

## NOCTURIA IN THE ELDERLY: AGE DIFFERENCES IN MAXIMUM CYSTOMETRIC CAPACITY

### Hypothesis / aims of study

The relationship between bladder capacity and first sensation of bladder filling during CMG as it relates to patient reported nocturia has been poorly explored<sup>1(1)</sup>. In this study we investigated the relationship between patient reported nocturia versus maximum cystometric capacity (MCC) and first sensation of bladder filling (FSBF) in men  $\geq 60$  and those  $< 60$  years of age.

### Study design, materials and methods

We have electronic charts on all patients who have undergone Conventional Urodynamic Studies from 1996-2006 at our institution contained in an urodynamic (UD) data base. Using this data base, MCC and volume at FSBF were cross-referenced with the degree of nocturia reported by men  $\geq 60$  and  $< 60$  years of age. Mean and standard deviation for MCC and FSBF were then determined for each level of nocturia in both groups of men. A one-way ANOVA ( $p < 0.05$ ) was applied to each level of nocturia to determine statistical significance.

### Results

There were 888 consecutive patients identified in the UD database (498 $\geq 60$ , 390 $< 60$ ). First sensation of bladder filling correlated with severity of nocturia in both older and younger patients ( $p < 0.0001$  and  $p < 0.0247$  respectively). Maximum cystometric capacity only correlated with severity of nocturia in men  $\geq 60$  years of age ( $p < 0.0001$ ).

Figure 1: Age  $\geq 60$

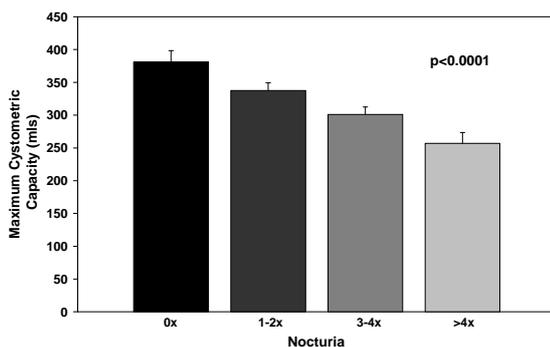


Figure 2: Men  $< 60$

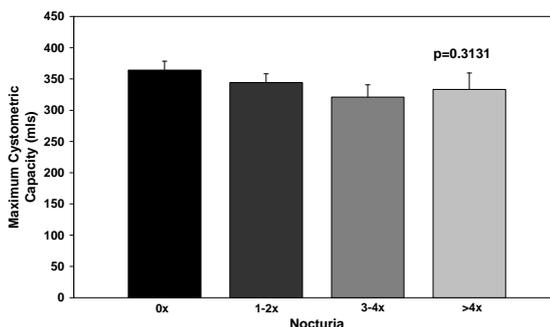


Figure 3: Men  $\geq 60$

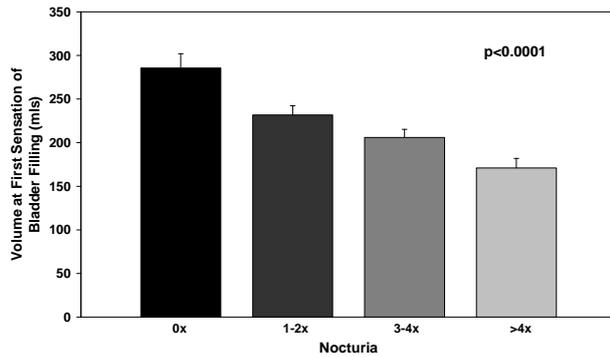
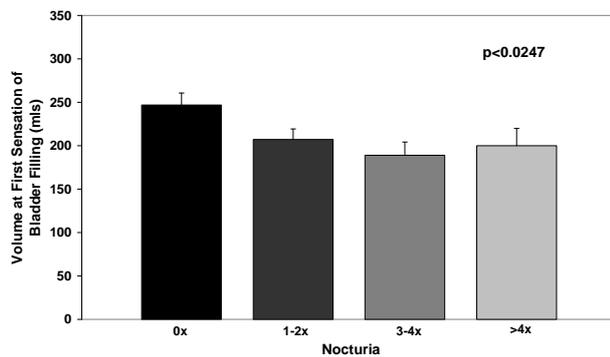


Figure 4: Men < 60



#### Interpretation of results

This is the first large study to demonstrate that decreased maximum cystometric capacity correlates at all levels of severity of nocturia in men  $\geq 60$  but not in the younger male. Nocturia in males has long been attributed to nocturnal polyuria with decreased bladder capacity playing a smaller role.<sup>(2,3)</sup> However, this study demonstrates that decreased bladder capacity as measured by MCC, plays a major role in patient reported nocturia in the aging male. In addition, first sensation of bladder filling occurs at lower levels especially in men  $\geq 60$  likely as a function of decreased bladder capacity.

#### Concluding message

Decreased bladder capacity as measured by MCC, plays a major role in patient reported nocturia in the aging male.

#### References

1. Urology (2006 March) 67 (3); 541-4.
2. Neurourol Urodyn (1999) 18 (6); 559-65.
3. Journal of Urology (2006 Sept.) 176(3); 1034-9.

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**HUMAN SUBJECTS:** This study was approved by the Capital District Health Authority Research Ethics Board and followed the Declaration of Helsinki Informed consent was not obtained from the patients.