

1: [Fiziol Cheloveka](#). 2007 Jul-Aug;33(4):24-32.

**[Biofeedback in optimizing psychomotor reactivity: I. Comparison of biofeedback and common performance practice]**

[Article in Russian]

[No authors listed]

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2: [Int J Lang Commun Disord](#). 2007 Aug 23;;1-11 [Epub ahead of print] [Related Articles, Links](#)



**Intervention for lateral /s/ using electropalatography (EPG) biofeedback and an intensive motor learning approach: a case report.**

[McAuliffe MJ](#), [Cornwell PL](#).

Department of Communication Disorders, University of Canterbury, Christchurch, New Zealand.

Background: Visual biofeedback using electropalatography (EPG) has been beneficial in the treatment of some cases of lateral /s/ misarticulation. While EPG intervention is motorically based, studies have not commonly employed a motor learning approach to treatment. Furthermore, treatment success is measured primarily by change to EPG tongue-palate contact patterns and listener ratings conducted by speech-language therapists. Studies have not commonly measured articulatory change without the palate in-situ using acoustic analysis and non-professional listeners. Aims: To determine if an intensive treatment programme including both visual biofeedback (EPG) and traditional articulation techniques within a motor learning paradigm would result in functional improvement to /s/ articulation in an 11-year-old girl with persistent lateral misarticulation. Methods & Procedures: Treatment involved 12 sessions of therapist-delivered treatment over 4 weeks followed by a 6-week home programme. Outcomes of the treatment programme were measured primarily using naïve listener ratings and acoustic analysis of /s/ spectra. Outcomes & Results: Improvements to both the perceptual and spectral characteristics of /s/ articulation occurred following the treatment programme. Conclusions: The study highlighted the benefit of an intensive approach to intervention incorporating both visual biofeedback and traditional articulation approaches. The inclusion of a 6-week structured home-programme was beneficial and resulted in consolidation of treatment gains.

PMID: 17852524 [PubMed - as supplied by publisher]

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□ 3: [Eura Medicophys](#). 2007 Sep 10; [Epub ahead of print]

[Related Articles](#), [Links](#)

**A new mechanical arm trainer to intensify the upper limb rehabilitation of severely affected patients after stroke: design, concept and first case series.**

[Hesse S](#), [Schmidt H](#), [Werner C](#), [Rybski C](#), [Puzich U](#), [Bardeleben A](#).

Department of Neurological Rehabilitation, Klinik Berlin, Charité University Medicine, Berlin, Germany [bhesse@zedat.fu-berlin.de](mailto:bhesse@zedat.fu-berlin.de).

Description and case series on a new mechanical arm trainer with three degrees of freedom (DoF), the REHA-SLIDE (RS), for stroke rehabilitation are presented. Similar to a rolling pin, it consists of two handles at either side of a connecting rod, the handles are bilaterally moved forward and backward, sideways, and rotated, the base plate is inclinable. A computer mouse attached to the rod enables playing games offering computer-biofeedback. Two patients, 6 and 5 weeks after a first-time supratentorial stroke, suffering from a flaccid non-functional upper extremity have been studied. Interventions performed were additional 30 min of RS-training every workday for 6 weeks; one session included 400 repetitions evenly distributed between the forward backward movement and drawing a circle clock- and counter clockwise. Afterwards the patients could play games. Upper extremity portion of the Fugl-Meyer Motor Assessment Score (FM, 0-66), and muscle strength by a Medical Research Council (MRC) sum score (0-45), the FM assessment was blinded. In the 2 patients, the FM (0-66) improved from 7 to 37, and from 17 to 43, their initial (terminal) MRC sum scores were 6 (36) and 13 (31). With the REHA-Slide (RS), severely affected patients practiced a bilateral 3 DoF movement. No conclusions can be drawn so far and a controlled clinical study must be the next step.

PMID: 17828058 [PubMed - as supplied by publisher]

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□ 4: [Clin Gastroenterol Hepatol](#). 2007 Sep;5(9):1119.

[Related Articles](#), [Links](#)

**Randomized controlled trial of biofeedback.**

[Chiarioni G](#), [Whitehead WE](#), [Bassotti G](#).

Department of Medicine, Division of Digestive Diseases, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina.

Publication Types:

- [Letter](#)

PMID: 17825773 [PubMed - in process]

- 5: [Clinics](#). 2007 Aug;62(4):439-46.

[Related Articles](#), [Links](#)

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ENGLISH / PORTUGUESE

### **Effects of pelvic floor muscle training during pregnancy.**

[de Oliveira C](#), [Lopes MA](#), [Carla Longo e Pereira L](#), [Zugaib M](#).

Department of Obstetrics, São Paulo University, Medical School, Sao Paulo, SP, Brazil.

**OBJECTIVE:** The objective of the present study was to evaluate the effect of pelvic floor muscle training in 46 nulliparous pregnant women. **METHODS:** The women were divided into 2 groups: an exercise group and a control group. Functional evaluation of the pelvic floor muscle was performed by digital vaginal palpation using the strength scale described by Ortiz and by a perineometer (with and without biofeedback). **RESULTS:** The functional evaluation of the pelvic floor muscles showed a significant increase in pelvic floor muscle strength during pregnancy in both groups ( $P < .001$ ). However, the magnitude of the change was greater in the exercise group than in the control group (47.4% vs. 17.3%,  $P < .001$ ). The study also showed a significant positive correlation (Spearman's test,  $r = 0.643$ ;  $P < .001$ ) between perineometry and digital assessment in the strength of pelvic floor muscles. **CONCLUSIONS:** Pelvic floor muscle training resulted in a significant increase in pelvic floor muscle pressure and strength during pregnancy. A significant positive correlation between functional evaluation of the pelvic floor muscle and perineometry was observed during pregnancy.

PMID: 17823707 [PubMed - in process]

- 6: [Integr Cancer Ther](#). 2007 Sep;6(3):251-7.

[Related Articles](#), [Links](#)

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### **The Neuroimmune Basis of Anti-inflammatory Acupuncture.**

[Kavoussi B](#), [Ross BE](#).

Southern California University of Health Sciences, College of Acupuncture and Oriental Medicine, Whittier, CA. kavoussi@ucla.edu.

This review article presents the evidence that the antiinflammatory actions of acupuncture are mediated via the reflexive central inhibition of the innate immune system. Both laboratory and clinical evidence have recently shown the existence of a negative feedback loop between the autonomic nervous system and the innate

immunity. There is also experimental evidence that the electrical stimulation of the vagus nerve inhibits macrophage activation and the production of TNF, IL-1beta, IL-6, IL-18, and other proinflammatory cytokines. It is therefore conceivable that along with hypnosis, meditation, prayer, guided imagery, biofeedback, and the placebo effect, the systemic anti-inflammatory actions of traditional and electro-acupuncture are directly or indirectly mediated by the efferent vagus nerve activation and inflammatory macrophage deactivation. In view of this common physiological mediation, assessing the clinical efficacy of a specific acupuncture regimen using conventional double-blind placebo-controlled trials inherently lacks objectivity due to (1) the uncertainty of ancient rules for needle placement, (2) the diffuse noxious inhibitory control triggered by control-needling at irrelevant points, (3) the possibility of a dose-response relationship between stimulation and effects, and (4) the possibility of inadequate blinding using an inert sham procedure. A more objective assessment of its efficacy could perhaps consist of measuring its effects on the surrogate markers of autonomic tone and inflammation. The use of acupuncture as an adjunct therapy to conventional medical treatment for a number of chronic inflammatory and autoimmune diseases seems plausible and should be validated by confirming its cholinergic activity.

PMID: 17761638 [PubMed - in process]

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□ 7: [Torture](#). 2007;17(2):67-78.

[Related Articles](#), [Links](#)

### **New treatment approaches: integrating new media in the treatment of war and torture victims.**

[Knaevelsrud C](#), [Wagner B](#), [Karl A](#), [Mueller J](#).

Treatment Center for Torture Victims, Berlin, Germany. c.knaevelsrud@bzfo.de

The diagnostic process and treatment of victims of war and torture is associated with a number of difficulties. This article will provide an overview of three different approaches on how the new media may be integrated into the treatment of survivors of torture and war to face some of the challenges. Illiteracy is a common problem and makes it difficult to apply standardized psychological assessment procedures. Also, the majority of survivors of torture and war do not have access to any psychotherapeutic treatment due to geographical limitations or limitations concerning psychotherapeutic treatment capacity. Furthermore, chronic psychological disorders such as (complex) Posttraumatic Stress Disorder (PTSD) are often seen with comorbid chronic pain disorders, which present a therapeutic challenge. The Treatment Center for Torture Victims, Berlin, in cooperation with the University of Zurich, developed a number of approaches to address these challenges: 1) MultiCASI - to standardize the diagnostic process an audiovisual diagnostic tool was developed which allows illiterate individuals to answer standardized psychological questionnaires without the help of

interpreters; 2) A virtual treatment center for posttraumatic stress disorder for traumatized patients in Iraq and other Arab speaking postconflict countries; 3) Utility of Biofeedback (BF) in chronic (somatoform) pain and in traumatized patients: to address the chronic pain syndrome presented by most survivors, a biofeedback supported cognitive-behavioral therapy approach was developed and successfully tested in a pilot study.

PMID: 17728484 [PubMed - in process]

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8: [Cephalalgia](#). 2007 Aug 24; [Epub ahead of print]

[Related Articles](#), [Links](#)



### **Relationship between biofeedback and oxidative stress in patients with chronic migraine.**

[Ciancarelli I](#), [Tozzi-Ciancarelli M](#), [Spacca G](#), [Di Massimo C](#), [Carolei A](#).

Department of Neurology, University of L'Aquila, L'Aquila, Italy.

Chronic migraine (1.5.1) is burdened with headache-related disability. During noxious stimulation, changes of cerebral blood flow enhance the release of oxygen free radicals that react with nitric oxide (NO). We investigated the role of biofeedback in limiting migraine disability by influencing oxidative stress. Peroxides, NO and superoxide dismutase (SOD) were analysed in 20 female subjects with chronic migraine and in 20 female healthy controls before and after biofeedback sessions. NO(x) levels (23.7 +/- 4.2 vs. 34.9 +/- 4.6 microm; P < 0.05) and SOD activity (6.5 +/- 1.0 vs. 8.0 +/- 0.7 U/ml; P < 0.05) were lower in migraine sufferers before treatment than in healthy controls, whereas peroxide levels (145.8 +/- 40.3 vs. 78.0 +/- 20.0 microm; P < 0.05) were higher in migraine sufferers before treatment than in healthy controls. In migraine sufferers NO(x) levels (23.7 +/- 4.2 vs. 31.3 +/- 7.1 microm; P < 0.05) and SOD activity (6.5 +/- 1.0 vs. 7.9 +/- 0.9 U/ml; P < 0.05) were lower before than after treatment, whereas peroxide levels (145.8 +/- 40.3 vs. 82.4 +/- 21.1 microm; P < 0.05) were higher before than after treatment. SOD serum activity correlated positively with NO(x) serum levels and negatively with peroxide serum levels in healthy controls and in chronic migraine sufferers before and after biofeedback. The mean Migraine Disability Assessment Score before biofeedback sessions was higher than after treatment (36.9 +/- 13.9 vs. 18.8 +/- 10.4; P < 0.001). The effectiveness of biofeedback in limiting chronic migraine may be related to muscular relaxation associated with decreased oxidative stress accompanied by psychological well-being.

PMID: 17725652 [PubMed - as supplied by publisher]

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9: [Zhonghua Nan Ke Xue](#). 2007 Jul;13(7):647-50.

[Related Articles](#), [Links](#)

## [Advances in the treatment of male acquired urinary incontinence]

[Article in Chinese]

[Liu ZS](#), [Xu YM](#).

Department of Urology, Sixth People's Hospital Affiliated to Shanghai Jiaotong University, Shanghai 200233, China. liuzhangshun@126.com

Male acquired urinary incontinence can be a complication of radical prostatectomy and posterior urethroplasty. Mild urinary incontinence can be improved by pelvic floor exercises, biofeedback and medicine treatment. Severe urinary incontinence requires more active treatment, such as injection therapy, artificial urethral sphincter insertion, and bulbourethral sling. Recent progress in the treatment of male acquired urinary incontinence is reviewed in this article.

Publication Types:

- [English Abstract](#)

PMID: 17725313 [PubMed - in process]



10: [Rev Bras Psiquiatr.](#) 2007 May 23; [Epub ahead of print]

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ENGLISH / PORTUGUESE

## [Nonpharmacologic treatment of chronic insomnia.]

[Article in Portuguese]

[Passos GS](#), [Tufik S](#), [Santana MG](#), [Poyares D](#), [Mello MT](#).

Universidade Federal de São Paulo, São Paulo, SP, Brasil.

The purpose of this manuscript is to briefly describe the main modalities of non-pharmacological therapy and its utilization on the chronic insomnia treatment. Insomnia is the most frequent sleep disorder and that is more associated with psychiatry disorders. The pharmacotherapy is the most frequent treatment, but the nonpharmacologic therapy has been studied. The most common therapy modalities include behavioral approaches, stimulus control, sleep restriction, paradoxical intention, sleep hygiene, progressive muscle relaxation and biofeedback and, more recently, physical exercise practices. At first behavioral therapy aimed to improve sleep quality, however, recent studies have been emphasizing the effect of behavioral and cognitive approaches on quality of life, on decrease of dosage and frequency of drugs intake. Since insomnia is a chronic

condition, long-term and safe treatments are warranted.

PMID: 17713700 [PubMed - as supplied by publisher]

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- 11: [Scand J Gastroenterol](#). 2007 Sep;42(9):1054-62.

[Related Articles](#), [Links](#)



**Breathing exercises with vagal biofeedback may benefit patients with functional dyspepsia.**

[Hjelland IE](#), [Svebak S](#), [Berstad A](#), [Flatabø G](#), [Hausken T](#).

Institute of Medicine, University of Bergen, Division of Gastroenterology, Medical Department, Haukeland University Hospital, Bergen, Norway.

Objective. Many patients with functional dyspepsia (FD) have postprandial symptoms, impaired gastric accommodation and low vagal tone. The aim of this study was to improve vagal tone, and thereby also drinking capacity, intragastric volume and quality of life, using breathing exercises with vagal biofeedback. Material and methods. Forty FD patients were randomized to either a biofeedback group or a control group. The patients received similar information and care. Patients in the biofeedback group were trained in breathing exercises, 6 breaths/min, 5 min each day for 4 weeks, using specially designed software for vagal biofeedback. Effect variables included maximal drinking capacity using a drink test (Toro(R) clear meat soup 100 ml/min), intragastric volume at maximal drinking capacity, respiratory sinus arrhythmia (RSA), skin conductance (SC) and dyspepsia-related quality of life scores. Results. Drinking capacity and quality of life improved significantly more in the biofeedback group than in the control group ( $p=0.02$  and  $p=0.01$ ) without any significant change in baseline autonomic activity (RSA and SC) or intragastric volume. After the treatment period, RSA during breathing exercises was significantly correlated to drinking capacity ( $r=0.6$ ,  $p=0.008$ ). Conclusions. Breathing exercises with vagal biofeedback increased drinking capacity and improved quality of life in FD patients, but did not improve baseline vagal tone.

PMID: 17710670 [PubMed - in process]

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- 12: [Clin J Pain](#). 2007 Sep;23(7):598-604.

[Related Articles](#), [Links](#)

**The Result of Treatment on Vestibular and General Pain Thresholds in Women With Provoked Vestibulodynia.**

[Bohm-Starke N](#), [Brodda-Jansen G](#), [Linder J](#), [Danielsson I](#).

\*Department of Clinical Sciences, Karolinska Institutet †Division of Obstetrics



and Gynecology ‡Division of Rehabilitation Medicine, Danderyd Hospital §Rehabilitation and Research Centre for Torture Victims, Copenhagen, Denmark || Department of Clinical Neuroscience, Diagnostic Centre, Karolinska Institutet, Karolinska University Hospital, Stockholm ¶Department of Obstetrics and Gynecology, Sundsvall Hospital, Sundsvall, Sweden.

**OBJECTIVE:** To correlate changes in vestibular pain thresholds to general pain thresholds in a subgroup of women with provoked vestibulodynia taking part in a treatment study. **METHODS:** Thirty-five women with provoked vestibulodynia were randomized to 4 months' treatment with either electromyographic biofeedback (n=17) or topical lidocaine (n=18). Vestibular and general pressure pain thresholds (PPTs) were measured and the health survey Short Form-36 (SF-36) was filled out before treatment and at a 6-month follow-up. Subjective treatment outcome and bodily pain were analyzed. Thirty healthy women of the same age served as controls for general PPTs and SF-36. **RESULTS:** No differences in outcome measures were observed between the 2 treatments. Vestibular pain thresholds increased from median 30 g before to 70 g after treatment in the anterior vestibule ( $P<0.001$ ) and from median 20 to 30 g in the posterior vestibule ( $P<0.001$ ). PPTs on the leg and arm were lower in the patients as compared with controls both before and at the 6-month follow-up. Patients reporting total cure were 3/35; 25/35 were improved. The number of patients who frequently reported of other bodily pain was reduced after the treatment. The patients had lower scores for SF-36 (General Health, Vitality) before treatment, which was restored at the 6-month follow-up. **DISCUSSION:** Treating provoked vestibulodynia by either topical lidocaine or electromyographic biofeedback increased vestibular pain thresholds, reduced dyspareunia, and improved bodily pain. The patients showed a general hypersensitivity to pressure pain compared with controls and in this study the hypersensitivity did not seem to be affected by treating the superficial dyspareunia.

PMID: 17710010 [PubMed - as supplied by publisher]

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13: [Neurol Urodyn](#). 2007 Aug 17; [Epub ahead of print]

[Related Articles](#), [Links](#)



**Neuromuscular electrical stimulation and the treatment of lower urinary tract dysfunction in multiple sclerosis- A double blind, placebo controlled, randomised clinical trial.**

[McClurg D](#), [Ashe RG](#), [Lowe-Strong AS](#).

Health and Rehabilitation Sciences Research Institute, University of Ulster, Newtownabbey, Northern Ireland, UK.

**AIMS:** Lower urinary tract dysfunction affects up to 75% of the multiple sclerosis population. Results from our recent Pilot Study (McClurg et al., 2006) indicated



that a combined programme of pelvic floor muscle training, electromyography biofeedback and neuromuscular electrical stimulation modalities may alleviate some of the distressing symptoms within this population. This clinical trial aimed to evaluate further the efficacy of these interventions and to establish the benefit of neuromuscular electrical stimulation above and beyond that of EMG biofeedback and pelvic floor muscle training. **METHODS:** 74 multiple sclerosis patients who presented with lower urinary tract dysfunction were randomly allocated to one of two groups - Group 1 received Pelvic Floor Muscle Training, Electromyography Biofeedback and Placebo Neuromuscular Electrical Stimulation (n=37), and Group 2 which received Pelvic Floor Muscle Training, Electromyography Biofeedback, and Active Neuromuscular Electrical Stimulation (n=37). Treatment was for nine weeks with outcome measures recorded at weeks 0, 9, 16 and 24. The Primary Outcome Measure was the number of leakage episodes. Within group analysis was by Paired Samples t-test. Group differences were analysed using Repeated Measures Analysis of Variance and Post-hoc tests were used to determine the significance of differences between Groups at each time point. **RESULTS:** The mean number of incontinence episodes were reduced in Group 2 by 85% (p=0.001) whereas in Group 1 a lesser reduction of 47% (p=0.001) was observed. However, there was a statistically superior benefit in Group 2 when compared to Group 1 (p=0.0028). This superior benefit was evident in all other outcome measures. **CONCLUSIONS:** The addition of Active Neuromuscular Electrical Stimulation to a programme of Pelvic Floor Muscle Training and Electromyography Biofeedback should be considered as a first-line option in alleviating some of the symptoms of lower urinary tract dysfunction associated with multiple sclerosis. *Neurourol. Urodynam.* (c) 2007 Wiley-Liss, Inc.

