



## **PAIN MANAGEMENT November 2003**

Ahn, N. U., et al. "Operative treatment of the patient with neck pain." *Physical Medicine & Rehabilitation Clinics of North America*. 14, no. 3(2003): 675-92 UI 12948348.

Most patients with axial neck pain and cervical radiculopathy can be managed conservatively. Surgical intervention for radiculopathy is considered only when conservative management has failed unless the neurologic deficits are very significant. In cases of myelopathy, surgery may be considered earlier, but if the myelopathy is mild, conservative treatment and close observation are still appropriate. For patients with axial neck pain, surgery is generally not considered except for rare cases caused by single- or two-level degenerative disk disease with severe and unrelenting pain. There are many surgical options for the patients with the degenerative cervical spine, but the indications are different. Surgical intervention involves a complete understanding of the disease process both from physical examination and from radiographic studies. If surgery is undertaken without appropriate clinical correlation, poor results often occur. Although the operative planning is the responsibility of the surgeon, the referring physician should also have some awareness of the basic principles behind the different surgeries. [References: 59]

Alhashemi, J. A., and A. M. Kaki. "Effect of intrathecal tramadol administration on postoperative pain after transurethral resection of prostate." *BJA: British Journal of Anaesthesia*. 91, no. 4(2003): 536-40 UI 14504156.

**BACKGROUND:** Tramadol administered epidurally has been demonstrated to decrease postoperative analgesic requirements. However, its effect on postoperative analgesia after intrathecal administration has not yet been studied. In this double-blind, placebo-controlled study, the effect of intrathecal tramadol administration on pain control after transurethral resection of the prostate (TURP) was studied. **METHODS:** Sixty-four patients undergoing TURP were randomized to receive bupivacaine 0.5% 3 ml intrathecally premixed with either tramadol 25 mg or saline 0.5 ml. After operation, morphine 5 mg i.m. every 3 h was administered as needed for analgesia. Postoperative morphine requirements, visual analogue scale for pain at rest (VAS) and sedation scores, times to first analgesic and hospital lengths of stay were recorded by a blinded observer. **RESULTS:** There were no differences between the groups with regard to postoperative morphine requirements (mean (SD): 10.6 (7.9) vs 9.1 (5.5) mg,  $P=0.38$ ), VAS (1.6 (1.2) vs 1.2 (0.8),  $P=0.18$ ) and sedation scores (1.2 (0.3) vs 1.2 (0.2),  $P=0.89$ ). Times to first analgesic (6.3 (6.3) vs 7.6 (6.2) h,  $P=0.42$ ) and length of hospital stay (4.7 (2.8) vs 4.4 (2.2) days,  $P=0.66$ ) were similar in the two groups. **CONCLUSION:** Intrathecal tramadol was not different from saline in its effect on postoperative morphine requirements after TURP.

Almeida, T. F., et al. "The effect of combined therapy (ultrasound and interferential current) on pain and sleep in fibromyalgia." *Pain*. 104, no. 3(2003): 665-72 UI 12927639.

Multidisciplinary treatment has proven to be the best therapeutic option to fibromyalgia (FM) and physiotherapy has an important role in this approach. Considering the controversial results of electrotherapy in this condition, the aim of this study was to assess the effects of combined therapy with pulsed ultrasound and interferential current (CTPI) on pain and sleep in FM. Seventeen patients fulfilling FM criteria were divided into two groups, CTPI and SHAM, and submitted to pain and sleep evaluations. Pain was evaluated by body map (BM) of the painful areas; quantification of pain intensity by visual analog scale (VAS); tender point (TP) count and tenderness threshold (TT). Sleep was assessed by inventory and polysomnography (PSG). After 12 sessions of CTPI or SHAM procedure, patients were evaluated by the same initial protocol. After treatment, CTPI group showed, before and after sleep, subjective improvement of pain in terms of number (BM) and intensity (VAS) of painful areas ( $P < 0.001$ , both); as well as objective improvement, with decrease in TP count and increase in TT ( $P < 0.001$ , both). Subjective sleep improvements observed after CTPI treatment included decrease in morning fatigue and in non-refreshing sleep complaint ( $P < 0.001$ , both). Objectively, PSG in this group showed decrease in sleep latency ( $P < 0.001$ ) and in the percentage of stage 1 ( $P < 0.001$ ), increase in the percentage of slow wave sleep ( $P < 0.001$ ) and in sleep cycle count ( $P < 0.001$ ). Decrease in arousal index ( $P < 0.001$ ), number of sleep stage changes ( $P < 0.05$ ) and wake time after sleep onset ( $P < 0.05$ ), were also observed and no difference regarding pain or sleep parameters were verified after SHAM procedure. This study shows that CTPI can be an effective therapeutic approach for pain and sleep manifestations in FM.

Al-Shahri, M. Z., E. H. Molina, and D. Oneschuk. "Medication-focused approach to total pain: poor symptom control, polypharmacy, and adverse reactions." *American Journal of Hospice & Palliative Care*. 20, no. 4(2003): 307-10 UI 12911076.

Neuropathic pain, known to have poor opioid response, can be difficult to control. Although several classes of adjuvant medications are believed to be of benefit in managing neuropathic pain, they have potential side effects that occasionally outweigh their benefits. The psychospiritual suffering of patients with advanced cancer may heighten the distress associated with physical symptoms. If undiagnosed, this may lead to increases in dose and the number of medications administered in the hope of better symptom control. This case report describes the successful interdisciplinary management of an advanced cancer patient whose multiple drug therapy had added to rather than alleviated his distress by causing more side effects than symptom relief.

Anonymous. "Pain management and liability risk." *West Virginia Medical Journal*. 99, no. 3(2003): 118 UI 14515436.

Antman, E. M. "Glycoprotein IIb/IIIa inhibitors in patients with unstable angina/non-ST-segment elevation myocardial infarction: appropriate interpretation of the guidelines." *American Heart Journal*. 146, no. 4 Suppl(2003): S18-22 UI 14564302.

In 2002, the American College of Cardiology and the American Heart Association published an update to their guidelines for the management of patients with unstable angina and non-ST-segment elevation myocardial infarction. These revised guidelines make specific recommendations regarding the use of glycoprotein IIb/IIIa inhibitors. This article briefly reviews the evidence supporting the use of glycoprotein IIb/IIIa inhibitors in unstable angina and non-ST-segment elevation myocardial

infarction, before moving on to discuss interpretation of these new guidelines.

[References: 11]

Arayssi, T. K., et al. "Calcitonin in the treatment of transient osteoporosis of the hip." *Seminars in Arthritis & Rheumatism*. 32, no. 6(2003): 388-97 UI 12833247.

BACKGROUND: Transient osteoporosis of the hip (TOH) is a rare clinical disorder of unknown etiology characterized by hip pain and functional disability that resolve spontaneously in 6-24 months. OBJECTIVES: To report 2 patients with TOH during pregnancy who had rapid resolution of their illness with the use of calcitonin. To review the literature on TOH with special emphasis on its treatment. METHODS: A MEDLINE search of studies published from 1966 to 2002 was performed to review treatment options for TOH and their effect on the natural history of the disease. RESULTS: Our 2 patients developed hip pain during pregnancy with classical changes of TOH on MRI. Both patients received calcitonin, 1 during pregnancy and 1 postpartum with resolution of their symptoms within 6 to 9 weeks. Previous reports in the literature of treatment of TOH showed that antiresorptive agents (bisphosphonates and calcitonin) had shortened the duration of the illness compared with the natural history of the disease. CONCLUSIONS: TOH is an under-recognized entity associated with pain and disability. The use of antiresorptive agents may be of help in reducing the duration of the disease. RELEVANCE: To increase the recognition of TOH and to consider therapeutic interventions to shorten the duration of the disease. Copyright 2003 Elsevier Inc. All rights reserved. [References: 108]

Asik, I., et al. "Pain on injection of propofol: comparison of metoprolol with lidocaine." *European Journal of Anaesthesiology*. 20, no. 6(2003): 487-9 UI 12803269.

BACKGROUND AND OBJECTIVE: Pain is often experienced when propofol is injected, and intravenous lidocaine is often effective in preventing such pain. We decided to determine whether metoprolol, given before the injection of propofol, is as effective as lidocaine in reducing the incidence and severity of the pain. METHODS: Ninety patients scheduled for elective surgery under general anaesthesia were randomly allocated to one of three groups to receive either metoprolol 2 mg, lidocaine 20 mg or saline 2 mL before any propofol was injected. Each patient was given one of these agents intravenously via a 20-G cannula on the dorsum of the hand whilst the venous drainage was occluded manually, at the middle of the forearm, for 45 s. After the occlusion was released, propofol 2.0-2.5 mg kg(-1), at room temperature, was injected at 2 mL (20 mg) every 4 s. Pain was assessed verbally and scored as none (0), mild (1) or severe (2). RESULTS: The incidence of severe pain in the control group (56.7%) was significantly higher than in the metoprolol and lidocaine groups (16.6 and 10%, respectively). The number of patients who were free of pain was significantly higher in those who had been given either metoprolol or lidocaine. CONCLUSIONS: Pretreatment with intravenous metoprolol was equally as effective as lidocaine in reducing the pain associated with propofol injection.

Backonja, M. M., and S. J. Krause. "Neuropathic pain questionnaire--short form." *Clinical Journal of Pain*. 19, no. 5(2003): 315-6 UI 12966257.

Bahcall, J. K. "Everything I know about endodontics, I learned after dental school. Part 2." *Dentistry Today*. 22, no. 8(2003): 62-8 UI 14515577.

Baker, R., et al. "Randomised controlled trial of the impact of guidelines, prioritized review criteria and feedback on implementation of recommendations for angina and asthma.[comment]." *British Journal of General Practice*. 53, no. 489(2003): 284-91 UI 12879828.

**BACKGROUND:** Guidelines are frequently used in an attempt to influence the performance of health professionals, and a national agency has been established in England and Wales to develop and disseminate guidelines. Professionals prefer short guidelines that highlight key recommendations, but whether such guidelines are more likely to be implemented is unknown. **AIM:** To determine the relative impact of the dissemination of full guidelines, reduced guidelines in the form of prioritized review criteria, and review criteria supplemented by feedback. **DESIGN OF STUDY:** Cluster randomised controlled trial, with an incomplete block design. **SETTING:** Eighty-one general practices in Leicestershire, Lincolnshire, Northamptonshire, North Derbyshire, and Nottinghamshire. **METHOD:** The practices received one of the study interventions, either for care of adults with asthma or for care of people with angina. Data were collected before and after the interventions, the process measures being adherence to ten recommendations about asthma and 14 about angina, and outcome measures being scores in response to an asthma symptom questionnaire or the Seattle Angina Questionnaire, and levels of patient satisfaction. **RESULTS:** There were no consistent differences between the interventions in stimulating improvements in performance as indicated by adherence to the recommendations for asthma or angina. Patients with angina in practices that had received criteria or criteria plus feedback reported better symptom control. **CONCLUSION:** The dissemination of guidelines in the format of prioritized review criteria does not increase adherence to recommendations in comparison with the traditional guideline format, and the further provision of feedback has minimal additional effect.

Bassand, J. P., et al. "Tolerability of percutaneous coronary interventions in patients receiving nadroparin calcium for unstable angina or non-Q-wave myocardial infarction: the Angiofrax study." *Current Medical Research & Opinion*. 19, no. 2(2003): 107-13 UI 12740154.

**BACKGROUND:** Nadroparin, a low-molecular-weight heparin (LMWH), is an alternative to unfractionated heparin for the acute management of patients with non-ST elevation acute coronary syndrome (ACS): unstable angina or non-Q-wave myocardial infarction. However, unfractionated heparin can be substituted for LMWH in patients requiring percutaneous coronary interventions (PCIs) for the duration of the procedure. The tolerability of this anti-thrombotic regimen (i.e. unfractionated heparin for the duration of PCIs, preceded and followed by subcutaneous injection of nadroparin) is not yet documented. **DESIGN AND METHODS:** This open-label 6-day study was carried out in 302 patients to test the tolerability of this anti-thrombotic regimen in patients requiring PCIs. The primary end-point of the study was the incidence of major haemorrhage over the whole study duration (6 days). The secondary end-point was the need for transfusion and vascular repair after PCI. **RESULTS:** The incidence of major haemorrhage in patients undergoing coronary angiography (CA) without or with PCIs was 1.4% and 1.3%, respectively, and the incidence of minor haemorrhage was 10.7% and 23.5%, respectively. These results are consistent with published data. **CONCLUSIONS:** These results suggest that CA and PCIs can be performed safely in patients being treated for unstable angina or non-Q-wave myocardial infarction receiving nadroparin pre- and post-coronary procedure and/or intervention, substituted by unfractionated heparin for the duration of the intervention.

Beckstrand, R. L., and E. K. Sanders. "A 39-year-old man with left shoulder pain: comparing 3- and 5-point triage scales." *Journal of Emergency Nursing*. 29, no. 4(2003): 387-9 UI 12874569.

Bentley, A. J., S. Newton, and C. D. Zio. "Sensitivity of sleep stages to painful thermal stimuli." *Journal of Sleep Research*. 12, no. 2(2003): 143-7 UI 12753351.

Many modalities of both acute and chronic pain have been shown to disrupt sleep. Any differences in the intensity of thermal noxious stimulus required to produce arousal from stage 2, slow-wave sleep (SWS) and rapid eye movement (REM) sleep is unclear. An assessment of reactions of seven male (age 22 +/- 2.9 years) and three female subjects (age 21.0 +/- 1.0 years) to a range of gradually increasing temperatures was used both when awake and asleep. When awake, subjects assigned five different descriptors to the increasing heat stimulus. During the different stages of sleep, temperatures were increased over the same range as when awake until the subjects aroused from sleep. The possible fluctuations in pain perception due to a time-of-night effect were assessed in awake subjects over a 12-h period from 19:00 to 07:00 hours. During sleep, arousals occurred at significantly higher temperatures during SWS ( $P < 0.01$ ) and REM sleep ( $P < 0.05$ ) than during stage 2 sleep. The temperatures causing arousals during SWS and REM sleep were not significantly different and were equivalent to temperatures causing pain tolerance when awake. No changes in pain perception due to time of night were observed. The results show that a higher intensity of thermal noxious stimulus is required to cause arousal from SWS and REM sleep when compared with stage 2 sleep. This would confirm the suspicion that REM sleep and SWS are relatively, and possibly equally, resistant to disruption by noxious stimuli.

Bernstein, J., and T. Quach. "A perspective on the study of Moseley et al: questioning the value of arthroscopic knee surgery for osteoarthritis.[comment]." *Cleveland Clinic Journal of Medicine*. 70, no. 5(2003): 401, 405-6, 408-10 UI 12779130.

Arthroscopy for degenerative conditions of the knee is among the most commonly employed orthopedic procedures, but its effectiveness (like the effectiveness of many surgical operations) has never been proven in prospective trials. Moreover, the precise mechanism by which arthroscopy improves the course of degenerative conditions of the knee has not been established conclusively. Moseley et al performed a double-blinded, randomized, placebo-controlled trial to compare the effectiveness of arthroscopic lavage and arthroscopic debridement vs a sham procedure. Data regarding pain and function were obtained at multiple time points over a 2-year period. The authors found that all three treatment groups fared equally: each reported subjective symptomatic relief, but no objective improvement in function was noted in any of the groups. These data suggest that the benefits of arthroscopy for the treatment of osteoarthritis of the knee is to provide subjective pain relief, and that the means by which arthroscopy provides this benefit is via a placebo effect.

Bjordal, J. M., et al. "A systematic review of low level laser therapy with location-specific doses for pain from chronic joint disorders." *Australian Journal of Physiotherapy*. 49, no. 2(2003): 107-16 UI 12775206.

We investigated if low level laser therapy (LLLT) of the joint capsule can reduce pain in chronic joint disorders. A literature search identified 88 randomised controlled trials, of which 20 trials included patients with chronic joint disorders. Six trials were excluded for not irradiating the joint capsule. Three trials used doses lower than a dose range nominated a priori for reducing inflammation in the joint capsule. These trials found no significant difference between active and placebo treatments. The remaining 11 trials including 565 patients were of acceptable methodological quality with an average PEDro score of 6.9 (range 5-9). In these trials, LLLT within the suggested dose range was administered to the knee, temporomandibular or zygapophyseal joints. The results showed a mean weighted difference in change of pain on VAS of 29.8 mm (95% CI, 18.9 to 40.7) in favour of the active LLLT groups. Global health status improved for more patients in the active LLLT groups ( relative risk of 0.52; 95% CI 0.36 to 0.76). Low level laser therapy with the suggested dose

range significantly reduces pain and improves health status in chronic joint disorders, but the heterogeneity in patient samples, treatment procedures and trial design calls for cautious interpretation of the results. [References: 56]

Blazing, M. A., and L. E. Crawford. "Enhanced External Counterpulsation (EECP): enough evidence to support this and the next wave?[comment]." *American Heart Journal*. 146, no. 3(2003): 383-4 UI 12947352.

Briley, M. "New hope in the treatment of painful symptoms in depression." *Current Opinion in Investigational Drugs*. 4, no. 1(2003): 42-5 UI 12625027.

Depression is increasingly seen as a triad of psychological, somatic and physical symptoms that all need to be treated to achieve maximal remission. In primary care, physical symptoms such as pain, are the principal presenting symptoms, and a common psychopharmacology between pain and depression suggests that compounds that inhibit the reuptake of both serotonin and norepinephrine are likely to produce the greatest relief from depression and chronic pain. Recent, principally open, trials with members of the new selective serotonin and norepinephrine reuptake inhibitor class of antidepressants such as venlafaxine, milnacipran and duloxetine (Eli Lilly & Co/Shionogi & Co Ltd), suggest that these compounds may be effective in relieving pain both associated with, and independent of depression. [References: 42]

Brown, J. A., and N. M. Barbaro. "Motor cortex stimulation for central and neuropathic pain: current status." *Pain*. 104, no. 3(2003): 431-5 UI 12927615.

Bruehl, S., O. Y. Chung, and J. W. Burns. "Differential effects of expressive anger regulation on chronic pain intensity in CRPS and non-CRPS limb pain patients." *Pain*. 104, no. 3(2003): 647-54 UI 12927637.

Research has shown that the anger management styles of both anger-in (suppression of anger) and anger-out (direct verbal or physical expression of anger) may be associated with elevated chronic pain intensity. Only the effects of anger-out appear to be mediated by increased physiological stress responsiveness. Given the catecholamine-sensitive nature of pain mechanisms in complex regional pain syndrome (CRPS), it was hypothesized that anger-out, but not anger-in, would demonstrate a stronger relationship with chronic pain intensity in CRPS patients than in non-CRPS chronic pain patients. Thirty-four chronic pain patients meeting IASP criteria for CRPS and 50 non-CRPS (predominantly myofascial) limb pain patients completed the McGill Pain Questionnaire-Short Form (MPQ), the Anger Expression Inventory (AEI), and the Beck Depression Inventory (BDI). Analyses revealed no diagnostic group differences in mean scores on the anger-in (AIS) and anger-out (AOS) subscales of the AEI, or on the BDI (values of  $P > 0.10$ ). Results of general linear model analyses revealed significant AOS x diagnostic group interactions on both the sensory (MPQ-S) and affective (MPQ-A) subscales of the MPQ (values of  $P < 0.05$ ). In both cases, higher AOS scores were associated with more intense chronic pain in the CRPS group, but with less intense pain in the non-CRPS limb pain group. Inclusion of BDI scores as a covariate did not substantially alter the AOS x diagnostic group interactions, indicating that these AOS interactions were not due solely to overlap with negative affect. Although higher AIS scores were associated with elevated MPQ-A pain intensity as a main effect ( $P < 0.05$ ), no significant AIS x diagnostic group interactions were detected (values of  $P > 0.10$ ). The AIS main effect on MPQ-A ratings was accounted for entirely by overlap with negative affect. Results are consistent with a greater negative impact of anger-out on chronic pain intensity in conditions reflecting catecholamine-sensitive pain mechanisms, presumably due to the association between anger-out and elevated physiological stress responsiveness.

These results further support previous suggestions that anger-in and anger-out may affect pain through different mechanisms.

Burton, B. J., S. R. Khan, and J. P. Lee. "Chronic eye movement induced pain and a possible role for its treatment with botulinum toxin." *British Journal of Ophthalmology*. 87, no. 9(2003): 1194-5 UI 12928305.

Capellan, O., et al. "Prospective evaluation of emergency department patients with potential coronary syndromes using initial absolute CK-MB vs. CK-MB relative index." *Journal of Emergency Medicine*. 24, no. 4(2003): 361-7 UI 12745035.

We compared the predictive properties of an initial absolute creatine kinase-MB (CK-MB) to creatine kinase-MB relative index (CK-MB RI) for detecting acute myocardial infarction (AMI), acute coronary syndromes (ACS), and serious cardiac events (SCE). Consecutive patients > 24 years of age with chest pain who received an electrocardiogram (EKG) as part of their Emergency Department (ED) evaluation had CK and CK-MB drawn at presentation. Patients were followed prospectively during their hospital course. The main outcome was AMI, ACS or SCE (death, AMI, dysrhythmias, CHF, PTCA/stent, CABG) within 30 days. The sensitivity, specificity, PPV and NPV of CK-MB and CK-MB RI to predict AMI, ACS, and SCE were calculated with 95% CIs. We enrolled 2028 patients. There were 105 patients (5.2%) with AMI, 266 (13.1%) with ACS, and 150 with SCE (7.4%). Absolute CK-MB had a higher sensitivity than CK-MB RI for AMI (52.0 vs. 46.9, respectively), ACS (23.5 vs. 20.8, respectively), and SCE (39.6 vs. 36.0, respectively), but a lower specificity than CK-MB RI for AMI (93.2 vs. 96.1, respectively), ACS (93.1 vs. 96.1, respectively) and SCE (93.3 vs. 96.3, respectively); and lower PPV for AMI (35.7 vs. 46.5, respectively), ACS (42.0 vs. 53.4, respectively) and SCE (38.5 vs. 50.5, respectively). The negative predictive values were similar for all outcomes. We conclude that the risk stratification of ED chest pain patients by absolute CK-MB has higher sensitivity, similar NPV, but a lower specificity and PPV than CK-MB relative index for detection of AMI, ACS, and SCE. The optimal test depends upon the relative importance of the sensitivity or specificity for clinical decision-making in an individual patient.

Castillo-Moreno, J. A., et al. "Prognosis of patients with unstable angina and low-risk exercise test: significance of ST-segment depression on the admission ECG." *International Journal of Cardiology*. 89, no. 2-3(2003): 145-52 UI 12767536.

The presence of ST-segment depression on the admission electrocardiogram (ECG) is an important predictor of poor outcome in patients with unstable angina. On the other hand, patients with unstable angina who undergo a low-risk exercise test are supposed to have a favorable prognosis. The objective of the study was to determine the prognostic significance of ST-segment depression on the admission ECG in patients with unstable angina who undergo an exercise test that indicates a low risk of events. An interpretable exercise test was performed in 257 patients with primary unstable angina. A low-risk exercise test was completed by 156 (60%) patients and medical therapy was planned for all these patients. A multivariate analysis was performed in order to determine the independent predictors of events (cardiac death, nonfatal acute myocardial infarction, or admission for unstable angina) during a 12-month follow-up. Among patients with a low-risk exercise test, there were no significant differences between patients with and without ST-segment depression on the presenting ECG with regard to event rate (34 vs. 29%, P=NS). In multivariate analysis, ST-segment depression was not related to a higher incidence of events. Our findings appear to indicate that the presence of ST-segment depression on the admission ECG loses its prognostic significance in patients with primary unstable angina if they complete a low-risk exercise test.

