## What are the risk factors for hyponatraemia?

Hyponatraemia can lead to lethargy, headache, nausea/vomiting, respiratory depression, weight gain and, in severe cases, convulsions, cerebral oedema and coma.[1] Risk factors for hyponatraemia include:

- **Age:** elderly patients (aged ≥65 years) have a higher risk of developing hyponatraemia due to age-related changes and increased likelihood of developing chronic diseases that alter serum sodium levels.[5]
- **Gender:** women have a higher risk of developing hyponatraemia than men, which may be due to increased sensitivity of the kidney tubules to vasopressin and its analogues.[8] Noqdirna is designed with a lower dose for women to minimise this risk of hyponatraemia.[1]
- **Medication:** some medicines are associated with an increased risk of hyponatraemia, including thiazide,[9] potassium-sparing and combined diuretics,[10] angiotensin II receptor antagonists,[11] tricyclic and related antidepressants,[12] selective serotonin re-uptake inhibitors,[13] monoamine oxidase inhibitors,[10] proton pump inhibitors[10] and anticonvulsants.[10]

## What to do if a patient does develop hyponatraemia

If serum sodium levels fall below the lower limit of normal (i.e. 135 mmol/L),[1] Noqdirna should be discontinued.[5] A repeat measurement is recommended as rapidly decreasing serum sodium requires hospital admission. Serum sodium levels should be rechecked after two weeks[14] and, if concentrations remain low, other underlying causes should be investigated. Patients with hyponatraemia and serious signs or symptoms of cerebral oedema, such as lethargy, respiratory depression and convulsions, should seek emergency care.

## Restarting treatment

When restarting treatment with Noqdirna, serum sodium levels should be monitored and fluid restriction enforced.[1]


**References**

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**Noqdirna®**

**oral lyophilisate desmopressin (as acetate)**

**Prescribing Information:** Noqdirna® 25 and 50 micrograms oral lyophilisate.

**Please consult the full Summary of Product Characteristics before prescribing.**
**Name of Product:** Noqdirna 25 micrograms oral lyophilisate; Noqdirna 50 micrograms oral lyophilisate. **Composition:** 25 or 50 micrograms of desmopressin (lyophilisate as acetate). **Indications:** Symptomatic treatment of nocturia due to idiopathic nocturnal polyuria in adults. **Dosage and administration:** Women 25 microgram daily, men 50 microgram, daily one hour before bedtime administered sublingually without water. **Contraindications:** Hypersensitivity to the active substances or to any of the excipients, habitual or psychogenic polydipsia, known or suspected cardiac insufficiency or other conditions associated with fluid overload, moderate and severe renal insufficiency, known history of hyponatremia, syndrome of inappropriate ADH secretion (SIADH). **Side Effects:** *Very common:* Dry mouth. *Common*: hyponatraemia, headache, dizziness, diarrhoea, nausea. *Uncommon*: constipation, abdominal discomfort, fatigue, peripheral oedema. Treatment with desmopressin without concomitant reduction of fluid intake may lead to water retention/hyponatraemia with or without accompanying warning symptoms of headache, nausea/vomiting, decreased serum sodium, weight gain and in serious cases convulsions. Consult the full Summary of Product Characteristics for further information about side effects. **Special Warnings and Precautions:** Not recommended in patients with cardiovascular or medical conditions associated with fluid overload. Fluid intake must be limited from 1 hour before until 8 hours after administration. Patients 65 years and older should have serum sodium monitored before initiation, in the first week of treatment and at one month post initiation. Discontinue Noqdirna if serum sodium falls below the lower limit of normal. Use with caution in conditions characterized by fluid and/or electrolyte imbalance. Fluid restriction and more frequent serum sodium monitoring must be taken with concomitant treatment with drugs known to induce SIADH. Exercise caution in patients taking thiazide or loop diuretics and in cases of cystic fibrosis, coronary heart disease, hypertensions, chronic renal disease and pre-eclampsia. Severe bladder dysfunction and outlet obstruction should be considered before treatment. Ensure patients taking lithium do not have early-stage lithium-induced nephrogenic diabetes insipidus. **Special precautions for storage:** None. Use immediately after opening individual tablet blister**. Presentation:** Perforated unit dose blisters in a carton. **Marketing Authorisation Number:** 50 micrograms 03194/0119. 25 micrograms 03194/0118. **Marketing Authorisation Holder:** Ferring Pharmaceuticals Ltd., Drayton Hall, Church Road, West Drayton, UB7 7PS. **Legal Category:** POM. **Basic NHS Prices:** 30 x 25 micrograms £15.16. 30 x 50 micrograms £15.16. **Date of Preparation:** July 2018. All trademarks registered to Ferring. **PI approval code:** NOQ/2109/2016/UK(1)