PMID: 17705160 [PubMed - as supplied by publisher]

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14: [EDTNA ERCA J.](#) 2007 Apr-Jun;33(2):59-65.

[Related Articles](#), [Links](#)

## **Relative blood volume based biofeedback during haemodialysis.**

[Dasselaar JJ.](#)

Dialysis Centre, Groningen, The Netherlands. [j.j.dasselaar@dcg.umcg.nl](mailto:j.j.dasselaar@dcg.umcg.nl)

Intra-dialytic hypotension is the most frequently occurring complication during haemodialysis and can lead to serious complications. Devices that continuously and non-invasively monitor relative blood volume (RBV) changes during HD are being advocated as a tool to maintain an adequate volume of the intravascular compartment in order to avoid dialysis hypotension. Nowadays, most manufacturers have incorporated a RBV monitor in their dialysis apparatus and two manufacturers have designed biofeedback devices that control intra-dialytic RBV changes. The goal of RBV based biofeedback systems is to prevent a severe or abrupt decrease in blood volume in order to prevent the development of

dialysis hypotension. Biofeedback technologies can diminish the severity and/or frequency of dialysis hypotension. At present, however, a completely symptom-free HD is not a reality. The major reasons for this are patient characteristics such as cardiovascular co-morbidity and high UF rates and a lack of understanding of the relation between RBV changes and blood pressure/cardiovascular stability.

PMID: 17702507 [PubMed - in process]



15: [Ultrasound Obstet Gynecol.](#) 2007 Sep;30(3):346-50.

[Related Articles, Links](#)



**Levator co-activation is a significant confounder of pelvic organ descent on Valsalva maneuver.**

[Ornö AK](#), [Dietz HP](#).

Department of Obstetrics and Gynecology, Clinical Sciences Lund, University of Lund, Lund, Sweden.

**OBJECTIVE:** A Valsalva maneuver is used clinically and on imaging in order to determine female pelvic organ prolapse. We have examined the potential confounding effect of levator co-activation at the time of a Valsalva maneuver and the impact of repetition with biofeedback instruction. **METHODS:** Fifty nulliparous women at 36-38 weeks' gestation received 3D/4D translabial ultrasound investigation in the dorsal resting position after bladder emptying. Valsalva maneuvers were recorded initially and after repeated attempts with visual biofeedback both during the maneuver and after, with the operator demonstrating findings on the ultrasound monitor, in order to abolish levator co-activation. Offline analysis was subsequently undertaken. **RESULTS:** Significant differences between first and optimal Valsalva maneuver were found for bladder neck position, bladder neck descent, hiatal sagittal diameter and hiatal area on Valsalva. In a minority of women (22/50) we observed a reduction in the sagittal hiatal diameter on first Valsalva maneuver, indicating levator co-activation. A reduction in sagittal diameter was seen in only 11/50 after instruction. Levator co-activation was associated with significantly lower bladder neck descent. **CONCLUSION:** The Valsalva maneuver is frequently accompanied by a pelvic floor muscle contraction. Levator co-activation may be a substantial confounder, reducing pelvic organ descent. Without repetition and digital, auditory or visual biofeedback, women may not perform a correct Valsalva maneuver. Biofeedback markedly reduces the likelihood of levator co-activation but does not abolish it completely. Copyright (c) 2007 ISUOG. Published by John Wiley & Sons, Ltd.

PMID: 17702054 [PubMed - in process]



16: [Top Stroke Rehabil.](#) 2007 Jul-Aug;14(4):59-66.

[Related Articles, Links](#)



## **The role of biofeedback in stroke rehabilitation: past and future directions.**

[Nelson LA.](#)

Department of Psychiatry, University of Washington, School of Medicine, Seattle, Washington, USA.

Biofeedback has been applied to many aspects of stroke rehabilitation, with mixed results. This is largely due to the varying modalities, differences between study designs, and methods of measuring success and progress. How well biofeedback works appears to be inversely related to the direct observability of the function about which information is being provided. The more covert the function (e.g., swallowing muscle activity, attention, cortical functioning, etc.), the more helpful biofeedback is likely to be. However, biofeedback in general can have a very positive impact, even through indirect means. Improvements in self confidence, shifting of locus of control, and instantly being provided information regarding changes in one's physical functioning as a result of mental activity can be helpful in setting the tone for success in rehabilitation more generally.

PMID: 17698458 [PubMed - in process]

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□ 17: [Acta Neurochir Suppl.](#) 2007;97(Pt 2):555-9.

[Related Articles, Links](#)

## **Brain-computer interface: a reciprocal self-regulated neuromodulation.**

[Angelakis E](#), [Hatzis A](#), [Panourias IG](#), [Sakas DE](#).

P.S. Kokkalis Hellenic Center for Neurosurgical Research, Athens, Greece.  
angelakis@acgmail.gr

Brain-computer interface (BCI) is a system that records brain activity and process it through a computer, allowing the individual whose activity is recorded to monitor this activity at the same time. Applications of BCIs include assistive modules for severely paralyzed patients to help them control external devices or to communicate, as well as brain biofeedback to self regulate brain activity for treating epilepsy, attention-deficit hyperactivity disorder (ADHD), anxiety, and other psychiatric conditions, or to enhance cognitive performance in healthy individuals. The vast majority of BCIs utilizes non-invasive scalp recorded electroencephalographic (EEG) signals, but other techniques like invasive intracortical EEG, or near-infrared spectroscopy measuring brain blood oxygenation are tried experimentally.

PMID: 17691347 [PubMed - in process]

- 18: [Contrib Nephrol.](#) 2007;158:110-22.

[Related Articles, Links](#)



**Online hemodiafiltration.**

**[Canaud B.](#)**

Online production of substitution fluid by 'cold sterilization' (ultrafiltration) of dialysis fluid gives access to virtually unlimited amounts of sterile and nonpyrogenic solution. The incorporation of the online hemodiafiltration (ol-HDF) module into the dialysis proportioning machine hardware simplifies the handling procedure, secures the process by keeping the safety regulation of the monitor and offers virtually unlimited amounts of sterile and nonpyrogenic substitutive solution. The safety of the ol-HDF relies upon use of ultrapure water and strict and permanent highly hygienic rules of use. The use of a specifically designed certified HDF machine is also mandatory. Several forms of ol-HDF have been developed and used to cover specific clinical needs of chronic kidney disease patients. Conventional ol-HDF are classified according to the mode of substitution as post-, pre- and mixed dilution. Alternativebased ol-HDF incorporate push/pull HDF, double high-flux HDF, paired HDF and middilution HDF. A very simple description of these methods is provided in this section. Best clinical practices are summarized in this section to optimize performances of ol-HDF and maximize the safety of the method. It is noteworthy to stress the important role of blood flow, fluid volume exchange, hemodiafilter performances and duration of sessions in the overall treatment efficacy. It is also crucial to insist on the importance of strict hygienic handling, microbiology monitoring and the quality assurance process to ensure the safety of the method. In addition, ol-HDF offers the best technical platform to develop new therapeutic strategies such as daily treatment, total automation of priming and cleansing procedures and biofeedback volume control.

PMID: 17684349 [PubMed - in process]

- 19: [Appl Psychophysiol Biofeedback.](#) 2007 Aug 7; [Epub ahead of print] [Related Articles, Links](#)



**Abstracts of Scientific Papers Presented at the 11th Annual Meeting of the Biofeedback Foundation of Europe.**

[No authors listed]

PMID: 17680358 [PubMed - as supplied by publisher]

- 20: [Indian J Med Sci.](#) 2007 Aug;61(8):455-61.

[Related Articles, Links](#)



### **Management of patients with fibromyalgia using biofeedback: A randomized control trial.**

**[Babu AS](#), [Mathew E](#), [Danda D](#), [Prakash H](#).**

Department of Physiotherapy, Christian Medical College, Vellore, India.  
abrahambabu@gmail.com.

**OBJECTIVE:** Fibromyalgia syndrome (FMS) is a chronic rheumatological condition which could be characterized by generalized pain and fatigue. Cognitive and behavioral therapy has been found to be a suitable technique in the management of FMS. This study intends to evaluate the efficacy of electromyography (EMG) biofeedback to reduce pain in patients with FMS.

**MATERIALS AND METHODS:** A randomized controlled trial involving two groups of FMS patients, one receiving EMG biofeedback and the other a sham biofeedback, was carried out. The assessment tools included in the study were fibromyalgia impact questionnaire (FIQ), visual analogue scale (VAS), six-minute walk test (SMWT) and number of tender points; and tenderness of each tender point was done for both the groups. **STATISTICS:** A Student's 't' test was used to study the test for significance. **RESULTS:** After using biofeedback, the mean VAS scores and the mean number of tender points were found to be 3 out of 10 and 6 out of 18 respectively. Subjective analysis from both groups showed improvement in physical and psychological realms. Statistical significance. **CONCLUSION:** Biofeedback as a treatment modality reduces pain in patients with FMS, along with improvements in FIQ, SMWT and the number of tender points.

PMID: 17679735 [PubMed - in process]

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- 21: [Presse Med.](#) 2007 Jul 30; [Epub ahead of print]

[Related Articles, Links](#)

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### **[What's new in hemodialysis.]**

[Article in French]

**[Canaud B](#).**

Service de néphrologie, dialyse et soins intensifs, Hôpital Lapeyronie, CHU, Montpellier (34).

Dialysis is a complement to or a substitute for renal transplantation. Mortality of dialysis patients remains too high - 9-22%/year - and is associated above all with

old age and comorbidities but also with the quantity and quality of hemodialysis. Hemodialysis must be more personalized, with a possible increase in its frequency (daily) or in the duration of sessions (longer than 4.5 h). Chronic inflammation, present in 30% of patients, is a source of morbidity and mortality. It must be detected by ultrasensitive CRP (C-reactive protein) assays and its cause sought and treated. Metabolism of phosphate and calcium is too often inadequately controlled, despite the contribution of new very active molecules. The resultant vascular calcifications are an important cardiovascular risk factor. Progress in dialysis techniques also plays a role in improving quality of life and life span: use of highly permeable membranes, ultrapure dialysate, closed-loop biofeedback volume control, and maintenance of thermal balance.

PMID: 17669615 [PubMed - as supplied by publisher]

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22: [Am Fam Physician](#). 2007 Jul 1;76(1):114-6. [Related Articles, Links](#)



### **Headache (chronic tension-type).**

#### **Silver N.**

Walton Centre for Neurology and Neurosurgery, Liverpool, United Kingdom.

Publication Types:

- [Review](#)

PMID: 17668850 [PubMed - indexed for MEDLINE]

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23: [Tunis Med](#). 2007 Feb;85(2):109-15. [Related Articles, Links](#)

### **[Chronic constipation in childhood. A report of 78 patients]**

[Article in French]

**Boukthir S, Slimi A, Mazigh S, Oubich F, Debbabi A, Barsaoui S.**

Service de Médecine Infantile C, Hôpital d'Enfants de Tunis, Tunisie.

AIM: To assess the aetiology and the clinical patterns of chronic constipation in children. METHODS: A total of 78 patients (62% boys, mean age: 4.6 years) were enrolled in this retrospective study. For each patient, we collected these data: clinical features, radiological data, rectal manometry and rectal biopsy results, treatment and follow up. RESULTS: Functional constipation was the most

frequent cause of chronic constipation (49 cases, 62.8%) followed by Hirschsprung's disease (19 cases, 24.3%). Rectal manometry, performed in all suspected Hirschsprung's disease, concluded to the absence of inhibitory rectoanal reflex in 17 of them. Rectal biopsy concluded to segmental absence of parasympathetic ganglion cells in eleven of them. Therapeutic approach consists of treatment of functional constipation by laxatives, enemas and dietary fibers in respectively 22, 12 and 6 children. Two other patients had a biofeedback re-education. Treatment was successful in 9 patients and unsuccessful in 2 others. Seven children with Hirschsprung's disease underwent Soave's (n = 3), Swenson's (n = 3) and Duhamel's procedures (n = 1). Outcome was favourable in five of them and complicated by stenosis in 2 others. CONCLUSION: Our study suggests that functional constipation is the most frequent cause of chronic constipation in children and that Hirschsprung's disease is the first organic cause of chronic constipation indicating the need of rectal manometry for diagnostic confirmation.

Publication Types:

- [English Abstract](#)

PMID: 17665655 [PubMed - in process]

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□ 24: [Vestn Khir Im I I Grek.](#) 2007;166(2):100-2.

[Related Articles, Links](#)

### **[Potentialities of complex treatment of prolapse of the rectum]**

[Article in Russian]

[Gaivoronskaia SS](#), [Vasil'ev SV](#), [Chaniia ZD](#), [Popov DE](#), [Nedozimovanyĭ AI](#).

The method of surgical correction of prolapse of the rectum should be chosen with special reference to the patient's age, severe somatic diseases, co-existing pathology of the colon (diverticulosis) and necessity of resection of part of the large intestine as well as marked previous constipations in order to use the most adequate method of surgical treatment. The biofeedback therapy should be used in some patients in the postoperative period due to concomitant insufficiency of the anal sphincter for obtaining better results of the operative treatment.

Publication Types:

- [English Abstract](#)

PMID: 17665593 [PubMed - indexed for MEDLINE]

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□ 25: [Ther Umsch.](#) 2007 Apr;64(4):211-5.

[Related Articles, Links](#)

### [Chronic constipation]

[Article in German]

[Degen L.](#)

Abteilung für Gastroenterologie und Hepatologie, Universitätsspital, Basel.  
Lukas.Degen@unibas.ch

Complaints of chronic constipation may substantially impair the quality of life of a patient. The disease feeling is shaped not only by objective parameters but also by subjective perceptions. This is along-considered into the so-called Rome-III-criteria. In the majority of the patients no distinct pathology can be found. A smaller group of patients however exhibit isolated or in combination a slow colonic transit or a pelvic floor dysfunction. Secondary extraintestinal causes are to be looked for particularly during a first clinical evaluation. Apart from general clinical investigations if necessary combined with a colonoscopy, specific function tests (transit measurements, defecography) may be applied. Different laxative agents are the primary cornerstone of treatment. In selected cases biofeedback training or even surgical intervention can be successfully adopted.

Publication Types:

- [English Abstract](#)

PMID: 17663207 [PubMed - in process]

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□ 26: [NeuroRehabilitation.](#) 2007;22(2):77-84.

[Related Articles, Links](#)



### **Cortical activation changes induced by visual biofeedback tracking training in chronic stroke patients.**

[Cho SH](#), [Shin HK](#), [Kwon YH](#), [Lee MY](#), [Lee YH](#), [Lee CH](#), [Yang DS](#), [Jang SH](#).

Department of Physical Therapy, Graduate School of Rehabilitation Therapy, Institute of Health Science, Yonsei University College of Health Science, Wonju, Republic of Korea.

OBJECTIVES: We tried to examine whether visual biofeedback tracking training (VBTT) can improve both the gait performance and cortical activation pattern in chronic stroke patients. DESIGN: We enrolled 10 chronic hemiparetic patients with stroke(mean age 46.3 +/- 5.19 years). The patients were randomly assigned

to the training group (5 patients) or the control group (5 patients). VBTT was to follow the PC-generated sine waves with the knee joint electrogoniometer, and the two sine waves should appear as close to overlapping as possible on the PC monitor. The training was performed for 39 minutes/day, 5 days/week, for 4 weeks. Pre-training and post-training accuracy of tracking, functional status of gait, and functional MRI (fMRI) were measured. fMRI was performed at 1.5 T in parallel with timed knee flexion-extension movements at a fixed rate. RESULTS: The accuracy of the tracking performance, walking speed, and motor scale for gait improved in the training group. Primary sensorimotor cortex (SM1) cortical activation shifted significantly from the unaffected to the affected hemisphere in the training group. CONCLUSIONS: We demonstrated that cortical activation changes occurred with gait function improvement in chronic stroke patients throughout the 4-week VBTT program. It seems that the cortical reorganization was induced by VBTT.

Publication Types:

- [Research Support, Non-U.S. Gov't](#)

PMID: 17656831 [PubMed - in process]

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27: [Age Ageing](#). 2007 Jul 23; [Epub ahead of print]

[Related Articles](#), [Links](#)



### **Sit-to-stand as home exercise for mobility-limited adults over 80 years of age GrandStand System™ may keep you standing?**

[Rosie J.](#), [Taylor D.](#)

Health and Rehabilitation Research Centre, School of Physiotherapy, AUT University, Auckland, New Zealand.

Purpose to compare the effects of functional home exercise of repeated sit-to-stands with low-intensity progressive resistance training, on performance measures in mobility-limited adults over 80 years of age. Setting participants' homes. Design community-dwelling older adults  $\geq 80$  years of age were invited to participate in a randomised controlled clinical trial. Baseline and outcome measures were: comfortable gait velocity, 30-s chair-stand test, 15-s step test, Berg Balance Scale, Modified Falls Efficacy Scale and the Late-Life Function and Disability Instrument-function component. Participants randomised to the intervention group performed repeated sit-to-stands using a GrandStand System(TM); a biofeedback device that recorded and displayed the number of repetitions performed. Participants randomised to the control group performed knee extensions using ankle cuff weights. Both groups performed the exercises daily for 6 weeks. Results sixty-six older adults took part. The intervention group

had a statistically significant improvement in Berg Balance Scale mean score, 1.67 +/- 2.64 points, P = 0.001 (control group 0.73 +/- 3.63 points, P = 0.258), indicating an improvement in balance over the 6-week exercise period. There was no statistically significant effect of either intervention on the other outcome measures. Conclusions in a highly variable population of older adults with mobility limitations, low-intensity functional home exercise of repeated sit-to-stands using the GrandStand System(TM) improved Berg Balance Scale score while low-intensity progressive resistance training did not. While statistically significant, the improvement in Berg Balance Scale score was modest raising the issue of what extent of change in score is clinically significant in this population.

PMID: 17646216 [PubMed - as supplied by publisher]

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- 28: [Best Pract Res Clin Gastroenterol](#). 2007;21(4):709-31. [Related Articles, Links](#)



### **Constipation.**

#### **[Bharucha AE.](#)**

Division of Gastroenterology and Hepatology, Clinical and Enteric Neuroscience Translational and Epidemiological Research Program (CENTER); Division of Biostatistics, Mayo Clinic and Mayo Foundation, Rochester, MN, USA.

Chronic constipation is a common disorder manifested by a variety of symptoms. Assessments of colonic transit and anorectal functions are used to categorize constipated patients into three groups, i.e., normal transit or irritable bowel syndrome, pelvic floor dysfunction (i.e., functional defaecatory disorders) and slow transit constipation. 'Slow transit' constipation is a clinical syndrome attributed to ineffective colonic propulsion and/or increased resistance to propagation of colonic contents. Defaecatory disorders are caused by insufficient relaxation of the pelvic floor muscles or a failure to generate adequate propulsive forces during defaecation. Colonic transit is often delayed in patients with functional defaecatory disorders. Normal and slow transit constipation are generally managed with medications; surgery is necessary for a minority of patients with slow transit constipation. Functional defaecatory disorders are primarily treated with pelvic floor retraining using biofeedback therapy.

PMID: 17643910 [PubMed - in process]

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- 29: [J Neurol](#). 2007 Jul 25; [Epub ahead of print] [Related Articles, Links](#)



### **Using vibrotactile feedback of instability to trigger a forward compensatory stepping response.**

[Asseman F](#), [Bronstein AM](#), [Gresty MA](#).