Chambers, P. C. "Coeliac plexus block for upper abdominal cancer pain." *British Journal of Nursing*. 12, no. 14(2003): 838-44 UI 12951534.

The use of coeliac plexus block (CPB) to relieve intractable pain owing to upper abdominal malignancy is well established. Significant relief of pain is reported in 70-90% of patients, allowing a reduction in opioid use and in the occurrence of opioid-related side effects (Eisenberg et al, 1995; Prasanna, 1996). Duration of relief varies, but the majority of patients experience relatively pain-free deaths (Patt, 1993). CPB is a relatively safe procedure, and although it is associated with common adverse effects such as diarrhoea, hypotension and local pain, these are mostly transient. However, severe complications, including paraplegia, have been reported. When CPB is performed, nurses should be aware of these potential complications and their management. [References: 34]

Cheing, G. L., and H. Chang. "Extracorporeal shock wave therapy." *Journal of Orthopaedic & Sports Physical Therapy*. 33, no. 6(2003): 337-43 UI 12839209.

Chen, H. J., K. Lu, and M. C. Yeh. "Combined dorsal root entry zone lesions and neural reconstruction for early rehabilitation of brachial plexus avulsion injury." *Acta Neurochirurgica - Supplement*. 87(2003): 95-7 UI 14518532.

Brachial plexus avulsion injury is one of the major complications after traffic, especially motorcycle accidents. During the past 12 years, we have encountered more than 40 brachial plexus avulsion injuries. The neurological deficits included pain and paralysis of the damaged limb. Dorsal root entry zone lesions made by thermocoagulation were performed for intractable pain in 34 cases. The pain relief rate was good in about 75%. Combined neural reconstruction was performed in 15 cases. The reconstruction included neurolysis, nerve graft, nerve transfer, and functioning muscle/tendon transfer etc. There were 13 male and 2 female patients. Age distribution was from 21 to 61 years with a mean age of 41.8 years. Eleven patients were found to have whole brachial plexus injury and 4 with upper brachial plexus injury. Twelve patients had good pain relief. Six patients showed good functional result after reconstruction. Three had no improvement. Combined pain control and reconstruction offer an early rehabilitation for brachial plexus avulsion injury.

Christenson, R. H., et al. "Usefulness of prodromal unstable angina pectoris in predicting better survival and smaller infarct size in acute myocardial infarction (The InTIME-II Prodromal Symptoms Substudy)." *American Journal of Cardiology*. 92, no. 5(2003): 598-600 UI 12943885.

Prodromal unstable angina on presentation is a significant predictor of smaller infarct size, reflected by smaller creatine kinase-MB and creatine kinase total measurements and lower 30-day, 6-month, and 5-year mortality. These findings suggest that prodromal unstable angina is an important physiologic marker that should be routinely collected for risk stratification.

Chu, K. H., et al. "CPR training in households of patients with chest pain." *Resuscitation*. 57, no. 3(2003): 257-68 UI 12804803.

The objectives of this study are to (1). quantify prior cardiopulmonary resuscitation (CPR) training in households of patients presenting to the Emergency Department (ED) with or without chest pain or ischaemic heart disease (IHD); (2). evaluate the willingness of household members to undertake CPR training; and (3). identify potential barriers to the learning and provision of bystander CPR. A cross-sectional study was conducted by surveying patients presenting to the ED of a metropolitan teaching hospital over a 6-month period. Two in five households of patients presenting with chest pain or IHD had prior training in CPR. This was no higher than for households of patients presenting without chest pain or IHD. Just

under two in three households of patients presenting with chest pain or IHD were willing to participate in future CPR classes. Potential barriers to learning CPR included lack of information on CPR classes, perceived lack of intellectual and/or physical capability to learn CPR and concern about causing anxiety in the person at risk of cardiac arrest. Potential barriers to CPR provision included an unknown cardiac arrest victim and fear of infection. The ED provides an opportunity for increasing family and community capacity for bystander intervention through referral to appropriate training.

Clark, P., P. Lavielle, and H. Martinez. "Learning from pain scales: patient perspective." *Journal of Rheumatology*. 30, no. 7(2003): 1584-8 UI 12858463.

OBJECTIVE: Rheumatologists often deal with patients' pain, as commonly measured by clinical scales. However, no published study in the last 25 years has explored patient preferences for the 2 most frequently used clinical scales the verbal rating scale (VRS) and the visual analog scale (VAS). We (1) evaluated patient preferences for the 10 cm horizontal VAS versus the 5 point VRS and identified associated reasons for their preferences; and (2) validated the test-retest reliability and construct validity of these scales. METHODS: Patients with painful rheumatological conditions rated the VAS and the VRS to assess pain intensity and stated which scale they preferred and why. Exploration of tender points and dolorimetry was performed in all cases. RESULTS: Of 113 patients in the sample, 93% were women, 85% of whom had rheumatoid arthritis. In this sample, 52.8% preferred the VRS, 28.3% the VAS, and 18.9% expressed no preference. Patients who preferred the VRS said it was easier than the VAS to understand and rate. They also reported being more comfortable using words than numbers. Patients who preferred the VAS said that numbers classified pain better and that this allowed them to be objective and precise. Patients with 0-6 years of schooling preferred the VRS, while those with > 6 years preferred the VAS. There was a significant association between the number of tender points and pain intensity with both scales, as well as between threshold and tolerance with the VAS. High correlations were found between the VAS and the VRS ( $r = 0.79$ ) and between tolerance and threshold ( $r = 0.96$ ). Test-retest showed a high correlation for both scales: VAS = 0.97 and VRS = 0.89. CONCLUSION: Both scales are valid measures of pain intensity. The choice should depend on the setting, the clinician's goal, and the patient's level of education. Patient preference is central to better physician-patient communication.

Cleeland, C. S., et al. "Rapid improvement in pain management: the Veterans Health Administration and the institute for healthcare improvement collaborative." *Clinical Journal of Pain*. 19, no. 5(2003): 298-305 UI 12966255.

BACKGROUND: Poor pain management persists in health care. Although common practice errors in pain management have been identified and standards and guidelines for pain management have been published, improvement has been modest. With the goal of rapid improvement in pain management, a joint Collaborative (Veterans Health Administration and Institute for Healthcare Improvement) was conducted from May 2000 to January 2001. OBJECTIVE: To improve delivery of pain management to VHA patients and to compare team process and patient report data on key goals from selected study units. METHODS: Charts were reviewed for outcome and process measures. Measures included changes in percentage of patients with (1) moderate to severe pain, (2) documentation of a pain assessment, (3) documentation of a pain care plan, and (4) documentation that the patient received pain education. RESULTS: Seventy teams from 22 Veteran's Integrated Service Networks throughout the U.S. participated. Moderate or severe pain on study units dropped from 24% to 17%; pain assessment increased from 75% to 85%; pain care plans for patients with at least mild pain increased from 58% to 78%; and number of patients provided with pain educational materials increased

from 35% to 62%. DISCUSSION: Significant progress toward the target goals was reported during the Collaborative period. This improvement needs to be viewed in the context of a VHA system-wide effort to improve pain management. Data suggest that a program of team formation, goal identification, testing and adaptation of recommended system changes, sharing and feedback of process and outcome information can produce significant change in pain management in a major health care organization.

Collins, E. D., and J. Streltzer. "Should opioid analgesics be used in the management of chronic pain in opiate addicts?" *American Journal on Addictions*. 12, no. 2(2003): 93-100 UI 12746085.

Cousins, K., et al. "Intrathecal catheters: developing consistency in filter use and dressings in Perth, Australia." *International Journal of Palliative Nursing*. 9, no. 7(2003): 308-14 UI 12920451.

The use of opioids presents practitioners with many challenges, such as the variation in responses and side effects seen with traditional methods of administration. This has prompted an increase in the consideration of the intrathecal route for the management of patients with refractory cancer pain. Although this has increased the therapeutic options available to patients, it has also led to more complicated pain management strategies. In Perth, Western Australia, it was identified that clinical variations, especially in the programming of the pump maintenance of the filters and associated dressings, occurred between service providers, causing confusion and anxiety for patients, families and practitioners. This article discusses a review of nursing management of patients receiving intrathecal analgesia and the collaboration of all services in the development of evidence-based policy. [References: 16]

Davies, J., et al. "Botulinum toxin (botox) reduces pain after hemorrhoidectomy: results of a double-blind, randomized study." *Diseases of the Colon & Rectum*. 46, no. 8(2003): 1097-102 UI 12907905.

PURPOSE: Pain after hemorrhoidectomy appears to be multifactorial and dependent on individual pain tolerance, mode of anesthesia, postoperative analgesia, and surgical technique. Spasm of the internal sphincter is believed to play an important role. The aim of this study was to assess the role of botulinum toxin in reducing pain after Milligan-Morgan hemorrhoidectomy. METHODS: This was a double-blind study of 50 consecutive patients undergoing Milligan-Morgan hemorrhoidectomy and assigned to an internal sphincter injection of 0.4 ml of solution containing either botulinum toxin (20 U; Botox) or normal saline. Patients were managed according to standardized perioperative analgesic and laxative regimens. Pain was assessed by use of daily visual analog scores and analgesia requirements for the first seven postoperative days. RESULTS: Patients randomized to receive botulinum toxin had lower daily average and maximal visual analog scores throughout the study period. The difference reached significance on both Day 6 ( $P < 0.05$ ) and Day 7 ( $P < 0.05$ ). There was no significant difference ( $P = 0.12$ ) in morphine requirements in the first 24 hours (botulinum group, 16 (range, 6-27) mg; placebo arm, 22 (range, 13-41) mg). Patients who received Botox used 19 (range, 8-36) coproxamol tablets in the first seven days after surgery compared with 23 (range, 10-40) in the placebo arm ( $P = 0.63$ ). CONCLUSIONS: Those patients who had botulinum toxin had significantly less pain toward the end of the first week after surgery. Reduction in spasm within the internal sphincter is the presumed mechanism of action. This is the first reported randomized, controlled trial using botulinum toxin in hemorrhoidectomy.

Day, A., and C. Fielding. "Using Entonox in the community." *Journal of Wound Care*. 10, no. 4(2001): 108 UI 12964314.

Dionne, R. A., et al. "Dexamethasone suppresses peripheral prostanoid levels without analgesia in a clinical model of acute inflammation." *Journal of Oral & Maxillofacial Surgery*. 61, no. 9(2003): 997-1003 UI 12966473.

PURPOSE: The therapeutic effects of glucocorticoids are generally attributed to suppression of multiple signaling pathways involved in the inflammatory response leading to decreased levels of inflammatory mediators at the site of injury. This study evaluated the in vivo relationship between levels of prostanoids at the site of tissue injury and analgesia after dexamethasone administration in a clinical model of tissue injury. METHODS: Subjects were administered dexamethasone 4 mg or placebo 12 hours and 1 hour before the removal of 2 mandibular third molars. A microdialysis probe was implanted at each surgical site for measurement of immunoreactive prostaglandin E<sub>2</sub> (PGE<sub>2</sub>) or immunoreactive thromboxane B<sub>2</sub> (TxB<sub>2</sub>), and pain was measured concurrently. Subjects received either ketorolac 30 mg intravenously or placebo at pain onset. RESULTS: PGE<sub>2</sub> was detectable in the first postoperative sample, decreased over the next hour and then increased coincident with the onset of postoperative pain. Administration of dexamethasone suppressed PGE<sub>2</sub> levels in samples collected at pain onset in comparison to placebo and significantly suppressed TxB<sub>2</sub> at the surgical site but without any effect on pain report. Subsequent administration of ketorolac significantly reduced pain while decreasing both PGE<sub>2</sub> and TxB<sub>2</sub> levels at the surgical site. CONCLUSION: The lack of an analgesic effect for dexamethasone while reducing both PGE<sub>2</sub> and TxB<sub>2</sub> at the site of injury in comparison to ketorolac analgesia accompanied by greater reductions in levels of these prostanoids suggests that glucocorticoids at this dose do not suppress PGE<sub>2</sub> release sufficiently to attenuate peripheral sensitization of nociceptors after tissue injury.

Dreyer, S. J., and S. D. Boden. "Laboratory evaluation in neck pain." *Physical Medicine & Rehabilitation Clinics of North America*. 14, no. 3(2003): 589-604 UI 12948343.

Laboratory investigations for neck pain play a minor role in most cases. When clinical suspicion of infection or tumor arises, however, laboratory testing can provide definitive information to direct the patient's care. Specialized laboratory testing including autoantibody titers can be useful in confirming and categorizing inflammatory arthritides. Judicious use of laboratory tests greatly enhances the physician's ability to provide appropriate care. [References: 29]

Dubois, M. Y., et al. "Pain management at the end of life: often a difficult call." *Pain Medicine*. 4, no. 1(2003): 81-4 UI 12873281.

Eccles, R., et al. "Effects of acetylsalicylic acid on sore throat pain and other pain symptoms associated with acute upper respiratory tract infection." *Pain Medicine*. 4, no. 2(2003): 118-24 UI 12873261.

OBJECTIVE: Acetylsalicylic acid (ASA) has been widely used for over a century to treat pain and fever associated with acute upper respiratory tract infection (URTI), but there is a lack of clinical data to support the efficacy of ASA in this disease state. The objective of this study was to investigate the efficacy and safety of ASA for the treatment of sore throat pain associated with URTI. DESIGN: A double-blinded, placebo-controlled, parallel group design. Two hundred seventy-two patients (mean age: 25 years) with sore throat pain associated with URTI were recruited at two centers. Pain scores were made during a 2-hour laboratory phase and continued for secondary objectives during a 4-hour home phase. Patients were treated with either two effervescent tablets of ASA 400 mg in water or matched placebo tablets.

Patients took medication as required over a 3-day home phase. RESULTS: ASA was found to be superior to placebo for: The primary efficacy parameter predefined in the protocol, reduction in sore throat pain intensity over 2 hours ( $P < 0.001$ ), and for secondary efficacy parameters, reduction in sore throat pain intensity over 4 and 6 hours, relief of sore throat pain over 2, 4, and 6 hours, reduction in intensity of pain associated with headache, and reduction in muscle aches and pains over a 2-hour time period ( $P < 0.01$ ). No safety problems were encountered. CONCLUSIONS: Treatment with ASA was shown to provide relief from sore throat pain, headache, and muscle aches and pains associated with URTI.

Elander, J., et al. "Pain management and symptoms of substance dependence among patients with sickle cell disease." *Social Science & Medicine*. 57, no. 9(2003): 1683-96 UI 12948577.

Concerns about dependence on prescribed analgesia may compromise pain management, but there was previously little reliable evidence about substance dependence among patients with sickle cell disease (SCD). We conducted in-depth, semi-structured interviews with SCD patients in London, UK, to assess DSM-IV symptoms of substance dependence and abuse. Criteria were applied to differentiate between pain-related symptoms, which corresponded to the DSM-IV symptoms but involved analgesics used to control pain, and non-pain-related symptoms, which involved analgesic use beyond pain management. Pain-related symptoms are informative about how the pattern of recurrent acute pain in SCD may make patients vulnerable to perceptions of drug dependence. Non-pain-related symptoms are informative about more stringently defined dependence on analgesia in SCD. Inter-rater reliability was high, with mean Kappa coefficients of 0.67-0.88. The criteria could be used to assess analgesic dependence in other painful conditions. Pain-related symptoms were more frequent, accounting for 88% of all symptoms reported. When pain-related symptoms were included in the assessment, 31% of the sample met the DSM-IV criteria for substance dependence, compared with only 2% when the assessment was restricted to non-pain-related symptoms. Qualitative analysis of participants' descriptions of analgesic use showed that active coping attempts (attempts to anticipate pain and avoid hospital admissions) and awareness of dependence were themes in descriptions of both pain-related and non-pain-related symptoms. Seeking a more normal lifestyle and impaired activities were themes associated with pain-related symptoms. Psychological disturbance was a theme associated with non-pain-related symptoms. The implications are for more responsive treatment of pain in SCD and greater awareness of how patients' pain coping may be perceived as analgesic dependence. Further research could examine ways that pain-related and non-pain-related symptoms of dependence may be associated with other pain coping strategies and with the outcomes of treatment for painful episodes in hospital.

Emons, M. F. "Applying the PAIN indicators in a managed care setting to improve pain management." *Managed Care*. 12, no. 8 Suppl Improving pain(2003): 18-21 UI 13677060.

The PAIN indicators create an excellent platform for identifying appropriate patients for whom pain management should be improved within a health plan. The PAIN indicators can be applied efficiently to standard health plan integrated claims data from which a health plan can implement a flexible, phased approach to improving pain management. The program also can be expanded beyond OA and persistent LBP to affect a broader high-risk group with evidence of poorly controlled pain. Pain management has traditionally been an area that has been difficult to target; therefore, pain-specific quality-management initiatives have not been implemented in most health plans. The PAIN indicators can serve as a valuable

health plan tool that can be readily implemented and will allow a health plan to advance its overall quality of care in the important area of pain management.

Emons, M. F. "Persistent nonmalignant pain: implications and opportunities for managed care." *Managed Care*. 12, no. 8 Suppl Improving pain(2003): 2-7 UI 13677057.

Ernst, D. S., et al. "Randomized, double-blind, controlled trial of mitoxantrone/prednisone and clodronate versus mitoxantrone/prednisone and placebo in patients with hormone-refractory prostate cancer and pain." *Journal of Clinical Oncology*. 21, no. 17(2003): 3335-42 UI 12947070.

PURPOSE: To compare the incidence of palliative response in patients with hormone-resistant prostate cancer (HRPC) treated with mitoxantrone and prednisone (MP) plus clodronate with that of patients treated with MP plus placebo. MATERIALS AND METHODS: Men with HRPC, bone metastases, and bone pain were randomly assigned to receive clodronate 1,500 mg administered intravenously (IV) or placebo every 3 weeks, in combination with mitoxantrone 12 mg/m<sup>2</sup> IV every 3 weeks and prednisone 5 mg orally bid. Patients completed the present pain intensity (PPI) index and Prostate Cancer-Specific Quality-of-Life Instrument at each treatment visit and used a diary to record analgesic use on a daily basis. The primary end point was a reduction to zero or of two points in the PPI or a decrease of 50% in analgesic intake, without increase in either. RESULTS: The study accrued 209 eligible patients over 44 months. One hundred sixty patients (77%) had mild PPI scores (1 or 2), and 49 (24%) had moderate PPI scores (3 or 4). The primary end point of palliative response was achieved in 46 (46%) of 104 patients on the clodronate arm and in 41 (39%) of 105 patients on the placebo arm (P =.54). The median duration of response, symptomatic disease progression-free survival, overall survival, and overall quality of life were similar between the arms. Subgroup analysis suggested possible benefit in patients with more severe pain. CONCLUSION: MP provides useful palliation in symptomatic men with HRPC. Clodronate does not increase the rate of palliative response or overall quality of life. Clodronate may be beneficial to patients who have moderate pain, but this requires further confirmation.

Ernst, E. "The value of diagnostic tests for low back pain.[comment]." *Jama*. 290, no. 14(2003): 1852; author reply 1852-3 UI 14532308.

Fishbain, D. A., et al. "A structured evidence-based review on the meaning of nonorganic physical signs: Waddell signs.[comment]." *Pain Medicine*. 4, no. 2(2003): 141-81 UI 12911018.

STUDY DESIGN: This is a structured, evidence-based review of all available studies addressing the concept of nonorganic findings: Waddell signs (WSs). OBJECTIVES: To determine what evidence, if any, exists for the various interpretations for the presence of WSs on physical examination. SUMMARY OF BACKGROUND DATA: WSs are a group of eight physical findings divided into five categories, the presence of which has been alleged at times to have the following interpretations: Malingering/secondary gain, hysteria, psychological distress, magnified presentation, abnormal illness behavior, abnormal pain behavior, and somatic amplification. At the present time, there is, therefore, significant confusion as to what these findings mean. METHODS: A computer and manual literature search produced 61 studies and case series reports relating to WSs. These references were reviewed in detail, sorted, and placed into tabular form according to the following subject areas: 1) Reliability (test-retest); 2) Reliability (inter-rater); 3) Reliability (factor analysis); 4) Validity, psychological distress; 5) Validity, correlation Minnesota Multiphasic Pain Inventory (MMPI); 6) Validity, correlation abnormal illness behavior; 7) Validity, other behaviors; 8) Validity, as a nonorganic

phenomenon; 9) Validity, correlation pain drawing; 10) Validity, functional performance; 11) Validity, treatment outcome; 12) Validity, predicting surgical treatment outcome; 13) Validity, return to work outcome; 14) Validity, secondary gain correlation; and 15) Validity, pain correlation. Each study in each topic area was classified according to the type of study it represented according to the type of evidence guidelines developed by the Agency for Health Care Policy and Research (AHCPR). In addition, a list of 14 study quality criteria was used to measure the quality of each study. Each study was categorized for each criterion as positive, (criterion filled), negative (criterion not filled), or not applicable independently by two of the authors. A percent quality score was obtained for each study by counting the total number of positives obtained, dividing by 14 minus the total number of not applicables, and multiplying by 100. Only studies having a quality score of 75% or greater were used to formulate the conclusions of this review. The strength and consistency of the evidence represented by the remaining studies in each topic area (above) was then categorized according to the strength and consistency AHCPR guidelines. Conclusions of this review for each topic area are based on these results. RESULTS OF DATA SYNTHESIS: Of the 61 studies, four had quality scores below 75% and were not used to generate the results of this review. According to the AHCPR guidelines for strength and consistency of the reviewed data, the following results were obtained: 1) There was consistent evidence for WSs being associated with decreased functional performance, poor nonsurgical treatment outcome, and greater levels of pain; 2) There was generally consistent evidence for WSs not being associated with psychological distress, abnormal illness behavior, or secondary gain; 3) There was also generally consistent evidence that WSs are an organic phenomenon and that they cannot be used to discriminate organic from nonorganic problems; 4) There was inconsistent evidence that WSs do demonstrate inter-rater reliability, do not correlate with the neurotic triad of the MMPI, are associated with poorer surgical treatment outcome, and are associated with nonreturn to work; 5) There was little or no evidence that WSs demonstrate test-retest reliability, or reliable factors, and are associated with self-esteem problems, catastrophizing, or the nonorganic pain drawing. CONCLUSIONS: Based on the above results, the following conclusions were made: 1) WSs do not correlate with psychological distress; 2) WSs do not discriminate organic from nonorganic problems; 3) WSs may represent an organic phenomenon; 4) WSs are associated with poorer treatment outcome; 5) WSs are associated with greater pain I

Fishbain, D. A., et al. "Medico-legal rounds: medico-legal issues and alleged breaches of "standards of medical care" in opioid rotation to methadone: a case report.[comment]." *Pain Medicine*. 4, no. 2(2003): 195-201 UI 12873269.

OBJECTIVES: The objectives of this medico-legal case report were the following: 1) To present an example of a medico-legal problem that developed as a result of a decision to rotate a chronic pain patient (CPP) to methadone in order to taper the CPP from oxycodone; 2) To present both the plaintiff's and defendant's expert witnesses' opinions as to if and where the care of that patient fell below the "standard of medical care;" and 3) Based on these opinions, to develop some recommendations on how, in the future, pain medicine physicians and other physicians should proceed, in order to avoid allegations of breach of "standards of care" when using methadone. METHODS: This is a case report of a CPP treated at a regional hospital pain clinic. Methadone rotation was used in order to taper the CPP from oxycodone because of addictive disease. RESULTS: During the rotation process, the CPP expired. This had medico-legal consequences. Expert witnesses differed as to whether methadone caused the death. CONCLUSION: Pain physicians should proceed with caution in using methadone for opioid rotation.

