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Title (type in CAPITAL LETTERS, leave one blank line before the text)	TRANSURETHRAL RESECTIONS OF THE PROSTATE IN RELATION TO NOCTURIA IN NORTHERN SWEDEN 1992-1997

AIMS OF STUDY Prostatic enlargement is responsible for a number of symptoms related to voiding dysfunction [1] By the age of 75 between 10 and 25 % of men require intervention for problems with outflow obstruction caused by benign prostatic hypertrophy (BPH) [2] Men with outflow obstruction are often bothered by nocturia and nocturia has in the past been regarded solely as a symptom of BPH [3] The aim of this study was to assess the temporal trends in the surgical treatment of BPH in northern Sweden, and in particular the possible influence of nocturia on the decision to treat by transurethral resection of the prostate (TURP)

METHODS A total of 2501 elderly men were recruited by a questionnaire from a group of pensioners (n=4035, response rate 62%) from two northern counties in Sweden in June 1992 Their age was 73.3 (± 6.4) years. The questions concerned the general state of health, use of drugs, everyday habits and occurrence of somatic disease and symptoms There was an additional question on the number of nocturnal voiding episodes In March 1999 data on the number of TURPs was extracted from the period covering July 1992 to the end of December 1997 from the National Register of Hospital Care in Stockholm.

RESULTS. During the period from July 1992 to December 1997 a total of 176 TURPs were performed on 170 men (corresponding to an annual incidence of first TURP of 12.4/1000 men) When the study period was divided into two equal periods of 33 months it was evident that there was a decrease in TURP In the first 33 months (P1) 107 TURPs (14.1/1000 men) per year were performed compared with 63 TURPs (8.6/1000 men) in the latter 33 months (P2) (OR P2 vs P1 0.59, CI 0.43-0.81) This correlated to a reduction in TURP by 41% from P1 to P2 There was a direct relationship between the number of TURPs and the number of nocturnal micturitions ($p < 0.0001$) during P1 however this effect was totally absent during P2 Frequent awakenings were 1.7 times (95% CI 1.1-2.6) more common in men undergoing TURP during P1 than those men treated during the whole period The corresponding value for men treated in the P2 period was 1.2 (CI 0.7-2.2)

CONCLUSIONS. The frequency of TURP decreased throughout the study period One surprising finding was that the direct relationship between TURP and nocturnal micturition episodes during P1 was totally absent during P2; during P1, the occurrence of nocturia was a significant influence on the probability to be treated with TURP, while such a tendency was absent during P2 This change indicates a difference over time in the evaluation of the need for treatment in relation to symptoms and clinical findings in men with BPH It may reflect an increasing awareness that there are other common causes of nocturia other than BPH [4] Increasing awareness of alternative conditions, such as the nocturnal polyuria syndrome (NPS) may explain the reduced number of TURPs in those men with numerous nocturnal voids during P2 compared with P1.[5] Alternative, pharmacological therapy may relieve nocturia caused by NPS without the need for invasive and unnecessary surgery To summarise, men who were troubled by nocturia and sleep interruption showed a substantial increase in their proneness to be treated with TURP during P1, but not P2 Nocturia in general, and NPS in particular, are associated with a deterioration of sleep [6]

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