Imperial College London, Dept. of Clinical Neuroscience, Charing Cross Campus, Fulham Palace Road, London, W6 8RF, UK, f.asseman@imperial.ac.uk.

We evaluated the effectiveness of vibrotactile feedback to enhance protective stepping with a view to developing a prosthesis for patients with balance disorders. Subjects standing on a moving walkway were exposed to an unpredictable, abrupt backwards translation of the support surface that required a step response to remain standing. The subjects were 15 normal young, 15 normal elderly and 9 patients with either bilateral vestibular loss or peripheral neuropathy. The initial passive displacement of the body was recorded by a gyroscope placed on the leg which triggered a vibration pulse to the trigeminal distribution on the forehead to cue a forwards step. Stepping responses and postural sway, with and without vibration feedback, were compared. Vibration produced significantly shorter stepping reaction times only in the elderly normals with naturally slower stepping. Patients did not benefit in any way. We conclude that the effectiveness of vibration biofeedback appears limited. Any enhancement of compensatory stepping might be triggered by speeding the decision to step rather than by creating a specific stimulus-response loop.

PMID: 17641814 [PubMed - as supplied by publisher]



30: [Exp Brain Res](#). 2007 Jul 18; [Epub ahead of print]

[Related Articles](#), [Links](#)



### **Tongue-placed tactile biofeedback suppresses the deleterious effects of muscle fatigue on joint position sense at the ankle.**


[Vuillerme N](#), [Boisgontier M](#), [Chenu O](#), [Demongeot J](#), [Payan Y](#).

Laboratoire TIMC-IMAG, UMR UJF CNRS 5525, Faculté de Médecine, 38706, La Tronche Cédex, France, nicolas.vuillerme@imag.fr.

Whereas the acuity of the position sense at the ankle can be disturbed by muscle fatigue, it recently also has been shown to be improved, under normal ankle neuromuscular state, through the use of an artificial tongue-placed tactile biofeedback. The underlying principle of this biofeedback consisted of supplying individuals with supplementary information about the position of their matching ankle position relative to their reference ankle position through electrotactile stimulation of the tongue. Within this context, the purpose of the present experiment was to investigate whether this biofeedback could mitigate the deleterious effect of muscle fatigue on joint position sense at the ankle. To address this objective, sixteen young healthy university students were asked to perform an active ankle-matching task in two conditions of No-fatigue and Fatigue of the ankle muscles and two conditions of No-biofeedback and

Biofeedback. Measures of the overall accuracy and the variability of the positioning were determined using the absolute error and the variable error, respectively. Results showed that the availability of the biofeedback allowed the subjects to suppress the deleterious effects of muscle fatigue on joint position sense at the ankle. In the context of sensory re-weighting process, these findings suggested that the central nervous system was able to integrate and increase the relative contribution of the artificial tongue-placed tactile biofeedback to compensate for a proprioceptive degradation at the ankle.

PMID: 17639365 [PubMed - as supplied by publisher]

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- 31: [Cochrane Database Syst Rev.](#) 2007 Jul 18;(3):CD006373. [Related Articles,](#)  [Links](#)



### **Interventions for treating functional dysphonia in adults.**

[Ruotsalainen J](#), [Sellman J](#), [Lehto L](#), [Jauhiainen M](#), [Verbeek J](#).

**BACKGROUND:** Poor voice quality due to functional dysphonia can lead to a reduced quality of life. In occupations where voice use is substantial it can lead to a loss of employment. **OBJECTIVES:** To evaluate the effectiveness of interventions to treat functional dysphonia in adults. **SEARCH STRATEGY:** We searched MEDLINE (PubMed, 1950 to 2006), EMBASE (1974 to 2006), CENTRAL (The Cochrane Library, Issue 2 2006), CINAHL (1983 to 2006), PsychINFO (1967 to 2006), Science Citation Index (1986 to 2006) and the Occupational Health databases OSH-ROM (to 2006). The date of the last search was 5(th) April 2006. **SELECTION CRITERIA:** Randomised controlled trials (RCTs) of interventions evaluating the effectiveness of treatments targeted at adults with functional dysphonia. For work-directed interventions interrupted time series and prospective cohort studies were also eligible. **DATA COLLECTION AND ANALYSIS:** Two authors independently extracted data and assessed trial quality. Meta-analysis was performed where appropriate. **MAIN RESULTS:** We identified six randomised controlled trials including a total of 163 participants in intervention groups and 141 controls. One trial was high quality. Interventions were grouped into 1) Direct voice therapy 2) Indirect voice therapy 3) Combination of direct and indirect voice therapy and 4) Other treatments: pharmacological treatment and vocal hygiene instructions given by phoniatriest. No studies were found evaluating direct voice therapy on its own. One study did not show indirect voice therapy on its own to be effective when compared to no intervention. There is evidence from three studies for the effectiveness of a combination of direct and indirect voice therapy on self-reported vocal functioning (SMD -1.07; 95% CI -1.94 to -0.19), on observer-rated vocal functioning (WMD -13.00; 95% CI -17.92 to -8.08) and on instrumental assessment of vocal functioning (WMD -1.20; 95% CI -2.37 to -0.03) when compared to no intervention. The results of one study also show that the remedial effect remains significant for at least 14 weeks on self-reported vocal functioning

(SMD -0.51; 95% CI -0.87 to -0.14) and on observer-rated vocal functioning (Buffalo Voice Profile) (WMD -0.80; 95% CI -1.14 to -0.46). There is also limited evidence from one study that the number of symptoms may remain lower for a year. The combined therapy with biofeedback was not shown to be more effective than combined therapy alone in one study nor was pharmacological treatment found to be more effective than vocal hygiene instructions given by phoniatrist in one study. Publication bias may have influenced the results. **AUTHORS' CONCLUSIONS:** Evidence is available for the effectiveness of comprehensive voice therapy comprising both direct and indirect therapy elements. Effects are similar in patients and in teachers and student teachers screened for voice problems. Larger and methodologically better studies are needed with outcome measures that match treatment aims.

PMID: 17636842 [PubMed - in process]

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- 32: [Cochrane Database Syst Rev.](#) 2007 Jul 18;(3):CD004054. [Related Articles,](#)  [Links](#)



### **Psychological and educational interventions for atopic eczema in children.**

[Ersser S](#), [Latter S](#), [Sibley A](#), [Satherley P](#), [Welbourne S](#).

**BACKGROUND:** Psychological and educational interventions have been used as an adjunct to conventional therapy for children with atopic eczema to enhance the effectiveness of topical therapy. There have been no relevant systematic reviews applicable to children. **OBJECTIVES:** To assess the effectiveness of psychological and educational interventions in changing outcomes for children with atopic eczema. **SEARCH STRATEGY:** We searched the Cochrane Skin Group Specialised Register (to September 2004), the Cochrane Central Register of Controlled Trials (The Cochrane Library Issue 2, 2005), MEDLINE (from 1966-2005), EMBASE (from 1980 to week 3, 2005), PsycINFO (from 1872 to week 1, 2005). On-line: National Research Register, Meta-register of Controlled Trials, ZETOC alerts, SIGLE (August 2005). **SELECTION CRITERIA:** RCTs of psychological or educational interventions, or both, used to manage children with atopic eczema. **DATA COLLECTION AND ANALYSIS:** Two authors independently applied eligibility criteria, assessed trial quality and extracted data. A lack of comparable data prevented data synthesis. **MAIN RESULTS:** Five RCTs met the inclusion criteria. Some included studies required clearer reporting of trial procedures. Rigorous established outcome measures were not always used. Interventions described in all 5 RCTs were adjuncts to conventional therapy. Four focused on intervention directed towards the parents; data synthesis was not possible. Psychological interventions remain virtually unevaluated by studies of robust design; the only included study examined the effect of relaxation techniques (hypnotherapy and biofeedback) on severity. Three educational studies identified significant improvements in disease severity between intervention



groups. A recent German trial evaluated long term outcomes and found significant improvements in both disease severity (3 months to 7 years,  $p=0.0002$ , 8 to 12 years,  $p=0.003$ , 13 to 18 years,  $p=0.0001$ ) and parental quality of life (3 months to 7 years,  $p=0.0001$ , 8 to 12 years  $p=0.002$ ), for children with atopic eczema. One study found video-based education more effective in improving severity than direct education and the control (discussion) ( $p<0.001$ ). The single psychological study found relaxation techniques improved clinical severity as compared to the control at 20 weeks ( $t=2.13$ ) but this was of borderline significance ( $p=0.042$ ). **AUTHORS' CONCLUSIONS:** A lack of rigorously designed trials (excluding one recent German study) provides only limited evidence of the effectiveness of educational and psychological interventions in helping to manage the condition of children with atopic eczema. Evidence from included studies and also adult studies indicates that different service delivery models (multi-professional eczema school and nurse-led clinics) require further and comparative evaluation to examine their cost-effectiveness and suitability for different health systems.

PMID: 17636745 [PubMed - in process]

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**33:** [Cochrane Database Syst Rev.](#) 2007 Jul 18;(3):CD001407. [Related Articles,](#)  [Links](#)



**WITHDRAWN: Pelvic floor muscle training for urinary incontinence in women.**

[Hay-Smith E](#), [Bø K](#), [Berghmans L](#), [Hendriks H](#), [de Bie R](#), [van Waalwijk van Doorn E](#).

**BACKGROUND:** Pelvic floor muscle training is the most commonly recommended physical therapy treatment for women with stress leakage of urine. It is also used in the treatment of women with mixed incontinence, and less commonly for urge incontinence. Adjuncts, such as biofeedback or electrical stimulation, are also commonly used with pelvic floor muscle training. The content of pelvic floor muscle training programmes is highly variable.


**OBJECTIVES:** To determine the effects of pelvic floor muscle training for women with symptoms or urodynamic diagnoses of stress, urge and mixed incontinence, in comparison to no treatment or other treatment options. **SEARCH STRATEGY:** Search strategy: We searched the Cochrane Incontinence Group trials register (May 2000), Medline (1980 to 1998), Embase (1980 to 1998), the database of the Dutch National Institute of Allied Health Professions (to 1998), the database of the Cochrane Rehabilitation and Related Therapies Field (to 1998), Physiotherapy Index (to 1998) and the reference lists of relevant articles. We handsearched the proceedings of the International Continence Society (1980 to 2000). We contacted investigators in the field to locate studies. Date of the most recent searches: May 2000. **SELECTION CRITERIA:** Randomised trials in women with symptoms or urodynamic diagnoses of stress, urge or mixed incontinence that included pelvic floor muscle training in at least one arm of the



trial. **DATA COLLECTION AND ANALYSIS:** Two reviewers assessed all trials for inclusion/exclusion and methodological quality. Data were extracted by the lead reviewer onto a standard form and cross checked by another. Disagreements were resolved by discussion. Data were processed as described in the Cochrane Handbook. Sensitivity analysis on the basis of diagnosis was planned and undertaken where appropriate. **MAIN RESULTS:** Forty-three trials met the inclusion criteria. The primary or only reference for 15 of these was a conference abstract. The pelvic floor muscle training programs, and comparison interventions, varied markedly. Outcome measures differed between trials, and methods of data reporting varied, making the data difficult to combine. Many of the trials were small. Allocation concealment was adequate in five trials, and nine trials used assessors masked to group allocation. Thirteen trials reported that there were no losses to follow up, seven trials had dropout rates of less than 10%, but in the remaining trials the proportion of dropouts ranged from 12% to 41%. Pelvic floor muscle training was better than no treatment or placebo treatments for women with stress or mixed incontinence. 'Intensive' appeared to be better than 'standard' pelvic floor muscle training. PFMT may be more effective than some types of electrical stimulation but there were problems in combining the data from these trials. There is insufficient evidence to determine if pelvic floor muscle training is better or worse than other treatments. The effect of adding pelvic floor muscle training to other treatments (e.g. electrical stimulation, behavioural training) is not clear due to the limited amount of evidence available. Evidence of the effect of adding other adjunctive treatments to PFMT (e.g. vaginal cones, intravaginal resistance) is equally limited. The effectiveness of biofeedback assisted PFMT is not clear, but on the basis of the evidence available there did not appear to be any benefit over PFMT alone at post treatment assessment. Long-term outcomes of pelvic floor muscle training are unclear. Side effects of pelvic floor muscle training were uncommon and reversible. A number of the formal comparisons should be viewed with caution due to statistical heterogeneity, lack of statistical independence, and the possibility of spurious confidence intervals in some instances. **AUTHORS' CONCLUSIONS:** Pelvic floor muscle training appeared to be an effective treatment for adult women with stress or mixed incontinence. Pelvic floor muscle training was better than no treatment or placebo treatments. The limitations of the evidence available mean that it is difficult to judge if pelvic floor muscle training was better or worse than other treatments. Most trials to date have studied the effect of treatment in younger, premenopausal women. The role of pelvic floor muscle training for women with urge incontinence alone remains unclear. Many of the trials were small with poor reporting of allocation concealment and masking of outcome assessors. In addition there was a lack of consistency in the choice and reporting of outcome measures that made data difficult to combine. Methodological problems limit the confidence that can be placed in the findings of the review. Further, large, high quality trials are necessary.

PMID: 17636671 [PubMed - in process]

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- 34: [Cochrane Database Syst Rev.](#) 2007 Jul 18;(3):CD001310. [Related Articles,](#)  [Links](#)



### **Electrical stimulation for faecal incontinence in adults.**

[Hosker G](#), [Cody J](#), [Norton C](#).

**BACKGROUND:** Faecal incontinence is a particularly embarrassing and distressing condition with significant medical, social and economic implications. Electrical stimulation has been used with apparent success in the treatment of faecal incontinence. However, standards of treatment are still lacking and the magnitude of alleged benefits has yet to be established. **OBJECTIVES:** To determine the effects of electrical stimulation for the treatment of faecal incontinence in adults. **SEARCH STRATEGY:** We searched the Cochrane Incontinence Group Specialised Trials Register (searched 13 March 2007) and reference lists of potentially eligible articles. **SELECTION CRITERIA:** All randomised or quasi-randomised trials evaluating electrical stimulation in adults with faecal incontinence. **DATA COLLECTION AND ANALYSIS:** Two reviewers assessed the methodological quality of potentially eligible trials and independently extracted data from the included trials. A wide range of outcome measures were considered. **MAIN RESULTS:** Four eligible trials with 260 participants were identified. Findings from one trial suggest that electrical stimulation with anal biofeedback and exercises provides more short-term benefits than vaginal biofeedback and exercises for women with obstetric-related faecal incontinence. Another study found contradictory results, with no added benefit from electrical stimulation over biofeedback and exercises alone. Although all trials report that patient's symptoms are generally improved, it is not clear that this is the effect of electrical stimulation. No further conclusions could be drawn from the data available. **AUTHORS' CONCLUSIONS:** At present, there are insufficient data to allow reliable conclusions to be drawn on the effects of electrical stimulation in the management of faecal incontinence. There is a suggestion that electrical stimulation may have a therapeutic effect, but this is not certain. Larger, more generalisable trials are needed.

PMID: 17636665 [PubMed - in process]

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- 35: [JAMA.](#) 2007 Jul 18;298(3):324-9. [Related Articles,](#)  [Links](#)



### **Acute emotional stress and cardiac arrhythmias.**

[Ziegelstein RC](#).

Department of Medicine, Johns Hopkins University School of Medicine and Division of Cardiology, Johns Hopkins Bayview Medical Center, Baltimore,

Maryland 21224-2780, USA. rziegel@jhmi.edu

Episodes of acute emotional stress can have significant adverse effects on the heart. Acute emotional stress can produce left ventricular contractile dysfunction, myocardial ischemia, or disturbances of cardiac rhythm. Although these abnormalities are often only transient, their consequences can be gravely damaging and sometimes fatal. Despite the many descriptions of catastrophic cardiovascular events in the setting of acute emotional stress, the anatomical substrate and physiological pathways by which emotional stress triggers cardiovascular events are only now being characterized, aided by the advent of functional neuroimaging. Recent evidence indicates that asymmetric brain activity is particularly important in making the heart more susceptible to ventricular arrhythmias. Lateralization of cerebral activity during emotional stress may stimulate the heart asymmetrically and produce areas of inhomogeneous repolarization that create electrical instability and facilitate the development of cardiac arrhythmias. Patients with ischemic heart disease who survive an episode of sudden cardiac death in the setting of acute emotional stress should receive a beta-blocker. Nonpharmacological approaches to manage emotional stress in patients with and without coronary artery disease, including social support, relaxation therapy, yoga, meditation, controlled slow breathing, and biofeedback, are also appropriate to consider and merit additional investigation in randomized trials.

Publication Types:

- [Case Reports](#)
- [Clinical Conference](#)

PMID: 17635893 [PubMed - indexed for MEDLINE]



36: [Exp Brain Res.](#) 2007 Jul 13; [Epub ahead of print]

[Related Articles,](#) [Links](#)



### **Voluntary modulation of human stretch reflexes.**

[Ludvig D,](#) [Cathers I,](#) [Kearney RE.](#)

Department of Biomedical Engineering, McGill University, 3775 University Street, Montreal, QC, Canada, H3A 2B4, daniel.ludvig@mail.mcgill.ca.

It has been postulated that the central nervous system (CNS) can tune the mechanical behavior of a joint by altering reflex stiffness in a task-dependant manner. However, most of the evidence supporting this hypothesis has come from the analysis of H-reflexes or electromyogram (EMG) responses. Changes in overall stiffness have been documented but, as yet, there is no direct evidence that

the CNS can control reflex stiffness independently of the intrinsic stiffness. We have used a novel identification algorithm to estimate intrinsic and reflex stiffness and feed it back to subjects in real-time. Using this biofeedback, subjects could learn to control reflex stiffness independently of intrinsic stiffness. At low torque levels, subjects could vary their reflex stiffness gain by a factor of 4, while maintaining elastic stiffness and torque constant. EMG measurements confirmed that the contraction levels of the ankle muscles remained constant. Further experiments showed that subjects could change their reflexes rapidly on command. Thus, we conclude that the CNS can control reflex stiffness independently and so has great flexibility in adjusting the mechanical properties of a joint to meet functional requirements.

PMID: 17628793 [PubMed - as supplied by publisher]

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□ 37: [J Neurosci](#). 2007 Jul 11;27(28):7498-507.

[Related Articles](#),  [Links](#)



### **Direct instrumental conditioning of neural activity using functional magnetic resonance imaging-derived reward feedback.**

[Bray S](#), [Shimojo S](#), [O'Doherty JP](#).

Computation and Neural Systems Program, California Institute of Technology, Pasadena, California 91125, USA.

Successful learning is often contingent on feedback. In instrumental conditioning, an animal or human learns to perform specific responses to obtain reward. Instrumental conditioning is often used by behavioral psychologists to train an animal (or human) to produce a desired behavior. Shaping involves reinforcing those behaviors, which in a stepwise manner are successively closer to the desired behavior until the desired behavior is reached. Here, we aimed to extend this traditional approach to directly shape neural activity instead of overt behavior. To achieve this, we scanned 22 human subjects with functional magnetic resonance imaging and performed image processing in parallel with acquisition. We delineated regions of interest (ROIs) in finger and toe motor/somatosensory regions and used an instrumental shaping procedure to induce a regionally specific increase in activity by providing an explicit monetary reward to reinforce neural activity in the target areas. After training, we found a significant and regionally specific increase in activity in the ROI being rewarded (finger or toe) and a decrease in activity in the nonrewarded region. This demonstrates that instrumental conditioning procedures can be used to directly shape neural activity, even without the production of an overt behavioral response. This procedure offers an important alternative to traditional biofeedback-based approaches and may be useful in the development of future therapies for stroke and other brain disorders.

