CONSERVATIVE TREATMENT OF MALE URINARY INCONTINENCE & ERECTILE DYSFUNCTION

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Conservative Treatment of Male Urinary Incontinence and Erectile Dysfunction

A textbook for physiotherapists, nurses and doctors

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WHURR PUBLISHERS

LONDON AND PHILADELPHIA

First published 2001 by
Whurr Publishers Ltd
19b Compton Terrace, London N1 2UN, England and
325 Chestnut Street, Philadelphia PA 19106, USA

Reprinted 2002 and 2004

British Library Cataloguing in Publication Data
A catalogue record for this book is available from the British Library.

ISBN: 1 86156 302 7

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Preface

This book is written primarily for those specialist continence physiotherapists who treat female continence problems but who are unsure of the treatment for male patients with lower urinary tract symptoms. It will be a useful reference tool for urology nurses, continence specialist nurses and continence advisors; and those medical students, student nurses and physiotherapy students suddenly finding themselves on a urology placement. It will provide a greater knowledge of conservative treatment in this speciality for urologists and GPs. Where possible, the information is based on the current literature, even though this is sparse in some areas. The avid reader and the questioning research student may find the references provide further, fascinating and more in-depth reading.

Background details concerning the prevalence of male lower urinary tract symptoms, the anatomy and physiology of the pelvic floor and the physiology of the continence mechanism are provided in order to explain the dysfunction that can occur.

The different prostatic conditions are covered in detail, plus the range of standardised medical and surgical investigations and treatments. The various types of incontinence are explained, and a comprehensive classification of male urinary incontinence tabulated. The subjective and objective physiotherapy assessment is covered chronologically to enable the clinician to conduct a meaningful investigation and arrive at a logical diagnosis.

Recommended conservative treatment options are provided for each type of incontinence, with a range of patient advice added for completeness. Treatment outcomes, which may vary considerably, are discussed.

Following the treatment chapter, there are case studies, which provide question and answer sessions for the student to check their knowledge base, and for the more experienced, to act as an aide memoire. There are

two chapters on the aetiology and conservative treatment of erectile dysfunction which are based on an extensive literature search. The appendix includes subjective and objective continence assessment forms and examples of patient information sheets, and a list of definitions and abbreviations to explain the medical jargon is provided, to help those readers who do not have a medical background or are unfamiliar with some of the more obscure urology terminology.

This is the book that I would have welcomed before embarking on my MSc. It contains information that I have spent three years gathering, analysing and compiling, and I hope you will find it interesting, informative and a useful reference source. Good luck with your studies.

Grace Dorey MSc MCSP
June 2001

Acknowledgements

I sincerely thank the clinical reviewers for their contribution, wisdom and considerable support. I would also like to thank my daughter Claire for her accurate anatomical illustrations.

Clinical reviewers

Mrs Jane Dixon MCSP
Professor Roger Feneley FRCS
Mrs Jeanette Haslam MPhil MCSP
Dr Katherine Moore PhD RN

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Claire Dorey BA (Hons)

Dedication

To my physiotherapy colleague Claire, who sent me my first male urology patient, and who caused me to explore this subject in greater depth.
To my first male urology patient, a delightful man who must remain anonymous, but who patiently waited for me to research the subject.

Contents

CHAPTER 1

Lower urinary tract symptoms

Key points

- Male lower urinary tract symptoms include nocturia, frequency, urgency, urge incontinence, stress incontinence and post-micturition dribble.
- Moderate to severe lower urinary tract symptoms occur in 29–51% of men in the UK aged 50 years and over.
- The International–Prostate Symptom Score gives identical readings for men with and without obstruction and for age-matched women.

Male lower urinary tract symptoms

Male lower urinary tract symptoms (LUTS) include nocturia, frequency, urgency, urge incontinence, stress incontinence, post-micturition dribble, heistancy, weak stream, intermittency, pain, dysuria and haematuria (Neal, 1990; Chute *et al*, 1993; Hunter *et al*, 1996; de la Rosette *et al*, 1998; Kortmann *et al*, 1999; Dorey, 2000f) (see Table 1.1). In elderly men many of the symptoms are caused by benign prostatic hyperplasia (BPH), but up to one-third of symptoms have other causes such as detrusor instability and detrusor underactivity (Kortmann *et al*, 1999). Lower urinary tract problems contribute to social and psychological problems which may severely affect quality of life.

Former 'prostatic' symptoms

Abrams (1994) divided LUTS in men into voiding and filling symptoms, as shown in Table 1.2.

