



NOCTURIA

WAKING UP TO THE FACTS.

WHAT IS NOCTURIA

- ▶ The ICS 2018 definition is : waking up to pass urine, during the main sleep period.
- ▶ New definition reflects that nocturia is firstly a symptom which may or may not be a complaint.
- ▶ Mixed aetiology
- ▶ Affects men and women.

Definitions

- ▶ **NOCTURNAL POLYURIA** : passing large amounts of urine nocte (especially compared to the day) Needs to be quantified on a bladder diary.
 - ▶ Excessive production of urine during the main sleep period
 - ▶ (excessive not defined yet)
- ▶ **NOCTURNAL ENURESIS**: when urine is passed (incontinence) while the person is asleep.
- ▶ **TWENTY FOUR HOUR POLYURIA**: Excessive excretion of urine resulting in profuse and frequent micturition. It has been defined as over 40ml/kg body weight during 24 hours, or 2.8 litres of urine for an individual weighing 70kg.

NOCTURIA IMPACT----Marker of poor health

- ▶ Main self reported sleep disturbance in older adults.
- ▶ Sign of decrease in overall quality of life.
- ▶ Increased risk of depression
- ▶ Affects daytime activities and work production
- ▶ Increased morbidity and mortality
- ▶ Increased risk of falls in the elderly
- ▶ Increased risk of CV disease.

DIAGNOSIS

- ▶ A bladder diary (3 day is the gold standard)- this can identify LUTS, global / nocturnal polyuria
- ▶ Can be repeated during the treatment period.
- ▶ TANGO screening tool
- ▶ Medical history; medication and physical measures:
 - ▶ PVR
 - ▶ Blood glucose
 - ▶ B/P (hypertension leads to nocturia), oedema, cardiac dysfunction
- ▶ Sleep variables- patterns and disturbances.
- ▶ Fitbit and bladder diary could be useful to aid diagnosis.

Tango screening tool.

- ▶ How to use:
- ▶ Patient self completes check list/ verbally answers questions
- ▶ Note responses in TRUE columns. Note domains with highest proportion of TRUE responses.

- ▶ Interpret alongside results from:

Bladder diary

PVR

Clinical reasoning to identify:

- ▶ Global or nocturnal polyuria
- ▶ Size of mismatch between urine produced and bladder storage
- ▶ Medical reasons for increased urine production
- ▶ Medical reasons for decreased voided volumes
- ▶ Causes of sleep disturbance
- ▶ Multiple co-morbidities and how they impact urine production

Sleep Changes with Older Age

- ▶ Aside from medical conditions / comorbidities
- ▶ Less time in total sleep
- ▶ Decrease in upper airway dilator muscles i.e more likely to collapse
- ▶ Sleep apnoea - sleep disordered breathing (SDB)
- ▶ Short sleep associated with hypertension
- ▶ Sleep deprivation →
 - ▶ increased diuresis and
 - ▶ Excess renal sodium excretion

Sleep Dysfunction: SDB (sleep disordered breathing)

- ▶ Obstructive SDB:- respiratory effort during obstruction of upper airway
- ▶ RELATIONSHIP to NOCTURIA
 - ▶ Negative intra thoracic pressure leads to false sign of volume overload of the heart → increased ANP secretion → to increased diuresis → onto nocturnal polyuria.

Nocturia and co morbidities

- ▶ Nocturia associated with many comorbidities.
 - ▶ Vascular disease
 - ▶ Cardio vascular disease
 - ▶ Renovascular disease
 - ▶ Diabetes mellitus
 - ▶ Hypertension
 - ▶ Parkinsons disease
 - ▶ High blood pressure
- ▶ A focus on these may lead to good outcomes for the patient.
- ▶ THINK BEYOND THE BLADDER

INTERVENTIONS

- ▶ First line treatment:
- ▶ Decrease nocturnal polyuria
- ▶ FLUID INTAKE MODULATION
 - ▶ Fluids to approximately 2L / day.
 - ▶ Redistribute total intake-
 - ▶ Decrease fluid intake 2 hours before bed, particularly caffeine and alcohol.

Continued – fluid modulation:

- ▶ Medications: timing of diuretics and anti hypertensives-: take diuretics mid afternoon, NOT nocte.
- ▶ Empty bladder before bed.
- ▶ Patients with peripheral oedema (and those persons who do not show any peripheral oedema) : elevate legs above heart level in the late afternoon for 1.5 hours. While lying as flat as possible on the bed, the person is to do active exercises of the ankle and lower leg.
- ▶ Wear knee high flight sox.

Continued: Bladder rehabilitation:

- ▶ Bladder retraining if OAB identified.
- ▶ Urge suppression
- ▶ Pelvic floor muscle retraining
- ▶ Reduction of bladder irritants: coffee and alcohol
- ▶ Anxiety management strategies

Sleep prolongation

- ▶ Sleep hygiene
- ▶ OSA treatment

Other lifestyle/ behavioural recommendations

- ▶ Dietary sodium restrictions
- ▶ Limit calories
- ▶ Limit salt
- ▶ Protein restriction (don't eat cheese at night)
- ▶ Avoid protein shakes in the evening.
- ▶ Prevention of diabetes and obesity. Encourage weight loss.

SLEEP HYGIENE

- ▶ Address excessive fatigue
- ▶ Sleep earlier
- ▶ Remove blue light
- ▶ Treatment of disordered breathing (possibly CPAP)
- ▶ OAB training

MEDICATION

- ▶ Since 2017 . Nocdurna/ desmopressin is a low dose formulation for nocturnal polyuria.
- ▶ . The evidence is that it reduces nocturia. It acts as an anti diuretic.
 - ▶ 25mcg for female. 50mcg for male.
- ▶ MUST have a normal sodium before beginning course.
 - ▶ (CCF a contraindication. Renal failure a red flag)
- ▶ Consensus is to have SSC (serum sodium checks) : after beginning desmopressin
 - ▶ 3-7 days
 - ▶ One month
 - ▶ 3-6 months.

CONCLUSION

- ▶ TAKE HOME MESSAGES:
- ▶ Bladder diary – essential for diagnosis and then treatment.
- ▶ Nocturia can be a marker for poor health.
- ▶ Look beyond the bladder for diagnosis.
- ▶ Small improvements can improve the quality of life.