Forouzanfar, T., et al. "What is a meaningful pain reduction in patients with complex regional pain syndrome type 1?" *Clinical Journal of Pain*. 19, no. 5(2003): 281-5 UI 12966253.

OBJECTIVE: To investigate the degree of pain reduction in patients with complex regional pain syndrome type 1 (CRPS 1) that can be defined as "successful."  
DESIGN: All patients rated their pain on a visual analog scale (VAS; 0-10) before treatment and on three occasions after treatment, at 6 months, 1 year, and 2 years. Patients also rated a Global Perceived Effect (GPE) for their pain relief at the same time periods. The GPE items were classified as "successful" or "unsuccessful." The mean absolute and relative pain reduction (using the VAS) was calculated for both "successful" and "unsuccessful" GPE classifications for each time period. Sensitivity and specificity analyses were performed. PATIENTS: Sixty-one patients with CRPS 1. RESULTS: The patients defined a relative pain reduction of 58% (SD, 23.4) or more as "successful," whereas in "successful" and "unsuccessful" patient groups the pain was reduced significantly on the VAS. Furthermore, sensitivity and specificity analyses showed that a cut-off point of 50% relative pain reduction and a 3-cm absolute pain reduction on the VAS have the highest likelihood that patients will report their treatment "successful" on the GPE. CONCLUSIONS: Relative pain reduction of 50% or more and an absolute pain reduction of at least 3 cm on the VAS are accurate in predicting a successful pain reduction after a given treatment.

Forster, M. C., and R. Straw. "A prospective randomised trial comparing intra-articular Hyalgan injection and arthroscopic washout for knee osteoarthritis." *Knee*. 10, no. 3(2003): 291-3 UI 12893153.

Thirty-eight patients with symptomatic knee osteoarthritis without mechanical symptoms were randomised after informed consent to receive either a course of intra-articular Hyalgan injections or an arthroscopic washout. The patients were prospectively assessed pre-intervention, 6 weeks, 3 months, 6 months and 1 year using a 10 cm visual analogue pain score, the Knee Society function score and the Lequesne index. There was no significant difference between the two groups at 6 weeks, 3 months, 6 months or 1 year. The use of intra-articular Hyalgan injections in patients with knee osteoarthritis without mechanical symptoms gives results comparable with arthroscopic washout. Hyalgan is an alternative to arthroscopy in this patient group. Further study is needed to confirm these findings and improve patient selection.

Fredericson, M., and C. Wun. "Differential diagnosis of leg pain in the athlete." *Journal of the American Podiatric Medical Association*. 93, no. 4(2003): 321-4 UI 12869603.

Leg pain in the athlete is common and has many different etiologies. The most common causes include muscle or tendon injury, medial tibial stress syndrome, stress fracture, and exertional compartment syndrome. Less common causes of leg pain include lumbosacral radiculopathy, lumbosacral spinal stenosis, focal nerve entrapment, vascular claudication from atherosclerosis, popliteal artery entrapment syndrome, and venous insufficiency. This article reviews the essential history and physical examination findings and the various causes of leg pain to help the clinician pinpoint the diagnosis and facilitate the athlete's return to sport participation.

Friedman, R., V. Li, and D. Mehrotra. "Treating pain patients at risk: evaluation of a screening tool in opioid-treated pain patients with and without addiction.[comment]." *Pain Medicine*. 4, no. 2(2003): 182-5 UI 12873264.

Patients receiving opioid treatment for chronic pain, many of whom were hospitalized with medical complications of substance abuse, were asked to complete a screening questionnaire to help validate a simple self-administered survey. Questions relating to tobacco abuse and prior treatment for drug and alcohol abuse

distinguished patients with addiction and pain from opioid-treated chronic pain patients.

Gagliese, L., and R. Melzack. "Age-related differences in the qualities but not the intensity of chronic pain." *Pain*. 104, no. 3(2003): 597-608 UI 12927632.

Age differences in the experience of chronic pain remain unclear. A serious barrier to progress in the field of pain and aging arises from the lack of data regarding the psychometric properties of pain scales for use with the elderly. The present study was designed to assess age differences in pain intensity and quality and to compare the psychometric properties of the McGill Pain Questionnaire (MPQ) in young and elderly chronic pain patients. Young (n=139, mean age=42.93+/-9.41 years) and elderly (n=139, mean age=70.12+/-7.51 years) pain center patients, matched on primary diagnosis or pain location, duration, and sex, completed the MPQ, numeric ratings (0-10) of pain intensity, a Pain Map, and the Hospital Anxiety and Depression Scale (HADS). A Pain Management Index (PMI) score was calculated for each patient. Age differences on the measure of pain qualities were found. The elderly group had significantly lower MPQ total and sensory scores and chose fewer words than the young group. However, there were no significant differences between the groups on numeric ratings of highest, usual, and lowest pain intensity. Similarly, there were no age differences on PMI, Pain Map, or the HADS Depression or Anxiety Subscales. Finally, the latent structure, internal consistency, and pattern of subscale correlations of the MPQ were very similar in the young and elderly groups. Possible explanations for the discrepancy in the pattern of age differences on measures of pain intensity and quality are explored. The implications of this pattern of age differences for basic pain mechanisms and pain management should be given serious empirical attention.

Gaitonde, R. S., et al. "Prediction of significant left main coronary artery stenosis by the 12-lead electrocardiogram in patients with rest angina pectoris and the withholding of clopidogrel therapy." *American Journal of Cardiology*. 92, no. 7(2003): 846-8 UI 14516891.

We report the prospective use of an electrocardiographic sign--lead aVR ST-segment elevation greater than that seen in lead V(1)--in patients with an acute coronary syndrome as a method to prompt early angiography, to withhold clopidogrel therapy, and to perform urgent coronary bypass surgery leading to successful clinical outcomes.

Gallagher, R. M. "Physician variability in pain management: are the JCAHO standards enough?[comment]." *Pain Medicine*. 4, no. 1(2003): 1-3 UI 12873272.

Gallagher, R. M. "Waddell signs: objectifying pain and the limits of medical altruism.[comment]." *Pain Medicine*. 4, no. 2(2003): 113-5 UI 12873259.

Galloway, H. R. "Image-guided spinal injection for diagnosis and therapy." *Australasian Radiology*. 47, no. 3(2003): 219-25 UI 12890238.

Over the past decade, major advances have been made in our ability to identify a putative cause of patients' spinal pain using image-guided injection techniques. These techniques might also provide a means of temporarily relieving patients' pain and facilitating increased mobility. This article aims to review the rationale for and the techniques of the more commonly used spinal injection techniques.

Gammaitoni, A. R., et al. "Clinical application of opioid equianalgesic data." *Clinical Journal of Pain*. 19, no. 5(2003): 286-97 UI 12966254.

Physicians and other healthcare professionals may often be faced with the need to change opioids during the course of a patient's opioid analgesic care due to a

number of clinical reasons. The act of converting opioid analgesics, for many physicians, nurses, and pharmacists, who do not receive adequate training, remains a challenging and often uncomfortable aspect of pain treatment. Part of the challenge clinicians face is secondary to the relatively weak literature evidence base that exists to support the equianalgesic ratios provided in textbooks, journals, and other medical resources. Another aspect involves the lack of a widely recognized treatment algorithm or guideline to assist clinicians with opioid conversion. The final decision on which opioid dose to prescribe must involve a thorough clinical assessment to minimize the risk of prescribing inappropriate opioid doses over or under the patient's actual need. The purpose of this paper is to provide the clinician with an approach for dealing with the conversion between opioid analgesics that is standardized, yet allows for individualized results to meet unique patient needs. We present a 5-step process as a guide for clinicians faced with the need to change a patient's opioid regimen. This approach may help to build a comfort level when dealing with the clinical challenges of converting from one opioid to another.

Gammaitoni, A. R., et al. "Effectiveness and safety of new oxycodone/acetaminophen formulations with reduced acetaminophen for the treatment of low back pain." *Pain Medicine*. 4, no. 1(2003): 21-30 UI 12873275.

OBJECTIVE: To evaluate the analgesic effectiveness/safety of the new oxycodone 7.5- and 10-mg/acetaminophen 325-mg (Percocet) formulations in patients with low back pain (LBP) suboptimally responsive to nonsteroidal anti-inflammatory drugs, muscle relaxants, tramadol, cyclo-oxygenase-2 inhibitors, and/or prn opioids. DESIGN: Prospective, open-label, nonrandomized, 4-week trial. SETTING: Multicenter. PATIENTS: Thirty-three men and women (mean age: 52.2 years) with LBP (mean duration: 10.9 years). INTERVENTIONS: All prior analgesics were discontinued, and oxycodone/acetaminophen was dosed three times a day (TID), titrated to clinically meaningful pain relief. Initial oxycodone/acetaminophen dose: 2.5/325 mg TID; maximum: 20/650 mg TID. Outcome Measures: Effectiveness: Brief Pain Inventory (BPI) and Neuropathic Pain Scale 4 score (sharp, hot, dull, and deep pain). Quality of life: BPI and North American Spine Society Lumbar Spine questionnaire. Safety: Adverse events, physical/neurologic examinations, vital signs, and clinical laboratory tests. RESULTS: In all, 28 of 33 patients (85%) completed the study; discontinuations were for adverse events (N=3), patient choice (N=1), and lack of effectiveness (N =1). The mean oxycodone/acetaminophen dose at the end of treatment was 8.2/325 mg TID. After 4 weeks, treatment significantly reduced BPI pain intensity and improved pain relief ( $P < 0.0005$ ), improved Neuropathic Pain Scale 4 score ( $P = 0.007$ ), reduced pain interference with quality of life ( $P < 0.0004$ ), and reduced disability ( $P < 0.0001$ ). Treatment was found to be safe and well tolerated. Adverse events were those most commonly expected from an opioid, and most were of mild-to-moderate intensity. CONCLUSIONS: The primary purpose of this study was to preliminarily test the effectiveness of the new formulations of oxycodone/acetaminophen with reduced acetaminophen in the clinical practice setting. The results from this trial suggest that these formulations are effective in the treatment of moderate-to-severe chronic LBP. Most patients (67%) reported significant pain relief/tolerable side effects with a TID dosing frequency or less (mean: 3.04 doses/day), suggesting chronic pain patients can experience meaningful pain relief with around-the-clock dosing of oxycodone/acetaminophen and minimal risk of hepatotoxicity. Further long-term, controlled studies of the efficacy/safety of the new formulations of oxycodone/acetaminophen in LBP are warranted to fully characterize efficacy in this patient population and corroborate the findings from our study.

George, M. S., et al. "Mechanisms and the current state of transcranial magnetic stimulation." *Cns Spectrums*. 8, no. 7(2003): 496-514 UI 12894031.

Transcranial magnetic stimulation (TMS) is unique among the current brain stimulation techniques because it is relatively non-invasive. TMS markedly differs from vagus nerve stimulation, deep brain stimulation and magnetic seizure therapy, all of which require either an implanted prosthesis or general anesthesia, or both. Since its rebirth in its modern form in 1985, TMS has already shown potential usefulness in at least three important domains-as a basic neuroscience research instrument, as a potential clinical diagnostic tool, and as a therapy for several different neuropsychiatric conditions. The TMS scientific literature has now expanded beyond what a single summary article can adequately cover. This review highlights several new developments in combining TMS with functional brain imaging, using TMS as a psychiatric therapy, potentially using TMS to enhance performance, and finally recent advances in the core technology of TMS. TMS' ability to non-invasively and focally stimulate the brain of an awake human is proving to be a most important development for neuroscience in general, and neuropsychiatry in particular. [References: 154]

Germain, G., et al. "Effect of hyperbaric oxygen therapy on exercise-induced muscle soreness." *Undersea & Hyperbaric Medicine*. 30, no. 2(2003): 135-45 UI 12964857.

The purpose of this study was to examine the effects of HBO2 therapy on exercise-induced muscle soreness. Subjects (n = 6 male and 10 female university student volunteers) were randomly divided into an experimental group that received HBO2 therapy and a control group that did not receive any treatments. HBO2 treatments consisted of 5 sessions of breathing 95% oxygen at 2.5 atm abs for 100 min. Temporary muscle soreness was created using a single-leg eccentric exercise task involving the quadriceps femoris. Over the next 14 days, measurements were obtained on muscle soreness, leg circumference, quadriceps peak torque, quadriceps average power, fatigue and plasma creatine kinase. After eccentric exercise, plasma creatine kinase (CK) levels and perceived muscle soreness were elevated but were not different between HBO2 and control groups. HBO2 therapy did not alter leg circumference, quadriceps peak torque, average power or fatigue compared to the control group. Faster recovery was observed in the HBO2 group on day 3 following the exercise protocol with perceived muscle soreness still elevated for the control group but not different from baseline for the HBO2 group. The data indicated that five HBO2 treatments did not speed recovery following eccentric exercise that induced temporary muscle soreness.

Ginsberg, B., et al. "Conversion to oral controlled-release oxycodone from intravenous opioid analgesic in the postoperative setting." *Pain Medicine*. 4, no. 1(2003): 31-8 UI 12873276.

OBJECTIVE: This study assessed conversion factors utilized by physicians to transfer postoperative patients from intravenous opioids to oral controlled-release (CR) oxycodone and the subsequent analgesic effectiveness. DESIGN: This was a multicenter, open-label, usual-use study of 189 hospitalized postoperative patients receiving opioid (usually morphine) intravenous patient-controlled analgesia (IV PCA) for at least 12 to 24 hours post-procedure. Patients who were tolerant of oral medications and without signs of paralytic ileus were converted to oral CR oxycodone, given every 12 hours for up to 7 days. RESULTS: The mean (+/-SE) conversion factor used to convert IV PCA morphine to CR oxycodone was 1.2 +/- 0.1 (N=159). The initial CR oxycodone doses, based on individual conversion factors from IV PCA morphine, produced significant reductions in pain intensity (scores <or=4) within 6 hours after the initial dose. The mean +/- SE initial dose of CR oxycodone, for patients converted from IV PCA morphine, was 27 +/- 1 mg; that for all patients was 29 +/- 2 mg. Pain at the end of the first 12 hours was controlled with these initial doses. The most common adverse events were constipation,

nausea, and pruritus. CONCLUSIONS: Administered at least 12 hours following abdominal, orthopedic, or gynecologic surgery, an initial oral CR oxycodone dose calculated by multiplying the amount of IV morphine used in the previous 24 hours (immediate postoperative period) by a conversion factor of 1.2, on average, provided adequate pain control during the subsequent 12-hour dosing interval and for a maximum of 7 days. Adverse events were consistent with opioid side effects.

Gitlin, M. C. "President's message." *Pain Medicine*. 4, no. 1(2003): 4-7 UI 12873273.

Goldberg, G. A., et al. "Identifying suboptimal management of persistent pain from integrated claims data: a feasibility study." *Managed Care*. 12, no. 8 Suppl Improving pain(2003): 8-13 UI 13677058.

Gottschalk, A., et al. "Continuous wound infiltration with ropivacaine reduces pain and analgesic requirement after shoulder surgery." *Anesthesia & Analgesia*. 97, no. 4(2003): 1086-91, table of contents UI 14500162.

After achieving a reduction of pain scores for 10 h with a single dose wound infiltration after shoulder surgery, we examined in a prospective, placebo-controlled and double-blinded study the analgesic effects of continuous wound infiltration with different concentrations of ropivacaine. Forty-five patients undergoing shoulder surgery were randomly assigned into three groups to receive single dose wound infiltration with 30 mL saline (group S) or ropivacaine 7.5 mg/mL (groups R2 and R3.75) after skin closure. Postoperatively, patients received a continuous wound infiltration with saline (group S), ropivacaine 2 mg/mL (group R2) or ropivacaine 3.75 mg/mL (group R3.75) for 48 h. Supplemental pain relief was provided by IV patient-controlled analgesia with the opioid piritramide. At 1, 2, 3, 4, 24, and 48 h postoperatively visual analogue scale (VAS) values (0-100 mm), piritramide requirements and side effects were registered. Plasma levels of ropivacaine were measured preoperatively and at 24 h and 48 h after surgery. Until 48 h VAS values were smaller in group R3.75 compared with group S (group R3.75, 8 +/- 9 mm; group S, 31 +/- 14 mm;  $P < 0.005$ ), whereas 4 h and 48 h postoperatively VAS values were even smaller in group R3.75 compared with group R2 ( $P < 0.05$ ). Cumulative piritramide consumption was always smaller in groups R2 and R3.75 compared with group S (1-24 h,  $P < 0.005$ ; 48 h,  $P < 0.05$ ). Plasma ropivacaine levels remained less than the toxic threshold. We conclude that continuous postoperative wound infiltration with ropivacaine, especially using 3.75 mg/mL, provides smaller VAS values and opioid requirement in comparison with saline after shoulder surgery. IMPLICATIONS: The continuous postoperative wound infiltration after shoulder surgery with different concentrations of ropivacaine, 2 mg/mL and 3.75 mg/mL, results in lower pain scores and opioid requirement compared with infiltration with placebo. Plasma levels of ropivacaine remained less than the toxic threshold.

Goupille, P., I. Logeart, and B. Combe. "Naturalistic survey on nonsteroidal antiinflammatory treatment in patients with musculoskeletal pain." *Joint, Bone, Spine: Revue du Rhumatisme*. 70, no. 3(2003): 219-25 UI 12814765.

OBJECTIVE AND METHODS: To evaluate patients' opinions about the gastrointestinal safety and areas for improvement of conventional nonsteroidal antiinflammatory drug (NSAID) therapy for musculoskeletal pain, the Louis Harris Institute conducted a survey in 401 patients selected in France using a quota sampling method. RESULTS: Three hundred and five patients (76%) described their pain as incapacitating. Nearly, one-third of the patients (125/401, 31%) reported gastrointestinal side effects, which prompted endoscopy in 24 (24/125, 20%) and gastroprotective drug treatment (usually by a proton pump inhibitor) in 100

(100/125, 82%). NSAID discontinuation or dosage reduction because of gastrointestinal side effects occurred in 55 patients (55/125, 45%), at the cost of symptom exacerbation, including worse pain, in over half the cases. Among the 401 patients, 304 (76%) wanted more effective NSAIDs and 174 (43%) wanted better gastrointestinal tolerability. CONCLUSION: Under everyday conditions, the use and effectiveness of conventional NSAID therapy are limited by gastrointestinal side effects. Furthermore, patients want NSAIDs with better risk/benefit ratios to control musculoskeletal pain.

Greco, C. M., T. E. Rudy, and S. Manzi. "Adaptation to chronic pain in systemic lupus erythematosus: applicability of the multidimensional pain inventory." *Pain Medicine*. 4, no. 1(2003): 39-50 UI 12873277.

OBJECTIVES: 1) Investigate psychosocial adaptation to chronic pain in patients with systemic lupus erythematosus; 2) Compare pain adaptation of lupus, chronic low back pain, and temporomandibular disorders patients; and 3) Evaluate the validity of Multidimensional Pain Inventory-based profiles of lupus patients. METHODS: Two hundred forty females with pain related to systemic lupus erythematosus (N =80), chronic low back pain (N=80), or pain related to temporomandibular disorders (N=80) completed the Multidimensional Pain Inventory, a 60-item psychosocial assessment instrument. All patients were classified into empirically derived profiles based on Multidimensional Pain Inventory responses. Systemic lupus erythematosus profile groups were compared on conceptually related variables external to the classification, including indices of lupus disease activity, pain, distress, and physical function. RESULTS: The scores of lupus patients resembled those of temporomandibular disorder patients, while chronic low back pain patients had higher pain and activity interference. 87.5% of lupus patients could be classified into one of three profiles: Dysfunctional (14%), interpersonally distressed (27.5%), or adaptive copers (46%). The Multidimensional Pain Inventory profiles for lupus patients demonstrated validity, based on external measures. CONCLUSIONS: Although many systemic lupus erythematosus patients cope well with their chronic pain, a substantial proportion exhibit pain-related distress, activity interference, or interpersonal difficulties.

Green, C. R., and J. R. Wheeler. "Physician variability in the management of acute postoperative and cancer pain: a quantitative analysis of the Michigan experience.[comment]." *Pain Medicine*. 4, no. 1(2003): 8-20 UI 12873274.

BACKGROUND: Little is known about physician attitudes, goals, or satisfaction regarding acute postoperative and cancer pain management. OBJECTIVES: To provide quantitative data regarding the status of acute postoperative and cancer pain management by Michigan physicians. To measure physician confidence, preference, and satisfaction as well as identify their pain care goals for acute postoperative and cancer pain management. To evaluate variability in acute postoperative and cancer pain decision making based upon physician demographic characteristics, knowledge, and attitudes. RESEARCH DESIGN: A cross-sectional survey, which included two cancer and three acute postoperative pain vignettes. SUBJECTS: A randomly-selected sample of three hundred sixty-eight licensed Michigan physicians who provide clinical care for acute postoperative and cancer pain patients. RESULTS: The majority of respondents (>50%) reported providing acute postoperative pain care frequently, while a minority (<20%) reported doing so for cancer pain. The majority of the physicians (>75%) reported goals of at least adequate pain relief without distress for both acute postoperative and cancer pain. Physicians more frequently chose the optimal pain management response for men following prostatectomy (56.2%) than for women following myomectomy (42%). They also chose the optimal response for metastatic prostate cancer more frequently (16.3%) than for metastatic breast cancer pain management (10.7%). CONCLUSION: These data highlight

physician variability in acute postoperative and cancer pain management decision making. Further study of the physician variable is necessary to improve the management of acute postoperative and cancer pain.

Gullestad, L., et al. "The effect of a neuropeptide Y Y1 receptor antagonist in patients with angina pectoris." *European Heart Journal*. 24, no. 12(2003): 1120-7 UI 12804926.

AIMS: Neuropeptide Y (NPY) is a potent vasoconstrictor released during sympathetic activation that may be involved in myocardial ischaemia. We examined the effect of a Y1 receptor antagonist on haemodynamic and ischaemic responses to exercise in patients with coronary artery disease. METHODS AND RESULTS: Eighty-two evaluable male patients were included in a randomized, double blind, two-way crossover study with a low dose (6.7 microg/kg/min; n=59) and a high dose (13.3 microg/kg/min; n=23) of the Y1 receptor antagonist AR-H040922 given as infusions for 2h or placebo. Myocardial ischaemia during a symptom-limited exercise test was monitored by conventional ST-segment analysis and heart rate (HR)-adjusted ST changes including the ST/HR slope and ST/HR recovery. Administration of the high dose AR-H040922 attenuated systolic blood pressure by 6-11 mmHg ( $p < 0.05$ ) during and after exercise without affecting HR. None of the two doses of AR-H040922 influenced any of the ischaemic parameters or duration of exercise, however. The maximal increase in NPY was higher during AR-H040922 ( $p < 0.05$ ) compared with placebo. CONCLUSIONS: Selective NPY Y1 receptor blockade attenuates the increase in blood pressure during exercise indicating a role for endogenous NPY in blood pressure regulation. Despite this effect, the Y1 receptor antagonist did not influence exercise-induced ischaemic parameters in patients with coronary artery disease.

Hall, S., et al. "The terminal cancer patient: effects of age, gender, and primary tumor site on opioid dose." *Pain Medicine*. 4, no. 2(2003): 125-34 UI 12873262.