Table 1.1 Lower urinary tract symptoms in men

Nocturia
Frequency
Urgency
Urge incontinence
Nocturnal enuresis
Stress incontinence
Post-micturition dribble
Incomplete emptying
Acute retention
Weak stream
Hesitancy/straining
Intermittency
Terminal dribble
Dysuria
Bladder pain
Burning
Haematuria

Table 1.2 Bladder filling and voiding symptoms in men (Abrams, 1994 reproduced with permission)

Filling symptoms	**Voiding symptoms**
Frequency	Hesitancy
Urgency	Poor stream
Urge incontinence	Straining
Nocturia	Incomplete emptying
	Intermittency
	Terminal dribble

Lower urinary tract symptoms used to be synonymous with 'prostatic' symptoms. In 1994, Abrams reported that older men with LUTS were described as having symptoms of BPH. The following year, he stated that the term 'prostatism' should be abandoned, and the term 'lower urinary tract symptoms' should be used instead (Abrams, 1995). More weight was given to the thinking that LUTS were not just symptoms of prostatism when Abrams (1995) stated that the International–Prostate Symptom Score (I-PSS) gave identical readings in men with and without obstruction and also in age-matched women (Lepor and Grace, 1993). LUTS were not necessarily related to urodynamically proven bladder outlet obstruction (BOO) or histologically proven BPH (Abrams, 1994). Indeed, Scafer *et al* (1988) stated that one-third of men did not have outflow obstruction but had detrusor underactivity as the

cause of their reduced stream. Symptoms could be present before or after BOO and also before and after surgery to remove the obstruction (Neal, 1990). Neal found that 25% of men complained of frequency, urgency and occasionally incontinence after transurethral resection of prostate (TURP) and that most had suffered symptoms before surgery. Symptoms such as nocturia and straining were found to exist similarly in elderly women (Jolleys *et al*, 1993).

Research implicated that BOO could exacerbate LUTS or cause a variety of bladder changes which may result in new LUTS. Obstruction from prostate cancer may also cause obstructive (voiding) and irritative (filling) symptoms in the later stages although this cancer is usually symptom free in the early stages. There is no clear relationship between prostate size and symptoms (Simpson *et al*, 1996). When the urethral obstruction is removed by either TURP or radical prostatectomy, incontinence may ensue. The cause may be sphincteric incompetence (Foote *et al*, 1991) or filling symptoms or a combination of both. Interestingly, the LUTS listed in Table 1.2 include urge incontinence as being a problem of filling, but other symptoms such as stress incontinence or post-micturition dribble are not listed by Abrams (1994).

Prostate symptom scores

Urologists and general practitioners use prostate symptom scores in order to assess the severity of prostatic symptoms. This will determine the need for surgery for the obstruction. Various unvalidated prostate symptom scores have been used previously but these were replaced in 1991 by the International–Prostate Symptom Score (I-PSS) validated by the International Continence Society (ICS).

Unvalidated questionnaires

There have been three unvalidated questionnaires from the USA. Both the Boyarsky Score (Boyarsky *et al*, 1977) and the Madsen–Iversen Score (Madsen and Iversen, 1983) were designed to be completed by doctors and were never validated. The Maine Medical Assessment Program (MMAP) Instrument (Fowler *et al*, 1988), although not validated, was the first questionnaire to be designed for completion by patients.

Validated questionnaires

The Danish Prostatic Symptom Score (DAN-PSS-1) (Hald *et al*, 1991; Hansen *et al*, 1995) contains a symptom/symptom-botherness section

and a sexual questionnaire. There are 24 questions, which are considered to be confusing to elderly patients.

The Bolognese Symptom Questionnaire for BPH (Bolognese *et al*, 1992) contains a symptom section, a symptom-bothersomeness section and one question on urination. It was constructed for a clinical trial assessing the effect of finasteride, but otherwise has not been used.

The I-PSS (Cockett *et al*, 1991; Barry *et al*, 1992) was derived from the American Urologic Association (AUA) symptom score with the addition of a condition-specific quality-of-life question. The I-PSS is the most frequently used of the questionnaires. In order to assess the severity of LUTS patients report if they have suffered from the following symptoms within the last month:

incomplete emptying
frequency
intermittency
urgency
weak stream
straining
nocturia

Each question is scored 0–5, giving a possible total of 35:

0 not at all
1 less than 1 time in 5
2 less than half the time
4 more than half the time
5 almost always

Patients are also asked to rate their quality of life due their to urinary symptoms from the following seven categories:

1 delighted
2 pleased
3 mostly satisfied
4 mixed about equally satisfied and dissatisfied
5 mostly dissatisfied
6 unhappy
7 terrible

Surgery may be appropriate for men with a score of 20 or over. This was confirmed by Cliff *et al* (1997) following a trial of 3442 men aged over 40 years.