Publication Types:

- [Randomized Controlled Trial](#)
- [Research Support, Non-U.S. Gov't](#)

PMID: 17626211 [PubMed - indexed for MEDLINE]

38: [Chiropr Osteopat.](#) 2007 Jul 9;15:9. Related Articles,  Links



**The effectiveness of ENAR for the treatment of chronic neck pain in Australian adults: a preliminary single-blind, randomised controlled trial.**

[Vitiello AL](#), [Bonello R](#), [Pollard H](#).

Macquarie Injury Management Group, Department of Health & Chiropractic, Macquarie University, North Ryde, Australia. mychiro@inet.net.au

**BACKGROUND:** Current evidence on electrotherapies for the management of chronic neck pain is either lacking or conflicting. New therapeutic devices being introduced to the market should be investigated for their effectiveness and efficacy. The ENAR (Electro Neuro Adaptive Regulator) therapy device combines Western biofeedback with Eastern energy medicine. **METHODS:** A small, preliminary randomised and controlled single-blinded trial was conducted on 24 participants (ten males, 14 females) between the ages of 18 to 50 years (median age of 40.5) Consent was obtained and participants were randomly allocated to one of three groups--ENAR, Transcutaneous Electrical Nerve Stimulation (TENS), or control therapy--to test the hypothesis that ENAR therapy would result in superior pain reduction/disability and improvements in neck function compared with TENS or control intervention. The treatment regimen included twelve 15-minute treatment sessions over a six week period, followed by two assessment periods. Visual Analogue Scale (VAS) pain scores, Neck Disability Index (NDI) scores, Patient Specific Functional Scale (PSFS) scores and Short Form 36v1 (SF-36) quality of life scores reported by participants were collected at each of the assessments points throughout the trial (0, 6, 12, 18 and 24 weeks). **RESULTS:** Eligible participants (n = 30) were recruited and attended clinic visits for 6 months from the time of randomisation. Final trial sample (n = 24) comprised 9 within the ENAR group, 7 within the TENS group and 8 within the control group. With an overall study power of 0.92, the ENAR group showed a decrease in mean pain score from measurement at time zero (5.0 +/- 0.79 95%CI) to the first follow-up measurement at six weeks (1.4 +/- 0.83 95%CI). Improvement was maintained until week 24 (1.75 +/- 0.9 95%CI). The TENS and control groups showed consistent pain levels throughout the trial (3.4 +/- 0.96

95%CI and 4.1 +/- 0.9 95%CI respectively). Wald analysis for pain intensity was significant for the ENAR group ( $p = 0.01$ ). Six month NDI scores showed the disability level of the ENAR group (11.3 +/- 4.5 95%CI) was approximately half that of either the TENS (22.9 +/- 4.8 95%CI) or the control (29.4 +/- 4.5 95%CI) groups. NDI analysis using the Wald method, indicated significant reductions in disability only for the ENAR group ( $p = 0.022$ ). PSFS results also demonstrated significantly better performance of ENAR ( $p = 0.001$ ) compared to both alternative interventions. Differential means analysis of the SF-36 results favoured ENAR for all of the subscales. Six of the initial 30 participants discontinued the trial protocol. CONCLUSION: ENAR therapy participants reported a significant reduction in the intensity of neck pain (VAS) and disability (NDI), as well as a significant increased function (PSFS) and overall quality of life (SF-36) than TENS or control intervention participants. Due to the modest sample size and restricted cohort characteristics, future larger and more comprehensive trials are required to better evaluate the potential efficacy of the ENAR device in a more widely distributed sample population. TRIAL REGISTRATION: This study has been registered with the Australian Clinical Trials Registry (ACTR): ACTRN012606000438550.

PMID: 17617926 [PubMed]

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□ 39: [J Orthop Sports Phys Ther.](#) 2007 Jun;37(6):320-4.

[Related Articles,](#)  [Links](#)

### **Effects of performing an abdominal drawing-in maneuver during prone hip extension exercises on hip and back extensor muscle activity and amount of anterior pelvic tilt.**

[Oh JS](#), [Cynn HS](#), [Won JH](#), [Kwon OY](#), [Yi CH](#).

Department of Rehabilitation Therapy, The Graduate School, Yonsei University, Wonju, South Korea.

STUDY DESIGN: Comparative, repeated-measures study. OBJECTIVES: To examine the effects of an abdominal drawing-in maneuver (ADIM) using a pressure biofeedback unit on electromyographic (EMG) signal amplitude of the hip and back extensors, and the angle of anterior pelvic tilt during hip extension in the prone position. BACKGROUND: Prone hip extension is a commonly used position for testing hip extensors strength and performing hip extension exercises. Performing an ADIM during hip extension exercise in prone may reduce the activity of erector spinae and angle of anterior pelvic tilt and increase the activity of hip extensors. METHODS: Twenty able-bodied volunteers (10 male, 10 female), aged 19 to 26 years (mean +/- SD, 22.3 +/- 3.4 years), were recruited for this study. The EMG signal amplitude and angle of anterior pelvic tilt were measured during prone hip extension with and without performing an ADIM. Surface EMG signal was recorded from the erector spinae, gluteus maximus, and medial hamstrings. Kinematic data for anterior pelvic tilt were measured using a

motion analysis system. Data were analyzed using 2-way ANOVAs. RESULTS: When performing an ADIM during hip extension exercises done in a prone position, the EMO signal amplitude decreased significantly in the erector spinae (mean +/- SD, 49 +/- 14% MVIC versus 17 +/- 12% MVIC; P < .001), and increased significantly in both the gluteus maximus (mean +/- SD, 24 +/- 8% MVIC versus 52 +/- 15% MVIC; P < .001) and medial hamstrings (mean +/- SD, 47 +/- 14% MVIC versus 58 +/- 20% MVIC; P = .008). The angle of anterior pelvic tilt decreased significantly during prone hip extension with an ADIM (mean +/- SD, 10 degrees +/- 2 degrees versus 3 degrees +/- 1 degree; P < .001). CONCLUSIONS: Based on these findings, an ADIM could be used as an effective method to disassociate erector spinae activation from gluteus maximus and medial hamstrings during prone hip extension exercise.

PMID: 17612358 [PubMed - indexed for MEDLINE]

40: [Pain Med.](#) 2007 May-Jun;8(4):359-75.

[Related Articles](#),  [Links](#)



### **Mind-body interventions for chronic pain in older adults: a structured review.**

[Morone NE](#), [Greco CM](#).

Department of Medicine, Division of General Internal Medicine, University of Pittsburgh, Pittsburgh, Pennsylvania, USA. moronene@upmc.edu

STUDY DESIGN: We conducted a structured review of eight mind-body interventions for older adults with chronic nonmalignant pain. OBJECTIVES: To evaluate the feasibility, safety, and evidence for pain reduction in older adults with chronic nonmalignant pain in the following mind-body therapies: biofeedback, progressive muscle relaxation, meditation, guided imagery, hypnosis, tai chi, qi gong, and yoga. METHODS: Relevant studies in the MEDLINE, PsycINFO, AMED, and CINAHL databases were located. A manual search of references from retrieved articles was also conducted. Of 381 articles retrieved through search strategies, 20 trials that included older adults with chronic pain were reviewed. RESULTS: Fourteen articles included participants aged 50 years and above, while only two of these focused specifically on persons aged  $\geq 65$  years. An additional six articles included persons aged  $\geq 50$  years. Fourteen articles were controlled trials. There is some support for the efficacy of progressive muscle relaxation plus guided imagery for osteoarthritis pain. There is limited support for meditation and tai chi for improving function or coping in older adults with low back pain or osteoarthritis. In an uncontrolled biofeedback trial that stratified by age group, both older and younger adults had significant reductions in pain following the intervention. Several studies included older adults, but did not analyze benefits by age. Tai chi, yoga, hypnosis, and progressive muscle relaxation were significantly associated with pain reduction in



these studies. CONCLUSION: The eight mind-body interventions reviewed are feasible in an older population. They are likely safe, but many of the therapies included modifications tailored for older adults. There is not yet sufficient evidence to conclude that these eight mind-body interventions reduce chronic nonmalignant pain in older adults. Further research should focus on larger, clinical trials of mind-body interventions to answer this question.

Publication Types:

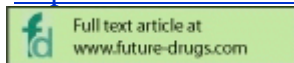
- [Meta-Analysis](#)
- [Research Support, N.I.H., Extramural](#)
- [Research Support, Non-U.S. Gov't](#)
- [Review](#)

PMID: 17610459 [PubMed - indexed for MEDLINE]

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41: [Expert Rev Med Devices](#). 2007 Jul;4(4):489-95.

[Related Articles](#),  [Links](#)



## **Cranial electrotherapy stimulation and fibromyalgia.**

[Gilula MF](#).

President and Director, Life Energies Research Institute, 2510 Inagua Avenue, Miami, FL 33133, USA. [mgilula@mindspring.com](mailto:mgilula@mindspring.com).

Cranial electrotherapy stimulation (CES) is a well-documented neuroelectrical modality that has been proven effective in some good studies of fibromyalgia (FM) patients. CES is no panacea but, for some FM patients, the modality can be valuable. This article discusses aspects of both CES and FM and how they relate to the individual with the condition. FM frequently has many comorbidities such as anxiety, depression, insomnia and a great variety of different rheumatologic and neurological symptoms that often resemble multiple sclerosis, dysautonomias, chronic fatigue syndrome and others. However, despite long-standing criteria from the American College of Rheumatology for FM, some physicians believe there is probably no single homogeneous condition that can be labeled as FM. Whether it is a disease, a syndrome or something else, sufferers feel like they are living one disaster after another. Active self-involvement in care usually enhances the therapeutic results of various treatments and also improves the patient's sense of being in control of the condition. D-ribose supplementation may prove to significantly enhance energy, sleep, mental clarity, pain control and well-being in FM patients. A form of evoked potential biofeedback, the EPPFX, is a powerful stress reduction technique which assesses the chief stressors and risk factors for illness that can impede the FM patient's built-in healing abilities. Future healthcare will likely expand the diagnostic criteria of FM and/or illuminate a

group of related conditions and the ways in which the conditions relate to each other. Future medicine for FM and related conditions may increasingly involve multimodality treatment that features CES as one significant part of the therapeutic regimen. Future medicine may also include CES as an invaluable, cost-effective add-on to many facets of clinical pharmacology and medical therapeutics.

PMID: 17605684 [PubMed - in process]

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42: [J Altern Complement Med.](#) 2007 Jun;13(5):547-54.

[Related Articles](#),  [Links](#)

*Mary Ann Liebert*

**Blood pressure biofeedback exerts intermediate-term effects on blood pressure and pressure reactivity in individuals with mild hypertension: a randomized controlled study.**

[Tsai PS](#), [Chang NC](#), [Chang WY](#), [Lee PH](#), [Wang MY](#).

College of Nursing, Taipei Medical University, Taipei, Taiwan.  
ptsai@tmu.edu.tw

**OBJECTIVE:** This randomized controlled study examined whether a 4-week blood pressure (BP) biofeedback program can reduce BP and BP reactivity to stress in participants with mild hypertension. **METHODS:** Participants in the active biofeedback group (n=20) were trained in 4 weekly laboratory sessions to self-regulate their BP with continuous BP feedback signals, whereas participants in the sham biofeedback group (n=18) were told to manipulate their BP without feedback signals. BP, skin temperature, skin conductance, BP reactivity to stress, body weight, and state anxiety were assessed before training and repeated at the eighth week after the training. **RESULTS:** The decreases in systolic (12.6 +/- 8.8 versus 4.1 +/- 5.7) and mean BP (8.2 +/- 6.9 versus 3.3 +/- 4.9) from baseline at week 12 follow-up were significantly greater in the active biofeedback group compared with the sham biofeedback group (p=0.001 and 0.017, respectively). Results from analysis of covariance with the follow-up systolic blood pressure (SBP) (or mean arterial pressure [MAP]) as the dependent variable, baseline SBP (or MAP) as the covariate, and group as the independent variable showed that biofeedback training effectively lowered SBP and MAP (p=0.013 and 0.026, respectively). The pre-to-post differences in skin conductance and SBP reactivity were statistically significant for the biofeedback group (p=0.005 and 0.01, respectively), but not for the control group. For the sample as a whole and for the biofeedback group, the state anxiety score and body weight remained unchanged. **CONCLUSIONS:** BP biofeedback exerts a specific treatment effect in reducing BP in individuals with mild hypertension, possibly through reducing pressor reactivity to stress.

Publication Types:

- [Research Support, Non-U.S. Gov't](#)

PMID: 17604559 [PubMed - in process]

- 
- 43: [Altern Med Rev](#). 2007 Jun;12(2):146-51.

Related Articles,  Links



**EEG biofeedback in the treatment of attention deficit hyperactivity disorder.**

**[Friel PN](#).**

Washington State Toxicology Laboratory, Forensic Laboratory Services Bureau  
Suit 360, 2203 Airport Way South, Seattle, WA 98134, USA.  
Pat.Friel@wsp.wa.gov

Electroencephalogram (EEG) biofeedback, also known as neurofeedback, is a promising alternative treatment for patients with attention deficit/hyperactivity disorder (AD/HD). EEG biofeedback therapy rewards scalp EEG frequencies that are associated with relaxed attention, and suppresses frequencies associated with under- or over-arousal. In large-scale clinical trials, the efficacy of EEG biofeedback for AD/HD is comparable to that of stimulant medications. Many different EEG biofeedback protocols for AD/HD are available. Single-channel protocols developed by Lubar and interhemispheric protocols developed by the Othmers are widely practiced and supported by large-scale clinical studies.

Publication Types:

- [Review](#)

PMID: 17604459 [PubMed - indexed for MEDLINE]

- 
- 44: [Arch Phys Med Rehabil](#). 2007 Jul;88(7):901-6.

Related Articles,  Links



**Biodynamic feedback training to assure learning partial load bearing on forearm crutches.**


**[Krause D](#), [Wünnemann M](#), [Erlmann A](#), [Hölzchen T](#), [Mull M](#), [Olivier N](#), [Jöllenbeck T](#).**

Department of Sport and Health, Sports Sciences, Faculty of Science, University Paderborn, Paderborn, Germany. daniel.krause@upb.de

**OBJECTIVE:** To examine how biodynamic feedback training affects the learning of prescribed partial load bearing (200N). **DESIGN:** Three pre-post experiments. **SETTING:** Biomechanics laboratory in a German university. **PARTICIPANTS:** A volunteer sample of 98 uninjured subjects who had not used crutches recently. There were 24 subjects in experiment 1 (mean age, 23.2y); 64 in experiment 2 (mean age, 43.6y); and 10 in experiment 3 (mean age, 40.3y), parallelized by arm force. **INTERVENTIONS:** Video instruction and feedback training: In experiment 1, 2 varied instruction videos and reduced feedback frequency; in experiment 2, varied frequencies of changing tasks (contextual interference); and in experiment 3, feedback training (walking) and transfer (stair tasks). **MAIN OUTCOME MEASURE:** Vertical ground reaction force. **RESULTS:** Absolute error of practiced tasks was significantly reduced for all samples ( $P < .050$ ). Varied contextual interference conditions did not significantly affect retention ( $P = .798$ ) or transfer ( $P = .897$ ). Positive transfer between tasks was significant in experiment 2 ( $P < .001$ ) and was contrary to findings in experiment 3 ( $P = .071$ ). **CONCLUSIONS:** Biodynamic feedback training is applicable for learning prescribed partial load bearing. The frequency of changing tasks is irrelevant. Despite some support for transfer effects, additional practice in climbing and descending stairs might be beneficial.

PMID: 17601472 [PubMed - indexed for MEDLINE]

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- 45: [Rev Med Chir Soc Med Nat Iasi](#). 2007 Jan-Mar;111(1):303-6.

[Related Articles,](#)  
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### **[Biofeedback in young singer vocal training]**

[Article in Romanian]

[Ciochină P](#), [Ciochină AD](#), [Burlui A](#), [Zaharia D](#).

Disciplina de Cunoștințe Muzicale - Canto, Facultatea de Compoziție, Muzicologie, Pedagogie Muzicală și Teatru, Universitatea de Arte "G. Enescu", Iași.

Biofeedback therapy is a learning process that is based on "operant conditioning" techniques. **AIM:** To estimate the significance of biofeedback to an accurate and faster control of singing voice emission. **RESULTS:** Significantly, it was discovered that professional singers active in performing of both classical and music theatre repertoire with regard to the visual-kinesthetic effect of melodic contour in musical notation as it affect vocal timbre. The results of the study also indicate that the development of new technology for youth singer vocal training, may be useful to these singers.

Publication Types:

- [English Abstract](#)
- [Review](#)

PMID: 17595886 [PubMed - indexed for MEDLINE]



46: [Expert Opin Investig Drugs](#). 2007 Jul;16(7):999-1007.

[Related Articles](#), [Links](#)



## **Overactive bladder treatments in early phase clinical trials.**

[Colli E](#), [Digesu GA](#), [Olivieri L](#).

Bioxell SPA, Milan, Italy. [enrico.colli@bioxell.com](mailto:enrico.colli@bioxell.com)

'Overactive bladder' (OAB) is a syndrome that is characterised by symptoms of urgency, with or without urge urinary incontinence, usually with frequency and nocturia [1] . It is a highly prevalent condition affecting 17% of the general population, with a significant negative effect on quality of life, impairing several areas with physical, social, emotional and sexual limitations. The prevalence of OAB increases with age in both men and women [2,3] . The pathophysiology is multifactorial and not yet fully understood. Non-surgical treatment is the mainstay of therapy for OAB. The available options include biofeedback, electrical stimulation, bladder training, pharmacotherapy or a combination of these options. Nevertheless pharmacotherapy is still the treatment of choice for OAB symptoms [4] . The pharmacological treatment of OAB is generally directed towards the central or the peripheral neural control pathways or the detrusor muscle [5] . The antimuscarinic drugs are the most commonly used. In the US, approved antimuscarinics include oxybutynin, tolterodine, trospium chloride, solifenacin and darifenacin. Although this class of drugs has been shown to be more effective than placebo in specific meta-analyses [6] , it has been reported that  $\leq 80\%$  of the patients discontinue the treatment within 6 months, mainly for the low drug compliance due to the high incidence of side effects [7] . Therefore, there is a strong need to identify drugs with novel mechanisms of action, which could provide equal or even better efficacy and overall greater acceptability than antimuscarinic drugs. At present, several other specific molecular targets identified within detrusor muscle and/or neural systems are under investigation for the development of more specific treatments of OAB. This article provides an up-to date review of drugs that are in investigational preclinical and early stage (Phase I and II) clinical trials for the treatment of OAB.

Publication Types:

- [Review](#)

PMID: 17594185 [PubMed - indexed for MEDLINE]

- 47: [Appl Psychophysiol Biofeedback](#). 2007 Jun;32(2):121-40. [Related Articles,](#)  [Links](#)



**Abstracts of papers presented at the 38th annual meeting of the association for applied psychophysiology and biofeedback.**

[No authors listed]

PMID: 17578663 [PubMed - in process]

- 48: [Appl Psychophysiol Biofeedback](#). 2007 Jun 16; [Epub ahead of print] [Related Articles,](#)  [Links](#)




**Microperimetric Biofeedback in AMD Patients.**

[Vingolo EM](#), [Cavarretta S](#), [Domanico D](#), [Parisi F](#), [Malagola R](#).

Department of Ophthalmology, Inherited Retinal Diseases Unit, “La Sapienza” University of Rome, Ospedale A. Fiorini, Terracina, Italy, [evingolo@rdn.it](mailto:evingolo@rdn.it).

