

was found to be associated with a variety of muscular and neuromuscular injuries of the pelvic floor that are linked to the development of anal incontinence, urinary incontinence, and pelvic organ prolapse. Risk factors for pelvic floor injury include forceps delivery, episiotomy, prolonged second-stage of labor, and increased fetal size. Cesarean delivery appears to be protective, especially if the patient does not labor before delivery.

Conclusion: The pelvic floor plays an important role in continence and pelvic organ support. Obstetricians may be able to reduce pelvic floor injuries by minimizing forceps deliveries and episiotomies, by allowing passive descent in the second stage, and by selectively recommending elective cesarean delivery.

### **Risk Factors for Development and Recurrence of Urinary Incontinence**

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Three months postpartum, risk factors for development of urinary incontinence were found to be vaginal delivery, obesity and multiparity (>5). Caesarean section and daily antenatal pelvic floor muscle exercises appear to be protective, although not completely. In two studies the importance of pelvic floor muscle function in continence was addressed. In a case-control study of stress incontinent and healthy women, significantly thicker pelvic floor muscles were found in the healthy subjects. In another study urethral pressure parameters were all reduced following pudendal nerve blockade. A threefold prevalence of urinary stress incontinence among first degree relatives of female patients with stress urinary incontinence was demonstrated. In a review article associations between psychological and cognitive factors and sensory urgency and idiopathic detrusor instability were discussed. In another review article urinary incontinence in old age was addressed. In the elderly, urinary incontinence may be either transient or established. However, it should never be considered normal due to age. On the contrary, it seems to be treatable and often curable at all ages, even in the frail elderly.

**Editorial Comment:** The inference to be drawn from these articles is that damage to the nerves responsible for at least a portion of pelvic floor innervation occurs during vaginal delivery by pressure, stretching or cutting. Although stress incontinence occurs in as many as 30% of primigravidas during pregnancy, resolution after delivery is the rule. Damage to the pelvic floor musculature during vaginal delivery can clearly result in factors that contribute to stress incontinence. There is some argument about whether denervation injury truly occurs but it is difficult to argue with results such as those reported by Tetzschner et al. However, whether such nerve damage and stress incontinence are related is still controversial. Whether the pathology is neurological and/or muscular, following the suggestions made by Handa et al would seem to minimize this risk as much as possible.

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### **Clinical Effect of Propiverine in Patients With Urge or Stress Incontinence**

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The efficacy and tolerability of propiverine hydrochloride (20 mg day) were evaluated in the treatment of a total of 49 Japanese patients (35 with urge incontinence and 14 with stress incontinence) in an open multicenter trial lasting 28 days. The effects on the frequency of urination, urinary incontinence, urinary urgency, and daily living activities were evaluated through the voiding diaries filled out by the patients.

Moderate or greater degree of improvement was attained in micturition frequency by 52 and 54% of the patients with urge incontinence and with stress incontinence, respectively, in urinary urgency by 91 and 58%, in urinary incontinence by 97 and 71%, and in daily living activities by 94 and 64%. Although minor adverse reactions (5 patients) and abnormal values in blood chemistry (2 patients) were recorded in 7 patients, all of these patients completed the trial.

These results suggest that propiverine hydrochloride is a safe and effective drug of choice for the treatment of not only urge incontinence but also stress incontinence in patients diagnosed in a clinical setting.

### **Effect of Intermittent Urethral Catheterization and Oxybutynin Bladder Instillation on Urinary Continence Status and Quality of Life in a Selected Group of Spinal Cord Injury Patients With Neuropathic Bladder Dysfunction**

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Objectives: A comparative assessment of (i) urinary continence status, (ii) quality of life, and (iii) sexuality in spinal cord injury patients prior to, and during intermittent catheterization with adjunctive intravesical oxybutynin therapy (Cystin: manufactured by Leiras Oy, Helsinki, Finland).