

# A CASE SERIES OF REDUCED URINARY INCONTINENCE IN ELDERLY PATIENTS FOLLOWING CHIROPRACTIC MANIPULATION

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## ABSTRACT

**Objective:** This report presents a spinal adjustment approach to treat elderly patients with urinary incontinence.

**Methods:** This retrospective case series reports the clinical observation of 13 patients with urinary incontinence. They were treated for 1–8 weeks with Pro-Adjuster technique without any other additional drug and physical therapy treatment. The primary outcome measure for this analysis was the frequency of nocturia reported by the patients during each office visit to the chiropractor. Bladder control was reported by the patients as frequency of nocturia or the urgency of urination or instances of leakage, and the number of pad changes per day or a return of the sense of urinary urge.

**Results:** A total of 13 patients' data (6 female, mean ages  $65.7 \pm 12.9$  years) were included in the study. After 1–8 weeks of chiropractic adjustments, the urinary frequency at night was significantly reduced from 3.8 to 1.2 time a night ( $P < 0.001$ ). Three patients improved bladder control with only 2 adjustments.

**Conclusion:** The Pro-adjuster treatment program seemed to reduce nocturia in patients with urinary incontinence. (*J Chiropr Med* 2006;5:88–91)

**Key Indexing Terms:** Chiropractic; Urinary Incontinence

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## INTRODUCTION

Urinary incontinence, inability to control urine while awake or asleep,<sup>1</sup> is a common problem in the

elderly.<sup>2,3</sup> The National Association for Continence has sponsored epidemiological surveys of adults across the United States in order to quantify the prevalence of bladder control problems in the community.<sup>4</sup> These studies have identified that urinary incontinence and related symptoms of overactive bladder are important causes of depression<sup>5</sup> and a risk factor for nighttime falls.<sup>6</sup> The causes of urinary incontinence are often attributed to overactive bladder, low bladder capacity, or overproduction of urine at night (nocturnal polyuria), secondary to spinal injury.<sup>4</sup> The treatments for patients with urinary incontinence are usually bladder relaxants for overactive bladder,<sup>4</sup> and urinary pads to absorb urine.<sup>7</sup>

Several authors have reported the use of chiropractic adjustments for elderly patients with urinary incontinence.<sup>8,9</sup> Stude et al<sup>10</sup> reported a case study of a 14-year-old female patient who recovered completely from traumatically induced urinary incontinence after manual manipulation. Chiropractic adjustment seems to be effective in childhood enuresis and functional enuresis as reported in several studies.<sup>11,12,13</sup>

This current study presents a Pro-Adjuster spinal adjustment approach to treat elderly and young patients with urinary incontinence and has not been reported previously. A search in the PubMed found no publications using Pro-adjuster for urinary incontinence. Pro-Adjuster technique is a non-manual adjustment method that utilizes a hand held instrument controlled by a computer program to produce adjustable force and frequency. This study utilized a set of adjustment procedures developed and modified by the treating practitioner to treat patients with urinary incontinence. It was hypothesized that the Pro-Adjuster treatment may positively influence the autonomic nervous system using the four cycles per second setting.

## METHODS

Patients filled in information sheets before and after the treatment period. All patients came to see the doctor for varying reasons other than urinary incontinence, most often for low back pain. Since the patients came for varying reasons, there was no specific follow up plan for patients.

### Participants

A total of 13 patients are reported in this study with an average age of  $65.7 \pm 12.9$  years (range, 42–79). Common complaints for seeking chiropractic care were lower back pain, neck pain, thoracic pain, sacroiliac joint pain and other chronic pains. Patients rarely confided to the doctor that they had any bladder problem. In the early cases, the patient reported regaining bladder control to the treating doctor. In the later cases, the doctor asked all patients if they had any bladder control problems even though they might come in for low back pain treatment. All patients were treated in the doctor's office. Standard office procedure was used to document patient condition and consent for treatment. All treatments were provided by a licensed chiropractor.