To analyse biofeedback training by microperimeter MP-1 (Nidek Technologies) on patients with Age Related Maculopathy (AMD). We enrolled 15 patients (10 female and 5 male) and examined total of 27 eyes with AMD. All the patient underwent 10 training sessions of 10 min for each eye, performed once a week using the MP-1 biofeedback examination. Statistical analysis was performed using Student's t-test. p values less than 0.05 were considered statistically significant. All patients displayed an improvement in visual acuity, fixation behaviour, retinal sensitivity an reading speed. The mean character size value improved from 36.4 to 11.7; this result was statistically significant (p = 0.031). A biofeedback examination using the MP-1 microperimeter can help the brain to memorize the final fixation location by increasing attention modulation, thereby providing an efficient preferred retinal locus for visual tasks in patients with macular disease and central scotoma.

PMID: 17574525 [PubMed - as supplied by publisher]

- 49: [Diabetes Educ](#). 2007 May-Jun;33(3):442, 444-5, 447-8, 454. [Related Articles,](#)  [Links](#)



**Clinical benefits of training patients to voluntarily increase peripheral blood flow: the WarmFeet intervention.**

## [Rice BI.](#)

University of Minnesota, School of Public Health, Epidemiology Clinical Research Center, 1100 Washington Avenue S Suite 201, Minneapolis, MN 55415, USA. ricex016@umn.edu

The purpose of this article is to introduce a training program that can help diabetes educators get a fresh approach to assist their clients with the diabetes complication of limited peripheral blood flow. Biofeedback-assisted relaxation training is an educational and integrative intervention that supplements traditional medical care. Biofeedback-assisted relaxation training can be taught to the patient in a single setting. The relaxation training allows peripheral blood vessels to widen, providing enhanced circulation to peripheral tissues, including nerves. The training includes an explanation of relaxation and its effects on the patient, after which the technique is practiced with the assistance of thermal biofeedback. Biofeedback is an effective physiological training modality that teaches the patient what is going on in his or her own body. As the patient relaxes correctly, peripheral blood vessels dilate and blood flow improves, resulting in increased skin temperature. The change in skin temperature is measured with a small alcohol thermometer. Consistent relaxation yields significant outcomes such as improved peripheral blood flow, a reduction in peripheral pain, enhanced healing, improved ambulation, and increased coping skills in the patient's life.

PMID: 17570875 [PubMed - indexed for MEDLINE]



50: [Neurosci Lett.](#) 2007 Jun 27;421(2):173-7. Epub 2007 May 29.

[Related Articles,](#)



**ELSEVIER**  
FULL-TEXT ARTICLE

### **Inter-individual variability in sensory weighting of a plantar pressure-based, tongue-placed tactile biofeedback for controlling posture.**

[Vuillerme N](#), [Chenu O](#), [Pinsault N](#), [Boisgontier M](#), [Demongeot J](#), [Payan Y](#).

Laboratoire TIMC-IMAG, UMR UJF CNRS 5525, La Tronche, France.  
nicolas.vuillerme@imag.fr

The purpose of the present experiment was to investigate whether the sensory weighting of a plantar pressure-based, tongue-placed tactile biofeedback for controlling posture could be subject to inter-individual variability. To achieve this goal, 60 young healthy adults were asked to stand as immobile as possible with their eyes closed in two conditions of No-biofeedback and Biofeedback. Centre of foot pressure (CoP) displacements were recorded using a force platform. Overall, results showed reduced CoP displacements in the Biofeedback relative to the No-biofeedback condition, evidencing the ability of the central nervous system to



efficiently integrate an artificial plantar-based, tongue-placed tactile biofeedback for controlling posture during quiet standing. Results further showed a significant positive correlation between the CoP displacements measured in the No-biofeedback condition and the decrease in the CoP displacements induced by the use of the biofeedback. In other words, the degree of postural stabilization appeared to depend on each subject's balance control capabilities, the biofeedback yielding a greater stabilizing effect in subjects exhibiting the largest CoP displacements when standing in the No-biofeedback condition. On the whole, by evidencing a significant inter-individual variability in sensory weighting of an additional tactile information related to foot sole pressure distribution for controlling posture, the present findings underscore the need and the necessity to address the issue of inter-individual variability in the field of neuroscience.

Publication Types:

- [Research Support, Non-U.S. Gov't](#)

PMID: 17566646 [PubMed - in process]

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□ 51: [Aust Fam Physician](#). 2007 Jun;36(6):449-52.

Related Articles,  Links

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**Levator ani syndrome - a case study and literature review.**

[Ng CL](#).

Kowloon West Cluster, Hospital Authority, Hong Kong, China.  
chinglun@yahoo.com.hk

**BACKGROUND:** Although anorectal symptoms are a common problem seen in general practice, general practitioners may sometimes encounter patients presenting with anorectal pain without a detectable cause. **OBJECTIVE:** This article discusses a case of recurrent anorectal pain in a young woman due to levator ani syndrome, and the current evidence for treatment of levator ani syndrome. **DISCUSSION:** Levator ani syndrome usually presents with recurrent or chronic rectal pain without detectable organic pathology. Digital massage, sitz bath, muscle relaxants, electrogalvanic stimulation and biofeedback are the treatment modalities most frequently described in the literature.

PMID: 17565405 [PubMed - in process]

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□ 52: [Appl Psychophysiol Biofeedback](#). 2007 Jun;32(2):99-109. Epub 2007 Jun 13.

Related  
Articles,  
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## Targeting pCO<sub>2</sub> in asthma: pilot evaluation of a capnometry-assisted breathing training.

[Meuret AE](#), [Ritz T](#), [Wilhelm FH](#), [Roth WT](#).

Department of Psychology, Southern Methodist University, Dallas, TX 75205, USA. ameuret@smu.edu

**OBJECTIVES:** This pilot study aimed to evaluate the feasibility and potential benefits of a novel biofeedback breathing training for achieving sustained increases in pCO<sub>2</sub> levels. **METHODS:** Twelve asthma patients were randomly assigned to an immediate 4-week treatment group or waiting list control. Patients were instructed to modify their respiration in order to change levels of end-tidal pCO<sub>2</sub> using a hand-held capnometer. Treatment outcome was assessed in frequency and distress of symptoms, asthma control, lung function, and variability of peak expiratory flow (PEF). **RESULTS:** We found stable increases in pCO<sub>2</sub> and reductions in respiration rate during treatment and 2-month follow-up. Mean pCO<sub>2</sub> levels rose from a hypocapnic to a normocapnic range at follow-up. Frequency and distress of symptoms was reduced and reported asthma control increased. In addition, mean PEF variability decreased significantly in the treatment group. **CONCLUSIONS:** Our pilot intervention provided evidence for the feasibility of pCO<sub>2</sub>-biofeedback training in asthma patients.

Publication Types:

- [Research Support, N.I.H., Extramural](#)
- [Research Support, U.S. Gov't, Non-P.H.S.](#)

PMID: 17564826 [PubMed - in process]

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53: [Emerg Med Australas](#). 2007 Jun;19(3):218-22.

Related Articles,  Links

## Cricoid pressure: assessment of performance and effect of training in emergency department staff.

[Quigley P](#), [Jeffrey P](#).

Emergency Department, Wellington Hospital, Wellington, New Zealand.  
drpq@mac.com

**OBJECTIVES:** (i) To evaluate the theoretical knowledge and practical skills of ED staff regarding the technique of cricoid pressure; (ii) to assess the efficacy of two methods of cricoid pressure training. **METHODS:** Theoretical knowledge of

participants was assessed by a pretraining questionnaire, and practical ability was assessed using a Flinders Meditech cricoid pressure trainer. Participants then received a brief period of theoretical instruction, and were allocated to two training groups. Group A received further training with the pressure trainer. Group B was provided with reading material. Practical ability was assessed again immediately and then 4-6 weeks later. RESULTS: Seventy subjects were recruited. A total of 53% could identify the position of the cricoid cartilage, and 16% could identify the pressure required. The percentage achieving a correct position at baseline, immediately after training and after 4-6 weeks was 47%, 97% and 70% respectively in group A, compared with 61%, 86% and 74% respectively in group B, a non-significant difference between groups. The percentage achieving correct pressure at baseline, immediately after training and 4-6 weeks later was 38%, 88% and 67% respectively in group A, compared with 30%, 33% and 51% respectively in group B. The between-group difference was significant only immediately following training ( $P < 0.0001$ ). CONCLUSION: Theoretical knowledge and technique regarding cricoid pressure was poor among our ED staff. Both methods of training appeared to improve performance. The biofeedback group was more likely to apply correct pressure immediately after training. The effects of training diminished rapidly with time.

PMID: 17564688 [PubMed - indexed for MEDLINE]

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- 54: [Oncol Nurs Forum](#). 2007 Jan;34(1):47-53.

[Related Articles](#),  [Links](#)

**MetaPress**

**Effects of combined pelvic floor muscle exercise and a support group on urinary incontinence and quality of life of postprostatectomy patients.**

[Zhang AY](#), [Strauss GJ](#), [Siminoff LA](#).

Frances Payne Bolton School of Nursing, Case Western Reserve University, Cleveland, OH, USA. amy.zhang@case.edu

**PURPOSE/OBJECTIVES:** To examine the effect of combined pelvic floor muscle exercise (PFME) and a support group on postprostatectomy urinary incontinence and quality of life. **DESIGN:** Pilot study of a randomized, controlled clinical trial. **SETTING:** Two metropolitan hospitals in northeastern Ohio. **SAMPLE:** 29 men with postprostatectomy urinary incontinence. **METHODS:** The participants learned PFME through biofeedback and were randomized to the control group ( $n = 15$ ) or the support group ( $n = 14$ ). The control group practiced PFME at home, whereas the support group attended six biweekly group meetings facilitated by a health psychologist. Assessment of urinary incontinence and quality of life was conducted at baseline and three months. **MAIN RESEARCH VARIABLES:** Urinary incontinence and disease-specific quality of life. **FINDINGS:** Eighty-six percent of the support group participants versus 46% of

the control group participants practiced PFME four to seven days per week. The support group had a lower rating of urinary incontinence based on a 0- to 10-point visual analog rating scale than the control group ( $X = 3.2$  versus 4.7), and fewer support group participants used pads (50%) than control group participants (85%) at three months. The support group also scored significantly lower on the severity of incontinence problems than the control group at three months, especially in relationship with spouse and social outing, despite no group difference in these areas at baseline. CONCLUSIONS: The study provided promising evidence regarding the effect of the proposed intervention on adherence to PFME, urinary incontinence, and quality of life. IMPLICATIONS FOR NURSING: Reports regarding nursing practice are lacking with respect to PFME. This study suggests that practicing PFME in a group with patients with incontinence who have undergone prostatectomy can be a useful nursing intervention.

Publication Types:

- [Randomized Controlled Trial](#)
- [Research Support, Non-U.S. Gov't](#)

PMID: 17562632 [PubMed - indexed for MEDLINE]

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□ 55: [Explore \(NY\)](#). 2007 May-Jun;3(3):338.

Related Articles,  Links

### **Endophysical models based on empirical data.**

[Jahn RG](#), [Dunne BJ](#), [Buccheri R](#), [Elitzur A](#), [Saniga M](#).

Any proposed endophysical models need to acknowledge a number of subjective correlates that have been well established in such objectively quantifiable experimental contexts as anomalous human/machine interactions and remote perception information acquisition. Most notable of these factors are conscious and unconscious intention; gender disparities; serial position effects; intrinsic uncertainties; elusive replicability; and emotional resonance between the participants and the devices, process, and tasks. Perhaps even more pertinent are the insensitivities of the anomalous effects to spatial and temporal separations of the participants from the physical targets. Inclusion of subjective coordinates in the models, and exclusion of physical distance and time, raise formidable issues of specification, quantification, and dynamical formulation from both the physical and psychological perspectives. A few primitive examples of possible approaches are presented.

PMID: 17560364 [PubMed - indexed for MEDLINE]

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□ 56: [Explore \(NY\)](#). 2007 May-Jun;3(3):326-37, 345.

Related Articles,  Links

## **Sensors, filters, and the source of reality.**

**[Jahn RG, Dunne BJ.](#)**

The failure of contemporary scientific theory to correlate and explicate anomalous consciousness-related physical phenomena may trace to inadequate comprehension of the process of information exchange between the mind and its ultimate source. Elevation of the subjective capacities of consciousness to complementary status with the more objective physical senses, along with recognition of the bi-directional capabilities of both categories, allows establishment of resonant channels of communication between the mind and its source environment that can exceed conventional expectations. In this manner, order can be introduced into randomness, and self-consistent realities can be extracted from transcendent chaos. The key elements in tuning these channels to amplify such information creation are the physiological and psychological filters imposed upon them, some of which can be enhanced or altered by conscious or unconscious attention. Specifically, such attitudinal tactics as openness to alternative perspectives, utilization of transdisciplinary metaphors, self-sacrificial resonance, tolerance of uncertainty, and replacement of dualistic rigor by mental complementarity can enable experiential realities that are responsive to intention, desire, or need, to an extent consistent with prevailing empirical evidence.

Publication Types:

- [Review](#)

PMID: 17560363 [PubMed - indexed for MEDLINE]



**57:** [Explore \(NY\)](#). 2007 May-Jun;3(3):311-24, 344-5.

[Related Articles](#), [Links](#)

## **A modular model of mind/matter manifestations (M5).**

**[Jahn RG, Dunne BJ.](#)**

While ongoing empirical research into anomalous mind/matter interactions continues to reaffirm the reality of such phenomena, it has heretofore failed to stimulate viable theoretical models, or even to suggest effective strategies for more productive experimentation. In contrast to prevalent presumption, re-examination of several large databases from this laboratory raises doubt that such effects are produced by direct attention of the conscious mind to the observable physical processes addressed. Rather, an alternative route is indicated wherein unconscious mind and intangible physical mechanisms are invoked to achieve anomalous acquisition of mental information about, or anomalous mental influence upon, otherwise inaccessible material processes. Implications for more

effective experiments include subtler feedback schemes that facilitate submission of conscious intention to unconscious mental processing; physical target systems that provide a richness of intangible potentialities; operators who are amenable to such interactions; and an environmental ambience that supports the composite strategy. Theoretical requisites include better understanding of the information dialogue between conscious and unconscious aspects of mind; more pragmatic formulations of the relations between tangible and intangible physical processes; and most importantly, cogent representation of the merging of mental and material dimensions into indistinguishability at their deepest levels.

Publication Types:

- [Review](#)

PMID: 17560361 [PubMed - indexed for MEDLINE]

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□ 58: [Explore \(NY\)](#). 2007 May-Jun;3(3):307-10, 344.

Related Articles,  Links

## **The complementarity of consciousness.**

**[Jahn RG](#)**.

The concept of complementarity, originally proposed by Bohr in a microphysical context, and subsequently extended by himself, Heisenberg and Pauli to encompass subjective as well as objective dimensions of human experience, can be further expanded to apply to many common attitudes of human consciousness. At issue is the replacement of strict polar opposition of superficially antithetical consciousness capacities, such as analysis and synthesis, logic and intuition, or doing and being, by more generous conjugation that allows the pairs to operate in constructive triangulation and harmony. In this format, the physical principle of uncertainty also acquires metaphoric relevance in limiting the attainable sharpness of specification of any consciousness complements, and may serve to define their optimum balance in establishing reality. These principles thus lend themselves to representation of wave-like vs. particle-like operations of consciousness; to trade-offs between rigor and ambience in consciousness research; to generic masculine/feminine reinforcement; and to the interplay of science and spirit in any creative enterprise.

Publication Types:

- [Review](#)

PMID: 17560360 [PubMed - indexed for MEDLINE]

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□ 59: [Schweiz Monatsschr Zahnmed.](#) 2007;117(5):523-9.

Related Articles,  Links

**[Therapy of recurrent fixed anterior TMJ dislocation with mini-plates in an aged patient with other ailments. A case report]**

[Article in French, German]

[Stergiou GC](#), [Obwegeser JA](#), [Grätz KW](#), [Zwahlen RA](#).

Klinik für Kiefer- und Gesichtschirurgie, Universitäts-Spital Zürich.  
georges.stergiou@usz.ch

Unilateral or bilateral dislocation of the TMJ is frequent. Usually it can be treated by the method described by Hippocrates. If conservative treatment (splint therapy, biofeedback, etc.) does not succeed related to recurrent fixed TMJ-dislocation, surgical therapy strategies become necessary. Above all mentally retarded or patients with neuromuscular disorders may necessitate surgical treatment. The two surgical main procedures are: 1. Removal of mechanical obstacles by reduction of the eminentia. 2. Creation of a mechanical obstacle towards the anterior condylar translation. The here presented case shows the treatment of a recurrent, fixed anterior TMJ-dislocation using a miniplate which enables an absolute heightening of the articular tubercle in a 76 years old lady with Morbus Alzheimer and Parkinson. Due to the high incidence of plate fractures, this well described therapy, known as miniplate eminoplasty, can not be considered as the treatment of choice for mandibular dislocation. It can be indicated in non-compliant patients or in patients with neuromuscular disorders or in the combination of both as in our case.

Publication Types:

- [Case Reports](#)
- [English Abstract](#)

PMID: 17557644 [PubMed - indexed for MEDLINE]

□ 60: [J Rehabil Res Dev.](#) 2007;44(1):43-62.

Related Articles,  Links

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**Dynamic biomechanical model for assessing and monitoring robot-assisted upper-limb therapy.**

[Abdullah HA](#), [Tarry C](#), [Datta R](#), [Mittal GS](#), [Abderrahim M](#).

School of Engineering, University of Guelph, 50 Stone Road East, Guelph,



Ontario, Canada N1G 2W1. habdulla@uoguelph.ca.

This article describes the design, validation, and application of a dynamic biomechanical model that assesses and monitors trajectory, position, orientation, force, and torque generated by upper-limb (UL) movement during robot-assisted therapy. The model consists of two links that represent the upper arm and forearm, with 5 degrees of freedom (DOF) for the shoulder and elbow joints. The model is a useful tool for enhancing the functionality of poststroke robot-assisted UL therapy. The individualized inertial segment parameters were based on anthropometric measurements. The model performed inverse dynamic analysis of UL movements to calculate reaction forces and moments acting about the 3-DOF shoulder and 2-DOF elbow joints. Real-time fused biofeedback of a 6-DOF force sensor and three-dimensional (3-D) pose sensors supported the model validation and application. The force sensor was mounted between the robot manipulator and the subject's wrist, while the 3-D pose sensors were fixed at specific positions on the subject's UL segments. The model input and output parameters were stored in the subject's database, which is part of the rehabilitation information system. We assigned 20 nondisabled subjects three different therapy exercises to test and validate the biomechanical model. We found that when the biomechanical model is taught an exercise, it can accurately predict a subject's actual UL joint angles and torques and confirm that the exercise is isolating the desired movement.

PMID: 17551857 [PubMed - in process]

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61: [Curr Treat Options Gastroenterol.](#) 2007 Jun;10(3):221-30. [Related Articles,](#)  [Links](#)

Current Treatment Options [CLICK HERE TO READ](#)

### **Functional disorders of defecation: evaluation and treatment.**

[Feyen BJ](#), [Rao SS](#).

Satish S.C. Rao, MD, PhD, FRCP The University of Iowa Hospital and Clinics, Internal Medicine, GI Division, 200 Hawkins Drive, 4612 JCP, Iowa City, IA 52242, USA. satish-rao@uiowa.edu.

Functional disorders of defecation are common and often overlap with slow-transit constipation. They are comprised of functional obstructive conditions such as dyssynergic defecation, as well as structural obstructive conditions such as rectal prolapse, excessive perineal descent, and rectocele. Evaluation includes detailed history and rectal and pelvic exam together with physiologic tests such as anorectal manometry, balloon expulsion test, defecography, and MRI. Treatment involves several medical, behavioral, and surgical approaches. Recently, randomized controlled trials have shown that biofeedback therapy is an effective treatment for dyssynergic defecation. Stapled transanal rectal resection appears to be a promising technique for treating defecation disorders associated with rectocele, excessive perineal descent, and mucosal intussusception, but controlled

trials are lacking.