**Adverse events should be reported. Reporting forms and information can be found at www.mhra.gov.uk/yellowcard. Adverse events should also be reported to Ferring Pharmaceuticals Ltd., Drayton Hall, Church Road, West Drayton, UB7 7PS. Telephone: 0800 111 4126. Email: medical@ferring.com**

FERRING PHARMACEUTICALS

UK-NOQD-2000017 Date of preparation: November 2020

# Noqdirna®

**oral lyophilisate desmopressin (as acetate)**

# Monitoring serum sodium levels in the over 65s

FERRING PHARMACEUTICALS

References and prescribing information can be found on the back page

## What is Noqdirna?

Noqdirna is a low-dose oral lyophilisate formulation of desmopressin, indicated for symptomatic treatment of nocturia due to idiopathic nocturnal polyuria, with tailored, once-daily doses for men and women: 50 µg for men and 25 µg for women.[1]

## Is there a link between desmopressin and hyponatraemia?

Desmopressin is a vasopressin analogue that reduces the amount of water excreted by the kidneys during the night. As a result, serum sodium levels are diluted as water re-enters the circulation; this can cause hyponatraemia, serum sodium concentrations of less than 135 mmol/L.[2]

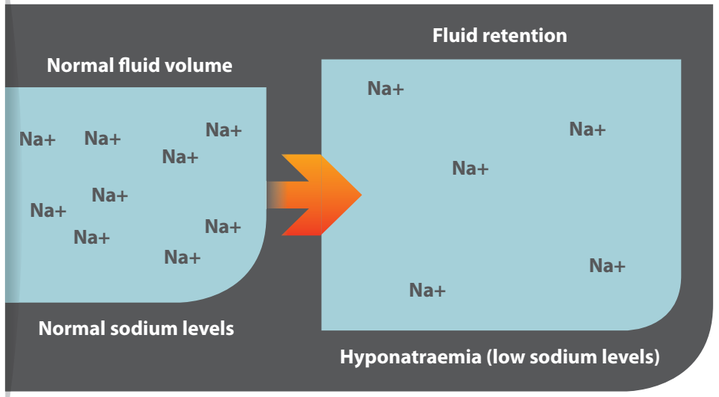
European guidelines have graded the severity of hyponatraemia in adults according to serum sodium concentration:[3,4]

| Serum sodium (mmol/L) | Severity |
|---|---|
| 130 -134 | Mild |
| 126 -129 | Moderate |
| ≤125 | Severe |

Before the availability of Noqdirna, desmopressin had been used in high, off-licence doses for treating nocturnal polyuria. High doses of desmopressin have been associated with hyponatraemia.[5] Noqdirna is a low-dose formulation, designed with specific doses for men and women to minimise the potential for hyponatraemia.[1]

Nocturnal polyuria can also result from cardiovascular or other medical conditions associated with fluid overload which can result in hyponatraemia; in these cases Noqdirna is not recommended.[1]

## Hyponatraemia can be caused by excessive fluid retention




## Why are the over 65s at risk of hyponatraemia?

Older people have a higher risk of developing hyponatraemia due to ageing physiology, multiple co-morbidities and polypharmacy.[6] Specifically, they can be affected by age-related changes in fluid and electrolyte balance due to increased sensitivity to vasopressin and a decrease in renin-angiotensin pathway activity.[5,7]

## What are the requirements for sodium monitoring in the over 65s?

Monitoring serum sodium is a simple routine blood test obtained by venipuncture that shows how much sodium is in your blood. This test is often performed to monitor many other medications that affect your sodium levels, including diuretics and other hormones.

In elderly patients (aged ≥65 years), serum sodium levels must be within the normal range (135-145 mmol/L) before treatment with Noqdirna is initiated, due to their increased risk of developing hyponatraemia.[1]

From one hour before treatment administration until eight hours afterwards, fluid intake must be kept to a minimum. Treatment without concomitant reduction of fluid intake may lead to prolonged fluid retention and/or hyponatraemia with or without accompanying symptoms.[1]

Serum sodium should be monitored 4-8 days after initiation with Noqdirna and again one month after treatment initiation in the elderly.[1,5]

**When to monitor sodium levels of Noqdirna patients over 65**