

# PTNS INCREASES TIME TO FIRST NOCTURNAL VOID AND REDUCES EPISODES OF NOCTURIA IN PATIENTS WITH OAB AND NOCTURIA

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## Introduction

Percutaneous tibial nerve stimulation (PTNS) is an effective treatment for overactive bladder syndrome (OAB) (1). OAB is often accompanied by nocturia (2). Nocturia is defined by the ICS as the complaint that the individual has to wake at night one or more times to void (2). First uninterrupted period of sleep (FUPS) refers to the interval before an individual awakens to urinate for the first time during a night of sleep (3). Short time to first void, or short FUPS, in patients with nocturia is associated with lower whole night sleep quality and impair cardiometabolic health (3).

## Aims of study

This study is the first to describe the effect of PTNS on nocturia in patients with OAB. This is the first report in which FUPS is used to describe the effect of PTNS on nocturia.

## Study design, materials and methods

This study is a retrospective analysis of a cohort of OAB patients treated with PTNS in 2015 and 2016 in our hospital. All patients were asked to complete a 3-day voiding diary at baseline and after 12-weeks of PTNS treatment. Statistical analysis was done using a paired students t-test.

Parameters extracted from the voiding diaries were:

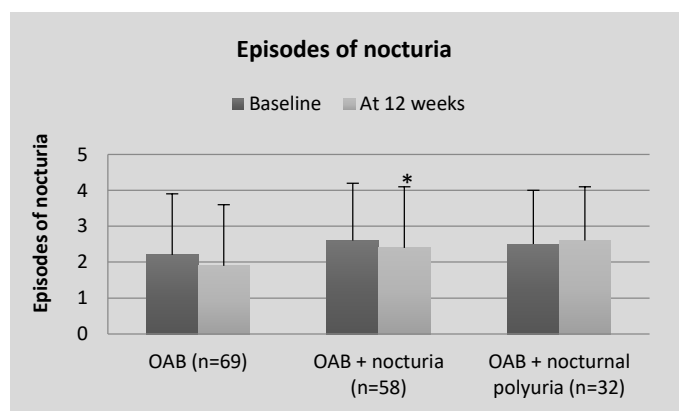
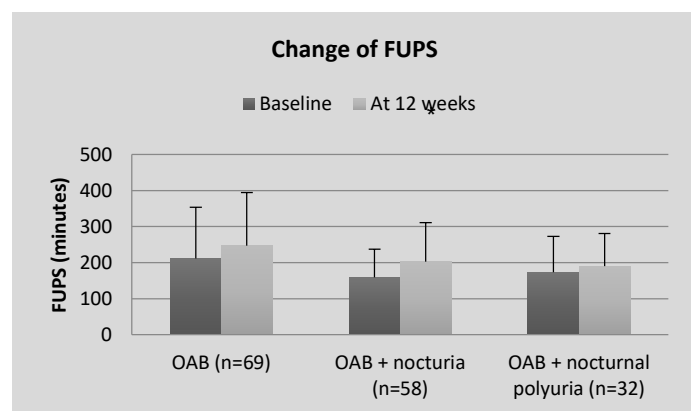
- FUPS: calculated as minutes from the time a patient went to bed to the first episode of nocturia.
- NPI: defined as nocturnal urine volume of 0.33 or more of total 24 hours urine volume.
- Episodes of nocturia.

## Results

Of all included patients (n=69), 14 were male and 55 were female and mean age was 66.7 ± 11.7. In total 58 patients had nocturia and 32 had nocturnal polyuria.

	Baseline	At 12 weeks		Baseline	At 12 weeks	
	Mean (SD)	Mean (SD)	p-value	Mean (SD)	Mean (SD)	p-value
OAB (n=69)	211,8 (141,9)	247,0 (147,6)	0,08	2,2 (1,7)	1,9 (1,7)	0,06
OAB + nocturia (n=58)	159,6 (77,7)	203,0 (108,3)	0,02*	2,6 (1,6)	2,4 (1,7)	0,004*
OAB + nocturnal polyuria (n=32)	173,7 (99,3)	190,7 (90,4)	0,50	2,5 (1,5)	2,6 (1,5)	0,87

Table 1. FUPS and number of episodes of nocturia before and after 12-weeks of PTNS treatment. FUPS in minutes ±SD, number of episodes of nocturia ±SD. \* = p < 0.05.



## Interpretation of results

In patients with OAB and nocturia, PTNS reduces episodes of nocturia and increases the FUPS. An increased time to first void may improve quality of sleep and may improve cardiometabolic health. In patients with nocturnal polyuria, PTNS has no beneficial effect on episodes of nocturia or FUPS, probably because of a different pathophysiological mechanism.

## Concluding message

PTNS increases time to first nocturnal void and reduces total episodes of nocturia in patients with OAB and nocturia, but not in patients with nocturnal polyuria.

## References

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## Disclosures

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