OBJECTIVE: The objective of the current study is to describe correlations between age, gender, and primary cancer site and sustained-release opioid doses prescribed for hospice patients at the end of life. PATIENTS AND SETTING: This study included all 7,201 hospice patients referred to a North American palliative care specialty pharmacy with the primary diagnosis of cancer and who were prescribed transdermal fentanyl, sustained-release oral morphine, or sustained-release oxycodone. DESIGN: This is a retrospective analysis of the final sustained-release morphine, oxycodone, or transdermal fentanyl doses prescribed to cancer patients, according to pharmacy records. Comparisons between sex and age group were performed with chi-square tests. Mann-Whitney U tests were used to compare mean doses between the sexes. Analyses of covariance (ANCOVA) were used to compare opioid doses between genders and among primary cancer sites while controlling for age. RESULTS: The inverse association between age group and dose was highly significant. For example, final opioid doses  $\leq 120$  mg/day oral morphine equivalent were prescribed for only 46.4% of patients between 40 and 49 years of age compared with 86.4% of patients 90 years of age and older. An ANCOVA on the largest non-sex-related diagnoses found primary tumor site and patient age, but not gender, to be associated with sustained-release opioid dose. CONCLUSIONS: Both primary tumor site and patient age were associated with final opioid dose. Further investigation is warranted to determine which primary tumor sites are associated with unusually high opioid doses and may highlight the need to optimize adjuvant medication therapy if neuropathic and/or inflammatory pain mechanisms are involved and to refer to pain specialists when appropriate.

Han, J. J., and G. H. Kraft. "Electrodiagnosis of neck pain." *Physical Medicine & Rehabilitation Clinics of North America*. 14, no. 3(2003): 549-67 UI 12948341.

The past 3 decades have witnessed tremendous advances in the field of electrodiagnostic medicine. The high-performance electronics and microprocessors available in contemporary electrodiagnostic instruments have improved the ability to detect, record, measure, and interpret the action potentials arising from the nerves and muscle fibers. With their increased ease of use and effectiveness in both diagnosis and prognosis, electrodiagnostic tests have become valuable tools in evaluation of patients with neck pain. As with any laboratory measure, the utility of electrodiagnostic testing can be increased when it is used in appropriate clinical contexts and when its limitations are understood. [References: 89]

Harris, N. S., R. P. Wenzel, and S. H. Thomas. "High altitude headache: efficacy of acetaminophen vs. ibuprofen in a randomized, controlled trial." *Journal of Emergency Medicine*. 24, no. 4(2003): 383-7 UI 12745039.

Ibuprofen has been shown to be more effective than placebo in the treatment of high altitude headache (HAH), but nonsteroidal anti-inflammatory agents have been linked to increased incidence of gastrointestinal (GI) side effects and high-altitude pulmonary edema (HAPE). We postulated that acetaminophen, which does not share ibuprofen's theorized causal link to GI side effects or HAPE, could provide effective HAH therapy. We conducted a prospective, randomized, double-blind, clinical trial of ibuprofen vs. acetaminophen in the Solu Khumbu, Nepal: Mt. Everest Base Camp, Pheriche, Dingboche (4240 m to 5315 m). Seventy-four consecutive patients (ages 13 to 61 years) were randomized, were assessed with the Lake Louise Acute Mountain Sickness (AMS) criteria, and received a physical examination (which included vital signs, oxygen saturation as measured by pulse oximetry (SpO<sub>2</sub>), and assessment of clinical Lake Louise AMS criteria). Patients then received either 400 mg of ibuprofen (IBU) or 1000 mg of acetaminophen (ACET), and were asked to rate their cephalgia using a 10-cm visual analog scale (VAS). Thirty-nine patients received IBU, and 35 received ACET. Baseline Lake Louise AMS scores were identical in the two groups (mean = 5.9). No differences in mean VAS scores between IBU and ACET groups were noted at time 0 (presentation), 30, 60, or 120 min. No cases of HAPE or high altitude cerebral edema were noted during the study period. In this study population, acetaminophen was as effective as ibuprofen in relieving the pain of HAH.

Henderson, R. A., et al. "Seven-year outcome in the RITA-2 trial: coronary angioplasty versus medical therapy.[comment]." *Journal of the American College of Cardiology*. 42, no. 7(2003): 1161-70 UI 14522473.

**OBJECTIVES:** This study was designed to compare the long-term consequences of percutaneous transluminal coronary angioplasty (PTCA) and continued medical treatment. **BACKGROUND:** The long-term effects of percutaneous coronary intervention need evaluating, especially in comparison with an alternative policy of continued medical treatment. **METHODS:** The Second Randomized Intervention Treatment of Angina (RITA-2) is a randomized trial of PTCA versus conservative (medical) care in 1,018 patients considered suitable for either treatment option. Information on clinical events, interventions, and symptoms is available for a median seven years follow-up. **RESULTS:** Death or myocardial infarction (MI) occurred in 73 (14.5%) PTCA patients and 63 (12.3%) medical patients (difference +2.2%, 95% confidence interval -2.0% to +6.4%, p = 0.21). There were 43 deaths in both groups, of which 41% were cardiac-related. Among patients assigned PTCA 12.7% subsequently had coronary artery bypass grafts, and 14.5% required additional non-randomized PTCA. Most of these re-interventions occurred within a year of randomization, and after two years the re-intervention rate was 2.3% per annum. In the medical group, 35.4% required myocardial revascularization: 15.0% in the first year and an annual rate of 3.6% after two years. An initial policy of PTCA was associated with improved anginal symptoms and exercise times. These treatment

differences narrowed over time, mainly because of coronary interventions in medical patients with severe symptoms. CONCLUSIONS: In RITA-2 an initial strategy of PTCA did not influence the risk of death or MI, but it improved angina and exercise tolerance. Patients considered suitable for PTCA or medical therapy can be safely managed with continued medical therapy, but percutaneous intervention is appropriate if symptoms are not controlled.

Heras, M., and A. Sionis. "Clopidogrel in acute coronary syndromes (unstable angina and non-Q-wave myocardial infarction)." *Drugs of Today*. 39, no. 4(2003): 249-64 UI 12743641.

Given the importance of thrombosis in acute coronary syndromes, antithrombotic therapy has become standard treatment for these conditions. This article reviews the mechanism of action and the major evidence supporting the clinical use of clopidogrel, a potent antiplatelet agent of the thienopyridines class, focusing on its role in the setting of acute coronary syndromes without persistent ST segment elevation (unstable angina and non-Q wave myocardial infarction). Some unanswered questions relating to this medication are also highlighted. Finally, current updates on clinical guidelines for the use of clopidogrel in acute coronary syndromes are discussed. Prous Science 2003. All rights reserved. [References: 80]

Herndon, C. M., et al. "Anticipating and treating opioid-associated adverse effects." *Expert Opinion on Drug Safety*. 2, no. 3(2003): 305-19 UI 12904108.

Opioids are frequently avoided as viable tools in the management of pain due to perceived dangerous or untoward adverse drug events. Whilst they are relatively safe options for the treatment of pain, side effects and toxicities do exist and should be anticipated by the provider. The central nervous, gastrointestinal, genito-urinary, integumentary, metabolic/endocrine, cardiovascular, pulmonary, hepatic/renal, ocular and immune systems all manifest changes associated with opioid therapy. These adverse events, ranging from nuisance to therapy-limiting, are manageable when addressed quickly and appropriately. Opioids are safe and efficacious analgesics when these effects are considered. [References: 174]

Hirai, N., et al. "Attenuation of nitrate tolerance and oxidative stress by an angiotensin II receptor blocker in patients with coronary spastic angina." *Circulation*. 108, no. 12(2003): 1446-50 UI 12952843.

BACKGROUND: Nitrates are widely used to treat coronary artery disease, but their therapeutic value is compromised by the rapid development of tolerance. Recently, the renin-angiotensin system has been suggested to play an important role in the development of nitrate tolerance. METHODS AND RESULTS: Sixty-four patients with coronary spastic angina were investigated to clarify the effect of angiotensin II type 1 receptor blocker (ARB) therapy on nitrate tolerance. Transdermal nitroglycerin (10 mg/d) and an ARB (candesartan, 8 mg/d) were administered to 21 patients (GTN+ARB group) for 3 days, whereas transdermal nitroglycerin and placebo were administered to 19 patients (GTN group). Another 18 patients were treated with placebo skin patches and placebo tablets for 3 days (control group). The brachial artery response to incremental doses of intravenous nitroglycerin (0.01, 0.1, and 1.0 micro;g/kg) was measured by ultrasound before and after transdermal nitroglycerin therapy. Before treatment, the arterial diameter was increased by nitroglycerin injection in each group. After treatment, the increase of arterial diameter was significantly suppressed in the GTN group but not in the control or GTN+ARB groups. The plasma level of thioredoxin (a marker of oxidative stress) was increased in the GTN group after treatment (P<0.01) but not in the control or GTN+ARB groups. CONCLUSIONS: An ARB suppressed the development of nitrate tolerance during transdermal nitroglycerin therapy. These results suggest that

increased oxidative stress induced by activation of angiotensin II may play an important role in the development of nitrate tolerance.

Honet, J. C., and M. R. Ellenberg. "What you always wanted to know about the history and physical examination of neck pain but were afraid to ask." *Physical Medicine & Rehabilitation Clinics of North America*. 14, no. 3(2003): 473-91 UI 12948339.

Diagnoses of most cases of neck pain can be made on the basis of a careful history and physical examination. Any tests must be interpreted only in the context of the clinical examination. The clinician must be cognizant of signs or symptoms that may indicate a more serious disorder by attending to the red flags and examining the lower extremities for spasticity that could indicate cervical myelopathy. [References: 46]

Hrobjartsson, A., and P. C. Gotzsche. "Unreliable analysis of placebo analgesia in trials of placebo pain mechanisms.[comment]." *Pain*. 104, no. 3(2003): 714-5; author reply 715-6 UI 12927646.

Idvall, E., et al. "Quality indicators in postoperative pain management: a validation study." *Scandinavian Journal of Caring Sciences*. 15, no. 4(2001): 331-8 UI 12453175.

Quality indicators in postoperative pain management: a validation study. In a previous study, strategic and clinical quality indicators were developed from a tentative model to assess high quality in postoperative pain management. The aim of the present study was to investigate the content validity of these 15 indicators. The indicators were compiled in a questionnaire, and two groups of nurses (n=210, n=321) scored each indicator on a 5-point scale (strongly disagree to strongly agree) from three different standpoints: whether it was essential for achieving high quality, whether it was realistic to carry out, and whether it was possible for nurses to influence management. The respondents were also asked to choose the most crucial indicators for the quality of care. The results showed that both groups of nurses judged the 15 indicators to have content validity from all three standpoints. Both groups also found the same six indicators to be the most crucial. These indicators concerned detecting and acting on signs and symptoms, performing prescriptions, informing and educating, acting on behalf of patients, competence/knowledge, and attitudes. The validated indicators should be useful to consider when implementing a strategy for postoperative pain management and when planning to evaluate the quality of care.

Izdes, S., et al. "The effects of preoperative inflammation on the analgesic efficacy of intraarticular piroxicam for outpatient knee arthroscopy." *Anesthesia & Analgesia*. 97, no. 4(2003): 1016-9, table of contents UI 14500150.

We conducted a double-blinded study in 90 patients undergoing elective arthroscopic knee surgery to determine whether there is a role of inflammation in the analgesic efficacy of intraarticular piroxicam. Standardized general anesthetic techniques were used for all patients. At the end of the operation, after harvesting synovial biopsies, patients were randomized into three intraarticular groups equally. Group 1 received 25 mL saline, Group 2 received 25 mL 0.25% bupivacaine, and Group 3 received 25 mL 0.25% bupivacaine and piroxicam 20 mg. After microscopic examination of the synovial materials, the patients were divided into two subgroups, inflammation positive (I+) and inflammation negative (I-). Preoperatively and postoperatively at 1, 2, 4, and 6 h, pain levels, analgesic duration, and postoperative analgesic consumption were recorded. Analgesic duration was significantly longer in the I+ subgroup than the I- subgroup of Group 3 (P < 0.05). Pain scores at 1, 2, and 4 h postoperatively were significantly lower in the I+ subgroup than the I- subgroup

of Group 3 ( $P < 0.05$ ), whereas there were no significant differences among the subgroups of Group 1 and 2. We concluded that preoperative inflammation is one of the most important determinants of analgesic efficacy of intraarticular piroxicam. IMPLICATIONS: Intraarticular administration of piroxicam along with bupivacaine improves postoperative analgesia in synovial inflammation before surgery.

Jabbari, B., N. Maher, and M. P. Difazio. "Botulinum toxin a improved burning pain and allodynia in two patients with spinal cord pathology." *Pain Medicine*. 4, no. 2(2003): 206-10 UI 12873271.

OBJECTIVE: To report the effect of botulinum toxin A in two patients with burning pain and allodynia of spinal cord origin. DESIGN, SETTING, PATIENTS: Two patients with spinal cord lesions at the cervical level (tumor and stroke) experienced exquisite skin sensitivity and spontaneous burning pain in dermatomes corresponding to the cord lesions. Botulinum toxin A (Botox) was injected subcutaneously at multiple points (16 to 20 sites, 5 units/site) in the area of burning pain and allodynia. RESULTS: Both patients reported significant improvement in spontaneous burning pain and allodynia in visual analogue scale and clinical measures. The analgesic effect of botulinum toxin A lasted at least 3 months and was sustained over follow-up periods of 2 and 3 years with repeated administration at 4-month intervals. CONCLUSION: Subcutaneous application of botulinum toxin A relieved central burning pain and allodynia in two patients with spinal cord pathology.

Jensen, M. P., et al. "One- and two-item measures of pain beliefs and coping strategies." *Pain*. 104, no. 3(2003): 453-69 UI 12927618.

Pain-related beliefs and pain coping strategies are central components of current cognitive-behavioral models of chronic pain, and have been found in numerous studies to be associated significantly with psychosocial and physical disability. However, the length of most measures of pain-related beliefs and coping restricts the ability of clinicians and researchers to perform a thorough assessment of these variables in many situations. The availability of very brief versions of existing scales would make possible the assessment of a range of important pain beliefs and coping strategies in settings where subject or patient assessment burden is an issue. In this study, one- and two-item versions of the subscales of several commonly used measures of pain beliefs and coping strategies were developed using both rational and empirical procedures. The findings support the validity of these brief subscales. The appropriate use and limitations of these measures are discussed.

Johnson, M. I., and G. Tabasam. "An investigation into the analgesic effects of different frequencies of the amplitude-modulated wave of interferential current therapy on cold-induced pain in normal subjects." *Archives of Physical Medicine & Rehabilitation*. 84, no. 9(2003): 1387-94 UI 13680579.

OBJECTIVE: To investigate the analgesic effects of different amplitude-modulated frequencies of interferential current therapy (IFT) on cold-induced pain in healthy subjects. DESIGN: Single-blind parallel group methodology was used. Subjects completed 6 cycles of the cold-induced pain test (2 pretreatment, 2 during treatment, 2 posttreatment). During each cycle, subjects plunged their hand into iced water and the time taken to reach pain threshold was recorded. The hand remained immersed in the iced water for a further 30 seconds, after which the self-reports of pain intensity and pain unpleasantness were recorded. SETTING: Laboratory in the United Kingdom. PARTICIPANTS: Sixty unpaid, pain-free volunteers without a known pathology that could cause pain. INTERVENTIONS: IFT delivered on the nondominant arm at a "strong but comfortable" intensity without visible muscle twitches, using a quadripolar application technique at 1 of 6 possible amplitude modulated "beat" frequencies (20, 60, 100, 140, 180, 220Hz). Main Outcome Measures: The percentage change in pain threshold, pain intensity, and

pain unpleasantness from the pretreatment baseline. RESULTS: Two-way repeated-measures analyses of variance found no effects for groups for pain threshold ( $P=.11$ ) or pain ratings ( $P>.05$ ). There were no effects for cycle for any of the outcome measures. Effects for group by cycle interaction were noted for pain intensity and unpleasantness ratings ( $P<.05$ ), although post hoc analysis failed to determine the nature of this interaction. CONCLUSIONS: Experimentally induced cold pain was not influenced by IFT frequencies.

Joranson, D. E., D. Elliot, and A. G. Lipman. "Pain and the pharmacist." *Pain Medicine*. 4, no. 2(2003): 190-4 UI 12873266.

Jurd, A. "Debate on effectiveness of spinal manipulation may have opened a Pandora's box. (Comment on Ferreira M et al, Australian Journal of Physiotherapy 48: 277-284, Edmondston S, Australian Journal of Physiotherapy 49: 63-64 and Ferreira M et al, Australian Journal of Physiotherapy 49: 64.).[comment]." *Australian Journal of Physiotherapy*. 49, no. 2(2003): 139 UI 12775209.

Jureidini, J. "Is there a role for placebo analgesia?" *New Zealand Medical Journal*. 116, no. 1179(2003): U541 UI 14513087.

Karacalar, A., S. Karacalar, and A. N. Ulusoy. "Preemptive analgesia and a field block technique in reduction mammoplasty." *Annals of Plastic Surgery*. 50, no. 6(2003): 667-8 UI 12783031.

Karamanlioglu, B., et al. "Preoperative oral celecoxib versus preoperative oral rofecoxib for pain relief after thyroid surgery." *European Journal of Anaesthesiology*. 20, no. 6(2003): 490-5 UI 12803270.

BACKGROUND AND OBJECTIVE: The study compared the analgesic efficacy and safety of two preoperatively administered cyclo-oxygenase-2 inhibitors, celecoxib and rofecoxib. METHODS: Ninety adult patients undergoing thyroid surgery were divided into three groups (each  $n = 30$ ). They were given a single oral dose of placebo, celecoxib 200 mg or rofecoxib 50 mg 1 h before induction of anaesthesia. All patients received a standard anaesthetic. Intraoperative blood loss was measured. Pain scores, sedation scores, heart rate, mean arterial pressure and respiratory rate were noted at 0, 1, 2, 4, 6, 12 and 24 h postoperatively. Analgesic (meperidine) requirements and adverse effects were recorded during the first postoperative 24 h. RESULTS: Compared with placebo, pain scores were significantly lower with rofecoxib at all time points ( $P < 0.05$ ) and were significantly lower with celecoxib ( $P < 0.05$ ) during the first 4 h. Pain scores were significantly lower with rofecoxib compared with celecoxib at 6, 12 and 24 h ( $P < 0.05$ ). The average cumulative 24 h meperidine dose was significantly lower with both celecoxib ( $54.9 \pm 34.4$ mg) and rofecoxib ( $42.8 \pm 40.9$  mg) compared with placebo ( $76.8 \pm 6.2$  mg) ( $P < 0.01$  and  $P < 0.001$ , respectively). There were no differences in the intraoperative blood loss, heart rate, mean arterial pressure, respiratory rate, sedation scores and incidence of adverse effects among groups. CONCLUSIONS: The preoperative administration of rofecoxib 50 mg and less so of celecoxib 200 mg provide a significant analgesic benefit with regard to postoperative pain relief and decrease in additional opioid requirements after thyroid surgery.

Kararmaz, A., et al. "Intraoperative intravenous ketamine in combination with epidural analgesia: postoperative analgesia after renal surgery." *Anesthesia & Analgesia*. 97, no. 4(2003): 1092-6, table of contents UI 14500163.

We designed this double-blinded, randomized, controlled study to evaluate the effect of small-dose ketamine IV in combination with epidural morphine and bupivacaine on postoperative pain after renal surgery. An epidural catheter was

inserted, and the administration of morphine and bupivacaine was started before surgery. Forty patients were assigned to one of two groups (ketamine or control). The ketamine group was administered a ketamine bolus and infusion during surgery. The median visual analog pain scale (VAS) scores at rest were significantly lower in the ketamine group during the first 6 h ( $P < 0.01$ ). VAS pain scores on coughing were also significantly lower in the ketamine group ( $P < 0.01$ ). Cumulative postoperative total analgesic consumption was less in the ketamine group on Days 1 and 2 ( $P < 0.001$ ). The first analgesic demand time was shorter in the control group (9.2 +/- 11.5 min) than in the ketamine group (22.3 +/- 17.1 min) ( $P < 0.0001$ ). The incidence of nausea and pruritus was more frequent in the control group ( $P < 0.05$ ). In conclusion, postoperative analgesia was more effective when spinal cord and brain sensitization were blocked by a combination of epidural morphine/bupivacaine and IV ketamine. IMPLICATIONS: Renal nociception conducted multisegmentally by both the spinal nerves (T10 to L1) and the vagus nerve cannot be blocked by epidural analgesia alone. We demonstrated that IV ketamine had an improved analgesic or opioid-sparing effect when it was combined with epidural bupivacaine and morphine after renal surgery.

Karovic, D., et al. "Suprascapular nerve block prolongs analgesia after nonarthroscopic shoulder surgery but does not improve outcome: suprascapular nerve blocked one, two...or more times?[comment]." *Anesthesia & Analgesia*. 97, no. 4(2003): 1195; author reply 1195-6 UI 14500182.

Karst, M., et al. "Analgesic effect of the synthetic cannabinoid CT-3 on chronic neuropathic pain: a randomized controlled trial." *Jama*. 290, no. 13(2003): 1757-62 UI 14519710.

CONTEXT: 1',1'dimethylheptyl-Delta8-tetrahydrocannabinol-11-oic acid (CT-3), a potent analog of THC-11-oic acid, produces marked antiallodynic and analgesic effects in animals without evoking the typical effects described in models of cannabinoids. Therefore, CT-3 may be an effective analgesic for poorly controlled resistant neuropathic pain. OBJECTIVE: To examine the analgesic efficacy and safety of CT-3 in chronic neuropathic pain in humans. DESIGN AND SETTING: Randomized, placebo-controlled, double-blind crossover trial conducted in Germany from May-September 2002. PARTICIPANTS: Twenty-one patients (8 women and 13 men) aged 29 to 65 years (mean, 51 years) who had a clinical presentation and examination consistent with chronic neuropathic pain (for at least 6 months) with hyperalgesia ( $n = 21$ ) and allodynia ( $n = 7$ ). INTERVENTIONS: Patients were randomized to two 7-day treatment orders in a crossover design. Two daily doses of CT-3 (four 10-mg capsules per day) or identical placebo capsules were given during the first 4 days and 8 capsules per day were given in 2 daily doses in the following 3 days. After a washout and baseline period of 1 week each, patients crossed over to the second 7-day treatment period. MAIN OUTCOME MEASURES: Visual analog scale (VAS) and verbal rating scale scores for pain; vital sign, hematologic and blood chemistry, and electrocardiogram measurements; scores on the Trail-Making Test and the Addiction Research Center Inventory-Marijuana scale; and adverse effects. RESULTS: The mean differences over time for the VAS values in the CT-3-placebo sequence measured 3 hours after intake of study drug differed significantly from those in the placebo-CT-3 sequence (mean [SD], -11.54 and 2 over black square; [1 and 2 over black square]4.16] vs 9.86 [21.43];  $P = .02$ ). Eight hours after intake of the drug, the pain scale differences between groups were less marked. No dose response was observed. Adverse effects, mainly transient dry mouth and tiredness, were reported significantly more often during CT-3 treatment (mean [SD] difference, -0.67 [0.50] for CT-3-placebo sequence vs 0.10 [0.74] for placebo-CT-3 sequence;  $P = .02$ ). There were no significant differences with respect to vital signs, blood tests, electrocardiogram, Trail-Making Test, and Addiction Research Center Inventory-

Marijuana scale. No carryover or period effects were observed except on the Trail-Making Test. CONCLUSIONS: In this preliminary study, CT-3 was effective in reducing chronic neuropathic pain compared with placebo. No major adverse effects were observed.

Katayama, Y., et al. "Deep brain and motor cortex stimulation for post-stroke movement disorders and post-stroke pain." *Acta Neurochirurgica - Supplement*. 87(2003): 121-3 UI 14518537.