### Procedure

The procedure used to treat the patients was the "Pro-ANS (autonomic nervous system) technique". After finishing the routine Pro-Adjuster procedure and the Pro-Basic technique, the computer was set to the 4 cycles per second setting to impact the nervous system directly and the 15–20 pound setting (depending on the size of the patient). The contact was about 1 inch under the coccyx and directed upward into the sacral plexus and ganglion of Impar (Fig 1). Regarding the duration of contact, the doctor asked the patient to inhale slowly and hold the breath in for about 4 seconds and then asked them to exhale slowly and hold for 4 seconds. The procedure was repeated twice, continuing the thrust for the entire time. The entire procedure took 25–30 seconds.

### Data Management and Analysis

The primary outcome measure for this analysis was the frequency of nocturia as reported by the patients during each office visit to the chiropractor. In this study, nocturia was defined as any void recorded between the usual time of sleeping and the usual



*Figure 1. Pro-Adjuster adjustment location in this study is indicated in the picture while the patient was sitting on a Pro-Adjuster chair.*

time of awakening. Bladder control was reported by the patients as frequency of nocturia or the urgency of urination or instances of leakage, and the number of pad changes per day or a return of the sense of urinary urge. Statistical analyses were conducted using SPSS for Windows, version 11 (SPSS Inc, Chicago, IL, USA). A paired t-test was used for comparison of the mean values. The significance level was set at  $P < 0.05$ .

## RESULTS

Data from a total of 13 patients (6 female, mean age of  $65.7 \pm 12.9$  yr) were included in the study. The main reasons for the 13 patients seeking chiropractic care were chronic low back pain, neck pain and leg pains (11 patients), prostate and macular degeneration (1 patient), and auto accident (1 patient). Nine patients had chronic urinary urgency and frequency where they had to void at least 3 times at night. Before treatment, the average frequency of urination at night was  $3.8 \pm 1.17$  times for all patients. The average history of urinary incontinence for the patients was  $5 \pm 2.2$  yr.

After 1–8 weeks of chiropractic adjustments, the urinary frequency per night was significantly reduced from  $3.8 \pm 1.17$  to an average of  $1.2 \pm 0.44$  a night ( $P < 0.001$ ) (Fig 2). Three patients reported improved bladder control after 2 adjustments. Two female elderly patients regained bladder control and no longer had to use urinary pads. All 13 subjects demonstrated reduction of urination frequency at night after 1–8 weeks of treatment (Table 1).

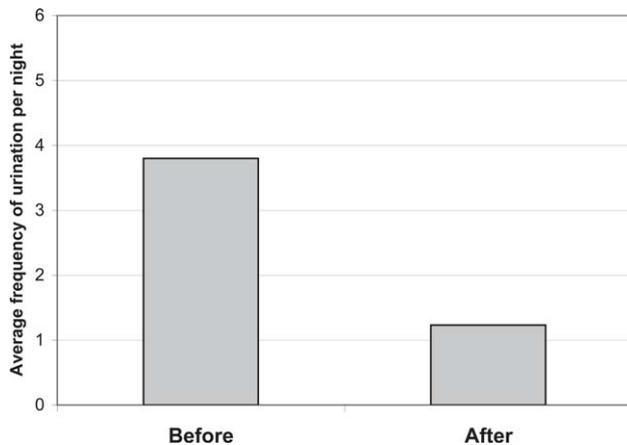


Figure 2. Average reduction of urinary incontinence before and after the Pro-Adjuster adjustments

**DISCUSSION**

This study demonstrates that patients with urinary incontinence and nocturia had a reduction in nocturia with the Pro-Adjuster treatment without behavioral or drug therapy. The adjustment given to patient produced no side effects. The results provide evidence that the Pro-Adjuster treatment used here might be used in chiropractic clinics for bladder-control treatment. Based upon results of a literature search, this is the first report showing benefit for people with incontinence using Pro-Adjuster treatment. Other treatment methods have shown nocturia reductions using physical therapy for women with predominantly stress incontinence<sup>14,15</sup> and 1 study reported the use of acupuncture for treatment.<sup>16</sup> There are statistically significant reductions in nocturia that can occur with treatment directed at

lower back symptoms in elderly with urinary incontinence.

