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Nocturia and Nocturnal Enuresis in Residential Care – 2nd Edition

Nocturia and nocturnal enuresis affects the quality of life of many older Australians. They are difficult and challenging problems to manage. Some residents can be managed with suitable continence aids, whilst for others more active management is appropriate. This brochure has been written for nursing staff working in Residential Care Facilities to increase awareness of what nocturia and nocturnal enuresis are, their causes, and how to assess and manage them.

Definition:

Nocturia is defined as waking at night to void one or more times. Nocturia is considered a problem and needs assessment when a resident voids two or more times per night and they find it bothersome. Nocturia results from an excessive volume of urine produced at night, excessive number of times a resident needs to void, or a combination of both. Residents who are in bed for prolonged periods at night are highly likely to experience nocturia.

Nocturnal enuresis is bedwetting. Nocturia can lead to nocturnal enuresis, therefore to deal with nocturnal enuresis it is necessary to understand and manage nocturia.

Prevalence:

The incidence of nocturia increases with age and commonly causes nocturnal enuresis. It affects men and women equally. By the age of 80, over 50% of men and women will wake two or more times at night to void.

Consequences:

Nocturia and nocturnal enuresis have a large impact on a resident's daily functioning. They can result in fatigue, sleepiness, falls, fractures, traumatic injuries, and can affect quality of life. They also have an impact on staff work levels and a facility's finances.

Types of Nocturia which can occur alone or in combination:

Nocturnal Polyuria	*Reduced Bladder Capacity*	*Diurnal Polyuria*
(or nocturnal diuresis) 24 hour urine output is essentially normal, but there is an increased production of urine overnight with over 1/3 of urine produced at night	Diminished bladder size leads to nocturia when urine output is greater than the reduced bladder capacity/size. Urinary output is within normal limits	An overall increased urine production is present and results in nocturia as urine output is greater than bladder capacity/size. For example, in 24 hours, more than 40ml/kg (body weight) of urine may be produced (eg for 80kg person >3200ml)

More Common potentially reversible or modifiable causes:

Nocturnal Polyuria	*Reduced Bladder Capacity*	*Diurnal Polyuria*
Congestive cardiac failure Hypoalbuminaemia Venous insufficiency/ peripheral oedema Renal insufficiency Excessive fluid intake (particularly at night, especially alcohol and caffeine) Use of long acting diuretics/fluid tablets Sleep apnoea syndrome Idiopathic, ie no known cause	Age related changes Increased bladder sensation (need to exclude eg cystitis, calculi, tumour) Detrusor overactivity (eg due to bladder outlet obstruction from prostate enlargement; neurological conditions such as stroke and Parkinson's disease)	High fluid intake by choice Psychogenic polydipsia commonly but not exclusively associated with people taking psychotropic medication Diabetes mellitus Nephrogenic diabetes insipidus (often secondary to lithium) Central diabetes insipidus Hypercalcaemia

NB: Incomplete bladder emptying may cause nocturia as a result of an over-distended bladder and resultant overflow of urine (eg due to bladder outlet obstruction or an underactive bladder).

Sleep disturbance or disorders may result in waking up, and then nocturia as a consequence.

Assessment:

Assessment of nocturia and nocturnal enuresis should aim to determine the impact the problem has on the resident. It should involve the resident or their representative. It should help to determine the type of nocturia being experienced – nocturnal polyuria, reduced bladder capacity, diurnal polyuria or a mixed disorder. It may include:

History: Detailed history assessing known causes of nocturia including sleep pattern, urinary problems, medical conditions and medications. Prolonged time spent in bed with or without hypnotics can lead to nocturnal enuresis, therefore both issues need to be reviewed/reduced – may need to involve the resident's General Practitioner (GP)

Physical Examination: To assess for known causes of nocturia. This may include an abdominal, rectal, vaginal, neurological or cardiovascular examination – may need to involve the resident's GP

48 - 72 Hour Frequency Volume Chart (or Bladder Chart): Including type, time and amount of fluids consumed, time and amount voided, and time of retiring and rising (eg if a resident needs 8 hours sleep per night but is in bed for 12 hours and has a bladder capacity of 300 ml, they may need to rise to void or wet 2-3 times per night). Pad weighing may give an idea of volume of urine produced (1 gram = 1 ml) if measuring amount voided is difficult. If a resident has a fluid intake greater than 4 litres per 24 hours, this suggests significant underlying factors may exist that require further medical investigation

Urinalysis +/- MSU (request from GP)**:** Assessing for infection or abnormalities

In addition, there are a variety of tests a GP or specialist may organize to further assess nocturia. These may include biochemical screens (to assess renal function, glucose and calcium levels), bladder scan/lower urinary tract ultrasound (pre and post voiding - to rule out incomplete bladder emptying), urodynamic and endoscopic investigations, and sleep studies.

Management:

The resident's desires or expected outcomes should be considered when managing nocturia.

Work with the GP to correct or treat underlying and reversible causes where possible or request a referral to an appropriate specialist. Remember, it is common for a resident to have multiple reasons for their nocturia.

Conservative Management:

Some of the suggestions below may help individual residents especially if nocturia is troublesome or nocturnal enuresis is evident. Include in a resident's continence management plan as relevant:

Aim to increase daytime fluid excretion if there is evidence of excessive night-time fluid build up in the body:

Restriction of caffeine, alcohol and fluids, generally, in the evening

Compression stockings for peripheral oedema

Lying down with legs elevated in the afternoon may help reduce fluid build up

If fluid intake is excessive:

Cautious reduction of fluid intake to about 2 - 2.5 litres per 24 hours should be considered. The resident should have their fluids increased if they become unwell or very thirsty and this reported to their GP

In frail and older residents:

Reduction of prolonged periods in bed at night

For sleep disturbance as a result of nocturia, consider treating the nocturia rather than using hypnotics, as may result in nocturnal enuresis

Some residents can be kept comfortable with the use of continence aids

Specialised Treatments (which a GP or specialist may suggest) may include:

Nocturnal Polyuria	*Reduced Bladder Capacity*	*Diurnal Polyuria*
Diuretics in mid to late afternoon (monitoring for postural hypotension and electrolyte disturbance) Desmopressin (DDAVP)* * *Desmopressin (DDAVP) is currently not freely available in Australia for this type of polyuria*	Bladder training with or without bladder relaxant drugs* Bladder relaxant drugs at bedtime* Local hormone replacement therapy for post-menopausal women * *Careful monitoring especially for confusion and urinary retention*	Stabilize diabetic control Desmopressin (DDAVP) for central diabetes insipidus Review medications that might cause nephrogenic diabetes insipidus

Referral Sources:

Numerous continence clinics operate throughout Australia. They offer a variety of services which may include consultation with a continence physician, continence physiotherapist, continence nurse advisor, urodynamic studies and advice on continence products. Urologists, renal and other physicians may also be appropriate referral sources. For your nearest continence clinic contact the National Continence Helpline on **1800 33 00 66** for details.

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