

# Nocturia

**Nocturia** is defined as a complaint of awakening from sleep due to the need to urinate. It is therefore only a condition where the patient sleeps before urinating and falls asleep again after urinating. Nocturia does not include cases where the patient wakes up for another reason, and "when he is awake, he goes to urinate."

Nocturia is one of the lower urinary tract symptoms (*Template:En*), *specifically among the reception disorders*. These disorders also include frequent urination, urgency and incontinence. In Europe, nocturia is experienced by more than 50% of the population over the age of 65.

## Etiopathogenesis

According to etiopathogenesis, we divide nocturia into:

### Nocturia from polyuria

The patient produces more urine (polyuria is defined here as daily urine production greater than 40 ml/kg of body weight). The causes of this condition include primary polydipsia - *excessive fluid intake*, and *secondary polydipsia*, for example in diabetes mellitus or diabetes insipidus.

### Nocturia in nocturnal polyuria

This is excessive urine production during sleep. The causes of this condition include a disturbance of the circadian rhythm of ADH secretion, heart failure, chronic venous insufficiency, obstructive sleep apnea and other conditions.

### Nocturia as a manifestation of a disorder of the bladder's capacity to absorb urine

Causes include hyperactive bladder (OAB) or benign prostatic hyperplasia (BPH).

## Diagnostics

Anamnesis plays a crucial role in diagnosis. We are interested in urological and internal diseases, medications, we ask about sleep disorders. We can also use some questionnaires.

We require filling in a **micturition diary**'. In it, the patient records for at least two, preferably three days, the time and volume of liquids drunk, the time and volume of each portion of urine, how intense the sensation of urination was, and also adds the time when he goes to sleep and what time he wakes up. Based on the micturition diary, we can better assess the patient's condition.

In order to determine the cause of nocturia, we compare the volume passed during the day and during sleep. The production of urine during sleep should be a maximum of 20% of the total daily diuresis for people under 35 years of age, the limit is 25% for people aged 35-65, and 33% for people over 65.

According to the percentage expression, we can infer the etiopathogenesis in a specific patient.



We also don't forget the physical examination, urine examination and post micturition residue. If necessary, we complete urodynamic and other examinations.

## Treatment

We treat nocturia primarily when it bothers the patient. If the sleep voiding frequency is  $\geq 4$ , we should treat the condition even if the patient is adapted. Nocturia is associated with fatigue, increases the risk of falls, heart failure and overall mortality, and worsens the quality of life.

We choose the method of treatment according to the specific cause, often a multidisciplinary approach is necessary. It is a mistake to treat nocturia only symptomatically without knowing its etiopathogenesis.

### Polyuria

We find out its cause and, if necessary, treat it. Most often, however, it is an excessive supply of fluids, so the treatment is only routine - limiting the intake of fluids before bed. From pharmacological means, we can use **analogs of antidiuretic hormone**, eg.: Desmopresin.

### Nocturnal polyuria

We also use regime measures for this cause. The basis is to solve the provoking cause - this is dealt with by a specialist in the given field. From pharmacological procedures, we can try administration of **diuretics** in the early evening (in the case of the patient's normal daily rhythm). We usually give furosemide. The goal is to reduce the

volume of extravascular fluid even before sleep. Administration of **desmopressin** before bedtime shows good efficacy. Major complications of this treatment include hyponatremia with ion imbalance. In postmenopausal women, treatment with estradiol can be effective.

## Bladder intake disorder

First of all, we have to rule out secondary causes of impaired receptivity (uroinfection, cystolithiasis, subvesical obstruction, cancer, neurological causes), or we treat these diseases. Again we use regimen measures, we can increase bladder capacity with behavioral therapy. From the pharmacological means, we can use **anticholinergics**, which contribute to the relaxation of the detrusor. Anticholinergics of the 1st generation include trospium or propiverin, the second generation includes solifenacin or tolterodin. We can also use the  $\beta_3$ -sympathomimetic mirabegron, but since January 1, 2017, the preparation is not covered by public health insurance. We can also use alpha1-blockers, which we administer to patients with benign prostatic hyperplasia, to treat a seizure disorder.

## Links

### Related Articles

- Overactive bladder
- Polakisuria
- Dysuria

### References

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