Our experience of deep brain stimulation (DBS) and motor cortex stimulation (MCS) in patients with post-stroke movement disorders and post-stroke pain is reviewed. DBS of the thalamic nuclei ventralis oralis posterior et intermedius proved to be useful in more than 70% of patients with post-stroke involuntary movements (hemiballismus, hemichoreo-athetosis, distal resting and/or action tremor, and proximal postural tremor). The effect of DBS of the thalamic nucleus ventralis caudalis or internal capsule on post-stroke pain was usually disappointing. Excellent pain control can be achieved by MCS in approximately 50% of patients with post-stroke pain. In the course of clinical trials on MCS for the control of post-stroke pain, it was found that co-existent post-stroke involuntary movements (hemichoreo-athetosis and resting tremor) could also be controlled by MCS. Post-stroke involuntary movements, especially those in thalamic syndrome, are sometimes associated with post-stroke pain. In such disorders, involuntary movements are attenuated, but the pain in the same patients is often exacerbated by DBS of the thalamic nuclei ventralis oralis posterior et intermedius. MCS could be the therapy of choice under such circumstances. Subjective improvement of voluntary motor performance, which had been impaired in association with mild or moderate hemiparesis, was reported during MCS by approximately 20% of patients with post-stroke pain. Such an effect on voluntary motor performance appears to be caused by an inhibition of their rigidity. The reversibility of DBS and MCS makes them an important option for the control of post-stroke movement disorders and post-stroke pain. [References: 15]

Kerssens, J. J., et al. "Educating patient educators: enhancing instructional effectiveness in physical therapy for low back pain patients." *Patient Education & Counseling*. 37, no. 2(1999): 165-76 UI 14528543.

The objective of this research project was to study the effectiveness of a training program for the enhancement of patient education skills in physical therapy. In this paper the improvement of five of these skills is tested. These skills are aimed at a better monitoring of adherence problems during the treatment and at enhancing self-efficacy of the patient after treatment. In order to test the effectiveness of the program, complete treatments of 19 physiotherapists have been assessed before (1142 sessions, 130 patients) and after (775 sessions, 88 patients) the training program. Information on the instructions and solutions given to the patients was obtained with a registration form, completed after each session by the physiotherapist. The patient's perception of the effectiveness and feasibility of instructions was obtained from questionnaires, completed by the patient on three occasions. After the training only a minority of the trained skills appeared to be improved. All in all, the training program was not very effective. More effort is needed to develop training programs aimed at promoting patients' self-efficacy as well as measurement instruments to assess the effects of such programs.

Keskin, H. L., et al. "Pethidine versus tramadol for pain relief during labor." *International Journal of Gynaecology & Obstetrics*. 82, no. 1(2003): 11-6 UI 12834936.

OBJECTIVE: To evaluate and compare the analgesic efficacy and adverse effects of tramadol and pethidine in labor. METHOD: Fifty-nine full term parturients were

randomly assigned to one of two groups in active labor. Group 1 received 100 mg pethidine; group 2, 100 mg tramadol, intramuscularly. Analgesic efficacy, maternal side effects, changes in the blood pressure, heart rate, and duration of labor were assessed. RESULT: At 30 and 60 min after drug administration, pain relief was greater in the pethidine group than in tramadol group. The incidence of nausea and fatigue was higher in the tramadol group. Following drug administration the decrease in systolic and diastolic blood pressure and the increase in heart rate were statistically significant in both groups. No significant difference was found between the groups when compared for duration of labor and Apgar scores. None of the neonates developed respiratory depression. CONCLUSION: Pethidine seems to be a better alternative than tramadol in obstetric analgesia because of its superiority in analgesic efficacy and low incidence of maternal side effects.

Kim, J., et al. "Obesity and the risk of early and late mortality after coronary artery bypass graft surgery." *American Heart Journal*. 146, no. 3(2003): 555-60 UI 12947378.

BACKGROUND: Obesity is often considered to be a significant risk factor for postoperative mortality when selecting candidates for coronary artery bypass grafting (CABG). METHODS: We included all patients undergoing a first isolated CABG at the Karolinska Hospital in Stockholm, Sweden, between 1980 and 1995 (n = 6728). Patients were categorized on the basis of body mass index (BMI): non-overweight (BMI <25 kg/m<sup>2</sup>), overweight (25 kg/m<sup>2</sup> < or = BMI <30 kg/m<sup>2</sup>), and obese (BMI > or =30 kg/m<sup>2</sup>). Multivariate Cox regression was used to assess the risk of re-operation for bleeding, deep sternal wound infection, and early (< or =30 days) and late (< or =5 years) mortality rates. RESULTS: The average length of follow-up was 6.5 years. There were 252 re-operations for bleeding, 53 deep sternal wound infections, and 628 deaths. Patients who were obese had a significantly lower risk of re-operation for bleeding (risk ratio [RR], 0.32; 95% CI, 0.19-0.53), but a greater risk of deep sternal wound infection (RR, 2.66; 95% CI, 1.21-5.88) compared with patients who were not overweight. However, patients who were obese and patients who were not overweight experienced similar 30-day (RR, 0.65; 95% CI, 0.34-1.27), 1-year (RR, 0.56; 95% CI, 0.29-1.10), and 5-year mortality rates (RR, 0.91; 95% CI, 0.66-1.25). Results for patients who were overweight were consistent with those of patients who were obese. CONCLUSION: Patients who are obese are not at a greater risk of early and late mortality after CABG compared with patients who are not overweight, although they appear to have a lower risk of re-operation for bleeding and a greater risk of deep sternal wound infection. Therefore, obesity per se is not a contraindication for CABG.

King, S. B., 3rd. "Dilate or defer? View of a skeptic.[comment]." *Journal of the American College of Cardiology*. 42, no. 7(2003): 1171-2 UI 14522474.

Kinlay, S., et al. "High-dose atorvastatin enhances the decline in inflammatory markers in patients with acute coronary syndromes in the MIRACL study." *Circulation*. 108, no. 13(2003): 1560-6 UI 12975259.

BACKGROUND: Inflammation promotes acute coronary syndromes and ensuing clinical complications. Although statins reduce inflammatory markers in asymptomatic adults or in patients with stable angina, the effect of statins on the markedly heightened inflammation in patients with acute coronary syndromes is unknown. METHODS AND RESULTS: We measured C-reactive protein (CRP), serum amyloid A (SAA), and interleukin 6 (IL-6) in 2402 subjects enrolled the Myocardial Ischemia Reduction with Aggressive Cholesterol Lowering (MIRACL) study. Subjects with unstable angina or non-Q-wave myocardial infarction were randomized to atorvastatin 80 mg/d or placebo within 24 to 96 hours of hospital admission and treated for 16 weeks. The effect of treatment on inflammatory markers was assessed

by ANCOVA after adjustment for presenting syndrome, country, and initial level of marker. All 3 markers were markedly elevated at randomization and declined over the 16 weeks in both treatment groups. Compared with placebo, atorvastatin significantly reduced CRP, -83% (95% CI, -84%, -81%) versus -74% (95% CI, -75%, -71%) (P<0.0001) and SAA, -80% (95% CI, -82%, -78%) versus -77% (-79%, -75%) (P=0.0006) but not IL-6, -55% (95% CI, -57%, -53%) versus -53% (95% CI, -55%, -51%) (P=0.3). Reductions in CRP and SAA were observed in patients with unstable angina and non-Q-wave myocardial infarction, with initial LDL cholesterol <3.2 or > or =3.2 mmol/L (125 mg/dL), age > or =65 or <65 years, and in men and women. By 16 weeks, CRP was 34% lower with atorvastatin than with placebo. CONCLUSIONS: High-dose atorvastatin potentiated the decline in inflammation in patients with acute coronary syndromes. This supports the value of early statin therapy in these patients.

Krakowski, I., et al. "Summary version of the Standards, Options and Recommendations for the use of analgesia for the treatment of nociceptive pain in adults with cancer (update 2002)." *British Journal of Cancer*. 89, no. Suppl 1(2003): S67-72 UI 12915905.

Krause, S. J., and M. M. Backonja. "Development of a neuropathic pain questionnaire." *Clinical Journal of Pain*. 19, no. 5(2003): 306-14 UI 12966256.

Ongoing efforts to develop mechanisms-based assessment and treatment of chronic pain have been hindered by the lack of assessment tools differentially sensitive to various phenomena underlying different mechanisms of pain. This study describes the development of an assessment instrument intended to measure neuropathic pain based on qualities of pain as they are inferred from pain descriptors. Subjects were 528 chronic pain patients from several clinics. Of these, 149 had strictly neuropathic pain, while 233 had non-neuropathic pain. Subjects completed a 32 item preliminary questionnaire, which asked them to rate their usual pain on multiple descriptors, as well as the degree to which their pain differed in response to various internal and external factors. This preliminary questionnaire was submitted to factor analysis, and this yielded 6 factors. Representatives of each of these factors were combined with additional items that demonstrated significant differences between neuropathic and non-neuropathic pain groups, to yield a 12 item Neuropathic Pain Questionnaire (NPQ). These items were able to differentiate neuropathic pain patients from non-neuropathic pain patients in a holdout sample with 66.6% sensitivity and 74.4% specificity. The newly developed instrument, NPQ, may be used for the initial screening of neuropathic pain patients. It also has the ability to provide a quantitative measure for the descriptors important in the diagnosis and assessment of neuropathic pain. Consequently, it can be used for monitoring of neuropathic pain treatments and as an outcome measure.

Kulich, R. J., et al. "The Daubert standard, a primer for pain specialists." *Pain Medicine*. 4, no. 1(2003): 75-80 UI 12873280.

Kuvaki, B., et al. "EMLA does not permit pain-free retrobulbar injection." *Acta Anaesthesiologica Scandinavica*. 47, no. 6(2003): 739-41 UI 12803593.

BACKGROUND: Retrobulbar injection can be associated with significant pain, due to both needle insertion and deposition of the local anaesthetic solution. The local anaesthetic cream EMLA (eutectic mixture of local anaesthetics) which contains a mixture of lignocaine and prilocaine has been shown to reduce the pain associated with skin puncture. The efficacy of EMLA in alleviating the pain of retrobulbar injection for cataract surgery was assessed in this study. METHODS: In this, randomised double-blind study, EMLA (n = 53) or lignocaine 5% ointment (n = 50) was administered to the inferior orbital margin at least 45 min before retrobulbar

block in 103 patients. Pain assessed during retrobulbar block was marked subjectively by the patient on a 10-point numerical rating scale. RESULTS: Median verbal pain scores were 3.0 with an interquartile range of 1.5-6.5 in the control group and 3.50 with an interquartile range of 2.0-6.0 in the EMLA(R) group (P = 0.67). There was no significant difference between the EMLA group and the lignocaine ointment group according to this pain assessment. CONCLUSION: EMLA does not permit pain-free retrobulbar injection.

Laslett, M., et al. "Diagnosing painful sacroiliac joints: A validity study of a McKenzie evaluation and sacroiliac provocation tests." *Australian Journal of Physiotherapy*. 49, no. 2(2003): 89-97 UI 12775204.

Research suggests that clinical examination of the lumbar spine and pelvis is unable to predict the results of diagnostic injections used as reference standards. The purpose of this study was to assess the diagnostic accuracy of a clinical examination in identifying symptomatic and asymptomatic sacroiliac joints using double diagnostic injections as the reference standard. In a blinded concurrent criterion-related validity design study, 48 patients with chronic lumbopelvic pain referred for diagnostic spinal injection procedures were examined using a specific clinical examination and received diagnostic intraarticular sacroiliac joint injections. The centralisation and peripheralisation phenomena were used to identify possible discogenic pain and the results from provocation sacroiliac joint tests were used as part of the clinical reasoning process. Eleven patients had sacroiliac joint pain confirmed by double diagnostic injection. Ten of the 11 sacroiliac joint patients met clinical examination criteria for having sacroiliac joint pain. In the primary subset analysis of 34 patients, sensitivity, specificity and positive likelihood ratio (95% confidence intervals) of the clinical evaluation were 91% (62 to 98), 83% (68 to 96) and 6.97(2.70 to 20.27) respectively. The diagnostic accuracy of the clinical examination and clinical reasoning process was superior to the sacroiliac joint pain provocation tests alone. A specific clinical examination and reasoning process can differentiate between symptomatic and asymptomatic sacroiliac joints

Ledger, W. L. "Laparoscopy for investigation of pelvic pain: new approaches?" *Current Opinion in Obstetrics & Gynecology*. 15, no. 3(2003): 257-8 UI 12858115.

Lepner, U., J. Goroshina, and J. Samarutel. "Postoperative pain relief after laparoscopic cholecystectomy: a randomised prospective double-blind clinical trial." *Scandinavian Journal of Surgery: SJS*. 92, no. 2(2003): 121-4 UI 12841551.

BACKGROUND AND AIMS: The clinical value of infiltration of wounds with local anaesthetics (LA) and their intraperitoneal application for treating pain after laparoscopic cholecystectomy (LC) still remain controversial. In this study the use of intraincisional and intraperitoneal LA was evaluated. MATERIAL AND METHODS: Eighty patients were prospectively randomised into four groups. In the control group (G1) LA was not used. In G2 all wounds were infiltrated with 80 ml of 0.125 % Bupivacaine containing 5 mg of Phenylephrine. In G3 the wounds were infiltrated with 80 ml of 0.9 % NaCl. In G4, in addition to wound infiltration with Bupivacaine/Phenylephrine, 200 ml of normal saline, containing 0.15 % of Lidocaine, was left intraperitoneally under the right diaphragm. Postoperative abdominal and shoulder pain scores were recorded on a visual analogue scale (VAS) during 24 hours after LC. Narcotic analgesic consumption was also recorded. RESULTS: The mean abdominal pain scores were significantly lower in G2, compared with G3, 3 to 24 hours after operation, compared with G4, 3 to 6 hours and compared with G1, 3 to 24 hours (except at hour 12) after surgery. The incidence of shoulder pain was 30 %. There were no significant differences in the mean shoulder pain scores between the groups. The mean dosage and the total amount of Pethidine at 24 hours were significantly lower in G2 compared with G1. CONCLUSIONS: Intraincisional

infiltration with a Bupivacaine/Phenylephrine mixture reduces significantly abdominal postoperative pain (for up to 24 h) and narcotic analgesic consumption after LC. An intraperitoneal subdiaphragmatic dilute solution of Lidocaine was not effective in reducing overall pain and shoulder pain after LC.

Leung, A. S., et al. "Psychometric properties of a generic health measure in Chinese patients with low back pain in Hong Kong." *Manual Therapy*. 8, no. 3(2003): 151-60 UI 12909435.

In Hong Kong, the measurement of perceived health status in patients with low back pain (LBP) can be facilitated by the availability of a health profile specifically designed for the Chinese culture. This prospective observational study investigated the psychometric properties of the generic Current Perceived Health 42 (CPH42) Profile in four separate samples (totalling 473) of Chinese patients with LBP in Hong Kong. The patients completed the CPH42 Profile and the Roland LBP Disability Scale at various points in the course of physiotherapy. Their pain intensity was measured using the 11-point pain numerical rating scale (NRS). The test-retest reliability and internal consistency of the CPH42 Profile demonstrated high intra-class correlation coefficient of 0.92 and Cronbach's alpha of 0.90. Validity was confirmed by a moderate correlation with the Chinese adaptations of the Roland LBP Disability Scale and the NRS at the commencement of physiotherapy (Spearman's correlation coefficients were 0.48 and 0.42, respectively). The responsiveness, measured from the commencement of physiotherapy to weeks 3 and 6 (standard response means of 0.33 and 0.58, respectively), were commensurate with the respective changes in pain intensity. The psychometric properties of the CPH42 Profile suggest its suitability for use as an outcome instrument in future efficacy studies on LBP intervention. 2002 Harcourt Publishers, Ltd.

Liepe, K., et al. "Therapeutic efficiency of rhenium-188-HEDP in human prostate cancer skeletal metastases." *British Journal of Cancer*. 89, no. 4(2003): 625-9 UI 12915868.

Rhenium-188-HEDP ((188)Re-HEDP) is a new and attractive radiopharmaceutical for the treatment of metastatic bone pain. As a product of (188)W/(188)Re generator, it is convenient for clinical therapeutic use with a short physical half-life of 16.9 h and a maximal beta-energy of 2.1 MeV. We investigated the effect of (188)Re-HEDP on pain relief, analgesic intake and impairment of bone marrow function in 27 patients with bone metastases induced from prostate cancer. All patients were interviewed using a standardised set of questions before, and after therapy for 12 weeks. The patients were treated with 2700-3459 MBq of (188)Re-HEDP. Blood samples were taken weekly for 12 weeks, and a blood count was performed. Patients described an improvement on the Karnofsky performance scale from 74+/-7 to 85+/-9% 12 weeks after therapy (P=0.001). The pain score showed a maximum decrease from 44+/-18 to 27+/-20% in the third to the eighth week after therapy (P=0.009). Seventy-six percent of the patients described a pain relief without increase of analgesic intake. Twenty percent of the patients could discontinue their analgesics and were pain free. Mean platelet count decreased from (286+/-75)\*10<sup>(3)</sup> microl(-1) to (215+/-92)\*10<sup>(3)</sup> microl(-1), and mean leucocyte count from (7.7+/-1.5)\*10<sup>(3)</sup> microl(-1) to (6.0+/-1.9)\*10<sup>(3)</sup> microl(-1) in the second to the fourth week after therapy. The maximal differences between the values of platelets and leucocytes before and after therapy were not statistically significant (P=0.021 and 0.094). In conclusion, (188)Re-HEDP is an effective radiopharmaceutical used in the palliative treatment of metastatic bone pain in prostate cancer and shows minimal bone marrow toxicity.

Linnemeier, G., et al. "Enhanced External Counterpulsation for the relief of angina in patients with diabetes: safety, efficacy and 1-year clinical outcomes.[comment]." *American Heart Journal*. 146, no. 3(2003): 453-8 UI 12947362.

BACKGROUND: Patients with diabetes are at greater risk for coronary events, yet they are less likely to benefit from revascularization than those without diabetes. Enhanced external counterpulsation has recently emerged as a treatment option for select patients with chronic stable angina. METHODS: We examined baseline characteristics, angina response, and cardiac outcomes of patients with diabetes mellitus treated with Enhanced External Counterpulsation (EECP) for chronic stable angina. Data were collected from patients enrolled in the International EECP Patient Registry (IEPR) before and after a course of EECP, and at 1 year after completion of treatment. RESULTS: Of 1532 IEPR patients studied, 43% had diabetes mellitus at baseline. Patients with diabetes were experiencing, on average, 11 episodes of angina per week. Most had been revascularized with prior percutaneous coronary intervention or coronary artery bypass graft surgery (86%) and most were considered unsuitable for either additional procedure (87%). Treatment was completed as prescribed in 79% of patients (mean, 32 hours). Immediately after EECP, 69% of patients with diabetes demonstrated a reduction in angina of  $\geq$  1 Canadian Cardiovascular Society angina class. After 1 year, maintenance of angina reduction was reported in 72% of patients with diabetes. Quality of life was significantly improved. Despite a high-risk profile among the diabetic group in this study, 1-year mortality was similar to coronary intervention registry populations. CONCLUSION: This study suggests that in select patients with diabetes, EECP can be a safe, effective, well-tolerated treatment option for the relief of angina.

Lisai, P., et al. "Failed-back syndrome as a complication of epidural free fat grafts." *Orthopedics*. 26, no. 4(2003): 421-2 UI 12722915.

Lowe, A. S., et al. "A double-blind randomised, placebo-controlled trial evaluating the influence of oral long-acting muscle relaxant (Mebeverine MR), and insufflation with CO(2) on pain associated with barium enema." *European Radiology*. 13, no. 7(2003): 1664-8 UI 12835983.

Previous investigators have shown significant benefit using CO(2) for bowel insufflation. Others have suggested that the long-acting smooth muscle relaxant, Mebeverine, may be of benefit. We subjected this to a randomised double-blind trial. A total of 181 outpatients were randomised to receive either Mebeverine or placebo as pre-medication, and either air or CO(2) for bowel insufflation, thus creating four treatment groups. Visual-analogue lines were used to record pain scores before, during, and up to 8 h following the enema. All groups showed increased pain scores during the enema, with peak pain scores at the end of the examination, falling to baseline scores by 8 h. Patients receiving the combination of CO(2) and placebo had significantly lower pain scores at 1 and 4 h ( $P=0.00$  and  $P=0.014$ , respectively; Kruskal-Wallis test) compared with all other groups. Having Mebeverine as a pre-medication did not significantly lower pain scores compared with placebo, and decreased the amount of benefit received from the CO(2). We confirm that CO(2) is of benefit in decreasing pain during barium enema, and we recommend its routine use to improve the comfort of patients. Mebeverine is not of benefit, and its use as a pre-medication for enemas is not recommended.

Lutomski, D. M., et al. "Quality assurance in the prescribing of patient-controlled analgesia and long-acting opioids." *American Journal of Health-System Pharmacy*. 60, no. 14(2003): 1476-9 UI 12892033.

Lynch, M. E., A. J. Clark, and J. Sawynok. "A pilot study examining topical amitriptyline, ketamine, and a combination of both in the treatment of neuropathic pain." *Clinical Journal of Pain*. 19, no. 5(2003): 323-8 UI 12966259.

**OBJECTIVE:** The involvement of ongoing peripheral activity in the generation of nociceptive input in neuropathic pain suggests that topical drug delivery may be useful as a treatment strategy. This is a pilot study providing initial information regarding the use of novel topical preparations containing amitriptyline (AMI), ketamine (KET), and a combination of both in the treatment of neuropathic pain. **METHODS:** The study design included a 2 day randomized, double blind, placebo controlled, 4 way cross-over trial of all treatments, followed by an open label treatment phase using the combination cream for 7 days. Twenty volunteers with chronic neuropathic pain were randomly assigned to treatment order and applied 5 mls of each topical treatment (1% AMI, 0.5% KET, combination AMI 1%/KET 0.5%, and placebo) for 2 days. Measures of pain at the end of each block included the short form McGill Pain Questionnaire (MPQ) and visual analog scales (VAS) for present pain intensity and pain relief. Eleven subjects who judged subjective improvement from any treatment in the initial trial entered the open-label trial and used the combination cream for 7 days. Pain levels were recorded daily using the same measures. Blood levels for amitriptyline and ketamine were performed at 7 days to determine whether systemic absorption had occurred. **RESULTS:** There was no statistically significant difference from placebo after 2 days for any treatment during the double blind component of the trial. In the 11 subjects who used the combination cream, there was a statistically significant effect, with subjects reporting significantly greater analgesia by days 3 to 7 according to measures of pain and pain relief. Blood levels revealed that there was no significant systemic absorption of amitriptyline or ketamine. Only 2 subjects experienced side effects; these were minor and did not lead to discontinuation of the cream. **CONCLUSION:** This pilot study demonstrated a lack of effect for all treatments in the 2 day double blind placebo controlled trial, followed by analgesia in an open label trial in a subgroup of subjects who chose to use the combination cream for 7 days. Blood analysis revealed no significant systemic absorption of either agent after 7 days of treatment, and creams were well tolerated. A larger scale randomized trial over a longer interval is warranted to examine further effects observed in the open label trial.

Mader, T. J., et al. "How reliable are pain scores? A pilot study of 20 healthy volunteers." *Journal of Emergency Nursing*. 29, no. 4(2003): 322-5 UI 12874553.

