

| CATEGORY                                    | EXAMPLES  | COMMON CLINICAL PRESENTATION AND RISK FACTORS  |
|---|---|--|
| Neoplasm                                    | Any   | Male gender, Age older than 35 years, Past or current smoking history, Occupational or other exposure to chemicals or dyes (benzenes or aromatic amines), Analgesic abuse, History of gross hematuria, History of urologic disorder or disease, History of Irritative voiding symptoms, History of pelvic irradiation, History of chronic urinary tract infection, Exposure to known carcinogenic agents or chemotherapy such as alkylating agents, History of chronic indwelling foreign body |
|   | Bladder cancer                                  | Older age, male predominance, tobacco, occupational exposures, Irritative voiding symptoms   |
|   | Ureteral or renal pelvis cancer                 | Family history of early colon cancers or upper tract tumors, flank pain  |
|   | Renal cortical tumor                            | Family history of early kidney tumors, flank pain, flank mass  |
|   | Prostate cancer                                 | Older age, family history, African-American  |
|   | Urethral cancer                                 | Obstructive symptoms, pain, bloody discharge   |
| Infection/inflammation                      | Any   | History of infection   |
|   | Cystitis  | Female predominance, dysuria   |
|   | Pyelonephritis                                  | Fever, flank pain, diabetes, female predominance   |
|   | Urethritis                                      | Exposure to sexually transmitted infections, urethral discharge, dysuria   |
|   | Tuberculosis                                    | Travel to endemic areas  |
|   | Schistosomiasis                                 | Travel to endemic areas  |
|   | Hemorrhagic cystitis                            |  |
| Calculus                                    | Any   |  |
|   | Nephroureterolithiasis                          | Flank pain, family history, prior stone  |
|   | Bladder stones                                  | Bladder outlet obstruction   |
| Benign prostatic enlargement                |   | Male, older age, obstructive symptoms  |
| Medical renal disease                       | Any   | Hypertension, azotemia, dysmorphic erythrocytes, cellular casts, proteinuria   |
|   | Nephritis                                       |  |
|   | IgA nephropathy                                 |  |
| Congenital or acquired anatomic abnormality | Polycystic kidney disease                       | Family history of renal cystic disease   |
|   | Uretero-pelvic junction obstruction             | History of UTI, stone, flank pain  |
|   | Ureteral stricture                              | History of surgery or radiation, flank pain, hydronephrosis; stranguria, spraying urine  |
|   | Urethral diverticulum                           | Discharge, dribbling, dyspareunia, history of UTI, female predominance   |
|   | Fistula   | Pneumaturia, Fecaluria, abdominal pain, recurrent UTI, history of diverticulitis or colon cancer   |
| Other                                       | Exercise-induced hematuria                      | Recent vigorous exercise   |
|   | Endometriosis                                   | Cyclic hematuria in a menstruating woman   |
|   | Hematologic or thrombotic disease               | Family history of personal history of bleeding or thrombosis   |
|   | Papillary necrosis                              | African-American, sickle cell disease, diabetes, analgesic abuse   |
|   | Arteriovenous malformation                      |  |
|   | Renal vein thrombosis                           |  |
|   | Interstitial cystitis                           | Voiding symptoms   |
|   | Trauma  | History  |
|   | Recent genitourinary surgery or instrumentation | History  |