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pregnancy, supervised by physiotherapists, and the control group received only information. The primary outcome measure was self-reported symptoms of urinary incontinence. The secondary outcome measure was pelvic floor muscle strength. At follow-up, significantly fewer women in the training group reported urinary incontinence: 48 of 148 (32%) versus 74 of 153 (48%) at 36 weeks' pregnancy ($P = .007$) and 29 of 148 (20%) versus 49 of 153 (32%) three months after delivery ($P = .018$). Researchers concluded that intensive pelvic floor muscle training during pregnancy prevents urinary incontinence during pregnancy and after delivery. Pelvic floor muscle strength improved significantly after intensive pelvic floor muscle training³. Another study comparing the effects of pelvic floor exercises, electrical stimulation, vaginal cones and "no treatment" for genuine stress incontinence concluded that training of the pelvic floor muscles is superior⁴.

In addition to pelvic floor exercises, physiotherapy interventions for urinary incontinence throughout the lifespan can include biofeedback, electrotherapy, instruction on behavioural changes concerning diet, bowel and bladder habits, the use of bladder restraining devices, and in some cases, pessaries.

1 *Am J Obstet Gynecol* 1948;56(2):238-248.

2 *Am J Obstet Gynecol* 1991; 165:2: 322-9).

3 *Int Urogynecol J Pelvic Floor Dysfunct* 1998; 9:257-264.

4 *Obstet Gynecol* 2003 Feb; 101(2): 313-9.

Paying for *Physiotherapy*

On January 1, 2002, physiotherapy was de-listed from the British Columbia Medical Services Plan, meaning that the considerable majority of people in BC must pay for physiotherapy through extended health benefits, their own money or a combination of the two. For people with low incomes who are on premium assistance, MSP will contribute up to \$23 per visit for up to 10 total visits to physiotherapy. School-age children in the At-Home Program are also funded for 24 physiotherapy treatments every six months.

About two-thirds of BC adults have extended health benefits through a group insurance plan. These plans tend to cover a varying percentage of the cost of treatment, with an annual ceiling amount. Workers' Compensation Board and the Insurance Corporation of BC still provide coverage for physiotherapy services.

What It Costs

On average, an initial visit to a physiotherapist in BC costs \$45-65. In this initial visit, the physiotherapist takes the patient's history, assesses the current problem, makes a physical examination, provides a physical diagnosis, outlines a treatment protocol and provides the first treatment. Subsequent treatment visits cost, on average, \$30-55. Fees vary with the duration of treatment and other factors.

Patients Say Physiotherapy is Worth It

Satisfaction with physiotherapy treatment is very high: 83% of respondents to a BC-wide poll in October 2001 said they were satisfied with their physiotherapy treatment and outcomes. Over 90% say the reason for their satisfaction is that physiotherapy resolved the problem or relieved their pain, or that the physiotherapist provided helpful techniques and exercises.

Source: MarkTrend Research Inc.,
Physiotherapy Public Opinion Survey, 2001.

A research summary from the Physiotherapy Association of BC.



Physiotherapy

briefings for physicians



Spring 2005

New clinical guidelines for whiplash designed to improve treatment outcomes

New best practice, evidence-based Clinical Practice Guidelines for Whiplash Associated Disorder (WAD) have recently been developed for use by Canadian physiotherapists as well as by physicians and other health professionals. They are the only such guidelines created in Canada.

Over the past 20 years the incidence of reported cases of whiplash has risen dramatically in many Western countries. In British Columbia, whiplash accounts for an estimated 60 percent of all injuries caused by motor vehicle accidents - almost double the world average.

The diagnostic evaluation and therapeutic management of WAD is a frequent challenge for both physicians and physiotherapists. The new clinical guidelines have been developed to address this challenge.



The guidelines are based on the latest research, which supports early and active rehabilitation and a return to normal activities as soon as possible. For instance a prospective randomized clinical trial with 168 patients with whiplash showed that early mobilization using physiotherapy is superior to standard therapy (initial rest, recommended soft collar and gradual self-mobilization) in terms of pain intensity and disability¹; researchers recommended that mobilization using physiotherapy be considered the new adequate standard therapy in acute management of whiplash injury. In another study, 97 patients with a whiplash injury caused by a motor vehicle accident were randomly assigned to four treatment groups: active vs. standard treatment, and early (within 96 hours) vs. delayed (two weeks) treatment. Results showed that active treatment reduced pain more than standard treatment, and that early active treatment was more effective in reducing pain than delayed active treatment². (See sidebar for follow-up study).