**INTRODUCTION:** Pain scales such as the 100-MM Visual Analog Scale and the 10-point Numeric Rating Scale are used to describe pain intensity. The Visual Analog Scale and the Numeric Rating Scale provide accurate descriptors for a patient's perceived level of pain. But how accurate or reliable is a patient's perception of pain? **METHODS:** To test the relationship between the intensity of the pain stimulus and pain perception, we devised an experiment using a convenience sample of 20 healthy adult volunteers. A cutaneous nerve stimulator delivered a series of shocks of increasing intensity to the individual via a pediatric EKG electrode. The participants indicated their threshold for "intolerable pain." With use of this same level of stimulus in subsequent shocks, the participants, blinded to the amount of stimulus, were then asked to rate each shock as either "the same," "a little less," or "a little more" than the baseline stimulus. They then recorded their VAS score for each stimulus. **RESULTS:** "Intolerable pain" varied widely between 8 mm to 73 mm; likewise, the level of stimulus that produced this pain ranged from 4 to 9. Once a person's threshold of "intolerable pain" had been reached, 49% of the subsequent shocks were perceived as different, even though the stimulus was exactly the same. **DISCUSSION:** This experiment showed that (1) given the same intensity of pain stimulus, different persons have different perceptions of pain; and (2) the same

intensity of pain stimulus, given to the same person repeatedly, does not result in the same self-report of pain intensity.

Maitland-van der Zee, A. H., et al. "Repeated nitrate prescriptions as a potential marker for angina pectoris. A comparison with medical information from the Rotterdam Study." *Pharmacy World & Science*. 25, no. 2(2003): 70-2 UI 12774567.

**OBJECTIVE:** The objective of this study was to determine whether pharmacy records of nitrate prescriptions could be used as a marker of angina pectoris. **METHOD:** This study was conducted within the Rotterdam Study, a prospective follow-up study which started in 1991 and included 7983 elderly subjects. During follow-up, 1601 subjects filled a first prescription for a nitrate and later filled at least one other prescription for nitrates according to pharmacy records. After excluding subjects who started using nitrates in 1991 and who had less than one year of medication history, we took a random sample of 78 subjects (10%). We studied discharge and outpatient cardiologist letters and files from general practitioners for additional information on angina pectoris in these subjects, and allocated patients to one of three categories according to the possibility of the initial diagnosis of angina being correct. **RESULTS:** From the random sample of 78, additional information was available on 75 subjects. Definite angina pectoris was present in 33, probable angina pectoris in 18, and possible angina pectoris in 19 subjects. Five subjects had no angina pectoris. Therefore, 93% had at least a possible diagnosis while 68% had at least a probable diagnosis of angina pectoris. The positive predictive value of 2 nitrate prescriptions of which at least one was for rescue therapy was 94%. **CONCLUSIONS:** We conclude that the use of more than one nitrate prescription can be used as a marker for angina pectoris. This marker may be useful in epidemiological studies.

Martin, S. I., and P. S. Mueller. "39-year-old man with human immunodeficiency virus infection and abdominal pain." *Mayo Clinic Proceedings*. 78, no. 10(2003): 1285-8 UI 14531487.

Martinez-Lavin, M., et al. "Use of the leeds assessment of neuropathic symptoms and signs questionnaire in patients with fibromyalgia." *Seminars in Arthritis & Rheumatism*. 32, no. 6(2003): 407-11 UI 12833249.

**OBJECTIVE:** Neuropathic pain syndrome is characterized by chronic, stimulus-independent pain sensation accompanied by hyperalgesia/allodynia and paresthesia. Fibromyalgia (FM) syndrome displays such features. The Leeds Assessment of Neuropathic Symptoms and Signs (LANSS) Pain Scale is an instrument developed and validated to recognize neuropathic pain and set it apart from nociceptive pain. **METHODS:** This study assessed the responses of patients with FM versus patients with rheumatoid arthritis (RA) to the LANSS Pain Scale questionnaire. Twenty patients with FM and 20 patients with RA answered the Fibromyalgia Impact Questionnaire and LANSS Pain Scale questions related to the following neuropathic sensory disturbance domains: dysesthetic, autonomic, evoked, paroxysmal, and thermal. **RESULTS:** Pain severity was similar in both groups according to visual analog scale values (5.3 +/- 3.0 for FM v 5.4 +/- 3.1 for RA). There were sharp differences between FM and RA groups in the percentage of affirmative responses to 4 of 5 sensory disturbance questions: dysesthetic (95 v 30), evoked (95 v 35), paroxysmal (90 v 15), and thermal (90 v 20); P <.0001 for each comparison. **CONCLUSIONS:** The high prevalence of associated sensory disturbances supports the notion that FM is a neuropathic pain syndrome. **Clinical Relevance:** The LANSS Pain Scale items may become a useful, easily applied bedside test to differentiate FM pain from the nociceptive pain present in RA and in similar arthritic illnesses. Copyright 2003 Elsevier Inc. All rights reserved.

McCarberg, B., et al. "Tender points as predictors of distress and the pharmacologic management of fibromyalgia syndrome." *American Journal of Therapeutics*. 10, no. 3(2003): 176-92 UI 12756425.

The object of this study was to determine the association between tender point pain ratings, tender point counts and distress in people with fibromyalgia and to review the pharmacotherapy of fibromyalgia. Demographic, psychosocial, and health status information was collected from 316 health maintenance organization members with fibromyalgia. A manual tender point exam was conducted. Tender point counts predicted 3.0%, and tender point severity ratings predicted 8.3%, of the variance in distress. Little difference was found between the variance predicted for physical versus psychologic distress. A principal components analysis of all measures produced four distinct factors: global-physical functioning, tender points, psychologic, and physical. Tender point pain ratings and counts predicted a small but significant amount of variance in distress. In addition, FMS involves at least four rather distinct factors, one of which is related to tender points. Pharmacotherapeutic management is provided on a patient-specific basis including pharmacokinetics, pharmacodynamic, pathophysiologic, and psychosocial needs designed and modulated for each individual patient.

McCleane, G. "Influence of diets containing differing lipid profiles on pain perception and the analgesic efficacy of opioids in human experimental pain.[comment]." *Pain*. 104, no. 3(2003): 429-30 UI 12927614.

Mehlich, D. R., et al. "Single doses of parecoxib sodium intravenously are as effective as ketorolac in reducing pain after oral surgery." *Journal of Oral & Maxillofacial Surgery*. 61, no. 9(2003): 1030-7 UI 12966478.

PURPOSE: Our goal was to compare the analgesic efficacy and safety of single doses of intravenous parecoxib sodium, a prodrug of the novel cyclooxygenase (COX)-2-selective inhibitor valdecoxib, with intravenous ketorolac and placebo in postoperative oral surgery patients. PATIENTS AND METHODS: Eligible patients experiencing moderate to severe pain within 6 hours of surgery to extract 2 or more impacted third molars were randomized to receive a single dose of parecoxib sodium 1, 2, 5, 10, 20, 50, or 100 mg; ketorolac 30 mg; or placebo. Analgesic efficacy was assessed over a 24-hour treatment period or until rescue analgesia was required. RESULTS: Parecoxib sodium doses (particularly 50 and 100 mg) had a rapid onset of analgesia (within 11 minutes). The analgesic efficacy of parecoxib sodium 20 to 100 mg was similar to that of ketorolac 30 mg. Parecoxib sodium doses below 20 mg had suboptimal analgesic activity compared with placebo and ketorolac. A plateau of efficacy was observed at the parecoxib sodium 50-mg dose. Parecoxib sodium 50 and 100 mg had a significantly longer duration of analgesia than ketorolac 30 mg. All doses of parecoxib sodium were well tolerated. CONCLUSIONS: Parecoxib sodium, a novel parenteral prodrug of the COX-2-selective inhibitor valdecoxib, is as effective and longer acting at 50- and 100-mg intravenous doses than a standard dose of ketorolac 30 mg intravenously. Parecoxib sodium appears to be safe and well tolerated and, therefore, merits further evaluation in other models of postsurgical pain.

Mendenhall, M. "Psychosocial aspects of pain management: a conceptual framework for social workers on pain management teams." *Social Work in Health Care*. 36, no. 4(2003): 35-51 UI 12836779.

To have a significant impact in the arena of pain management, social workers must be able to articulate social work values and concepts clearly, productively, and compellingly as assets in overcoming identified barriers to pain relief. A literature review concerning vulnerable populations, identified barriers, and related social

policies explores alternative perspectives that social workers can bring to a multi-disciplinary team's efforts to improve the delivery of pain management technology. The article offers a beginning framework for discussions about the profession's potential contributions. The goal of these discussions is to contribute to encouraging a more pronounced involvement of social workers in pain management issues. [References: 36]

Mink, J. H., R. E. Gordon, and A. L. Deutsch. "The cervical spine: radiologist's perspective." *Physical Medicine & Rehabilitation Clinics of North America*. 14, no. 3(2003): 493-548, vi UI 12948340.

This article provides an essential curriculum in cervical spine radiology. It discusses the uses of plain radiographs, MR imaging, computed tomography (CT), and CT myelography, in addition to the methodologies of discography, epidural injections under visualization, and facet and nerve root injections. It explains how radiographic images of the cervical spine can differentiate tumors, inflammation, recent or prior trauma, and the range of discal, arthritic, neural, and vascular cervical pathologies and, just as importantly, when they cannot. [References: 134]

Mogilner, A. Y., and A. R. Rezai. "Brain stimulation: history, current clinical application, and future prospects." *Acta Neurochirurgica - Supplement*. 87(2003): 115-20 UI 14518536.

The dramatic effects of chronic brain stimulation in the treatment of movement disorders have spurred a renewed interest in this technique for treating a variety of other conditions. This technique has only recently begun to reach its vast clinical potential, due to a number of significant advances in basic and clinical neurosciences. Current image-guided navigation systems and intraoperative physiological mapping techniques offer more efficient, consistent, and precise targeting. Advances in neurophysiology have helped elucidate the pathophysiology of a number of disease states and thus provided for rational target selection for therapy. The latest generation of stimulation equipment allows for precise tailoring of stimulation parameters to maximize clinical benefit. These techniques are now being applied to a variety of other conditions including chronic pain, epilepsy, and psychiatric disorders. [References: 72]

Monastero, R., et al. "Prevalence of headache in patients with Behcet's disease without overt neurological involvement." *Cephalalgia*. 23, no. 2(2003): 105-8 UI 12603366.

The aims of the present study were to evaluate the prevalence of headache and the frequency of different headache syndromes in patients with Behcet's Disease (BD) without neurological involvement and to investigate the relationship with other clinical, and behavioural variables. Twenty-seven BD patients and 27 control subjects underwent a validated semistructured questionnaire based on the International Headache Society criteria. Levels of anxiety and depression, disease activity, and current medication were collected. Headache occurred in 88.9% of BD patients. There was no difference in the prevalence of the different headache syndromes between BD patients and controls. Only migraine without aura (MWA) was significantly more frequent in BD patients than controls (44.4% vs. 11.1%, respectively,  $P= 0.013$ ). No relationship was found between MWA and clinical, and behavioural variables. Among headache syndromes, MWA showed the highest frequency in BD. A vascular or neuronal subclinical dysfunction could justify this association. A careful interview for migraine might be included in the diagnostic work-up of BD.

Moufarrege, G., E. Frank, and D. D. Carstens. "Eosinophilic exudative pleural effusion after initiation of tizanidine treatment: a case report." *Pain Medicine*. 4, no. 1(2003): 85-90 UI 12873285.

In this case report, we present a 42-year-old man with history of chronic low back pain after a work-related injury. The patient failed multiple therapeutic modalities both conservative and interventional, including numerous spinal injections and placement of a spinal cord stimulator. Finally, an intrathecal morphine pump was placed to control his pain in addition to oral pain medications. The course of the treatment included adding a muscle relaxant, tizanidine (Zanaflex), to control spasms in the lower extremities. Six weeks after starting tizanidine, a large pleural effusion was noted incidentally on a computerized tomography scan of the thoracic and lumbar spine. The patient underwent work-up for the pleural effusion; all tests came back negative. Finally, a drug reaction to tizanidine was suspected. The drug was discontinued, and 4 weeks later the pleural effusion resolved.

Najm, W. I., et al. "Content validity of manual spinal palpatory exams - A systematic review." *BMC Alternative Medicine*. 3, no. 1(2003): 1 UI 12734016.

BACKGROUND: Many health care professionals use spinal palpatory exams as a primary and well-accepted part of the evaluation of spinal pathology. However, few studies have explored the validity of spinal palpatory exams. To evaluate the status of the current scientific evidence, we conducted a systematic review to assess the content validity of spinal palpatory tests used to identify spinal neuro-musculoskeletal dysfunction. METHODS: Review of eleven databases and a hand search of peer-reviewed literature, published between 1965-2002, was undertaken. Two blinded reviewers abstracted pertinent data from the retrieved papers, using a specially developed quality-scoring instrument. Five papers met the inclusion/exclusion criteria. RESULTS: Three of the five papers included in the review explored the content validity of motion tests. Two of these papers focused on identifying the level of fixation (decreased mobility) and one focused on range of motion. All three studies used a mechanical model as a reference standard. Two of the five papers included in the review explored the validity of pain assessment using the visual analogue scale or the subjects' own report as reference standards. Overall the sensitivity of studies looking at range of motion tests and pain varied greatly. Poor sensitivity was reported for range of motion studies regardless of the examiner's experience. A slightly better sensitivity (82%) was reported in one study that examined cervical pain. CONCLUSIONS: The lack of acceptable reference standards may have contributed to the weak sensitivity findings. Given the importance of spinal palpatory tests as part of the spinal evaluation and treatment plan, effort is required by all involved disciplines to create well-designed and implemented studies in this area. [References: 112]

Nelson, W. "The William Nelson ECG quiz." *Cardiovascular Journal of Southern Africa*. 14, no. 2(2003): 89, 94 UI 12861996.

Nemat, A., and S. M. Richeimer. "Pharmacologic therapies for neck pain." *Physical Medicine & Rehabilitation Clinics of North America*. 14, no. 3(2003): 629-41 UI 12948345.

A variety of drug types are available for the treatment of pain. Significant relief of acute neck pain is usually achievable. Treatment of chronic neck pain requires a more comprehensive rehabilitation approach combined with judicious use of medications. Research on the development of analgesics that affect other neurotransmitter systems and that have fewer side effects is currently underway. [References: 55]

Nemecek, A. N., et al. "Mapping dermatomes during selective dorsal rhizotomy: case report and review of the literature." *Surgical Neurology*. 60, no. 4(2003): 292-7; discussion 297 UI 14505840.

**BACKGROUND:** Studies suggest that the pattern of dermatomal segmental innervation in any given patient, may differ from the classic dermatomal maps first described in the 1890s. Such variability may limit the effectiveness of selective dorsal rhizotomy for treatment of neurogenic pain. **CASE DESCRIPTION:** A 46-year-old male presented with a 27-year history of intractable pain in his left arm after being shot during the Vietnam War; multiple surgical and medical therapeutic modalities failed to produce durable pain relief. The patient underwent selective dorsal rhizotomy, with intraoperative dermatomal and mixed somatosensory evoked potential recordings. Pre- and postrhizotomy recordings were compared, effectively mapping this patient's dermatomal pattern. At 4 years' follow-up, the patient remains pain free. **CONCLUSION:** Intraoperative monitoring of somatosensory evoked potentials during dorsal rhizotomy for neurogenic pain can be used to establish the degree to which an individual's pattern of segmental innervation conforms to the traditionally described dermatomes. [References: 20]

Ng, E. H., B. Miao, and P. C. Ho. "A randomized double-blind study to compare the effectiveness of three different doses of lignocaine used in paracervical block during oocyte retrieval." *Journal of Assisted Reproduction & Genetics*. 20, no. 1(2003): 8-12 UI 12645862.

**PURPOSE:** To compare the effectiveness of three different doses of lignocaine used in paracervical block (PCB) during transvaginal ultrasound-guided oocyte retrieval (TUGOR) **METHODS:** In this double-blind study, 153 patients undergoing TUGOR in their first in vitro fertilization cycle were randomized to receive 50, 100, and 150 mg of lignocaine in PCB. Pain levels were measured by a 100-mm linear visual analogue scale (0 = none to 100 = intolerable). **RESULTS:** No differences were seen in the demographic data, the ovarian responses, the duration of TUGOR, and the number of follicles punctured. Vaginal and abdominal pain levels during TUGOR and 4 h after TUGOR were not significantly different among the three groups. The median vaginal and abdominal pain levels during the retrieval were 22.0-24.0 and 30.0-32.0 respectively. **CONCLUSION:** The use of 50 mg of lignocaine is recommended in PCB because of the lack of improvement in pain relief on higher doses and potential dose-related risks.

Ng, E. Y., S. L. Tan, and S. H. Kang. "Laser doppler imaging of menstrual symptoms." *Journal of Medical Engineering & Technology*. 27, no. 3(2003): 118-27 UI 12775458.

In this paper, the skin blood flow for the stomach and forehead regions of 36 female patients with menstrual symptoms was studied using a MoorLDI laser Doppler imager in which the results of 6 typical patients are included. The patterns obtained at the two sites are common to all women in the sample who have menstrual symptoms. Cold stress testing was also investigated to see if it was effective in bringing out any skin blood flow fluctuation at these regions caused by menstrual symptoms. Each patient attended two scanning sessions: one before and the other during menstruation. During each session, the patient was scanned three consecutive times, each on the stomach and the forehead skin regions. For each region, the first measurement was a bare scanning whereas for the second and the third, 85% denatured ethanol (cold stress test) was applied onto the required scan areas. It was found that cold stress testing was able to bring out distinct differences in LDI perfusion images before and during menstruation. Results were best captured when perfusion images were taken approximately after 85% denatured ethanol had been applied in two layers for 30 s, allowed to evaporate over the next 5 min (approximately the time taken to obtain one image), reapplied for another 30 s and

then finally over the next 30 s allowed to evaporate further. However, it was impossible to deduce conclusively any correlation regarding migraine and skin blood flow since all the patients for this work had menstrual cramps only.

Noonan, T. "Pain management.[comment]." *Journal of Emergency Medical Services*. 28, no. 8(2003): 20; author reply 20 UI 14518506.

Nursal, T. Z., et al. "Effect of drainage on postoperative nausea, vomiting, and pain after laparoscopic cholecystectomy." *Langenbecks Archives of Surgery*. 388, no. 2(2003): 95-100 UI 12684804.

**BACKGROUND:** Laparoscopic cholecystectomy is associated with a high incidence of postoperative pain, nausea, and vomiting. Pneumoperitoneum created during the operation and residual gas after the operation are two of the factors in postoperative pain and nausea. We studied the effects of a subdiaphragmatic gas drain, which is intended to decrease the residual gas, on postoperative pain, nausea, and vomiting after laparoscopic cholecystectomy. **PATIENTS AND METHODS:** Seventy patients were randomized into two demographically and clinically comparable groups: drainage and control. Postoperative pain, nausea, and vomiting were measured by verbal grading and visual analog scale 2-72 h postoperatively. Analgesic and antiemetic use and incidence of retching, vomiting and other complaints were also recorded. **RESULTS:** Subdiaphragmatic drain effectively reduced the incidence and amount of subdiaphragmatic gas bubble. The incidence and severity of nausea was lower in the drainage group at 72 h. Although severity of pain was lower at 8 and 12 h in the drainage group, the difference was not significant. There was also no difference between the groups in regard to analgesic and antiemetic use. **CONCLUSIONS:** Subdiaphragmatic drain offers only minor, if any, benefit on postoperative pain, nausea, and vomiting after laparoscopic cholecystectomy, and this effect is probably clinically irrelevant.

Pahl, I. R., et al. "Different lipid profiles as constituencies of liquid formula diets do not influence pain perception and the efficacy of opioids in a human model of acute pain and hyperalgesia.[comment]." *Pain*. 104, no. 3(2003): 519-27 UI 12927624.

Nutritional support and pain control by medication are often used concomitantly, but interactions are hardly investigated. A randomised, double-blind, cross-over study in ten right-handed volunteers was performed evaluating the influence of cholecystokinin (CCK)-excretion on the perception of pain in a standardised model. CCK-excretion was induced by a liquid formula diet with either long- or medium-chain triglycerides (LCT, MCT). Plasma samples were drawn over a 60 min period in 15-min intervals and CCK and somatostatin (SMS) were measured by radioimmunoassay (RIA). Gastric emptying was evaluated by C-13-breath testing. Transcutaneous electrical stimulation at a high current density (5 Hz, 70.1+/-5.8 mA) was used to provoke acute pain and stable areas of secondary mechanical hyperalgesia and pinprick allodynia for 2 h. Ongoing pain ratings as well as extension of pinprick-hyperalgesia and allodynia were compared between both liquid formula diets. In a second series of experiments, alfentanil (4.1+/-0.5 mg) was administered for 90 min using target-controlled infusions and measurements were performed as stated above. Oral administration of LCT as well as MCT may lead to different CCK blood levels, but we found no evidence for CCK-induced effects on pain sensation, touch-evoked allodynia, secondary hyperalgesia or morphine-induced anti-nociception in humans. In our studies, liquid formula diets did not influence acute pain perception or the efficacy of opioids in a human model of pain.

Passik, S. D., and K. L. Kirsh. "The need to identify predictors of aberrant drug-related behavior and addiction in patients being treated with opioids for pain.[comment]." *Pain Medicine*. 4, no. 2(2003): 186-9 UI 12873265.

Pellino, T. A., et al. "The American Society of Pain Management Nurses role-delineation study. National Association of Orthopaedic Nurses respondents." *Orthopaedic Nursing*. 22, no. 4(2003): 289-97 UI 12961973.

PURPOSE: A role-delineation study was conducted by the American Society of Pain Management Nurses to examine the activities performed by nurses involved in pain management. DESIGN: A survey was sent to nurses involved in pain management. The role-delineation survey consisted of 92 activity statements and was based on the Nursing Intervention Classifications. Frequency of performing each activity and importance of the activity were rated by respondents, and a Mean Activity Index score was calculated for each item. SAMPLE: As part of the sampling strategy, a random sample of 200 nurse members of the National Association of Orthopaedic Nurses (NAON) were sent surveys. Forty-two (21%) NAON members returned completed surveys. FINDINGS: The activities with the highest Mean Activity Index were primarily those involving pain assessment and pharmacologic management and those relatively specific to orthopaedic patients, such as positioning to increase comfort and premedicating with analgesics before activity. CONCLUSION: Orthopaedic nurses were similar to other nursing specialty groups for assessment and pharmacologic management of pain but placed more emphasis on activity management than other groups. IMPLICATIONS: The results of the study will be used to refine standards of care develop nursing education curricula, develop research priorities, and develop a blueprint for a certification examination.

Peltonen, M., A. K. Lindroos, and J. S. Torgerson. "Musculoskeletal pain in the obese: a comparison with a general population and long-term changes after conventional and surgical obesity treatment." *Pain*. 104, no. 3(2003): 549-57 UI 12927627.

Obesity is associated with musculoskeletal pain and osteoarthritis. This study compares the prevalence of work-restricting musculoskeletal pain in an obese and a general population and investigates changes in the incidence of and recovery from musculoskeletal pain after bariatric surgery or conventional obesity treatment. A random sample of 1135 subjects from a general population was compared with 6328 obese subjects in the Swedish obese subjects (SOS) study. For the obese subjects, information about musculoskeletal pain was also collected 2 and 6 years after obesity surgery or the start of non-surgical treatment. In both sexes, self-reported work-restricting pain in the neck and back area and in the hip, knee and ankle joints was more common in the obese subjects than in the general population (odds ratios (ORs) ranging from 1.7 to 9.9,  $P < 0.001$ ). Operated obese women had a lower incidence of work-restricting pain in the knee and ankle joints compared with the conventionally treated control group over 2 and 6 years (ORs 0.51-0.71). Among subjects reporting symptoms at baseline, the recovery rate for pain in the knee and ankle joints in men and pain in the neck and back and in the hip, knee and ankle joints in women improved in the surgical group compared with the control group after 2 years (ORs 1.4-4.8). Obese subjects have more problems with work-restricting musculoskeletal pain than the general population. Surgical obesity treatment reduces the long-term risk of developing work-restricting musculoskeletal pain and increases the likelihood of recovering from such pain.