PMID: 17547860 [PubMed - in process]

- 
- 62: [Vet Comp Orthop Traumatol.](#) 2007;20(2):108-12.

Related Articles,  Links



**The effect of measurement method on static weight distribution to all legs in dogs using the Quadruped Biofeedback System.**

[Phelps HA](#), [Ramos V](#), [Shires PK](#), [Werre SR](#).

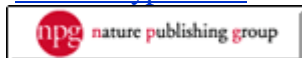
Department of Small Animal Clinical Sciences, VA-MD Regional College of Veterinary Medicine, Virginia Tech, Blacksburg, Virginia 24061 USA.  
hphelps@vt.edu

An application to measure static quadruped load distribution would be highly beneficial in the assessment of rehabilitation and lameness in many small animal patients. The scope of this study was to analyze the effects of confinement, location and local environment on the measurement of static quadruped load distribution as measured by the Quadruped Biofeedback System in normal dogs in order to better prescribe the use of this system. A prospective study of 20 healthy adult dogs was performed to evaluate effects on measurement on quadruped load distribution. Data collection in the form of mean load per extremity was recorded four times in five positions for a total of 20 measurements for each limb. A replicated cross-over design in which a mixed effect, repeated measures analysis of variance was used to test for main effects of treatment and end as well as their interaction. The effects of right vs. left within each end and for each end was analyzed for each treatment and significance of  $p < 0.01$  was established. Measurements were taken from 20 healthy adult dogs with no obvious lameness at the time of data collection. Analysis by end suggests that measurements were affected in similar manners in comparable locations. Each method demonstrated consistency in measurement without any significant influence by day or session, suggesting that one standardized method be established for measurement. With standardization, the Quadruped Biofeedback System has potential use as a reliable instrument for the measurement of quadruped load distribution in dogs.

PMID: 17546211 [PubMed - indexed for MEDLINE]

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- 63: [J Hum Hypertens.](#) 2007 May 31; [Epub ahead of print]

Related Articles,  Links



**Biofeedback treatment of prehypertension: analyses of efficacy, heart rate variability and EEG approximate entropy.**

[Xu XY](#), [Gao J](#), [Ling D](#), [Wang TH](#).

Laboratory of Biofeedback, Department of Physiology, Zhongshan School of Medicine, Sun Yat-sen University, Guangzhou, PR China.

PMID: 17541386 [PubMed - as supplied by publisher]

64: [J Vasc Interv Radiol](#). 2007 Jun;18(6):749-55.

[Related Articles](#),  [Links](#)



## **Respiratory biofeedback during CT-guided procedures.**

[Locklin JK](#), [Yanof J](#), [Luk A](#), [Varro Z](#), [Patriciu A](#), [Wood BJ](#).


Diagnostic Radiology Department, National Institutes of Health, Clinical Center, Bethesda, Maryland 20892, USA. [locklin.linj@cc.nih.gov](mailto:locklin.linj@cc.nih.gov)

**PURPOSE:** Respiratory motion can be a complicating factor during image-guided interventions. The ability to reproduce breath-holds may facilitate safer needle-based procedures. The purpose of this study was to evaluate if respiratory biofeedback decreased variability among breath-holds and if the signals from the respiratory bellows belt can be used to measure target motion. **MATERIALS AND METHODS:** In phase 1 of the study, a respiratory bellows belt was applied to patients before image-guided interventional procedures. Belt stretch from respiratory motion was converted into voltage readings and displayed on a monitor as biofeedback. Patients were asked to perform inspiratory, expiratory, and midcycle breath-holds with and without the biofeedback. The variability in voltage readings between breath-holds with and without biofeedback was compared. In phase 2, the respiratory bellows belt was used during computed tomography (CT)-guided procedures with the patients blinded to the biofeedback. Voltage readings and CT series numbers were recorded as patients were asked to hold their breath during scans. The variability of CT z-axis targets was compared with the variability of voltage readings. **RESULTS:** A significant decrease in variability was found during expiratory breath-holds ( $P = .0083$ ) with trends toward significance with midcycle and inspiratory breath-holds. A positive correlation (Kendall tau = 0.5;  $P = .024$ ) was shown between CT z-axis and belt stretch variability in subjects who received smaller doses of moderate sedation compared with those who received larger doses or general anesthesia. **CONCLUSIONS :** Biofeedback may help the patient to have a more consistent breath-hold. The belt could decrease the error and unpredictability from craniocaudal motion of targets during image-guided interventions.

Publication Types:

- [Comparative Study](#)
- [Evaluation Studies](#)
- [Research Support, N.I.H., Intramural](#)

PMID: 17538137 [PubMed - indexed for MEDLINE]

- 65: [Am Fam Physician](#). 2007 May 1;75(9):1336. [Related Articles](#),  [Links](#)




**Nonpharmacologic vs. anticholinergic therapies for overactive bladder.**

[Kripke C.](#)

Publication Types:

- [Review](#)

PMID: 17508527 [PubMed - indexed for MEDLINE]

- 66: [Neurol Sci](#). 2007 May;28 Suppl 2:S84-8. [Related Articles](#),  [Links](#)



**Integration of behavioural techniques into clinical practice.**

[Weeks RE.](#)


The New England Institute for Behavioral Medicine, 778 Long Ridge Road, Stamford, CT 06902, USA. rewphd044@aol.com

Most clinicians agree that biobehavioural factors are important considerations in the assessment and treatment of headache patients. Attention to psychological and behavioural issues may become even a greater concern as the frequency of a patient's headaches increases, there is increased disability secondary to headaches and/or there is inadequate response to usually effective treatment. The present article will highlight biobehavioural factors that should be considered in the assessment process involving headache patients and will provide a model for integration of behavioural treatment into clinical practice.

Publication Types:

- [Review](#)

PMID: 17508186 [PubMed - indexed for MEDLINE]

- 67: [Neurol Sci](#). 2007 May;28 Suppl 2:S70-7. [Related Articles](#),  [Links](#)

## What does the evidence show? Efficacy of behavioural treatments for recurrent headaches in adults.

[Andrasik F.](#)

Department of Psychology, University of West Florida, 11000 University Parkway, Pensacola, FL 32514, USA. fandrasik@uwf.edu

Behavioural treatments (predominantly biofeedback, relaxation and cognitive-behavioural) have been utilised in headache management for nearly 4 decades. This paper examines their clinical efficacy, drawing upon 2 primary sources of evidence: meta-analytic and evidenced-based reviews. Behavioural treatments have demonstrated efficacy and have been endorsed by various reviewing groups, such as the US Headache Consortium. Outcomes from behavioural treatments appear to endure over longer-term follow-up intervals as well. Meta-analyses comparing behavioural and pharmacological treatments have revealed similar levels of outcome. The article closes with a brief discussion of methods investigators are exploring to make behavioural treatments more available and affordable to headache patients.

Publication Types:

- [Review](#)

PMID: 17508184 [PubMed - indexed for MEDLINE]

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68: [Neurol Sci.](#) 2007 May;28 Suppl 2:S67-9.

Related Articles,  Links

## Behavioural treatments: rationale and overview of the most common therapeutic protocols.

[Grazzi L.](#)

Neurological Institute C. Besta, Via Celoria 11, I-20133 Milan, Italy.  
licia-grazzi@mac.com

The view of headache as a psychophysiological disorder predates contemporary behavioural research and also the concept that psychosomatic illnesses are the result of specific emotional conflicts that eventually produce physical symptoms. Behavioural interventions include strategies for the identification and modification of behavioural headache triggers and the acquisition and use of self-regulation skills aimed at prevention of headache episodes. Consequently, research in behavioural medicine has matured scientifically, although


methodological imperfections have had an impact on contemporary headache management. The evidence suggests that the level of headache improvement with behavioural interventions may rival those obtained by using medications. As side effects and complications are minimal, these approaches are optimal options for young patients or for patients where the medications remain contraindicated.

Publication Types:

- [Review](#)

PMID: 17508183 [PubMed - indexed for MEDLINE]

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**69:** [Neurol Sci.](#) 2007 May;28 Suppl 2:S124-9. [Related Articles,](#)  [Links](#)



### **Can behavioural therapy influence neuromodulation?**

[Andrasik F,](#) [Rime C.](#)

Department of Psychology, University of West Florida, 11000 University Parkway, Pensacola, FL 32514, USA. fandrasik@uwf.edu

This paper reviews non-invasive behavioural approaches - broadly construed as cognitive, affective, behavioural and psychophysiological interventions - and examines whether they can impact central, peripheral or autonomic nervous system components responsive to pain in general and headache in particular. It focuses on two developing bodies of literature - neurophysiology of migraine and fMRI studies of pain networks. The available literature suggests behavioural interventions can affect neuromodulation, although further research is clearly warranted.

Publication Types:

- [Review](#)

PMID: 17508158 [PubMed - indexed for MEDLINE]

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**70:** [J Gerontol B Psychol Sci Soc Sci.](#) 2007 May;62(3):P141-8. [Related Articles,](#)  [Links](#)



### **Effect of motor practice on dual-task performance in older adults.**

[Voelcker-Rehage C,](#) [Alberts JL.](#)

Jacobs Center for Lifelong Learning and Institutional Development, Jacobs University Bremen, Germany.

The aim of this study was to determine the effects of motor practice on cognitive and motor performance in older adults under single- and dual-task conditions. Fourteen younger (19-28 years) and 12 older adults (67-75 years) performed a precision grip sine wave force-tracking and a working memory task under single- and dual-task conditions. Participants performed a pretest, 100 motor practice trials, and a post-test. In the force-tracking and cognitive task, young outperformed older adults. Motor practice improved force-tracking under single- and dual-task conditions for both groups. However, practice did not prevent a decline in motor performance for older adults when they moved from single- to dual-task conditions. After practice, older adults improved cognitive performance in dual-task conditions. Advances in age appear to be associated with a decrease in the ability to manage and coordinate multiple tasks, which remains after extended practice.

Publication Types:

- [Research Support, N.I.H., Extramural](#)

PMID: 17507581 [PubMed - indexed for MEDLINE]



71: [J Urol](#). 2007 Jul;178(1):251-4. Epub 2007 May 17.

[Related Articles](#), [Links](#)

**ELSEVIER**  
FULL-TEXT ARTICLE

### **Ectopic ureterocele: long-term results of open surgical therapy in 54 patients.**

[Beganović A](#), [Klijn AJ](#), [Dik P](#), [De Jong TP](#).

Department of Pediatric Urology, University Children's Hospital, University Medical Center Utrecht, Utrecht, The Netherlands.

**PURPOSE:** We assessed the long-term results of total reconstructive bladder surgery as initial treatment of ectopic ureteroceles. **MATERIALS AND METHODS:** Long-term followup was evaluated in 54 children treated for ectopic ureteroceles with total upper and lower urinary tract reconstructive surgery between 1988 and 2003, with special focus on the primary outcome factors continence and urinary tract infections. **RESULTS:** Patient age at surgery was 0 to 8.8 years old (median 1.0), including 34 patients younger than 1 year. Followup was 2.3 to 15.6 years (median 9.6). Of the patients 94% became continent. During the last 2 years 17% of the patients experienced 1 or 2 uncomplicated episodes of urinary tract infection. One of the patients with incontinence received chemoprophylaxis due to frequent urinary tract infections. Secondary endoscopic



procedures were necessary in 10 patients due to persistent reflux, and in 7 patients due to obstructive voiding. Reflux was present preoperatively in 33 patients, and low grade reflux was present postoperatively in 7, all of whom were treated conservatively. A total of 11 children presenting with dysfunctional voiding will be or have been trained in biofeedback. **CONCLUSIONS:** The vast majority of patients treated with total reconstructive bladder surgery become continent and do not suffer from lower urinary tract symptoms during the long term. The reoperation rate is low compared to series beginning with endoscopic surgery. Based on the results of this study, we suggest that total reconstructive upper and lower urinary tract surgery be the treatment of choice for ectopic ureteroceles.

PMID: 17499769 [PubMed - indexed for MEDLINE]

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72: [ANZ J Surg.](#) 2007 May;77(5):320-8.

[Related Articles](#),  [Links](#)



### **Slow-transit constipation: evaluation and treatment.**

[Wong SW](#), [Lubowski DZ](#).

Department of Surgery, Prince of Wales Hospital, Sydney, NSW, Australia.

Slow-transit constipation is characterized by delay in transit of stool through the colon, caused by either myopathy or neuropathy. The severity of constipation is highly variable, but may be severe enough to result in complete cessation of spontaneous bowel motions. Diagnostic tests to assess colonic transit include radiopaque marker or radioisotope studies, and intraluminal tests (colonic and small bowel manometry). Most patients with functional constipation respond to laxatives, but a small proportion are resistant to this treatment. In some patients biofeedback is helpful although the mechanism by which this works is still uncertain. Other patients are resistant to all conservative modes of therapy and require surgical intervention. Extensive clinical and physiological preoperative assessment of patients with slow colonic transit is essential before considering surgery, including an assessment of small bowel motility and identification of coexistent obstructed defecation. The psychological state of the patient should always be taken into account. When surgery is indicated, subtotal colectomy and ileorectal anastomosis is the operation of choice. Segmental colonic resection has been reported in a few patients, but methods of identifying the affected segment need to be developed further. Less invasive and reversible surgical options include laparoscopic ileostomy, antegrade colonic enema and sacral nerve stimulation.

Publication Types:

- [Review](#)

PMID: 17497967 [PubMed - indexed for MEDLINE]

- 73: [Aviat Space Environ Med.](#) 2007 Apr;78(4):377-82.

Related Articles,  Links

### **Skin temperature feedback optimizes microclimate cooling.**

[Stephenson LA](#), [Vernieuw CR](#), [Leammukda W](#), [Kolka MA](#).

U.S. Army Research Institute of Environmental Medicine, Thermal and Mountain Medicine, Natick, MA 01760, USA.

**INTRODUCTION:** A novel pulsed cooling paradigm (PCskin) integrating mean skin temperature (Tsk) feedback was compared with constant cooling (CC) or time-activated pulsed cooling (PC). **METHODS:** Eight males exercised while wearing personal protective equipment (PPE) in a warm, dry environment (dry bulb temperature: 30 degrees C; dew-point temperature: 11 degrees C) in each of the tests. Treadmill exercise was performed (approximately 225 W x m(-2)) for 80 min. A liquid cooling garment (LCG) covered 72% of the body surface area. Core temperature (Tc), local skin temperatures, heart rate, inlet and outlet LCG perfusate temperatures, flow, and electrical power to the LCG and metabolic rate were measured during exercise. **RESULTS:** At 75 min of exercise Tsk was higher (33.9 +/- 0.2 degrees C) in PCskin, than in PC (33.1 +/- 0.5 degrees C) or CC (32.0 +/- 0.6 degrees C) and PC > CC. The changes in Tc and heart rate during the tests were not different. Tc at 75 min was not different among the cooling paradigms (37.6 +/- 0.3 degrees C in PCskin, 37.6 +/- 0.2 degrees C in PC and 37.6 +/- 0.2 degrees C in CC). Heart rate averaged 124 +/- 10 bpm in PCskin, 120 +/- 9 bpm in PC and 117 +/- 9 bpm in CC. Total body insulation (degrees C x W(-1) x m(-2)) was significantly reduced in PCskin (0.020 +/- 0.003) and PC (0.024 +/- 0.004) from CC (0.029 +/- 0.004). Electrical power in PCskin was reduced by 46% from CC and by 28% from PC. **DISCUSSION/CONCLUSION:** Real-time Tsk feedback to control cooling optimized LCG efficacy and reduced electrical power for cooling without significantly changing cardiovascular strain in exercising men wearing PPE.

Publication Types:

- [Comparative Study](#)

PMID: 17484339 [PubMed - indexed for MEDLINE]

- 74: [Urology.](#) 2007 May;69(5):962-5.

Related Articles,  Links

**ELSEVIER**  
FULL-TEXT ARTICLE

### **Initial trial of timed voiding is warranted for all children with**

## daytime incontinence.

[Allen HA](#), [Austin JC](#), [Boyt MA](#), [Hawtrey CE](#), [Cooper CS](#).

Division of Pediatric Urology, Department of Urology, University of Iowa Hospitals and Clinics, Iowa City, Iowa 52242-1089, USA.

**OBJECTIVES:** To analyze the relationship between potential prognostic factors and early success after treatment of childhood daytime urinary incontinence without anticholinergic medication. **METHODS:** A total of 63 patients with daytime urinary incontinence met the inclusion criteria for a retrospective review of the effect of a timed voiding regimen. The severity, duration, and frequency of wetting, along with age, sex, and uroflow parameters, were recorded. Statistical analysis was used to determine the factors predictive of improvement in wetting without anticholinergic treatment. **RESULTS:** Of 315 children evaluated with daytime incontinence, only 24% were treated with nonanticholinergic methods. At the first follow-up visit, 6.3% of patients treated without anticholinergics became dry, 38.1% showed significant improvement, 36.5% were slightly improved, and 19.0% were unchanged. Age, sex, duration or severity of wetting, constipation, bladder capacity, and uroflow pattern and parameters were not predictive of early improvement with timed voiding. Patients with good compliance with timed voiding were significantly more likely to improve than those with poor compliance ( $P = 0.014$ ). **CONCLUSIONS:** The results of our study have indicated that anticholinergic therapy appears to be overused as a first-line treatment for children with daytime urinary incontinence in our clinic population. The lack of reliable predictive factors regarding the response to nonanticholinergic treatment suggests a trial of timed voiding should be used as an initial treatment for all children with daytime urinary incontinence. Almost 45% of our patients had significant improvement in the frequency of wetting within 4 months without anticholinergics.

Publication Types:

- [Comparative Study](#)

PMID: 17482943 [PubMed - indexed for MEDLINE]

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75: [J Hand Surg \[Am\]](#). 2007 May-Jun;32(5):657-66.

[Related Articles](#),  [Links](#)

 **ELSEVIER**  
FULL-TEXT ARTICLE

**Residual motor signal in long-term human severed peripheral nerves and feasibility of neural signal-controlled artificial limb.**

[Jia X](#), [Koenig MA](#), [Zhang X](#), [Zhang J](#), [Chen T](#), [Chen Z](#).

Department of Orthopedic Surgery, Zhong Shan Hospital, Fudan University, Shanghai, PR China. xjia1@jhmi.edu

**PURPOSE:** The residual motor pathways after amputation have not been fully elucidated. We sampled potentials from peripheral nerve stumps with intrafascicular electrodes to study residual motor transmission and explore the feasibility of nerve signal-controlled artificial limbs. **METHODS:** Six intrafascicular electrodes were inserted into the ulnar, radial, and median nerves in the stump of an amputee. An electrode was placed outside the fascicle as a reference. Potentials from 4 of the 6 electrodes per trial were monitored using a 4-channel electromyogram machine, and 32 groups of electrophysiologic tests were conducted under volitional control. Actions included finger extension and flexion, forearm pronation and supination, and wrist extension and flexion. Each action was carried out with light, intermediate, and full efforts. Then, 2 of 6 electrodes randomly chosen per trial were interfaced to a nerve signal-controlled artificial limb. Finger extension and flexion of the prosthesis were tested under volitional control. **RESULTS:** The volitional motor nerve potentials uniquely associated with the missing limb were recorded successfully with intrafascicular electrodes. The signal amplitude from the radial nerve was 5.5 microV +/- 0.8 (mean +/- SD), which was greater than the amplitudes from the ulnar (2.5 microV +/- 0.4) and median (2.2 microV +/- 0.3) nerves. Under volitional control of the subject, finger extension of the artificial limb was triggered by the radial nerve signal, but the remaining actions were unsuccessful. **CONCLUSIONS:** The long-term amputee was able to generate motor neuron activity related to phantom limb movement. Intrafascicular electrodes can be used to monitor residual motor nerve activity in the stump, and the amplitude may predict successful control of artificial limbs.