The guidelines also reflect the findings of various systematic reviews. In terms of prognostic factors influencing WAD, two reviews confirm that patients with high levels of initial pain were most likely to experience a prolonged time for recovery³. Often mentioned factors such as age, gender and compensation do not seem to be of prognostic value. Another review discusses the significant amount of money being spent on WAD-

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The major systematic reviews and clinical practice guidelines support the recommendation of early activation, manual therapy, and therapeutic exercise as an effective treatment intervention for whiplash.

— Therese Leigh, BScPT, MHA
Clinical Practice Guidelines for the Physiotherapy Treatment of Patients with Whiplash Associated Disorders, 2004.

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Check the Physiotherapy Association of BC directory of physiotherapists (mailed to all family physicians each summer) or search online at www.bcphysio.org. Search for Areas of Expertise including Urology/Gynecology, Women's Health, Orthopaedics.

Past issues of *Briefings for Physicians* are on the website under Media Centre/Briefings for Physicians.

Briefly...

Active intervention improves long-term prognosis for WAD

A three-year follow-up of a prospective randomized trial of 97 whiplash patients was done to compare the long-term efficacy of active intervention with that of standard intervention. Active intervention involved frequent active cervical rotation complemented by assessment and treatment. Standard intervention involved initial rest, recommended soft collar and gradual self-mobilization. The study also examined the effect of early versus delayed initiation of intervention. The results showed pain intensity and sick leave were significantly ($P < 0.05$) reduced for patients who received active intervention compared with standard intervention. Delaying intervention by two weeks did not affect outcomes. However, at three years only patients receiving early active intervention had a total cervical range of motion similar to that of matched, unexposed individuals.

**Spine* 2003 Nov 15;28(22):2491-8

Possible factors behind the rise of WAD

The incidence of whiplash injuries has risen significantly since the early 1980s, when statistics were first gathered. In one region of the United Kingdom, for example, the incidence of WAD rose from 7.7% of all emergency accident cases in 1982, to 57% in 1995.

This increase in incidence may be due to a number of factors, including:

- **Increased traffic density** with an increase in low-impact accidents may be a factor. Studies show the severity of a whiplash injury is unrelated to the severity of impact.
- **Current car design.** The rigidity of today's car frames impart more torque to the seat back.
- **Cultural and sociopsychological factors** may explain why more patients report acute injuries in the UK and North America than in many other areas.
- Increased litigation. Increased reporting of acute WAD could be associated with increased litigation as medicolegal assessments require a report of initial symptoms.

**BC Medical Journal* 2002 June;44(5):237-240

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including the direct economic costs such as legal, medical, rehabilitation, and pharmaceutical expenses, as well as indirect costs such as time off work – and points to recent trends in literature recognizing physiotherapy as an effective treatment for WAD⁴.

The clinical guidelines accept the five-part classification of WAD developed by the 1995 Quebec Task Force on WAD and provide recommendations for levels I to III.

Clinical Classification of WAD

Grade	Clinical Presentation
I	Neck complaint of stiffness, pain or tenderness only. No physical signs.
II	Neck complaint AND musculoskeletal sign(s)*
III	Neck complaint AND neurological sign(s)**
IV	Neck complaint AND fracture or dislocation

* Including decreased range of motion, point tenderness.

** Including decreased or absent deep tendon reflexes, weakness and sensory deficits.

Recommendations

The clinical guidelines include four main recommendations consistent with recent literature on optimal treatment outcomes.

1. History Taking

The histories for WAD patients should include the date and events leading to the injury, present symptoms, history of recovery time for past injuries, medical history, medications and treatment interventions, diagnostic tests, current employment history, and coping strategies.

2. Physical Examination

Physical examination should include general observation, examination of movement, stability testing, muscular strength tests, and neurological tests.

3. Analysis

Information from the subjective and objective examinations allows classification of the patient's condition according to the Quebec Task Force classification for WAD. If WAD III or severe WAD II is diagnosed, x-rays should be done. Physiotherapy is not indicated for acute WAD IV (fracture).