When Abrams (1995) found that the I-PSS gave identical readings for men with and without obstruction and for age-matched women, he advocated 'watchful waiting' as an alternative to surgery. Also, a 2 year group study in Canada reported that placebo therapy rapidly produced a significant improvement in Q_{max} (maximum urinary flow rate) and symptoms of BPH (Nickel, 1998). Patients may have previously undergone TURP because urinary symptoms such as frequency, urgency, nocturia, and therefore poor quality of life, gave a high I-PSS score. The former 'prostatic' symptoms of frequency, urgency and nocturia could still be present after surgery.

Because some of the urinary symptoms were considered to be unrelated to prostatic outflow obstruction, Donovan *et al* (1996) compiled the ICS*male* Questionnaire which was considered to be a more accurate way to assess male urinary symptoms. Unfortunately, it does not contain questions related to symptoms such as incontinence which may develop following treatment. The ICS*male* Questionnaire contains questions on 20 urinary symptoms, 19 of which have an additional question to ascertain the degree of bother that they cause. It is easy for the patient to complete. The questions on frequency and nocturia demonstrate reasonable agreement with frequency/volume (F/V) charts, but there is a poor relationship between questions assessing stream and the results of uroflowmetry. This questionnaire was shown to have good internal consistency and good test–retest reliability. It was considered a breakthrough for assessing the severity of LUTS.

There is still controversy as to the need for a prostate symptom score. In a prospective study of 126 consecutive men with LUTS, Vestey and Hinchcliffe (1998) compared the I-PSS to a 7 day F/V chart. They found that 64% of men overestimated their frequency and 47% their nocturia on the I-PSS questionnaires. Half the scores revealed nocturnal polyuria (>33% urinary output during bedtime hours), with 11% of men producing more than 50% of their output at night. There was no correlation between the I-PSS and post-void residual volumes for incomplete bladder emptying, and no correlation between the I-PSS and maximum flow rates for patients with a weak stream. They concluded that the F/V chart, in combination with flowmetry and post-void residuals, answered the I-PSS questions more objectively and in more detail than the I-PSS

questionnaire. In addition, the F/V chart provided important information on nocturnal output, co-morbidity and social habits. They recommended the routine use of F/V charts for the assessment of male LUTS.

Quality of life

Quality of life has been linked to the World Health Organisation definition of health (WHO, 1978), which was defined as a state of physical, emotional and social well-being, and not just the absence of disease or infirmity. The quality of life is subjective. Some condition specific questionnaires assess the quality of life and some the bothersomeness of symptoms for men with LUTS (see Table 1.3).

Table 1.3 Condition-specific questionnaires and quality of life questionnaires (Donovan, 1999 reproduced with permission)

Questionnaire	Reference
Condition-specific:	
AUA bother index	Barry *et al* (1992)
DAN-PSS-1	Hald *et al* (1991)
ICS*male*	Donovan *et al* (1996)
Quality of life:	
BPH Impact Index	Barry *et al* (1995)
Veterans Affairs	Anonymous (1993)
Olmstead County Index	Girman *et al* (1994)
BPH QL	Epstein *et al* (1992)
ICSQoL	Donovan *et al* (1997)

Prevalence of lower urinary tract symptoms

Moderate to severe LUTS are relatively common, occuring in 29–51% of a sample of 1088 men in the UK aged 50 years and over (Trueman *et al*, 1999) (see Table 1.4). However, Trueman only assessed urinary symptoms and ignored pain when he used the I-PSS as his method of assessment. Only half of the men with moderate to severe symptoms had sought medical attention (Trueman *et al*, 1999). The main reasons given for seeking a consultation were 'symptoms may get worse', 'fear of cancer', 'interruption to daily activities' and 'embarrassment'.

Moderate to severe LUTS occur in about 25–30% of men aged 50 years and over who have not had surgery, and the prevalence increases with age (Garraway *et al*, 1991; Chute *et al*, 1993; Hunter *et al*, 1996). In

Table 1.4 Age-specific prevalence of men with moderate to severe LUTS (Trueman et al, 1999 reproduced with permission)

Age group (years)	Sample *n*	Symptomatic *n* (%)
All (50–92)	1088	452 (41)
50–60	14	4 (29)
61–70	330	124 (38)
71–80	598	247 (41)
>80	146	75 (51)

the USA, the symptoms of urgency, frequency and nocturia were found to be present in 50% of men aged 62–90 years who had not undergone surgery (Milne *et al*, 1972). In the UK, the symptoms of bladder outlet obstruction most commonly due to benign prostatic hyperplasia were reported to affect 1 in 3 men over the age of 50 years (Garraway *et al*, 1991).

Summary

Male lower urinary tract symptoms (LUTS) include nocturia, frequency, urgency, urge incontinence, stress incontinence, post-micturition dribble, heistancy, weak stream, intermittency, pain, dysuria and haematuria. The ICS*male* Questionnaire is considered to be a more accurate way than the I-PSS to assess male urinary symptoms. LUTS have a marked effect on quality of life.