Phillips, K., et al. "Chronic low back pain management in primary care." *Nurse Practitioner*. 28, no. 8(2003): 26-31 UI 12902938.

Pirraglia, P. A., et al. "Assessment of decline in health-related quality of life among angina-free patients undergoing coronary artery bypass graft surgery." *Cardiology*. 99, no. 3(2003): 115-20 UI 12824718.

PURPOSE: Coronary artery bypass graft (CABG) surgery generally decreases symptoms and improves quality of life, but for those patients without angina,

prolongation of life takes precedence. We used the SF-36 to assess changes in health-related quality of life (HRQOL) among patients who were angina free prior to CABG compared to those reporting angina. METHODS: We combined data from two randomized trials of hemodynamic management during surgery. Prior to CABG, demographic, clinical and SF-36 data were obtained. Patients were reevaluated at a 6-month follow-up. Patients with a decline of  $>$  or  $=15$  points from baseline to follow-up for individual SF-36 domains and  $>5$  points for summary components were classified as having a decline. We used logistic regression models that controlled for baseline SF-36 score and other baseline characteristics to assess HRQOL decline with respect to angina status. RESULTS: Of 590 patients, 28% were angina free at baseline. A third of the patients angina free at baseline had a postoperative decline in physical function. Patients who were angina free at baseline were three times more likely to suffer a decline in physical function than those with angina (odds ratio 3.29, 95% confidence interval 1.86-5.82). This finding remained after addition of adverse outcomes to the model. Baseline angina status was not related to any other SF-36 domain or to physical or mental summary component scores. Major adverse outcomes did not differ between angina-free patients and those with angina. CONCLUSIONS: The incidence of patients reporting a decline in physical function after CABG was greater in patients without angina preoperatively, even when adjusting for baseline score. Given the substantial risk of decreased physical functioning, employing interventions to maintain HRQOL in this population should be considered. Copyright 2003 S. Karger AG, Basel

Rabey, M. I. "Post-herpetic neuralgia: possible mechanisms for pain relief with manual therapy." *Manual Therapy*. 8, no. 3(2003): 180-4 UI 12909440.

Ramsey, M. L., et al. "Coccygodynia: treatment." *Orthopedics*. 26, no. 4(2003): 403-5; discussion 405 UI 12722911.

This article presents a retrospective review of the treatment of coccygodynia. The past 5 years of conservative treatment for coccygodynia were reviewed, including local injection. The results were evaluated. Retrospectively, the past 20 years of surgical treatment for coccygodynia were reviewed and the clinical results were evaluated. Twenty-four patients were treated with local injection and 15 patients were treated with coccygectomy. Local injection was successful in 78% of patients. Coccygectomy was successful in 87% of patients. The results of conservative treatment with local injection for coccygodynia appear to be successful. However, no other historical literature exists to compare these results. The results of coccygectomy for coccygodynia were also highly successful, and the success rate compares favorably to previous historical data in the literature.

Rayatt, S., J. Rimmer, and A. Khanna. "Local anesthesia for surgical drain removal: a prospective, randomized, double-blind, patient-controlled study.[comment]." *Plastic & Reconstructive Surgery*. 112, no. 5(2003): 1493-4; author reply 1494 UI 14504549.

Rhudy, J. L., and M. W. Meagher. "Negative affect: effects on an evaluative measure of human pain." *Pain*. 104, no. 3(2003): 617-26 UI 12927634.

Prior work indicates that exposure to fear-inducing shock inhibits finger-withdrawal to radiant heat in humans (hypoalgesia), whereas anxiety induced by threat of shock enhances reactivity (hyperalgesia; *Pain* 84 (2000) 65-75). Although finger-withdrawal latencies are thought to reflect changes in pain sensitivity, additional measures of pain are needed to determine whether pain perception is altered. The present study examined the impact of negative affect on visual analog scale (VAS) ratings of fixed duration thermal stimuli. One hundred twenty-seven male and female human subjects were randomly assigned to one of three emotion-

induction conditions: (1) negative affect induced by exposure to three brief shocks; (2) negative affect elicited by the threat of shock without presentation; and (3) neutral affect, with no intervention. VAS ratings were tested before and after emotion-induction. Results suggest that both negative affect manipulations reduced pain. Manipulation checks indicated that the emotion-induction treatments induced similar levels of fear but with different arousal levels. Potential mechanisms for affect induced changes in pain are discussed.

Ribeiro, P. A. "Pathophysiology of unstable angina: implications for secondary prevention." *Revista Portuguesa de Cardiologia*. 22, no. 5(2003): 727-33 UI 12940185.

Ribeiro, P. A. "Unstable angina--when to proceed to percutaneous coronary intervention." *Revista Portuguesa de Cardiologia*. 22, no. 6(2003): 849-51 UI 14526701.

Rigoni, M., et al. "Neurogenic responses mediated by vanilloid receptor-1 (TRPV1) are blocked by the high affinity antagonist, iodo-resiniferatoxin." *British Journal of Pharmacology*. 138, no. 5(2003): 977-85 UI 12642400.

(1) Stimulation of the vanilloid receptor-1 (TRPV1) results in the activation of nociceptive and neurogenic inflammatory responses. Poor specificity and potency of TRPV1 antagonists has, however, limited the clarification of the physiological role of TRPV1. (2) Recently, iodo-resiniferatoxin (I-RTX) has been reported to bind as a high affinity antagonist at the native and heterologously expressed rat TRPV1. Here we have studied the ability of I-RTX to block a series of TRPV1 mediated nociceptive and neurogenic inflammatory responses in different species (including transfected human TRPV1). (3) We have demonstrated that I-RTX inhibited capsaicin-induced mobilization of intracellular Ca(2+) in rat trigeminal neurons (IC(50) 0.87 nM) and in HEK293 cells transfected with the human TRPV1 (IC(50) 0.071 nM). (4) Furthermore, I-RTX significantly inhibited both capsaicin-induced CGRP release from slices of rat dorsal spinal cord (IC(50) 0.27 nM) and contraction of isolated guinea-pig and rat urinary bladder (pK(B) of 10.68 and 9.63, respectively), whilst I-RTX failed to alter the response to high KCl or SP. (5) Finally, in vivo I-RTX significantly inhibited acetic acid-induced writhing in mice (ED(50) 0.42 micro mol kg(-1)) and plasma extravasation in mouse urinary bladder (ED(50) 0.41 micro mol kg(-1)). (6) In in vitro and in vivo TRPV1 activated responses I-RTX was approximately 3 log units and approximately 20 times more potent than capsazepine, respectively. This high affinity antagonist, I-RTX, may be an important tool for future studies in pain and neurogenic inflammatory models.

Ringe, J. D., et al. "Analgesic efficacy of flupirtine in primary care of patients with osteoporosis related pain. A multivariate analysis." *Arzneimittel-Forschung*. 53, no. 7(2003): 496-502 UI 12918215.

OBJECTIVE: Although chronic pain in elderly patients with osteoporosis is extremely common it has rarely been addressed in pharmacotherapy studies. The efficacy and tolerability of flupirtine (CAS 56995-20-1, Trancopal Dolo) up to 600 mg/day was investigated under daily practice conditions. DESIGN: This was an open-label, multicentre, prospective, observational phase IV study on 869 patients performed in 290 practices (mainly orthopedists) throughout Germany. MAIN OUTCOME MEASURE: Decrease in pain scores on a visual analogue scale (VAS, from 0 = none to 10 = maximum) after an average 3-week therapy, and evaluation of adverse events. Multivariate analyses were performed to identify factors associated with the efficacy of pain reduction. RESULTS: 81% of patients were female; the mean age of all patients was 67 years, and the mean body mass index was 25.7 kg/m<sup>2</sup>. 81% of patients had reduced bone density, 30% had a family history of

osteoporosis, and 32% had previous bone fractures. The mean daily flupirtine dose was 270 +/- 12 mg. The mean baseline pain VAS scores were 7.1 (low back pain), 5.8 (neck pain), 5.6 (shoulder-arm pain), and 6.6 (other pain). Mean pain reduction at the end of flupirtine treatment was 43% for low back pain, 44% for neck pain, 40% for shoulder-arm pain, and 40% for other pain (all reductions  $p < 0.05$  vs. baseline). Rates of pain reduction at the various sites were closely correlated, and the efficacy of pain reduction was independent of age. The pain reduction was more pronounced in patients with recent onset of pain and with higher pain intensity at entry. Tolerability of treatment was excellent with only 2.4% of patients reporting adverse events and only 12 patients (1.4%) withdrawing from the trial. CONCLUSION: This trial performed under daily practice conditions in a large unselected sample of patients confirms the efficacy and safety of flupirtine in the treatment of chronic pain in patients with osteoporosis, independent of the age of the patient.

Rosenthal, D., et al. "Using a topical anaesthetic cream to reduce pain during sharp debridement of chronic leg ulcers." *Journal of Wound Care*. 10, no. 1(2001): 503-5 UI 12964231.

This multicentre, double-blind, placebo-controlled, parallel-group study assessed the efficacy and safety of using Emla (lignocaine/prilocaine) anaesthetic cream to achieve pain control during sharp debridement of chronic leg ulcers of arterial, venous or arteriovenous aetiology. A total of 101 patients (51 Emla, 50 placebo), aged 29-99 years, who had experienced pain associated with previous debridement were included. Patients with an amide anaesthetic allergy, anaesthetic diabetic ulcers, or ulcers > 50 cm<sup>2</sup> were excluded. Debridement was initiated approximately 30 minutes after the application of a thick layer of Emla or placebo cream to an ulcer occluded with a plastic wrap. The patient and investigator assessed the pain associated with debridement on a 100 mm visual analogue scale (VAS). The median patient VAS scores were 18 mm and 53.5 mm in the Emla and placebo groups, respectively ( $p < 0.0001$ ). The corresponding investigator values in the two groups were 20 mm and 49.5 mm, respectively ( $p = 0.004$ ). Local reactions were mainly transient and mild, and were observed in roughly the same percentage of placebo and Emla-treated patients. After a 30-minute application Emla cream significantly reduced the pain of debridement compared with the placebo.

Roselland, L. A., et al. "Effective pain relief from intra-articular saline with or without morphine 2 mg in patients with moderate-to-severe pain after knee arthroscopy: a randomized, double-blind controlled clinical study." *Acta Anaesthesiologica Scandinavica*. 47, no. 6(2003): 732-8 UI 12803592.

BACKGROUND: Intra-articular (IA) morphine has given good and prolonged pain relief in some studies when given at the end of arthroscopic procedures in the knee joint. However, similar studies have not been able to document any local analgesic effect of morphine. A large number of the negative studies have not demonstrated any assay sensitivity. We have documented that around 40% of patients have only very mild or no pain after arthroscopic procedures in the knee joint. This obviously is a confounding factor, reducing assay sensitivity when all patients are included in IA morphine studies. METHOD: By leaving a soft catheter IA in 57 patients and including only patients who developed moderate-to-severe pain within 1 h after an arthroscopic procedure in the knee joint under general anaesthesia, we included 40 patients. These patients had a mean pre-treatment baseline pain of about 50/100 on a 100-mm visual analogue scale (VAS) for pain intensity. A randomized, double-blind controlled comparison of saline 10 ml with or without morphine 2 mg followed. Test drugs were administered through the IA catheter. Pain intensity and pain relief, consumption of rescue analgesics and global evaluation of effect and adverse effects were measured up to 36 h thereafter. RESULTS: Pain intensity decreased from about

50 to about 10-15/100 in both groups and the sum of pain intensity differences at 2 and 22 h was not significantly different between the two groups. Global evaluation of effects and adverse effects, as well as consumption of rescue analgesics during 36 h after arthroscopic procedures, were also similar in the two groups. CONCLUSIONS: Only 70% of 57 patients had pain of moderate-to-severe intensity within 1 h after an arthroscopic procedure of the knee joint under general anaesthesia. IA injection of saline 10 ml and saline 10 ml with morphine 2 mg were both associated with pain relief. These findings may have implications for interpretations of a majority of published studies on IA morphine.

Rossignol, M. "The management of low back pain.[comment]." *Occupational & Environmental Medicine*. 60, no. 9(2003): 617 UI 12937180.

Rudolph, C. "The way I see it. One-size pain regs won't work." *Medical Economics*. 80, no. 15(2003): 49-50 UI 12964408.

Schattenkirchner, M., and K. A. Milachowski. "A double-blind, multicentre, randomised clinical trial comparing the efficacy and tolerability of aceclofenac with diclofenac resinate in patients with acute low back pain." *Clinical Rheumatology*. 22, no. 2(2003): 127-35 UI 12740678.

The efficacy and tolerability of aceclofenac was compared with diclofenac resinate in a double-blind, multicentre randomised study in patients with acute low back pain suffering from degenerative spinal disorders. The study included 227 patients randomised to receive either aceclofenac 2 x 100 mg daily or diclofenac resinate 2 x 75 mg daily for up to 10 days. The primary objective was to demonstrate the clinical non-inferiority of the analgesic efficacy of aceclofenac compared with diclofenac resinate, as assessed by changes from baseline in the visual analogue scale (0-100 mm) pain score, at rest and at visit 3 (final visit on day's 8-10). Secondary objectives included the time to early cure (resolution of pain) and global assessment of tolerability. Mean change in pain score at rest, and as visit 3, compared with baseline, was 61.6 mm (SD 24.5) for the aceclofenac group ( n = 100) and 57.3 mm (SD 22.8) for the diclofenac resinate group ( n = 105) in the per-protocol population. Similar changes were observed in the intention-to-treat population. Between-group differences of 4.5 mm and 5.5 mm for the per-protocol and intention-to-treat populations, respectively, demonstrated clinical non-inferiority of aceclofenac compared with diclofenac resinate. Furthermore, there was evidence for superiority of aceclofenac over diclofenac resinate in terms of statistical significance, as the one-sided 97.5% confidence interval was above -10 mm and 0 mm. In the intention-to-treat population, a total of six aceclofenac-treated patients discontinued their medication owing to early cure, compared with only one patient receiving diclofenac resinate. Seventeen aceclofenac- (14.9%), and 18 diclofenac resinate-treated patients (15.9%) reported at least one adverse event. However, the total number of adverse events reported was lower in patients receiving aceclofenac (22 versus 31 in the diclofenac resinate group). In conclusion, non-inferiority of the analgesic efficacy of aceclofenac compared with diclofenac resinate was demonstrated in patients with localised, uncomplicated acute lumbosacral pain. For the reduction in pain levels from baseline there was also evidence for superiority of aceclofenac compared with diclofenac resinate in terms of statistical significance, although this difference was not considered clinically relevant. The results also showed a trend towards a better safety and tolerability profile of aceclofenac over diclofenac resinate from a clinical point of view.

Schmidt, K., A. White, and E. Ernst. "Reflexologists' responses to a patient with abdominal pain-a survey on Internet advice." *Complementary Therapies in Medicine*. 11, no. 2(2003): 98-102 UI 12801495.

**OBJECTIVE:** To generate preliminary data on how individual reflexologists deal with patients seeking medical advice on the Internet. **DESIGN:** E-mail survey involving reflexologists who were partly blinded for their advice on the Internet. **SETTING:** Cyberspace. **PARTICIPANTS:** Two hundred and seventy-seven members of the Association of Reflexologists. Of 842 e-mails sent out we received 323 responses (38% response rate) of which 46 participants later withdrew their responses (14% withdrawal rate). **INTERVENTION:** Participants were asked to advise a fictitious patient via e-mail who presented various health problems. **MAIN OUTCOME MEASURE:** Rating of responses according to safety and claims made by reflexologist sample. **RESULTS:** Eighty-five percent of all respondents advised the fictitious patient to present the health problems to a medical professional. Fifty-eight percent expressed urgency to see a primary care physician or other health care professional and 95% pointed out that a diagnosis cannot and should not be made by a reflexologist. Twenty-nine percent of responders suggested a differential diagnosis or underlying causes for the patient's condition. **CONCLUSIONS:** In this survey reflexologists from the UK Association of Reflexologists have responded in an encouraging manner to a fictitious patient's request for health advice via electronic mail as only 5% (or possibly 15%) of reflexologists from this survey need to be more cautious about the advice they give their patients. We hope that our study will further encourage therapists to be more cautious giving Internet health advice in the future.

Schofield, C. "How do I treat a patients' fibromyalgia pain?" *Nursing*. 33, no. 8(2003): 26 UI 12918479.

Sherman, K. J., and D. C. Cherkin. "Developing methods for acupuncture research: rationale for and design of a pilot study evaluating the efficacy of acupuncture for chronic low back pain." *Alternative Therapies in Health & Medicine*. 9, no. 5(2003): 54-60 UI 14526711.

Rigorously evaluating acupuncture and other complementary and alternative medicine (CAM) therapies presents researches with many challenges. The failure to satisfactorily address these challenges has resulted in poorly designed studies, which yield findings that are difficult to interpret. Despite the publication of more than 10 randomized trials evaluating acupuncture as a treatment for chronic low back pain, the efficacy and effectiveness of acupuncture for this common problem remain unclear. We discuss the rationale for and design of a five-arm randomized controlled pilot clinical trial that addresses the major methodological shortcomings of previous studies (e.g., poorly justified treatment and control groups and lack of masking) and that lays the groundwork for a full scale trial evaluating acupuncture as a treatment for chronic low back pain. Although development and pilot testing of these design features required substantial time and resources, we believe that this investment in rigorous groundwork is essential to ensure that full-scale trials evaluating CAM treatments produce valid and interpretable results.

Shockey, P. "Concentrated pain relief." *Nursing*. 33, no. 8(2003): 12; author reply 12 UI 12918464.

Smith, H. S., and W. Baird. "Meloxicam and selective COX-2 inhibitors in the management of pain in the palliative care population." *American Journal of Hospice & Palliative Care*. 20, no. 4(2003): 297-306 UI 12911075.

This paper discusses the treatment of pain in the palliative care patient, specifically the use of meloxicam and recent advances in agents with cyclooxygenase-2 (COX-2) selectivity. Meloxicam is a nonsteroidal anti-inflammatory drug (NSAID) that preferentially inhibits COX-2 more than cyclooxygenase-1 (COX-1), especially at low doses, thereby offering advantages over traditional nonselective

NSAIDs. New COX-2 selective agents are discussed, including valdecoxib, parecoxib, etoricoxib, and COX-189. [References: 68]

Soffer, D., et al. "Impact of angina class on inhibition of platelet aggregation following clopidogrel loading in patients undergoing coronary intervention: do we need more aggressive dosing regimens in unstable angina?" *Catheterization & Cardiovascular Interventions*. 59, no. 1(2003): 21-5 UI 12720236.

Pretreatment with thienopyridines has been shown to improve clinical outcomes in patients undergoing percutaneous coronary intervention (PCI). We determine the impact of angina class on inhibition of platelet aggregation (IPA) following clopidogrel loading. Seventy-two patients (mean age, 64 +/- 11 years; 76% male) were pretreated with 450 mg of clopidogrel at least 3 hr prior to PCI. All patients received ASA 325 mg prior to the procedure. Patients were classified into two groups according to angina class: group 1 = stable angina or Braunwald class 1 unstable angina (UA; n = 33); group 2 = Braunwald class 2 or 3 UA (n = 39). IPA was measured prior to PCI, with the Ichor point-of-care platelet analyzer (Helena Laboratories, Beaumont, TX), using 20 microM of ADP. Group 2 patients were more likely to have prior MI (54% vs. 27%; P = 0.023), prior CABG (33% vs. 5%; P = 0.046), and received IV heparin (64% vs. 27%; P = 0.0018). Mean IPA was significantly lower in group 2 compared to group 1 (19% +/- 22% vs. 32% +/- 22%; P = 0.004). In multivariate analysis, higher angina class was independently associated with lower IPA (P = 0.018). Patients with UA undergoing PCI have a lower IPA following clopidogrel loading with 450 mg. This may indicate the possibility of clopidogrel resistance in such patients. Copyright 2003 Wiley-Liss, Inc.

Staal, J. B., et al. "Occupational health guidelines for the management of low back pain: an international comparison.[comment]." *Occupational & Environmental Medicine*. 60, no. 9(2003): 618-26 UI 12937181.

BACKGROUND: The enormous socioeconomic burden of low back pain emphasises the need for effective management of this problem, especially in an occupational context. To address this, occupational guidelines have been issued in various countries. AIMS: To compare available international guidelines dealing with the management of low back pain in an occupational health care setting. METHODS: The guidelines were compared regarding generally accepted quality criteria using the AGREE instrument, and also summarised regarding the guideline committee, the presentation, the target group, and assessment and management recommendations (that is, advice, return to work strategy, and treatment). RESULTS: and Conclusions: The results show that the quality criteria were variously met by the guidelines. Common flaws concerned the absence of proper external reviewing in the development process, lack of attention to organisational barriers and cost implications, and lack of information on the extent to which editors and developers were independent. There was general agreement on numerous issues fundamental to occupational health management of back pain. The assessment recommendations consisted of diagnostic triage, screening for "red flags" and neurological problems, and the identification of potential psychosocial and workplace barriers for recovery. The guidelines also agreed on advice that low back pain is a self limiting condition and, importantly, that remaining at work or an early (gradual) return to work, if necessary with modified duties, should be encouraged and supported. [References: 25]

Steltzer, J. "Pain management in the opioid-dependent patient." *Current Psychiatry Reports*. 3, no. 6(2001): 489-96 UI 11707163.

The opioid-dependent patient presents great challenges for pain management. These challenges are not limited to potential addictive behaviors. In contrast to the profound pain relieving effects of acute opioid intake, chronic opioid intake can

promote a counterintuitive state of enhanced pain sensitivity. Multiple biologic mechanisms inducing opioid tolerance and hyperalgesia have recently been elucidated. The potential hyperalgesic state accompanying opioid dependence complicates pain management somewhat for acute pain and cancer pain, but it especially does so for chronic pain. Guidelines for treatment of opioid dependence in the pain patient are proposed. Treatment oriented toward the long term requires limit setting and psychologic support that go beyond simple medication management. [References: 78]

Swenson, R. S. "Therapeutic modalities in the management of nonspecific neck pain." *Physical Medicine & Rehabilitation Clinics of North America*. 14, no. 3(2003): 605-27 UI 12948344.

This article has surveyed several therapeutic modalities, including physical modalities, thermal modalities, electrical modalities, exercise therapy, behavioral therapy, education, and laser therapy. Of these, exercise, mobilization, and manipulation have the greatest support in the literature, whereas thermal treatments (including therapeutic ultrasound), and electrical therapies (including TENS) have little evidence of effectiveness and no evidence for more than a transient benefit. There is a need for well-controlled studies of educational programs and behavioral interventions specifically for patients with chronic neck pain, particularly because these interventions are often employed as part of a multimodal treatment program. Low-power laser treatment and magnetic therapy require some well-controlled studies before they can be recommended to neck pain patients or discarded as worthless interventions. Cervical traction and soft collars seem to be generally ineffective for nonspecific neck pain. [References: 62]

Sycha, T., et al. "A simple pain model for the evaluation of analgesic effects of NSAIDs in healthy subjects." *British Journal of Clinical Pharmacology*. 56, no. 2(2003): 165-72 UI 12895189.