Publication Types:

- [Research Support, Non-U.S. Gov't](#)

PMID: 17482005 [PubMed - indexed for MEDLINE]

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□ 76: [Dis Colon Rectum](#). 2007 Apr;50(4):417-27.

[Related Articles](#),  [Links](#)

 **SpringerLink**  
FULL-TEXT ARTICLE

**Biofeedback for fecal incontinence: short-term outcomes of 513 consecutive patients and predictors of successful treatment.**

[Byrne CM](#), [Solomon MJ](#), [Young JM](#), [Rex J](#), [Merlino CL](#).

Department of Colorectal Surgery, Royal Prince Alfred Hospital, Sydney, Australia.

**PURPOSE:** Biofeedback is well established as a treatment for fecal incontinence


but little is known about factors that may be associated with its effectiveness. This study assessed short-term outcomes, predictors of patients who completed treatment, and predictors of treatment success. **METHODS:** This study was a retrospective review of consecutive patients treated with biofeedback at a tertiary referral colorectal clinic during ten years. Clinical, physiologic, and quality of life measures were collected prospectively at the time of treatment. Regression analysis was performed. **RESULTS:** Of 513 patients, 385 (75 percent) completed the treatment program. Each outcome was improved for more than 70 percent of patients. Incontinence scores decreased by 32 percent (from 7.5 to 5.2 of 13), patient assessment of continence increased by 40 percent (from 5.3 to 3.2 of 10), quality of life improved by 89 percent (from 0.34 to 0.67 of 1.0), and maximum anal sphincter pressure increased by a mean 12 mmHg (14 percent; from 90 to 102 mmHg). Patients who did not complete treatment were younger, were more likely to be male, and had less severe incontinence. Treatment success was predicted by completion of all treatment sessions (odds ratio, 10.34; 95 percent confidence interval, 4.46-24.19), female gender (odds ratio, 4.11; 95 percent confidence interval, 1.04-7.5), older age (odds ratio, 1.02 per year; 95 percent confidence interval, 1-1.04), and more severe incontinence before treatment (odds ratio, 1.19 per unit increase in St. Mark's score; 95 percent confidence interval, 1.05-1.34). **CONCLUSIONS:** More than 70 percent of patients in this large series demonstrated improved short-term outcomes. Treatment success was more likely in those who completed six training sessions, were female, older, or had more severe incontinence. Patients were less likely to complete treatment if they were male, younger, or had milder incontinence.

Publication Types:

- [Randomized Controlled Trial](#)
- [Research Support, Non-U.S. Gov't](#)

PMID: 17476558 [PubMed - indexed for MEDLINE]

77: [Exp Brain Res.](#) 2007 Aug;181(4):547-54. Epub 2007 May 3.

[Related Articles,](#)  
 [Links](#)



### **How a plantar pressure-based, tongue-placed tactile biofeedback modifies postural control mechanisms during quiet standing.**

[Vuillerme N](#), [Pinsault N](#), [Chenu O](#), [Boisgontier M](#), [Demongeot J](#), [Payan Y](#).

Faculté de Médecine, Laboratoire TIMC-IMAG, UMR UJF CNRS 5525, 38706, La Tronche cédex, France, nicolas.vuillerme@imag.fr.

The purpose of the present study was to determine the effects of a plantar pressure-based, tongue-placed tactile biofeedback on postural control mechanisms

during quiet standing. To this aim, 16 young healthy adults were asked to stand as immobile as possible with their eyes closed in two conditions of No-biofeedback and Biofeedback. Centre of foot pressure (CoP) displacements, recorded using a force platform, were used to compute the horizontal displacements of the vertical projection of the centre of gravity (CoG( v )) and those of the difference between the CoP and the vertical projection of the CoG (CoP-CoG( v )). Analysis of the CoP-CoG( v ) displacements showed larger root mean square (RMS) and mean power frequencies (MPF) in the Biofeedback than in the No-biofeedback condition. Stabilogram-diffusion analysis further showed a concomitant increased spatial and reduced temporal transition point co-ordinates at which the corrective processes were initiated and an increased persistent behaviour of the CoP-CoG( v ) displacements over the short-term region. Analysis of the CoG( v ) displacements showed decreased RMS and increased MPF in the Biofeedback relative to the No-biofeedback condition. Stabilogram-diffusion analysis further indicated that these effects mainly stem from reduced spatio-temporal transition point co-ordinates at which the corrective process involving CoG( v ) displacements is initiated and an increased anti-persistent behaviour of the CoG( v ) displacements over the long-term region. Altogether, the present findings suggest that the main way the plantar pressure-based, tongue-placed tactile biofeedback improves postural control during quiet standing is via both a reduction of the correction thresholds and an increased efficiency of the corrective mechanism involving the CoG( v ) displacements.

PMID: 17476487 [PubMed - in process]

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- 78: [J Am Dent Assoc](#). 2007 May;138(5):580, 582; author reply 582, 584.

Related  
Articles,  
 Links



Comment on:

- [J Am Dent Assoc. 2007 Feb;138\(2\):202-8.](#)

**More about TMD.**

[Bucholtz MR.](#)

Publication Types:

- [Comment](#)
- [Letter](#)

PMID: 17473031 [PubMed - indexed for MEDLINE]

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79: [Can J Gastroenterol](#). 2007 Apr;21 Suppl B:3B-22B.

Related Articles,  Links

### **Recommendations on chronic constipation (including constipation associated with irritable bowel syndrome) treatment.**

[Paré P](#), [Bridges R](#), [Champion MC](#), [Ganguli SC](#), [Gray JR](#), [Irvine EJ](#), [Plourde V](#), [Poitras P](#), [Turnbull GK](#), [Moayyedi P](#), [Flook N](#), [Collins SM](#).

Université Laval and CHAUQ-Hôpital St-Sacrement, Quebec City, Canada.  
pierre.pare@cha.quebec.qc.ca

While chronic constipation (CC) has a high prevalence in primary care, there are no existing treatment recommendations to guide health care professionals. To address this, a consensus group of 10 gastroenterologists was formed to develop treatment recommendations. Although constipation may occur as a result of organic disease, the present paper addresses only the management of primary CC or constipation associated with irritable bowel syndrome. The final consensus group was assembled and the recommendations were created following the exact process outlined by the Canadian Association of Gastroenterology for the following areas: epidemiology, quality of life and threshold for treatment; definitions and diagnostic criteria; lifestyle changes; bulking agents and stool softeners; osmotic agents; prokinetics; stimulant laxatives; suppositories; enemas; other drugs; biofeedback and behavioural approaches; surgery; and probiotics. A treatment algorithm was developed by the group for CC and constipation associated with irritable bowel syndrome. Where possible, an evidence-based approach and expert opinions were used to develop the statements in areas with insufficient evidence. The nature of the underlying pathophysiology for constipation is often unclear, and it can be tricky for physicians to decide on an appropriate treatment strategy for the individual patient. The myriad of treatment options available to Canadian physicians can be confusing; thus, the main aim of the recommendations and treatment algorithm is to optimize the approach in clinical care based on available evidence.

Publication Types:

- [Review](#)

PMID: 17464377 [PubMed - indexed for MEDLINE]

80: [World J Surg](#). 2007 Jun;31(6):1329-35.

Related Articles,  Links

 SpringerLink  
FULL-TEXT ARTICLE

**Stapled transanal rectal resection (STARR) to reverse the anatomic disorders of pelvic floor dyssynergia.**



[Pechlivanides G](#), [Tsiaoussis J](#), [Athanasakis E](#), [Zervakis N](#), [Gouvas N](#), [Zacharioudakis G](#), [Xynos E](#).

1st Department of General Surgery, Athens Naval Hospital, Athens, Greece.

Anterior rectocele and rectoanal intussusception are anatomic disorders related to excessive straining during defecation that usually manifest with symptoms of obstructive defecation. Stapled transanal rectal resection (STARR), a newly described surgical method for correcting these disorders, is considered a good alternative to the traditional transrectal approaches. The aim of the present study was to assess the early postoperative functional results of STARR. A total of 16 patients (13 female) were subjected to the STARR procedure during a period of 12 months. The presence of anatomic disorders of the anorectum was verified by dynamic defecography. Preoperative assessment also included colonic transit time, anal sphincter ultrasonography, and anorectal stationary manometry. Postoperative assessment included the same battery of tests. Altogether, 12 patients had rectoanal intussusception of > 2 cm and rectocele. In eight of them the anterior component of the rectocele was 2 to 4 cm, and in four it was > 4 cm. Four patients had a 1- to 2-cm internal intussusception and a rectocele of < 2 cm. All of them reported evacuation difficulties, but none had significant incontinence. Preoperative endoscopy did not reveal the presence of a solitary ulcer in any of the patients. All females had had normal vaginal deliveries, and four of them were multiparous. No complications were encountered postoperatively, and the need for analgesics was minimal. At defecography, rectoanal anatomy was seen to be restored in all patients. Obstructive defecation symptoms remained rather unaffected in seven, disappeared in three, and improved significantly in the remaining six patients. The seven failures showed anismus at manometry and had biofeedback treatment with satisfactory results in five of them. Failure of the operation and biofeedback sessions to treat symptoms in those two cases was attributed to coexisting enterocele, which had been missed preoperatively. Immediately after surgery, most of the patients complained of urgency and frequent small motions that resolved spontaneously within 3 to 5 weeks in all but two cases. STARR is a safe, well tolerated surgical procedure that effectively restores anatomy and function of the anorectum in patients with anterior mucosal prolapse and rectoanal intussusception. Additional biofeedback treatment is usually necessary for further functional improvement. Failure may be the result of other coexisting anatomic and functional abnormalities of the pelvic floor.

PMID: 17457642 [PubMed - indexed for MEDLINE]

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□ 81: [Psychol Rep](#). 2007 Feb;100(1):303-24.

[Related Articles](#),  [Links](#)

**Are complex psychotherapies more effective than biofeedback, progressive muscle relaxation, or both? A meta-analysis.**

[Stevens SE](#), [Hynan MT](#), [Allen M](#), [Braun MM](#), [McCart MR](#).

Department of Psychology, University of Wisconsin-Milwaukee, P.O. Box 413, Milwaukee, WI 53201, USA.

A meta-analysis of 26 studies was conducted to assess whether more complex forms of psychotherapy would be superior to control treatments of either biofeedback, progressive muscle relaxation, or both. Consistent with hypotheses, more complex treatments provided a small, significant improvement over biofeedback and progressive muscle relaxation ( $r = .09$ ). A subset of the more complex behavioral treatments accounted for most of this small incremental effectiveness of more complex treatments ( $r = .15$ ). Possible sources of this incremental effectiveness are discussed.

Publication Types:

- [Meta-Analysis](#)

PMID: 17451038 [PubMed - indexed for MEDLINE]



**82:** [Percept Mot Skills](#). 2007 Feb;104(1):56-66.

[Related Articles](#), [Links](#)

## **Diminished plantar cutaneous sensation and postural control.**

[McKeon PO](#), [Hertel J](#).

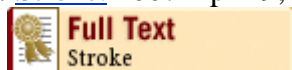
Kinesiology Program, Exercise and Sport Injury Laboratory, University of Virginia 22904-4407, USA. pom3b@virginia.edu

The purpose of this study was to assess the effect of diminished plantar cutaneous sensation induced by cooling on postural control during double- and single-limb quiet standing. 32 healthy adults were tested on an intervention day and control day. The intervention consisted of 10 min. of ice immersion of the plantar aspect of the feet prior to balance testing. Dependent variables were center of pressure velocity and area during double- and single-limb stance with eyes open and closed. Significant interactions were found between sensation and vision for double-limb center of pressure area, with a significant reduction in area of center of pressure excursions after reducing sensation with eyes closed but not with eyes open. The area of center of pressure excursions may have been reduced in an effort to curtail exploratory postural behavior given the altered afferent input from plantar receptors. There were no significant differences for plantar hypoesthesia in single-limb stance.

PMID: 17450964 [PubMed - indexed for MEDLINE]

- 83: [Stroke](#). 2007 Apr 19; [Epub ahead of print]

[Related Articles](#),  [Links](#)



### **Electromyographic Biofeedback for the Recovery of Motor Function After Stroke.**

[Woodford HJ](#), [Price C](#).

From the Cumberland Infirmary, Cumbria, UK; and the Northumbria Healthcare Trust, Northumberland, UK.

PMID: 17446417 [PubMed - as supplied by publisher]

- 84: [Cochrane Database Syst Rev](#). 2007 Apr 18;(2):CD004585.

[Related Articles](#),  [Links](#)



### **EMG biofeedback for the recovery of motor function after stroke.**

[Woodford H](#), [Price C](#).

North Cumbria Acute Hospitals, Elderly Medicine, 2 Goschen Road, Carlisle, Cumbria, UK, CA2 5PF. henrywoodford@btinternet.com

**BACKGROUND:** Electromyographic biofeedback (EMG-BFB) is a technique that is believed to have additional benefit when used with standard physiotherapy for the recovery of motor function in stroke patients. However, evidence from individual trials and previous systematic reviews has been inconclusive.

**OBJECTIVES:** To assess the effects of EMG-BFB for motor function recovery following stroke. **SEARCH STRATEGY:** We searched the Cochrane Stroke Group Trials Register (last searched 30 March 2006), the Cochrane Central Register of Controlled Trials (CENTRAL) (The Cochrane Library Issue 4, 2005), MEDLINE (1966 to November 2005), EMBASE (1980 to November 2005), CINAHL (1983 to November 2005), PsycINFO (1974 to November 2005) and First Search (1966 to November 2005). We scanned reference lists for relevant articles and contacted equipment manufacturers and distributors. **SELECTION CRITERIA:** Randomised and quasi-randomised studies comparing EMG-BFB with control for motor function recovery in stroke patients. **DATA**

**COLLECTION AND ANALYSIS:** Two review authors independently assessed trial quality and extracted data. Where possible we contacted study authors for further information. Any reported adverse effects were noted. **MAIN RESULTS:** Thirteen trials involving 269 people were included. All trials compared EMG-BFB plus standard physiotherapy to standard physiotherapy either alone or with sham EMG-BFB. Only one study used a motor strength assessment scale for evaluation of patients, which indicated benefit from EMG-BFB (WMD 1.09, 95%

CI 0.48 to 1.70). EMG-BFB did not have a significant benefit in improving range of motion (ROM) through the ankle (SMD 0.05, 95% CI -0.36 to 0.46), knee or wrist joints. However, one trial suggested a benefit in ROM at the shoulder (SMD 0.88, 95% CI 0.07 to 1.70). Change in stride length or gait speed was not improved by EMG-BFB. Two studies used different assessment scores to quantify gait quality. One of these suggested a beneficial effect of EMG-BFB (SMD 0.90, 95% CI 0.01 to 1.78). Most of the studies examining functional outcomes used different assessment scales, which made meta-analysis impossible. Two studies that used the same scale did show a beneficial effect (SMD 0.69, 95% CI 0.15 to 1.23). **AUTHORS' CONCLUSIONS:** Despite evidence from a small number of individual studies to suggest that EMG-BFB plus standard physiotherapy produces improvements in motor power, functional recovery and gait quality when compared to standard physiotherapy alone, combination of all the identified studies did not find a treatment benefit. Overall the results are limited because the trials were small, generally poorly designed and utilised varying outcome measures.

Publication Types:

- [Meta-Analysis](#)
- [Review](#)

PMID: 17443550 [PubMed - indexed for MEDLINE]

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**85:** [Cochrane Database Syst Rev.](#) 2007 Apr 18;(2):CD001843. [Related Articles,](#)  [Links](#)



Update of:

- [Cochrane Database Syst Rev.](#) 2004;(2):CD001843.

## **Conservative management for postprostatectomy urinary incontinence.**

**[Hunter KF](#), [Glazener CM](#), [Moore KN](#).**

University of Alberta Faculty of Nursing, Edmonton, Alberta, Canada.  
Kathleen.Hunter@ualberta.ca

**BACKGROUND:** Urinary incontinence is common after both radical prostatectomy (RP) and transurethral resection of the prostate (TURP). Conservative management includes pelvic floor muscle training (PFMT) with or without biofeedback, electrical stimulation, compression devices (penile clamps), lifestyle changes, extra-corporeal magnetic innervation or a combination of

methods. **OBJECTIVES:** To assess the effects of conservative management for urinary incontinence after prostatectomy. **SEARCH STRATEGY:** We searched the Cochrane Incontinence Group Specialised Trials Register (searched 23 January 2006), MEDLINE (January 1966 to January 2006), EMBASE (January 1988 to January 2006), CINAHL (January 1982 to January 2006), PsycLIT (January 1984 to January 2006), ERIC (January 1984 to January 2006), the reference lists of relevant articles, handsearched conference proceedings and contacted investigators to locate studies. **SELECTION CRITERIA:** Randomised or quasi-randomised controlled trials evaluating conservative interventions for urinary continence after prostatectomy. **DATA COLLECTION AND ANALYSIS:** At least two review authors assessed the methodological quality of trials and abstracted data. **MAIN RESULTS:** Seventeen trials met the inclusion criteria, fifteen trials amongst men after radical prostatectomy (RP), one trial after transurethral resection of the prostate (TURP) and one trial after either operation. There was considerable variation in the interventions, populations and outcome measures. The majority of trials in this area continue to be of moderate quality, although more recent studies have been of higher quality in terms of both randomization and blinding. Data were not available in all the trials for many of the pre-stated outcomes. Confidence intervals have tended to be wide except for the more recent studies, and it continues to be difficult to reliably identify or rule out a useful effect. There were several important variations in the populations being studied. Therefore the decision was made by the review authors to separate in the analysis the men having the intervention as prevention (whether administered before or after operation, to all men having surgery) or as treatment (postoperatively to those men who did have urinary incontinence), as well as separating those treated with TURP or RP. Amongst seven treatment trials of postoperative PFMT for urinary incontinence after RP, one trial suggested benefits, whereas the estimates from the others were consistent with no effect. There was clinical and statistical heterogeneity, precluding meta-analysis. There was no clear reason for this heterogeneity. Trials of preventative PFMT started pre or post-operatively also showed heterogeneity: only one large trial favoured PFMT but the data from the others were conflicting. Analysis of other conservative interventions such as transcutaneous electrical nerve stimulation and anal electrical stimulation, or combinations of these interventions were inconclusive. There were too few data to determine treatment effects on incontinence after TURP. The findings should continue to be treated with caution, as most studies were of poor to moderate quality. With respect to other management, men in one trial reported a preference for one type of external compression device compared to two others or no treatment. The effect of other conservative interventions such as lifestyle changes remains undetermined as no trials involving these interventions were identified. Men's symptoms tended to improve over time, irrespective of management. **AUTHORS' CONCLUSIONS:** The value of the various approaches to conservative management of postprostatectomy incontinence remains uncertain. Long-term incontinence may be managed by external penile clamp, but there are safety problems.

Publication Types:

- [Meta-Analysis](#)
- [Review](#)

PMID: 17443512 [PubMed - indexed for MEDLINE]

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□ **86:** [Cochrane Database Syst Rev.](#) 2007 Apr 18;(2):CD001757. [Related Articles,](#)  [Links](#)



Update of:

- [Cochrane Database Syst Rev.](#) 2000;(2):CD001757.

