typical NHS GP will see a bladder or kidney cancer case once every 29 months. Haematuria is common. It is estimated that for every thousand patients registered in primary care five will consult with VH per annum. The prevalence of asymptomatic NVH in the UK is approximately 2.5%.

Red urine is not always caused by blood or by blood originating from the urinary tract. These spurious causes should be excluded, as should temporary haematuria where this is associated with trivial pathology e.g. urinary tract infection or physical exercise. Further questioning can then assess the likelihood of malignancy. Patients should be asked about tobacco use (all cancers), lower urinary tract symptoms (prostate cancer), and previous exposure to radiation, cyclophosphamide or certain occupational chemicals (bladder cancer). Rarer but potentially devastating systemic conditions with renal involvement must be considered with questioning about constitutional symptoms including fever, rash, arthralgia, weight loss, and oedema. Dark brown (or cola-coloured) urine suggests glomerular bleeding and may be associated temporally with upper respiratory tract infection symptoms.

All patients with haematuria should have their weight and BP recorded, along with an abdominal examination to exclude a mass or lymphadenopathy. Additional focused examinations will be indicated by the history and differential diagnosis e.g. digital rectal examination in men with lower urinary tract symptoms. All patients with VH or symptomatic NVH should have urinalysis, urinary protein estimation (albumin:creatinine or protein:creatinine ratio depending on local availability), and a renal function test. These should also be requested if asymptomatic NVH persists, i.e. in two out of three samples over a 6-8 week period.

NICE has published updated guidance on urgent referral of patients with suspected cancer. It is important to note that there are patients who should have urological or renal assessment but do not meet the urgent referral criteria. However, there is less consistency in the literature regarding non-urgent referral criteria, particularly with regard to the age threshold for those with persistent asymptomatic NVH. Crucially age per se does not exclude malignancy. Kidney cancer can and does present in people of younger age, albeit much less commonly. If the clinician has reason to be concerned, then they should use their clinical judgement to refer with appropriate urgency. If a patient is taking anticoagulant or antiplatelet medication this should not influence the decision to refer.