APPROVED: April 2019
Surrey & North West Sussex
Area Prescribing Committee (APC)

Bothersome nocturia in adult

History and focused examination

- sleeping habits and environment; fluid intake habits, excessive thirst or compulsive fluid intake
- daytime urinary symptoms (refer to urology in case of haematuria, persistent UTI, palpable bladder)
- peripheral / ankle oedema, reduced exercise tolerance (consider screening for heart failure)
- symptoms of neurological and psychiatric disorders (Parkinson's, multiple sclerosis, depression, anxiety)
- snoring, daytime hypersomnolence (consider screening for sleep apnoea)

Medication adjustment (if applicable)

- if already taking a diuretic (frusemide, bumetanide), move its intake to the afternoon at around 3pm
- stop or substitute whenever possible medications likely to cause oedema, for example: dihydropyridines (e.g. amlodipine), thiazolidinediones (e.g. pioglitazone), regular NSAIDS, high dose steroids, gabapentin

Adjunct tests (all patients) urine dipstick, blood pressure, post-void ultrasound scan of the bladder, U&Es, fasting blood glucose/HbA1c, LFTs, bone profile, consider PSA in men with daytime symptoms

Lifestyle adjustment advice (all patients)

- limit fluid intake after 6-7pm to a minimum
- limit daily salt intake to ≤ 6g and avoid excess animal protein
- avoid coffee, tea, fizzy and "energy" drinks in the afternoon
- afternoon rest with leg elevation and / or compression stockings (for patients with peripheral oedema)
- moderate physical exercise during the day
- general sleep hygiene measures

Nocturia with significant daytime symptoms

(refer to the Prescribing Advisory Database (PAD) for further information)

- Bladder training plus an anticholinergic or Mirabegron for patients with urgency and urge incontinence
- α-blocker ± Finasteride for men with voiding symptoms
- Topical oestrogens for post-menopausal women with associated recurrent UTI, incontinence, urgency or bothersome vaginal dryness
- **Do not offer** these medications if symptoms are non-bothersome

Frequency-volume chart (all patients)

To be completed **AFTER** implementation of the lifestyle and medication changes

Take a note of:

- Total 24 hour urine production (1.5-2L is normal)
- Nocturnal urine production (volume of all nocturnal voids plus the first void of the morning)
- Nocturnal polyuria index (NPI) - ratio of nocturnal to total 24 hour urine production
- Maximum bladder capacity

NB. If 24 hour urine output is consistently > 2L (typically > 40 mL / kg), consider global polyuria secondary to psychogenic polydipsia or a systemic cause - e.g diabetes insipidus, diabetes mellitus, hypercalcaemia

Define the PREDOMINANT causative mechanism of nocturia

NB. Nocturia of mixed causation is common and may respond to the combination of measures aimed at the reduction of urine output at night and the improvement of bladder storage capacity

Nocturia without nocturnal polyuria

- NPI <33% in older adults or <20% in younger
- Small apparent bladder capacity (<250-400 mL)

The typical causes: a large residual, overactive or poorly compliant bladder, pelvic pain syndrome, neurologic, sleep or psychiatric disorders

Nocturia with nocturnal polyuria

- NPI > 33% in older adults or > 20% in younger
- Normal bladder capacity

All causes are systemic: sleep apnoea, non-dipping hypertension, oedema states, heart failure, chronic kidney and liver disease and idiopathic (presumed AVP deficiency). Consider referral to a specialty.

Refer to urology

- medication and life-style measures are ineffective
- severe day-time symptoms or bladder pain
- persistent UTI, haematuria, elevated PSA
- elevated post-void residual volume (>100-150 mL)

Idiopathic nocturnal polyuria (presumed AVP deficiency)

Noqdirna (Desmopressin, 50 mcg for men / 25 mcg for women)

Nocturnal polyuria associated with idiopathic peripheral oedema

Furosemide (20-40mg) at 3pm

NB. Serum sodium monitoring (before, at 1, 4 weeks and 6-monthly)

References: The National Institute for Health and Care Excellence (2015). "Lower urinary tract symptoms in men: management" and "Urinary incontinence in women: management" (NICE Guidelines 97 and 171)
European Association of Urology Guidelines (2019). "Management of Non-neurogenic Male LUTS" and "Urinary incontinence"
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