HOSPITAL PHYSICIAN®

OBSTETRICS AND GYNECOLOGY BOARD REVIEW MANUAL

STATEMENT OF EDITORIAL PURPOSE

The *Hospital Physician Obstetrics and Gynecology Board Review Manual* is a peer-reviewed study guide for residents and practicing physicians preparing for board examinations in obstetrics and gynecology. Each manual reviews a topic essential to the current practice of obstetrics and gynecology.

NOTE FROM THE PUBLISHER:
This publication has been developed without involvement of or review by the American Board of Obstetrics and Gynecology.

Endorsed by the Association for Hospital Medical Education

Evaluation and Nonsurgical Management of Urinary Incontinence

Editor:
Matthew F. Davies, MD, FACOG
Associate Professor, Department of Obstetrics and Gynecology, Chief, Division of Women's Health, Director, Obstetrics and Gynecology Residency Program, Pennsylvania State University, Milton S. Hershey Medical Center, Hershey, PA

Contributor:
Christine A. LaSala, MD
Director, Division of Urogynecology, Hartford Hospital, Hartford, CT

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Cover Illustration by Kathryn K. Johnson

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Christine A. LaSala, MD

INTRODUCTION

Urinary incontinence is a common disorder that affects approximately 20 million Americans. Its prevalence surpasses that of commonly regarded diseases such as diabetes, asthma, and osteoporosis.[1] From 10% to 25% of reproductive-aged women and 30% to 40% of community-dwelling women over age 60 years are affected by urinary incontinence.[2] More than 50% of nursing home residents have incontinence,[3] and incontinence is a major reason for institutionalization.[4] Because the prevalence and severity increase with age,[5] the clinical burden of urinary incontinence will continue to grow as the population ages. In 1994, 13% of the female population was over age 65 years; it is estimated that this number will increase to 22% by 2040.[6]

Nearly 25% of women affected by urinary incontinence describe the symptoms as "daily" or "severe." The disorder negatively impacts self-esteem and may result in social withdrawal, sexual dysfunction, and depression.[7] Despite the quality of life impacts, less than half of those suffering from urinary incontinence consult health care providers for the problem. Therefore, diagnosing and managing incontinence are important components of a gynecologist's practice.

URINARY INCONTINENCE

Urinary incontinence is defined as any involuntary leakage of urine.[8] The main types of urinary incontinence are stress, urge, mixed, continuous, and functional (**Table 1**); other types may be situational (eg, leakage during intercourse or giggling). Urinary incontinence should be further described as to frequency, severity, precipitating factors, impact on quality of life, current management mechanisms, and whether or not treatment is desired.[9]

- **What mechanisms and risk factors contribute to urinary incontinence?**

PATHOPHYSIOLOGY

For continence to be achieved, urethral pressure should be greater then vesical pressure. The pubocervical fascia provides a hammock of support for the bladder neck as it inserts along with the levator ani muscles at the symphysis pubis[10,11] (**Figure 1**). The mid-urethra remains closed by active contraction of the urethral striated muscle, which is innervated by the pudendal nerve. Thus, pudendal nerve injury may result in external urethral sphincter muscle damage, contributing to stress urinary incontinence (SUI).[12–14]

Other neurophysiologic factors also contribute to urethral function. Stimulation of motor neurons located in the lumbosacral spinal cord in Onuf's nucleus results in contraction of the external urethral sphincter muscle.[15] Failure of this reflex may lead to SUI, regardless of the anatomic position of the urethra.

RISK FACTORS

There is an increasing effort to identify risk factors for urinary incontinence (**Table 2**)[16,17] and other pelvic floor disorders, as not all of these factors are understood with respect to causal relationship or magnitude. Proven risk factors include aging, obesity, and smoking. Inherently logical and basic science research supports a causal relationship between vaginal delivery and SUI.[18,19] Some epidemiologic studies demonstrate a significant increase in the risk of pelvic floor disorders in parous versus nulliparous women.[20,21] Other studies show no or little increased risk of incontinence in parous women.[22,23] Aging[16,24] is associated with increasing risk of both stress and urge incontinence, as is obesity.[24,25] Smoking increases the relative risk of SUI by 1.8 to 2.9.[24,26]

- **What historical details are important to elicit in the evaluation for incontinence?**
- **How should the physical and urogynecologic examinations be approached?**

CLINICAL EVALUATION

History

Patients who complain of urinary incontinence