These results describing reductions in nocturia in incontinent men and women are consistent with studies using physical therapy and acupuncture.<sup>15,16</sup> It was also consistent with research on urinary incontinence using pelvic floor muscle exercise training that was found to be effective in some studies.<sup>17-20</sup> Those studies confirmed that there was a link between pelvic floor muscle activity and urinary incontinence. In the current study, the location of the chiropractic adjustments played a critical role in the treatment response. The detailed mechanism of how the Pro-Adjuster adjustment might affect urinary incontinence is not clear. It is postulated that it might be affected by the autonomic nervous system through the pelvic muscle system or even through acupuncture points in the meridians.<sup>20</sup> It is also possible that reduction of tension in the lower back assisted in regaining bladder control.

Chiropractic adjustments have been used in bladder control problems for many years. Leboeuf et al<sup>11</sup> treated 171 enuretic children, aged 4 to 15, with chiropractic adjustments. The number of wet nights was monitored by their parents. The median number of wet nights per week was 7.0 at the onset of the study. By the end of the treatment this figure was 4.0 (p < .0001). Despite the improvement, due to lack of a control group, the authors felt that the evidence was not strong to claim effectiveness of chiropractic adjustments on functional nocturnal enuresis.

**TABLE 1**  
**PATIENT INFORMATION**

SUBJECT	GENDER	AGE	FREQUENCY AT NIGHT BEFORE	FREQUENCY AT NIGHT AFTER	HISTORY IN YEARS	REASON FOR CARE
1	M	54	2	1	5	NECK PAIN
2	M	56	3	1	5	LBP NECK P
3	M	79	4	1	2	LBP NECK P
4	F	79	4	1	8	LBP NECK P
5	M	76	6	2	5	LBP NECK P
6	F	78	4	1	8	LBP NECK P
7	F	56	5	1	4	LBP NECK P
8	F	58	4	2	5	LBP NECK P
9	F	65	3	1	2	SI PAIN
10	M	64	5	2	6	AUTO ACCIDENT
11	M	42	2	1	2	CHRONIC PAIN
12	F	61	3	1	8	SI PAIN
13	M	86	4	1	—	—
MEAN		65.692	3.769	1.231	5.000	
SD		12.893	1.166	0.439	2.256	
T			6.49636E-07			

In the current study, the treating doctor saw many patients with relief of urinary control problems. Many of these findings were first reported by patients after routine chiropractic care for low back pain. The patients would ask the treating doctor what had been done to their bladder control problems, as they appeared to be gone. With many positive responses from patients, it led to the current data collection and hypothesis that chiropractic adjustment of this kind might help patients with bladder control problems. However, the authors are fully aware of the many limitations of the study. The most significant is the small sample size, retrospective design, and a lack of control group. These limitations leave room for random error to occur and render the study results to a greater degree of uncertainty. Although the authors were encouraged by the positive findings in the study, the effect of Pro-adjuster treatment on urinary incontinence could not be drawn based on the current data. Another limitation that might impact the results was relying on patient self-reports of the frequency of urination at night. Inaccurate reporting could lead to error in the final results. This case series report was only a documentation of the patients' condition as they came in for care. The lack of follow up with patients over time after care was discontinued as well as lack of a prospective research design makes it desirable to study the subject further in a controlled study.

## CONCLUSIONS

A Pro-Adjuster treatment program appeared to be beneficial for the elderly chiropractic patients in this study having urinary incontinence. However, these findings are not conclusive due to the small sample size and lack of a control group. A large controlled and randomized study should be conducted to investigate the effect of this type of adjustment in patients with bladder control problems.

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