

# Haematuria

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## 3.5 On which criteria should we select living kidney donors to optimize the risk–benefit ratio of their donation?

### Haematuria

- We recommend considering persistent haematuria of glomerular origin as a contraindication to living donation, because it may indicate kidney disease in the donor. (1B)
- However, we acknowledge thin basement membrane disease might be an exception. (Ungraded statement)

# KDIGO 2015

## CHAPTER 7: EVALUATION OF HEMATURIA AND INDICATIONS FOR KIDNEY BIOPSY IN KIDNEY DONOR CANDIDATES

### Evaluation

7.1: All donor candidates should be screened for the presence of microscopic hematuria. (Not Graded)

7.2: Donor candidates with persistent microscopic hematuria should undergo testing to identify possible underlying causes which may include (potential tests in parentheses): (Not Graded)

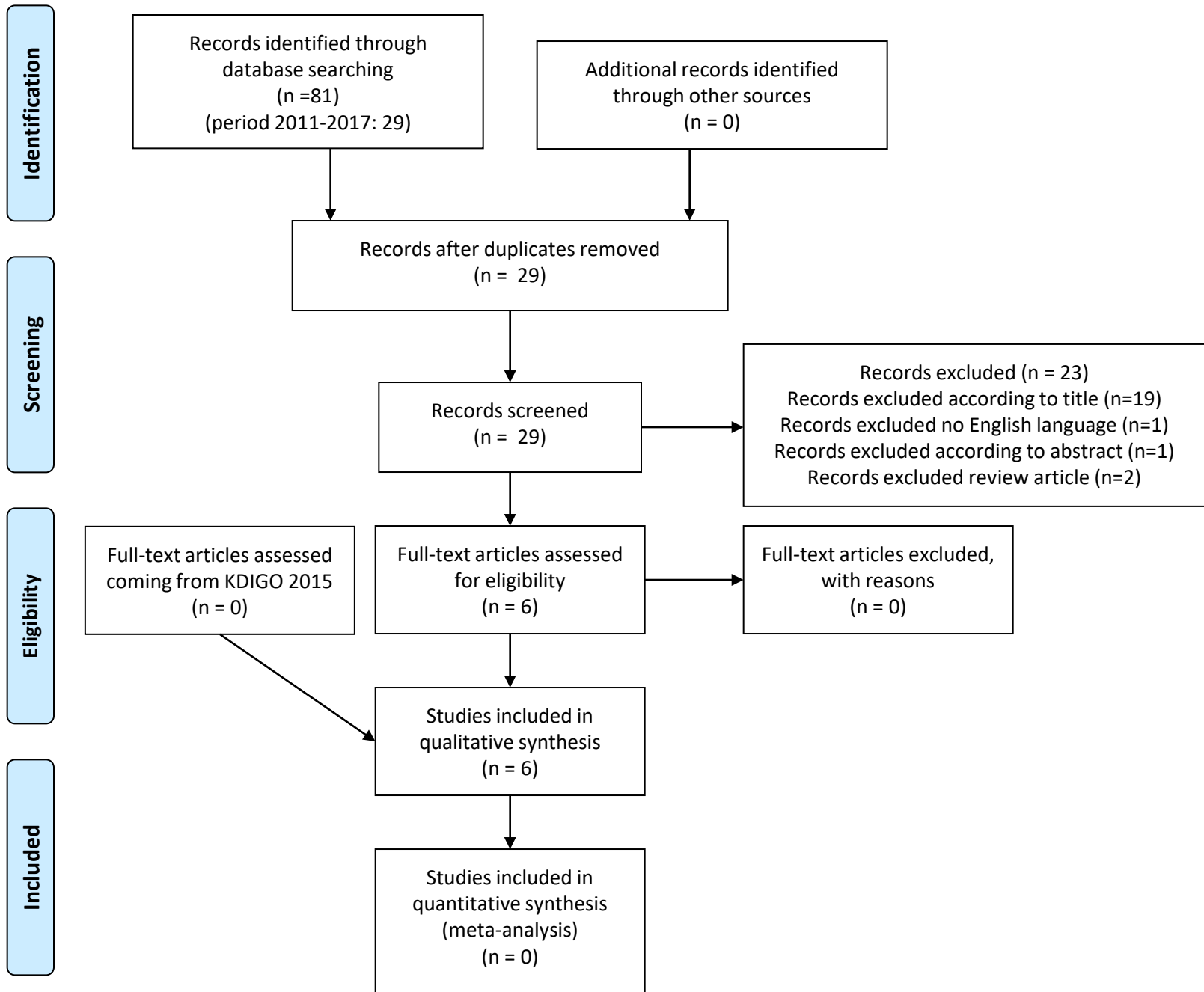
- Infection (urinalysis and urine culture)
- Nephrolithiasis/microlithiasis (urography and a 24-hr urine stone panel)
- Malignancy (multiphasic computerized tomography, or urography with and without IV contrast, or magnetic resonance urography AND cystoscopy, along with a focused history evaluating demographic and clinical cancer risk factors)
- Glomerular disease (measurement of GFR, urinary protein, focused review of family history of kidney disease, and consideration of renal biopsy)

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## CHAPTER 7: EVALUATION OF HEMATURIA AND INDICATIONS FOR KIDNEY BIOPSY IN KIDNEY DONOR CANDIDATES