AIMS: Non-steroidal anti-inflammatory drugs (NSAIDs) are believed to counteract inflammation and inflammation-induced sensitization of nociceptors by inhibiting peripheral prostaglandin synthesis. We evaluated an experimental pain model for NSAIDs, that included an inflammatory component to mimic clinical inflammatory pain conditions. METHODS: The study was performed in a randomized, double-blind, placebo-controlled, two-way crossover design on 32 healthy volunteers. A small skin area of the proximal upper leg was irradiated with a UVB source using three times the individually estimated minimal erythema dose. Twenty hours after irradiation skin temperature, heat pain threshold and tolerance in sunburn spot were measured using a thermal sensory testing. These measurements were repeated 2 h after medication of either 800 mg ibuprofen as single oral dose or placebo capsules. Effects of ibuprofen on outcome parameters were assessed with analyses of covariance (ancova). RESULTS: Placebo did not affect heat pain threshold or tolerance. By contrast, ibuprofen increased heat pain threshold by 1.092 degrees C [confidence interval (CI) 0.498, 1.695; P = 0.0008] compared with placebo. Heat pain tolerance also increased significantly by 1.618 degrees C (CI 1.062, 2.175; P = 0.0001). CONCLUSION: The pain model we evaluated was well tolerated in all subjects and the effects of ibuprofen were highly significant. This model is simple, sensitive to NSAIDs' effects and therefore has potential for future experimental pain studies.

Taira, T., and T. Hori. "Clinical application of drug pump for spasticity, pain, and restorative neurosurgery: other clinical applications of intrathecal baclofen." *Acta Neurochirurgica - Supplement*. 87(2003): 37-8 UI 14518520.

Intrathecal baclofen has been successfully used for control of severe spasticity. Baclofen, an agonist of GABA-B receptor, has other potential effects on pain and

recovery from coma. Sporadic episodes of dramatic recovery from persistent vegetative state are reported after intrathecal administration of baclofen. There are also reports on the use of baclofen for neuropathic pain including post-stroke central pain syndrome. Baclofen is also used for control of dystonia due to cerebral palsy or reflex sympathetic dystrophy. On the other hand, epidural spinal cord stimulation has been used for pain, spasticity, dystonia, or attempt to improve deteriorated consciousness, though the effects seem variable and modest. Similarity between baclofen and spinal cord stimulation is interesting in that both involves in spinal GABAergic system. The GABAergic system in the spinal cord plays a pivotal role in various clinical effects of these procedures. [References: 10]

Tartaglia, J., et al. "Exercise capability and myocardial perfusion in chronic angina patients treated with enhanced external counterpulsation." *Clinical Cardiology*. 26, no. 6(2003): 287-90 UI 12839048.

BACKGROUND: Enhanced external counterpulsation (EECP) has been shown to improve treadmill times and myocardial perfusion. However, improvement in perfusion defects has been demonstrated only in patients exercised to the same cardiac workload on the post-EECP as the pre-EECP stress test. HYPOTHESIS: This study was to determine the effect of EECP on exercise capacity and myocardial perfusion by comparing results of maximal exercise radionuclide testing pre- and post-EECP treatment. METHODS: This prospective study included 25 patients with angina who had performed maximal symptom-limited exercise tolerance tests (ETT) with Bruce protocol and radionuclide perfusion single-photon emission computed tomography (SPECT) study prior to and at completion of EECP treatment. RESULTS: After 35 h of EECP, 23 patients (93%) improved by at least one functional angina class. There is a significant improvement in their total treadmill times (357 +/- 93 to 449 +/- 97 s,  $p < 0.001$ ). There was a significant change in their peak double products, from 18,891 +/- 3,939 pre-EECP to 20,464 +/- 4,305 post-EECP ETT ( $p < 0.03$ ). Pre EECP, 16 patients had ST-segment depression on their initial ETT. After EECP, 13 of these patients (80%) either no longer had ST depression or had a significant increase in their time to ST depression (229 +/- 52 to 315 +/- 60 s,  $p < 0.001$ ). The radionuclide perfusion scores also showed a significant reduction in ischemic segments (16.36 +/- 10.52 to 14 +/- 10.9,  $p < 0.05$ ). CONCLUSIONS: Patients treated with EECP demonstrated a reduction in angina symptoms, improvement in exercise capacity, increase in time to ST-segment depression, and decrease in perfusion defects despite performing at a higher workload.

Tasciottaoglu, F., and C. Oner. "Efficacy of intra-articular sodium hyaluronate in the treatment of knee osteoarthritis." *Clinical Rheumatology*. 22, no. 2(2003): 112-7 UI 12740675.

To assess the efficacy of intra-articular hyaluronic acid in patients with knee osteoarthritis, sixty female patients with knee osteoarthritis were randomised to three weekly intra-articular injections of 30 mg sodium hyaluronate (Na HA) with a high molecular weight (1.0 to 2.9 million Da) or 40 mg 6-methylprednisolone acetate (6-MPA). The clinical assessments included pain at rest, at weight-bearing and on walking, Lequesne Index and active range of knee flexion. Assessments were done at baseline, at week 4, and at months 3 and 6. A significant decrease in VAS scores for pain at rest, at weight-bearing and pain on walking, and in Lequesne index was found in both groups at week 4 when compared to baseline and there was no significant differences between the two groups. However, at 3(rd) month improvement in all pain scores and Lequesne index was found in favour of hyaluronic acid. At 6(th), no significant difference was found between the treatment groups. Improvement in pain was accompanied by an increase in joint flexion at week 4 and at month 3 in both groups. Both treatments were well-tolerated. The results showed that both intra-articular hyaluronic acid and 6-MPA treatments provide clinically

significant improvement and demonstrated that Na HA has a long-term beneficial effect in patients with knee osteoarthritis.

Thacker, P. D. "An everlasting flu vaccine with none of the pain." *Drug Discovery Today*. 8, no. 15(2003): 660-1 UI 12927502.

Thuesen, L., et al. "Randomized comparison of the coil-design Crossflex and the tubular NIR stent." *Catheterization & Cardiovascular Interventions*. 59, no. 1(2003): 8-12 UI 12720233.

The purpose of this study was to compare the angiographic outcome of implantation of the coil-design Crossflex stent with the tubular NIR stent for treatment of coronary artery stenoses. Two hundred twenty-three patients with one genuine coronary artery lesion were randomized to implantation with a 15 mm Crossflex stent (n = 112) or a 16 mm NIR stent (n = 111). The patients had angiographic follow-up after 6 months. Primary endpoint was minimal luminal diameter (MLD) after 6 months. There was a similar clinical outcome in the two groups. At 6-month follow-up, the MLD was significantly lower in the Crossflex group (1.94 +/- 0.79 mm) than in the NIR group (2.37 +/- 0.84 mm; P < 0.001). Early gain was the same in the two groups. Late loss and percent diameter stenoses were significantly higher in the Crossflex group. The binary restenoses rate was 26% and 17% in the Crossflex and the NIR groups, respectively (P = NS). The coil-design Crossflex stent was found to be inferior to the tubular NIR stent concerning late loss and MLD at 6-month follow-up. Copyright 2003 Wiley-Liss, Inc.

Turner, M. S. "Intrathecal drug delivery 2002." *Acta Neurochirurgica - Supplement*. 87(2003): 29-35 UI 14518519.

BACKGROUND: Intrathecal drug delivery has been used clinically since the 1970's. Significant clinical advances have been made combining new technology with pharmacology and surgery. Continuous infusion of medication for both analgesia and spasticity has become a part of the armamentarium for specialists in these areas. Significant recent advances in technology promise further enhancements and improvements for intrathecal therapy. METHODS: A review of the literature combined with 20 years personal experience with intrathecal drug delivery. FINDINGS/DISCUSSION: Intrathecal therapy has established a role in the treatment of malignant pain, benign pain and severe spasticity. Significant literature and the current state of practice in the United States are reviewed. Recent therapeutic enhancements are discussed, and a wish list of future technological enhancements presented. [References: 72]

Usui, T., S. Saito, and F. Goto. "Spontaneous intracranial hypotension treated with a cervical epidural blood patch." *European Journal of Anaesthesiology*. 20, no. 6(2003): 500-2 UI 12803273.

Valle, N., et al. "A case of carotidynia with response to almotriptan." *Cephalalgia*. 23, no. 2(2003): 155-6 UI 12603374.

van Ooij, A., F. C. Oner, and A. J. Verbout. "Complications of artificial disc replacement: a report of 27 patients with the SB Charite disc." *Journal of Spinal Disorders & Techniques*. 16, no. 4(2003): 369-83 UI 12902953.

Disc prosthesis surgery is rapidly becoming an option in treating patients with symptomatic degenerative disc disease. Only short-term and midterm results are described in the literature. Most operated patients belong to the age group of 30-50 years. In these active patients, complications can be expected to increase with longer follow-up, similar to total joint replacements in the extremities. Reported here is a series of 27 patients from another institution, who presented with unsatisfactory

results or complications after SB Charite disc replacement. The objective of this work was to describe the possible short- and long-term unsatisfactory results of disc prosthesis surgery. Twenty-seven patients were seen in a tertiary university referral center with persisting back and leg complaints after having received a Charite disc prosthesis. All patients were operated on in a neighboring hospital. Most patients were operated on at the L4-L5 and /or the L5-S1 vertebral levels. The patients were evaluated with plain radiography, some with flexion-extension x-rays, and most of them with computed tomography scans. The group consisted of 15 women and 12 men. Their mean age was 40 years (range 30-67 years) at the time of operation. The patients presented to us a mean of 53 months (range 11-127 months) following disc replacement surgery. In two patients, an early removal of a prosthesis was required and in two patients a late removal. In 11 patients, a second spinal reconstructive salvage procedure was performed. Mean follow-up for 26 patients with mid- and long-term evaluation was 91 months (range 15-157 months). Early complications were the following: In one patient, an anterior luxation of the prosthesis after 1 week necessitated removal and cage insertion, which failed to unite. In another patient with prostheses at L4-L5 and L5-S1, the prosthesis at L5-S1 dislocated anteriorly after 3 months and was removed after 12 months. Abdominal wall hematoma occurred in four cases. Retrograde ejaculation with loss of libido was seen in one case and erection weakness in another case. A temporary benefit was experienced by 12 patients, while 14 patients reported no benefit at all. Main causes of persistent complaints were degeneration at another level in 14, subsidence of the prosthesis in 16, and facet joint arthrosis in 11. A combination of pathologies was often present. Slow anterior migration was present in two cases, with compression on the iliac vessels in one case. Polyethylene wear was obvious in one patient 12 years after operation. In eight cases, posterior fusion with pedicle screws was required. In two cases, the prosthesis was removed and the segment was circumferentially fused. These procedures resulted in suboptimal long-term results. In this relatively small group of patients operated on with a Charite disc prosthesis, most problems arose from degeneration of other lumbar discs, facet joint arthrosis at the same or other levels, and subsidence of the prosthesis. It is to be expected that many more patients will be seen with late problems some years after this operation as the survivorship will decrease with time.

van 't Hof, A. W., et al. "A comparison of two invasive strategies in patients with non-ST elevation acute coronary syndromes: results of the Early or Late Intervention in unStable Angina (ELISA) pilot study. 2b/3a upstream therapy and acute coronary syndromes.[comment]." *European Heart Journal*. 24, no. 15(2003): 1401-5 UI 12909068.

**BACKGROUND:** Only few studies specifically addressed the effect of timing of angiography and/or pre-treatment with a glycoprotein 2b/3a receptor blocker in patients with non-ST elevation acute coronary syndromes (ACS) who undergo invasive treatment. **METHODS:** In a 2-year period, 220 patients with non-ST elevation ACS, were randomized to early angiography without tirofiban pre-treatment (Early strategy) or to delayed angiography after 24-48h pre-treatment with tirofiban (Late strategy). The first 48h after admission, CKmb levels were measured and enzymatic infarct size (LDHQ(48)) was assessed by the area under the LDH release curve. When PCI was performed beyond 48h, CKmb was measured 6 and 12h afterwards. **RESULTS:** Median time to angiography was 6 (Early) and 50 (Late) hours. PCI was performed in 130 patients (59%). In these patients, a patent (TIMI 2 or 3 flow) culprit vessel was more often present in the Late group compared to the Early group (66% vs 82% p=0.05). In patients with an elevated CKmb (n=96, 44%), LDHQ(48) was significantly lower in patients who underwent angiography after pre-treatment with tirofiban (629+/-503U/L (Early) vs 432+/-441U/L (Late), p=0.02). No difference in clinical outcome between the groups was observed at 30

days follow-up. CONCLUSION: This pilot study showed that a strategy of delayed angiography with concomitant pre-treatment with tirofiban is associated with improved angiographic outcomes and less initial enzyme release, compared to a strategy of immediate angiography without 2b/3a inhibitor pre-treatment. The use of an end point parameter, which assess total enzyme release over a given period of time, might be of special value in patients with non-ST elevation ACS, who undergo very early invasive treatment.

Vercellini, P., et al. "Continuous use of an oral contraceptive for endometriosis-associated recurrent dysmenorrhea that does not respond to a cyclic pill regimen." *Fertility & Sterility*. 80, no. 3(2003): 560-3 UI 12969698.

OBJECTIVE: To ascertain whether long-term reduction of pain is obtained by continuous administration of an oral contraceptive (OC) in women with endometriosis-associated recurrent dysmenorrhea that does not respond to cyclic OC use. DESIGN: Prospective, therapeutic, self-controlled clinical trial. SETTING: A tertiary care and referral center for patients with endometriosis. PATIENT(S): Fifty women who underwent surgery for endometriosis in the previous year and experienced recurrent dysmenorrhea despite cyclic OC use. INTERVENTION(S): Continuous use of an OC containing ethinyl estradiol (0.02 mg) and desogestrel (0.15 mg) for 2 years. MAIN OUTCOME MEASURE(S): Dysmenorrhea variation during cyclic and continuous OC use, evaluated with a 100-mm visual analog scale and a 0- to 3-point verbal rating scale, and degree of satisfaction with continuous OC treatment. RESULT(S): In the study period, amenorrhea, spotting, and breakthrough bleeding were reported by 19 (38%), 18 (36%), and 13 (26%) women. The mean +/- SD number of >7-day bleeding episodes with consequent 7-day OC suspension was 5.5 +/- 2.1. The mean +/- SD dysmenorrhea visual analog scale and verbal rating scale scores were 75 +/- 13 and 2.4 +/- 0.5 at baseline and 31 +/- 17 and 0.7 +/- 0.6 at 2-year follow-up, respectively. Moderate or severe side effects were reported by 7/50 (14%) women. At final evaluation, 13 (26%) women were very satisfied, 27 (54%) were satisfied, 1 (2%) was uncertain, 8 (16%) were dissatisfied, and 1 (2%) was very dissatisfied. CONCLUSION(S): Long-term continuous OC use can be proposed to women with symptomatic endometriosis and menstruation-related pain symptoms.

Victor, L., and S. M. Richeimer. "Psychosocial therapies for neck pain." *Physical Medicine & Rehabilitation Clinics of North America*. 14, no. 3(2003): 643-57 UI 12948346.

The biopsychosocial approach provides the necessary framework for understanding and treating chronic pain. Through education, cognitive-behavioral therapy, relaxation training, and active adaptation, the biopsychosocial approach allows patients to learn to control their internal environments (pain-related thoughts and emotions) and to influence their responses to the external environment (physical condition, work, significant others, and other stresses). This education-based model of therapy combines naturally with the medical model and medical care. [References: 13]

Wassilew, S. W., P. Wutzler, and G. Brivddin Herpes Zoster Study. "Oral brivudin in comparison with acyclovir for herpes zoster: a survey study on postherpetic neuralgia." *Antiviral Research*. 59, no. 1(2003): 57-60 UI 12834861.

This concerns a double-blind survey study on 608 herpes zoster patients treated with 1x 125 mg oral brivudin (n=309) or 5x 800 mg acyclovir (n=299), both for 7 days, during two prospective, randomised clinical herpes zoster trials. The survey aimed at evaluating the outcome of the two treatment regimens on postherpetic neuralgia (PHN). During a follow-up ranging from 8 to 17 months after start of treatment, former study participants aged >=50 years were interviewed for the

occurrence of PHN. Neither the investigators nor the patients were aware of which treatment the patients received during acute herpes zoster. The incidence of PHN, defined as zoster-associated pain occurring or persisting after rash healing was significantly lower in brivudin recipients (32.7%) than in acyclovir recipients (43.5%,  $P=0.006$ ). Mean duration of PHN was similar with brivudin (173 days) and acyclovir (164 days,  $P=0.270$ ). Despite some methodological disadvantages common to this type of study, the present survey provides for the first evidence that brivudin treatment during acute herpes zoster favourably affects the incidence of PHN in immunocompetent elderly herpes zoster patients.

Weintraub, M. I. "Complementary and alternative methods of treatment of neck pain." *Physical Medicine & Rehabilitation Clinics of North America*. 14, no. 3(2003): 659-74, viii UI 12948347.

The enthusiasm for complementary and alternative medicine (CAM) is worldwide and is based on the public perception that these approaches are safe and effective. In reality, however, this attitude is based more on cultural and anecdotal experiences than on stringent scientific trials. Because neck pain is a common and disabling symptom that frustrates both patients and physicians, this article reviews the applicability of several CAM therapies for the treatment of neck pain. Despite the long history of CAM, more systematic and better designed, randomized, placebo-controlled trials are needed to determine which approaches have merit. This article recognizes the shortcomings of conventional therapies and encourages clinicians to explore additional treatment options. It is hoped that in the future greater acceptance and integration of CAM can be based on sound scientific results. [References: 51]

Weldon, S. M., and R. H. Hill. "The efficacy of stretching for prevention of exercise-related injury: a systematic review of the literature." *Manual Therapy*. 8, no. 3(2003): 141-50 UI 12909434.

The objective of this study was to conduct a systematic analysis of the literature to assess the efficacy of stretching for prevention of exercise-related injury. Randomized clinical trials (RCTs) and controlled clinical trials (CCTs) investigating stretching as an injury prevention measure were selected. A computer-aided search of the literature was conducted for relevant articles, followed by assessment of the methods of the studies. The main outcome measures were scores for methodological quality based on four main categories (study population, interventions, measurement of effect, and data presentation and analysis) and main conclusions of authors with regard to stretching. One RCT (25%) and three CCTs (100%) concluded that stretching reduced the incidence of exercise-related injury. Three RCTs (75%) concluded that stretching did not reduce the incidence of exercise-related injury. Only two studies scored more than 50 points (maximum score=100 points) indicating that most of the studies selected were of poor quality. Neither of the two highest scoring RCTs showed positive effects for stretching. Due to the paucity, heterogeneity and poor quality of the available studies no definitive conclusions can be drawn as to the value of stretching for reducing the risk of exercise-related injury. [References: 73]

Wentz, J. D. "Assessing pain at the end of life." *Nursing*. 33, no. 8(2003): 22 UI 12918475.

West, P. "Strontium 89: cost-effective or cost-expensive?" *Canadian Oncology Nursing Journal*. 13, no. 3(2003): 191-2 UI 14508909.

Weyand, J. G. "Chronic pelvic pain.[comment]." *Obstetrics & Gynecology*. 102, no. 3(2003): 644; author reply 644-5 UI 12962962.

Winner, P., et al. "Pain-free results with sumatriptan taken at the first sign of migraine pain: 2 randomized, double-blind, placebo-controlled studies." *Mayo Clinic Proceedings*. 78, no. 10(2003): 1214-22 UI 14531480.

**OBJECTIVE:** To evaluate the efficacy and tolerability of sumatriptan, 50-mg and 100-mg tablets, compared with placebo for treatment of migraine at the first sign of pain. **PATIENTS AND METHODS:** Two identical multicenter randomized, double-blind, placebo-controlled, single-attack studies were conducted from May through November 2000 in adults (aged 18-65 years). Patients treated migraine at the first sign of pain, while pain was mild, but not more than 2 hours after onset with oral sumatriptan, 50 mg or 100 mg, or matching placebo. The primary end point was pain-free relief at 2 hours after treatment with 50 mg of sumatriptan compared with placebo. **RESULTS:** There were 354 patients in study 1 and 337 patients in study 2. Significantly more patients treated with sumatriptan, 50 mg and 100 mg, were completely free from pain 2 and 4 hours after treatment vs patients treated with placebo (at 2 hours, 50% and 57% vs 29%; at 4 hours, 61% and 68% vs 30%; for both,  $P < .001$ ). Also, significantly more patients treated with sumatriptan, 50 mg and 100 mg, were migraine-free (no pain or associated symptoms) vs those treated with placebo at 2 and 4 hours after treatment (at 2 hours, 43% and 49% vs 24%; at 4 hours, 54% and 63% vs 28%; for both,  $P < .001$ ). The incidence of overall adverse events was low with the 50- and 100-mg dose of sumatriptan (placebo, 7%; sumatriptan at 50 mg, 14%; sumatriptan at 100 mg, 16%). **CONCLUSIONS:** Treatment of migraine at the first sign of pain with sumatriptan, 50-mg and 100-mg tablets, provides superior pain-free relief at 2 and 4 hours after treatment compared with placebo. Results of these studies suggest that sumatriptan at 100 mg may be more efficacious than at 50 mg when used in the early treatment paradigm. Because these studies were not powered to detect statistical differences between active doses, studies to investigate this finding are warranted.

Xie, H., et al. "Analgesic effects and pharmacokinetics of a low dose of ketamine preoperatively administered epidurally or intravenously." *Clinical Journal of Pain*. 19, no. 5(2003): 317-22 UI 12966258.

**OBJECTIVES:** The aim of this study was to compare the analgesic effects and pharmacokinetics of epidural versus intravenous administration of low doses of ketamine. **METHODS:** 45 patients scheduled for selective gastrectomy were randomly assigned into 3 groups: 0.5mg/kg ketamine administered epidurally (Kepi group), 0.5 mg/kg ketamine administered intravenously (Kiv group), or 10ml normal saline administered epidurally (Ctr group). Analgesic effects were evaluated using Visual Analog Scale (VAS) pain scores at rest, time to first request for analgesic (TFA), and subsequent morphine consumption. The plasma concentration of ketamine was measured with high performance liquid chromatography (HPLC) in the Kepi and Kiv groups. The elimination half-life of ketamine was calculated. **RESULTS:** Patients in the Kepi group had significantly lower VAS pain scores, longer TFA, and lower morphine consumption than patients in the Kiv or Ctr groups. Compared with intravenous administration, epidural administration of ketamine resulted in higher plasma concentrations from 90 minutes to 48 hours after injection, and much longer elimination half-life of ketamine, but a lower maximum plasma concentration of ketamine. **CONCLUSION:** The results suggest that epidural administration of a low dose of ketamine provides more effective analgesic effects as seen post-operatively than intravenous administration. The prolonged half-life and high plasma sustained concentration of epidural ketamine might account for the difference in analgesic effects.

Yong, H. H., et al. "Psychometric properties of the Pain Attitudes Questionnaire (revised) in adult patients with chronic pain." *Pain*. 104, no. 3(2003): 673-81 UI 12927640.

Previous evidence supports the utility of the newly developed pain attitudes questionnaire (PAQ) for assessing pain-related stoicism and cautiousness in community-dwelling pain-free adults (Yong et al., 2001). A revised questionnaire (PAQ-R) was examined in the present study to determine the generalizability of psychometric properties when used with chronic pain patients. Results from both exploratory and confirmatory factor analyses suggest that the factor-structure of the revised questionnaire was best represented by a five- rather than a four-factor solution, thus, suggesting that chronic pain patients do not conceptualize the questionnaire items, in particular, with respect to the stoicism attitudes, in the same manner as the community-dwelling adults. A satisfactory internal consistency reliability of the PAQ-R was replicated in chronic pain patients. There was also evidence to suggest that chronic pain patients from different age cohorts do apply a similar frame of reference and calibration scale when responding to the items on the questionnaire. However, the cohorts of patients across the age spectrum show some differences in pain attitudes and possible reasons were discussed.