

## Causes of Isolated Microscopic Haematuria

Source: R. A. Cohen and R. S. Brown. Microscopic hematuria. *The New England Journal of Medicine* 348, no. 23 (2003): 2330–2338. [www.nejm.org](http://www.nejm.org)

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### Patient < 50 years of age

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#### Glomerular

IgA nephropathy (increased incidence in Asians)  
Thin basement membrane disease (benign familial haematuria)  
Hereditary nephritis (Alport's syndrome)  
Mild focal glomerulonephritis of other causes

#### Non-glomerular: Upper urinary tract causes

Nephrolithiasis  
Pyelonephritis  
Polycystic kidney disease  
Medullary sponge kidney  
Hypercalciuria, hyperuricosuria, or both, without documented stones  
Renal trauma  
Papillary necrosis  
Ureteral stricture and hydronephrosis  
Sickle cell trait or disease  
Renal infarction or arteriovenous malformation  
Renal tuberculosis in endemic areas or in patients with HIV

#### Non-glomerular: Lower urinary tract causes

Cystitis, prostatitis, and urethritis  
Benign bladder and ureteral polyps and tumours  
Bladder cancer  
Prostate cancer  
Strictures of the urethra or meatus  
Schistosoma haematobium infection

#### Uncertain

Exercise haematuria  
'Benign haematuria' (unexplained microscopic haematuria)  
Over-anticoagulation (usually with warfarin)  
Factitious haematuria (usually presents with gross haematuria)

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### Patient > 50 years of age

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#### Glomerular

IgA nephropathy  
Hereditary nephritis (Alport's syndrome)  
Mild focal glomerulonephritis of other causes

#### Non-glomerular: Upper urinary tract causes

Nephrolithiasis  
Renal-cell cancer  
Polycystic kidney disease  
Pyelonephritis  
Renal-pelvis or ureteral transitional-cell cancer  
Papillary necrosis  
Renal infarction  
Ureteral stricture and hydronephrosis  
Renal tuberculosis

#### Non-glomerular: Lower urinary tract causes

Cystitis, prostatitis, and urethritis  
Bladder cancer  
Prostate cancer  
Benign bladder and ureteral polyps and tumours

#### Uncertain

Exercise haematuria  
Over-anticoagulation (usually with warfarin)