4. Treatment Plan

The primary goal of treatment is an early return to normal daily activity and the prevention of a chronic condition. Patient education, exercise prescription and manual (hands-on) therapy are recommended.

1. *Schmerz* 2002 Feb; 16(1):15-21.

2. *Spine* 2000 Jul 15;25(14):1782-7

3. *Spine* 2001; 26(19):e445-3458 and *Pain* 2003; 104(1-2):303-322

4. *Man Ther* 2002; 7(3):131-149.

The Clinical Practice Guidelines for WAD are posted on the PABC website, www.bcphysio.org under Treatments.

Effective Treatment for Urinary Incontinence

It is estimated that 1.5 million Canadians experience incontinence, or difficulty with bladder control, including up to 55 percent of all women and 15 percent of men over the age of 55. A recent study shows that in Vancouver and Richmond alone, an estimated 60,000 people have urinary incontinence, and with population aging that figure is expected to double within 20 years.

Stress incontinence is caused by a weakness or dysfunction of the pelvic floor muscles. Changes in pelvic floor muscle function can be caused by childbirth, lifestyle, hormone changes, certain medical conditions and surgery. Urge incontinence can be caused by bladder infections, constipation, poor bladder or bowel habits, or other lifestyle factors. Urge incontinence can also be a side effect of stroke, spinal cord injury, multiple sclerosis or Parkinson's disease.

Physiotherapy provides effective treatment

The American Agency for Health Care Policy and Research clinical practice guidelines for urinary incontinence provides the following recommendations:

- Pelvic muscle exercises are strongly recommended for women with stress urinary incontinence (SUI).
- Pelvic muscle rehabilitation and bladder inhibition using biofeedback therapy are recommended for patients with SUI, urge incontinence, and in cases of mixed stress and urge urinary incontinence.
- Bladder training is strongly recommended for management of urge and mixed incontinence. Bladder training is also recommended for management of SUI.

For all of these recommendations, the strength of supporting scientific evidence is at the highest level, i.e. derived from properly designed and implemented controlled trials.

The effectiveness of pelvic floor exercises for controlling female urinary incontinence has been recognized since a 1948 study by Alfred Kegel¹, (for whom the exercise is now commonly named) and supported by subsequent studies. However, more recent research has also shown that verbal and written instructions on how to properly perform the pelvic floor exercises are ineffective for up to half of the women who receive such instructions including patients who believe they have mastered the technique². Similarly, women with postpartum urinary incontinence in a randomised control trial commonly cited lack of knowledge as the key reason for not doing pelvic floor exercises³.

In view of the evidence from these and other studies, patients who do not experience an improvement in their urinary incontinence after four to six weeks of practicing pelvic floor exercises are very likely doing the exercise incorrectly. In such cases, referral to a physiotherapist trained in pelvic floor rehabilitation is appropriate and has been shown to be effective. For instance in a recent randomized control trial, 301 women were randomly allocated to a training (n=148) or a control group (n=153). The training group attended a 12-week intensive pelvic floor muscle training program during

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Briefly...

Incontinence Linked to Reduced Pelvic Floor Function

A recent population-based study examined the effect of a four-month pelvic floor exercise (PFE) program in women with urinary incontinence through vaginal electromyography (EMG), pressure and palpation. The study confirmed that women with urinary incontinence have a significant reduction of pelvic floor function in comparison to a symptom-free matched control group. A successive normalization of vaginal EMG, pressure and findings at palpation was seen during the four-month training period. Incontinence of both stress type and with an urge component can be alleviated in most women through PFE.

* *European Urology* 2002 May;41(5):556-61



Pelvic Floor Exercise Effective for Treating Postpartum Incontinence

A prospective matched controlled trial evaluated the long-term effect of pelvic floor muscle training for the treatment of postpartum urinary incontinence. Women who had participated in a controlled study evaluating the effect of an eight-week pelvic floor muscle training program in the immediate postpartum period were contacted for a follow-up study one year later. In the follow-up study significantly more women from the former study's control group reported stress incontinence ($P < 0.01$), and a significantly greater ($P < 0.01$) muscle strength increase was demonstrated in the former training group. The results demonstrate that a postpartum pelvic muscle training program was effective for preventing and treating stress urinary incontinence for up to a year following delivery.

* *BJOG* 2000 Aug; 107(8):1022-8