**European Association of Urology, press release**

# *Night-time urination reduced by cutting salt in diet*

**Embargo until: Sunday 26th March at 00.01 GMT (London)**

The need to pee at night (nocturia) – which affects most people over the age of 60 – is related to the amount of salt in your diet, according to new research presented at the European Society of Urology congress in London.

Most people over the age of 60 (and a substantial minority under 60) wake up one or more times during the night to go to the bathroom[1]. This is nightime peeing, or nocturia. Although it seems a simple problem, the lack of sleep can lead to other problems such as stress, irritability or tiredness, and so can have a significant negative impact on quality of life. There are several possible causes of nocturia. Now a group of Japanese scientists have discovered that reducing the amount of salt in one's diet can significantly reduce excessive peeing – both during the day and when asleep.

A group of researchers from Nagasaki University, led by Dr Matsuo Tomohiro, has studied salt intake in a group of 321 men and women who had a high salt intake and had problems sleeping – Japanese people tend to have a higher than average salt intake. The patients were given guidance and support to reduce salt consumption. They were followed for 12 weeks, and salt consumption measured biochemically.

223 members of the group were able to reduce their salt intake from 10.7 gm per day to 8.0 gm/day. In this group, the average night-time frequency of urination dropped from 2.3 times/night to 1.4 times. In contrast, 98 subjects increased their average salt intake from 9.6 gm/night to 11.0 gm/night, and they found that the need to urinate increased from 2.3 times/night to 2.7 times/night. The researchers also found that daytime urination was reduced when salt in the diet was reduced.

This reduction in the need to go to the bathroom at night caused a marked improvement in the quality of life of the participants, as measured by the standard CLSS-QoL questionnaire.

Dr Tomohiro said

"*This is the first study to measure how salt intake affects the frequency of going to the bathroom, so we need to confirm the work with larger studies. Nigh- time urination is a real problem for many people, especially as they get older. This work holds out the possibility that a simply dietary modification might significantly improve the quality of life for many people".*

Commenting, Dr Marcus Drake (Bristol, UK), Working Group Lead for the EAU Guidelines Office Initiative on Nocturia, said:

*"This is an important aspect of how patients potentially can help themselves to reduce the impact of frequent urination. Research generally focusses on reducing the amount of water a patient drinks, and the salt intake is generally not considered. Here we have a useful study showing how we need to consider all influences to get the best chance of improving the symptom".*

1 http://www.medscape.com/viewarticle/731730_2 Note that nocturia is defined differently in different countries.

**ENDS**

## Notes for Editors

**PLEASE MENTION THE EUROPEAN ASSOCIATION OF UROLOGY CONGRESS IN ANY STORY RESULTING FROM THIS PRESS RELEASE**

The 32nd European Association of Urology conference takes place in London from 24th to 28th March. This is the largest and most important urology congress in Europe, with up to 13,000 expected to attend. Conference website http://eau17.uroweb.org/

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**How has this work been reviewed?** This work has not gone through a journal peer-review process. This work is amongst the top-rated 150 abstracts (out of 1171 accepted from around 5000 submissions) from the EAU congress. It was reviewed for suitability and accuracy by members of the EAU communications group at more than one stage in development, and subsequently reviewed by a specialist in the field on behalf of the EAU.

**ABSTRACT**

**Effect of restricted salt intake on nocturia**

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**Introduction & Objectives**

Some recent reports have stated that high salt intake, which leads to high water intake and edema, is a likely cause of polyuria and nocturia. However, there are no prospective studies on the effect of restricted salt intake on lower urinary tract symptoms (LUTS).

**Material & Methods**

Subjects included those with one or more episodes of nocturia during sleep, and with high salt intake (≥8 g/day for men and ≥7 g/day for women). Participants were given written guidance on salt intake reduction. A frequency volume chart was used to assess voided volume, urinary frequency, etc., before and 12 weeks after initiation of decreased salt intake. Changes in LUTS before and after the study were compared using the Core Lower Urinary Tract Symptom Score (CLSS). Those with organic or functional abnormalities including neurogenic bladder were excluded from the study. Medications for LUTS were not changed during the study period. The daily salt intake was estimated by examining the sodium and creatinine concentrations of spot urine samples using a formula that was adjusted for body height, body weight, and age. A P-value <0.05 was considered statistically significant.

**Results**

A total of 321 subjects (102 men) with a mean age of 64.3±13.6 years were evaluated. Of these, 223 (69.5%) successfully reduced daily salt intake during the observation period (Success [S] group) while 98 (30.5%) did not (Failure [F] group). Mean estimated daily salt intake in the S group decreased from 10.7±2.3 g to 8.0±2.1 g (P<0.001). Nighttime Frequency improved from 2.3±0.9 times to 1.4±1.0 times (P<0.001). Nocturnal Polyuria index (NPi) improved from 30.2±7.5% to 27.7±7.3% (P<0.001). Mean estimated daily salt intake by the F group increased from 9.6±1.3 g to 11.0±1.8 g (P<0.001), and nighttime frequency increased from 2.3±1.1 times to 2.7±1.1 times (P<0.001). The NPi in the F group before and after the study was 30.8±8.3% and 30.5±7.9%, respectively, showing no change (P=0.583). In the CLSS for the S group, Q1 (diurnal frequency) improved from 0.8±0.9 to 0.4±0.7 (P<0.001), Q2 (nocturia) improved from 1.9±0.6 to 1.3±0.8 (P<0.001), and Q3 (urgency) changed from 1.0±1.0 to 0.9±1.0 (P=0.001). Moreover, the quality of life (QOL) parameter improved significantly from 3.6±1.2 points to 2.7±1.3 points (P<0.001).

**Conclusions**

Nocturia is the symptom that most affects QOL. However, in this clinical study in which the subjects had nocturia and high salt intake, both nighttime frequency and NPi decreased significantly in the group that succeeded in decreasing salt intake (the S group). Furthermore, QOL improved. For patients with nocturia and high salt intake, it might be better to advise salt intake

reduction and lifestyle guidance. Salt intake reduction might also be beneficial for patients who respond poorly to medications for nocturia and who have high salt intake.

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