### Donor Selection

- 7.3: Hematuria from a reversible cause, such as infection, that resolves with treatment is not a contraindication to kidney donation. (Not Graded)
- 7.4: Some donor candidates with microscopic hematuria also have other characteristics which associate with a higher lifetime risk of ESRD (such as a low GFR, high levels of albuminuria, hypertension, or evidence of a glomerular disease on kidney biopsy such as IgA nephropathy). Such donor candidates should generally be excluded from kidney donation. (Not Graded)



# The Role of Kidney Biopsy to Determine Donation from Prospective Kidney Donors with Asymptomatic Urinary Abnormalities

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- 15 prospective kidney donors who underwent a kidney biopsy from January 1996 to December 2010. The results of the kidney biopsy indicated the presence of asymptomatic persistent microscopic hematuria (n 14; 93.3%) or borderline proteinuria (n 1; 6.7%)
- Results:
  - thin basement membrane nephropathy (TBMN) (n 7; 50%)
  - mild mesangiopathy (n 3; 22%)
  - immunoglobulin A nephropathy (IgAN; n 2; 14%),
  - focal segmental glomerulosclerosis (FSGS) (n 1; 7%)
  - nonspecific interstitial changes (n 1; 7%)
  - In addition, the prospective donor with borderline proteinuria revealed glomerulosclerosis (26%) and arteriosclerosis
- Of the 14 candidate donors with persistent microscopic hematuria, 9 were accepted as kidney donors (5 with TBMN, 3 with mild mesangiopathy, 1 with nonspecific interstitial changes)
- 5 potential donors with persistent microscopic hematuria and 1 candidate donor with borderline proteinuria were excluded from donation owing to IgAN (n 2; 33%), TBMN (n 2; 33%), FSGS (n 1; 17%), and arteriosclerosis (n 1; 17%)
- The function of the 9 allografts was relatively stable during the follow-up with the exception of 2 cases: 1 recipient experienced graft failure due to acute rejection, and 1 with a functioning graft died due to cardiac arrest
- Over a mean follow-up of 56.9 months, we observed the mean eGFR at 1 year after transplantation and the current eGFR to be  $57.1 \pm 17.3$  and  $47.7 \pm 30.8$  mL/min/1.73 m<sup>2</sup>, respectively

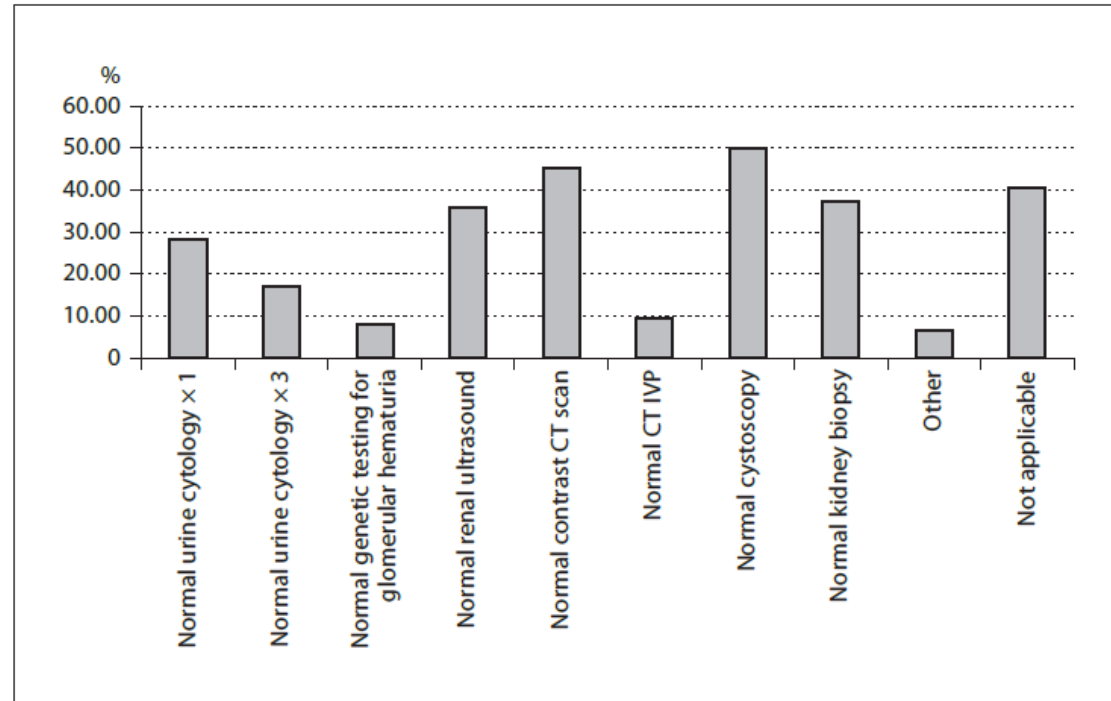
# Practice Patterns in Evaluation of Living Kidney Donors in United Network for Organ Sharing-Approved Kidney Transplant Centers

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DOI: [10.1159/000338450](https://doi.org/10.1159/000338450)

- Hematuria was defined as > 5 cells/HPF (43.3%), > 3 cells/HPF (26.9%), > 2/HPF (17.9%) and positive dipstick (22.4%)
- Donors with hematuria were accepted by 38.8% of the centers
- Renal biopsy to exclude glomerular cause of hematuria was performed by 58.2%, whereas only 22.7% used the currently available genetic tests
- Centers which accepted donors with hematuria required patients to have normal cystoscopy, imaging and kidney biopsy

37-question electronic survey to gather information about living kidney donor evaluation and selection processes. Based on self-reporting that may not accurately represent actual practice of centers



**Fig. 4.** Criteria for inclusion of potential living donors with hematuria.