## **Surgery for faecal incontinence in adults.**

**[Brown SR,](#) [Nelson RL.](#)**

Sheffield Teaching Hospitals, Dept Surgery, Northern General Hospital, Herried Road, Sheffield S7, South Yorkshire, UK S5 7AU. [stevebrown@doctors.org.uk](mailto:stevebrown@doctors.org.uk)

**BACKGROUND:** Faecal incontinence is a debilitating problem with significant medical, social and economic implications. Treatment options include conservative, non-surgical interventions (e.g. pelvic floor muscle training, biofeedback, drugs, sacral nerve stimulation) and surgical procedures. A surgical procedure may be aimed at correcting an obvious mechanical defect, or augmenting a functionally deficient but structurally intact sphincter complex or replace an absent/non-functioning sphincter. **OBJECTIVES:** To assess the effects of surgical techniques for the treatment of faecal incontinence in adults who do not have rectal prolapse. Our aim was firstly to compare surgical management with non-surgical management and secondly, to compare the various surgical techniques. **SEARCH STRATEGY:** We searched the Cochrane Incontinence Group Specialised Trials Register (31 January 2006), the Cochrane Colorectal Cancer Group trials register (31 January 2006), the Cochrane Central Register of Controlled Trials (2006, Issue 1), PubMed (1 January 1950 to 31 January 2006) and EMBASE (1 January 1998 to 31 January 2006) were undertaken. The British Journal of Surgery (January 1995 to May 2006) Colorectal Diseases (January 2000-May 2006) and the Diseases of the Colon and Rectum (January 1995 to May 2006) were specifically handsearched. The proceedings of the Association of Coloproctology meeting held from 1999 to 2006 were perused. Reference lists of all relevant articles were searched for further trials. **SELECTION CRITERIA:** All randomised or quasi-randomised trials of surgery in the management of adult faecal incontinence (other than surgery for rectal prolapse). **DATA**

COLLECTION AND ANALYSIS: Two reviewers independently selected studies from the literature searches, assessed the methodological quality of eligible trials and extracted data. The three primary outcome measures were: change or deterioration in incontinence, failure to achieve full continence, and the presence of faecal urgency. MAIN RESULTS: Nine trials were included with a total sample size of 264 participants. Two trials included a group managed non-surgically. One trial compared levatorplasty with anal plug stimulation, one compared artificial bowel sphincter with best supportive care; numbers were small in both trials. The artificial bowel sphincter insertion was followed by significant improvements in at least one primary outcome but with high rates of significant morbidity. Seven studies compared different surgical interventions. These included anterior levatorplasty versus postanal repair, anterior levatorplasty versus total pelvic floor repair, total pelvic floor versus postanal repair, end to end versus overlap sphincter repair, overlap repair with or without a defunctioning stoma or with or without biofeedback, total pelvic floor repair versus repair plus internal sphincter plication and neosphincter formation versus total pelvic floor repair. Only one comparison had more than one trial (total pelvic floor versus postanal repair-44 participants) and no comparison showed any statistically significant difference in primary outcome measures, with wide confidence intervals. AUTHORS' CONCLUSIONS: Despite more studies being included in this update, the continued small number of relevant trials identified together with their small sample sizes and other methodological weaknesses continue to limit the usefulness of this review for guiding practice. It was impossible to identify or refute clinically important differences between the alternative surgical procedures. Larger rigorous trials are still needed. However, it should be recognised that the optimal treatment regime may be a complex combination of various surgical and non-surgical therapies.

Publication Types:

- [Meta-Analysis](#)
- [Review](#)

PMID: 17443511 [PubMed - indexed for MEDLINE]

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87: [N Engl J Med](#). 2007 Apr 19;356(16):1648-55.

[Related Articles](#),  [Links](#)



**Clinical practice. Fecal incontinence in adults.**

[Wald A.](#)

Section of Gastroenterology and Hepatology, University of Wisconsin School of Medicine and Public Health, Madison, WI 53792, USA. axw@medicine.wisc.edu



Publication Types:

- [Review](#)

PMID: 17442907 [PubMed - indexed for MEDLINE]



88: [BJU Int.](#) 2007 Jul;100(1):76-81. Epub 2007 Apr 13.

[Related Articles](#), [Links](#)



**Pelvic floor muscle training to improve urinary incontinence after radical prostatectomy: a systematic review of effectiveness.**

[MacDonald R](#), [Fink HA](#), [Huckabay C](#), [Monga M](#), [Wilt TJ](#).

Minneapolis Veterans Affairs Center for Chronic Disease Outcomes Research, Veterans Affairs Medical Center, 1 Veterans Drive, Minneapolis, MN 55417, USA.

**OBJECTIVE:** To evaluate the effectiveness of pelvic floor muscle training (PFMT) for treating urinary incontinence (UI) after radical prostatectomy (RP) by reviewing evidence from randomized trials. **METHODS:** Randomized trials published in English were included if they involved men with UI after RP and compared PFMT with a control group. Data were abstracted onto a standardized form using a prospectively developed protocol. **RESULTS:** Eleven trials randomizing 1028 men (mean age 64 years) met the inclusion criteria; the duration of the trials was 3-12 months. One trial of 300 men found that those assigned to PFMT achieved continence more quickly (after 1, 3 and 6 months) than men not assigned to PFMT. Men receiving biofeedback-enhanced PFMT were more likely to achieve continence or have no continual leakage than those with no training within 1-2 months after RP (relative benefit increase 1.54; 95% confidence interval 1.01-2.34; four trials reporting). The relative benefit increase (1.19, 0.82-1.72; five studies) was no longer significant after 3-4 months. Biofeedback-enhanced PFMT was comparable to written/verbal PFMT instruction. Extracorporeal magnetic innervation (ExMI) and electrical stimulation (ES) were found to be initially (within 1-2 months) more effective than PFMT in one trial, but there were no significant differences between groups at > or = 3 months. **CONCLUSION:** Based on available evidence, PFMT with or without biofeedback enhancement hastens the return to continence more than no PFMT in men with UI after RP. Additional trials are needed to confirm whether ExMI and ES are effective conservative treatment options.

Publication Types:

- [Evaluation Studies](#)

- [Meta-Analysis](#)
- [Research Support, N.I.H., Extramural](#)
- [Research Support, U.S. Gov't, Non-P.H.S.](#)
- [Review](#)

PMID: 17433028 [PubMed - indexed for MEDLINE]

- 89: [Colorectal Dis.](#) 2007 May;9(4):357-61.

[Related Articles](#),  [Links](#)



### **Long-term results of perianal silicone injection for faecal incontinence.**

[Maeda Y](#), [Vaizey CJ](#), [Kamm MA](#).

St Mark's Hospital, London, UK.

**OBJECTIVE:** Perianal injection of bulking agents is a simple method for treating passive faecal incontinence. To date only short-term results of treatment are available. This study is the first to determine the efficacy of silicone biomaterial (PTQ; Uroplasty BV, Geleen, The Netherlands) injection in the long term.

**METHOD:** Six patients, median age 53 years at the time of injection with PTQ, were followed up at 61 months. A validated faecal incontinence score, treatment-specific questionnaire and SF-36 health survey questionnaire were completed.

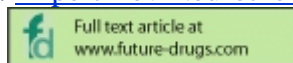
**RESULTS:** At 61-month follow up one patient had undergone a colostomy for faecal incontinence. In the remaining five patients the incontinence score was little changed: 11 (8-20) vs 13 (9-19) [pre v at 61 months, median (range)]. However, there was a substantial improvement in physical and social function on the SF-36 scores. Satisfaction scores were high at a median 7 of 10 (range: 0-8). Subjectively, three patients were improved; one of these had undergone a further set of injections and one improved after a course of biofeedback. After the follow-up period one of the five patients had a colostomy for recto-vaginal fistula.

**CONCLUSION:** The results of perianal injection of PTQ for passive faecal incontinence are variable in the long term. More extensive evaluation in the short term, and possibly repeated treatment, may be required.

PMID: 17432990 [PubMed - indexed for MEDLINE]

- 90: [Expert Rev Neurother.](#) 2007 Apr;7(4):315-9.

[Related Articles](#),  [Links](#)



### **Place of electroencephalographic biofeedback for attention-deficit/hyperactivity disorder.**

[Hirshberg LM.](#)

Publication Types:

- [Editorial](#)
- [Review](#)

PMID: 17425483 [PubMed - indexed for MEDLINE]

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□ 91: [Expert Opin Pharmacother.](#) 2007 Apr;8(6):731-44.

Related Articles,  Links



**Recommendations for the management of migraine in paediatric patients.**

[Balottin U.](#), [Terme C.](#)

Child Neuropsychiatry Unit, Department of Clinical and Biological Sciences, University of Insubria and Macchi Foundation Hospital, Varese, p.zza Biroldi, 19, 21100 Varese, Italy. umberto.balottin@uninsubria.it

Migraine is a common and disabling condition in children and adolescents. The complexity of migraine on a pathogenetic and clinical level results from the interaction between biological, psychological and environmental factors. Appropriate management requires an individually tailored strategy giving due consideration to both pharmacological and non-pharmacological measures. Ibuprofen (7.5-10.0 mg/kg) and acetaminophen (15 mg/kg) are safe and effective, and should be considered for symptomatic treatment. Sumatriptan nasal spray (5 and 20 mg) is also likely to be effective, but at the moment, should be considered for the treatment of adolescents only. With reference to prophylactic drug treatment, the available data suggest that flunarizine (5 mg/day) is likely to be effective and pizotifen and clonidine are likely to be ineffective. The efficacy data regarding propranolol, nimodipine and trazodone are conflicting. Insufficient evidence is available on cyproheptadine, amitriptyline, divalproex sodium, topiramate, levetiracetam, gabapentin or zonisamide. The management of migraine in children needs an individualised therapeutic approach, directed to the whole person of the child, taking into account the developmental perspective and the high rate of psychiatric comorbidities. It is the authors' opinion that for the prophylaxis of migraine, interventions such as identification and avoidance of trigger factors, regulation of lifestyle, relaxation, biofeedback, cognitive behavioural treatment and psychological or psychotherapeutic interventions (e.g., psychodynamics) could be much more effective than pharmacotherapy.

Publication Types:

- [Review](#)

PMID: 17425470 [PubMed - indexed for MEDLINE]

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- 92: [Soins](#). 2007 Mar;(713):45-6.

[Related Articles](#),  [Links](#)

### **[Urologic rehabilitation after prostate surgery]**

[Article in French]

[Mauroy B](#), [Dabbadie L](#), [Bonnal JL](#).

Lille II.

PMID: 17419572 [PubMed - indexed for MEDLINE]

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- 93: [ASAIO J](#). 2007 Mar-Apr;53(2):194-200.

[Related Articles](#),  [Links](#)

### **Comparison of progressive conductivity reduction with diacontrol and standard dialysis.**

[Selby NM](#), [Taal MW](#), [McIntyre CW](#).

Department of Renal Medicine, Derby City Hospital, Derby, UK.

We examined whether progressive reduction of dialysate sodium with Diacontrol (DC, plasma conductivity targeted feedback system) confers any clinical benefit over a similar strategy using dialysis with fixed dialysate conductivity (HD). Ten stable patients entered a randomized crossover study conducted over 360 dialysis sessions. Sodium balance, blood pressure (BP), intradialytic hypotension rates (IDH), thirst score, and extracellular water (ECW) were recorded. Interdialytic ambulatory BP was measured at the highest and lowest conductivities. BP, interdialytic weight gains and thirst scores were low at the outset and were not altered significantly by conductivity reduction. The lowest fixed dialysate setting of 13.2 mS/cm resulted in greater sodium depuration than the lowest conductivity setting allowable with DC, as reflected by lower post dialysis plasma conductivity (13.4 +/- 0.14 mS/cm versus 13.5 +/- 0.04 mS/cm,  $p < 0.001$ ). Predialysis ECW fell from 0.22 +/- 0.04 l/kg to 0.21 +/- 0.09 l/kg as conductivity reduced with HD ( $p < 0.05$ ), but did not change significantly with DC. When HD and DC were matched for end-dialysis plasma conductivity, there were no differences in BP, IDH frequency, or dialysis tolerability even at the lowest conductivity settings. In a setting of dialysate sodium reduction, DC did not appear to have any short-term clinical advantage over standard dialysis, and its range is limited at the lower conductivity settings.

Publication Types:

- [Randomized Controlled Trial](#)

PMID: 17413560 [PubMed - indexed for MEDLINE]

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94: [MMW Fortschr Med](#). 2007 Mar 8;149(10):39-40.

[Related Articles](#),  [Links](#)

### **[My child is so restless]**

[Article in German]

#### **[Schlamp D.](#)**

Heckscher-Klinik für Kinder- und Jugendpsychiatrie und Psychotherapie,  
München. dieter.schlamp@heckscher-klinik.de

Hyperkinetic or attention deficit hyperactivity disorders (ADHD) are characterized by three symptoms: attention deficit, hyperactivity and impulsiveness. For some patients, intensive, continuous counselling or behaviour therapy leads to adequate success. If this is not effective, drug treatment using stimulants such as methylphenidate or the selective norepinephrine reuptake inhibitor atomoxetine is indicated.

Publication Types:

- [English Abstract](#)
- [Review](#)

PMID: 17408047 [PubMed - indexed for MEDLINE]

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95: [J Evid Based Dent Pract](#). 2007 Mar;7(1):14-6.

[Related Articles](#),  [Links](#)

Comment on:

- [J Am Dent Assoc. 2006 Mar;137\(3\):339-47.](#)

**Patients with acute painful TMD at high risk for developing a chronic condition report less pain, emotional distress, and health care use after a psychological intervention using cognitive-behavioral skills training and biofeedback.**

[Glaros AG.](#)

Kansas City University of Medicine and Biosciences, Kansas City, MO 64106, USA. [aglaros@kcumb.edu](mailto:aglaros@kcumb.edu)

Publication Types:

- [Comment](#)

PMID: 17403505 [PubMed]

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96: [Prague Med Rep.](#) 2006;107(4):433-42.

[Related Articles](#),  [Links](#)

**Use of stabilometric platform and visual feedback in rehabilitation of patients after the brain injury.**

[Pokorná K.](#)

Department of Rehabilitation Medicine of the First Faculty of Medicine, Charles University in Prague, General Teaching Hospital, Czech Republic.  
[kpoko@lf1.cuni.cz](mailto:kpoko@lf1.cuni.cz)

Rehabilitation of patients after the brain injury requires employing of all available mechanisms of neuroplasticity. To achieve it, the voluntary activation of brain systems that are involved in the signal processing, represents the most effective tool. The control of balance is a complex neuronal mechanism based on unconditioned and conditioned reflexes, as well as on the actual cognitive processes. As it requires participation of several brain regions, training of the posture support mechanisms can provide a highly effective tool for rehabilitation. The aim of the study was to develop methods for the long-term follow up and training of the balance skills in patients with different types of brain impairment. To obtain standard data, the stabilometric platform Posturograph STP-03 and special examination programs were also used in the study of the equilibrium skill training by healthy volunteers. For the assessment of the learning efficiency two criteria from the recorded data were used - the velocity of adjustment of the gravity centre and the accuracy of the movements. Stabilometric platform was used also for the balance skill training with the visual biofeedback. Our results show that the proposed program for the equilibrium skill training offers a comparatively simple method of the adequate duration with numerical and graphical output, which allows fast interpretation of the treatment results. The synoptic form of results can also stimulate the patient's motivation during the long-term training for the mobility improvement.

PMID: 17402556 [PubMed - indexed for MEDLINE]

□ 97: [Dis Mon.](#) 2007 Feb;53(2):70-131.



**Attention deficit hyperactivity disorder across the lifespan: the child, adolescent, and adult.**

[Greydanus DE](#), [Pratt HD](#), [Patel DR](#).

Pediatrics and Human Development, Michigan State University College of Human Medicine, Sindecuse College Health Center, USA.

Management of a child, adolescent, college student, or adult with ADD/ADHD (ADHD) is reviewed with emphasis on pharmacologic approaches in the adult. Psychological treatment includes psychotherapy, cognitive-behavior therapy, support groups, parent training, biofeedback, meditation, and social skills training. Medications are reviewed that research has revealed can improve the core symptomatology of a child or adolescent with ADHD. These medications include stimulants (psychostimulants), antidepressants, alpha-2 agonists, and a norepinephrine reuptake inhibitor. Psychopharmacology approved and/or used in pediatric patients are also used in adults with ADHD, though most are not officially FDA-approved. It is emphasized that ADHD management should include a multi-modal approach, involving appropriate educational interventions, appropriate psychological management of the patient of any age, and judicious use of medications. Such an approach is recommended to benefit those with ADHD achieve their maximum potential across the human life span.

Publication Types:

- [Review](#)

PMID: 17386306 [PubMed - indexed for MEDLINE]

□ 98: [Lik Sprava.](#) 2006 Jul-Sep;(5-6):55-60.

**[Biofeedback training in the treatment of anterior resection syndrome]**

[Article in Ukrainian]

[Dubovyĭ VA](#).

The author has carried out an analysis on functional outcomes of surgical treatment of 45 patients with distal rectal cancer who underwent sphincter-saving operations (SSO) with terminal-terminal stapling anastomoses. All patients were



divided in two groups. The investigational group had 30 patients with a biofeedback-training in 6-10 weeks after surgery and control group had 15 patients which had not received BFB. Functional advantages of BFB were confirmed by study results: BFB training allows reducing intraluminal pressure clinically evidenced by decrease in defecation frequency, urgency to defecate, incontinence and normalization of colonic transit. Improvement of functional outcomes of SSO in early terms after surgery is possible after BFB application which is non invasive technique with a steady effect and good tolerance. The pneumostimulation of neorectum allows in terms of 3-6 months after operation to reach about 20% better outcomes in comparison with BFB with constant pressure. The last one also showed good results and do not need additional devices.

Publication Types:

- [English Abstract](#)

PMID: 17380873 [PubMed - indexed for MEDLINE]

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**99:** [Lik Sprava](#). 2006 Jul-Sep;(5-6):23-7.

[Related Articles](#),  [Links](#)

### **[Biofeedback training in the therapy of chronic proctogenic colostasis]**

[Article in Ukrainian]

[Iaremchuk IO](#).

Results of treatment of 142 patients with chronic proctogenic colostasis by the method of computing pneumostimulation are analyzed in this article. Efficacy of various methods of biofeedback-training according to the different types of chronic proctogenic colostasis is evaluated. Obtained results testify that computing pneumostimulation has a positive effect in the complex treatment of chronic proctogenic colostasis. Proposed curative program was effective in 73 (93.6%) patients.

Publication Types:

- [English Abstract](#)

PMID: 17380865 [PubMed - indexed for MEDLINE]

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**100:** [Stud Health Technol Inform](#). 2007;125:497-9.

[Related Articles](#),  [Links](#)



## **Obstacle crossing in a virtual environment with the rehabilitation gait robot LOKOMAT.**

[Wellner M](#), [Thüring T](#), [Smajic E](#), [von Zitzewitz J](#), [Duschau-Wicke A](#), [Riener R](#).

Sensory-Motor Systems Group, ETH Zurich. [wellner@mavt.ethz.ch](mailto:wellner@mavt.ethz.ch)

The rehabilitation robot LOKOMAT has been developed at the Balgrist University Hospital to automate treadmill training of spinal cord injury and stroke patients. A virtual environment setup was implemented to increase patient's motivation and provide biofeedback, consisting of visual, acoustic and haptic modalities. Based on the knee and hip angles of the orthosis, an animated figurine moves through a virtual environment. This contribution describes the setup of the system and selected technical performance parameters. We focused on delay times caused by the setup, stability of the haptic obstacle rendering and on the level of immersion as judged by four healthy subjects. Results show that subjects judged the system's performance well (questionnaire scores over 80%). Problems exist though for obstacle rendering (questionnaire scores of 55%).

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