



## **PAIN MANAGEMENT JANUARY 2004**

Almeda, F. Q., et al. "Improved in-hospital outcomes in acute coronary syndromes (unstable angina/non-ST segment elevation myocardial infarction) despite similar TIMI risk scores." *Journal of Invasive Cardiology*. 15, no. 9(2003): 502-6 UI 12947210.

**BACKGROUND:** The Thrombolysis In Myocardial Infarction (TIMI) Risk Score has been shown to predict prognosis in acute coronary syndromes (ACS) comprised of unstable angina (UA) and non-ST segment elevation myocardial infarction (STEMI). We sought to evaluate the impact of newer antiplatelet and antithrombotic therapies for ACS, such as glycoprotein IIb/IIIa inhibitors (GPI) and low molecular weight heparin (LMWH), on in-hospital outcomes over time in patients (pts) with similar TIMI risk scores. **METHODS:** The baseline demographics and clinical outcomes of pts with ACS (UA and non-STEMI) in 1998 (Group 1998) and 2000 (Group 2000) at a single large university medical center were compared using a prospectively collected database. In-hospital major adverse cardiac events (MACE) included death, MI, or recurrent angina that resulted in urgent revascularization. Risk was estimated by utilizing the TIMI Risk Score, which uses 7 predictor variables: age > 65 years, at least 3 risk factors for coronary artery disease, prior coronary stenosis of 50%, ST segment deviation on EKG, severe angina, prior aspirin use, and elevated cardiac biomarkers. **RESULTS:** Comparing Group 1998 (n = 563) and Group 2000 (n = 604), there was no difference between the mean TIMI Risk Score (2.90 1.52 vs. 2.91 1.52; p = 0.97), demonstrating a similar risk profile. Nevertheless, significant improvement in in-hospital MACE (9.1% vs. 2.8%; p < 0.001) was noted. The improvement in MACE was due to differences in rates of recurrent angina, without significant differences in death and myocardial infarction. This occurred temporally in association with a significant increase in GPI (1.0% vs. 8.3%; p < 0.01) and LMWH (0.0% vs. 15.6%; p < 0.001) use within 24 hours of presentation, and the increased utilization of intracoronary stenting (46.6% vs. 64.6%; p = 0.005), findings which were confirmed with multivariate analysis. **CONCLUSION:** Despite similar TIMI Risk Scores, the in-hospital outcomes of pts with ACS have improved over time. This temporal change is associated with the greater use of newer antiplatelet and antithrombotic therapies and increased utilization of intracoronary stenting.

Anonymous. "Intranasal delivery of morphine may offer better effects." *Clinical Journal of Oncology Nursing*. 7, no. 4(2003): 377 UI 12929267.

Anonymous. "An unusual cause of knee pain (2003:5a)." *European Radiology*. 13, no. 5(2003): 1194 UI 12772711.

Baumann, L., et al. "Cryoanalgesia with dichlorotetrafluoroethane lessens the pain of botulinum toxin injections for the treatment of palmar hyperhidrosis." *Dermatologic Surgery*. 29, no. 10(2003): 1057-9; discussion 1060 UI 12974705.

**BACKGROUND:** Hyperhidrosis is a troublesome problem that can be embarrassing in both social and professional situations. Botulinum toxin injections have proven efficacious in the treatment of hyperhidrosis. However, when treating palmar hyperhidrosis, pain at the injection site limits this therapy. We describe a method of cryoanalgesia using dichlorotetrafluoroethane to lessen the pain of botulinum toxin injections during the treatment of palmar hyperhidrosis. **OBJECTIVE:** To show the successful use of dichlorotetrafluoroethane or Frigiderm in the treatment of palmar hyperhidrosis. **METHODS:** This is a case report of a patient with a 20-year history of palmar hyperhidrosis who had previously tried several unsuccessful techniques to control pain during botulinum toxin injections to his palms. The left hand of the patient was pretreated with a spray of Frigiderm for 5 seconds before each of the botulinum injections. Two to 3 seconds of dichlorotetrafluoroethane at a distance of 2 to 4 inches were sprayed before each palmar injection. There was 1 to 2 seconds of frosting on the skin before the botulinum toxin was administered. After the botulinum toxin injection was administered, the patient was subjectively asked about pain during injection. **RESULTS:** The patient subjectively reported a 75% decrease in the intensity of pain with the Frigiderm application, which he said made the injections much more tolerable. No epidermal changes were noted at the time of treatment or at the telephone follow-up visit. The patient presented for follow-up 3 months later. He stated that the sweating had minimally returned but that he had not yet returned to baseline. **CONCLUSION:** The use of botulinum toxin for the treatment of palmar hyperhidrosis is often limited because of the pain of multiple injections. In this case report, we describe the successful use of cryoanalgesia with dichlorotetrafluoroethane or Frigiderm to lessen the pain of botulinum toxin injections during the treatment of palmar hyperhidrosis.

Bjornsson, G. A., H. R. Haanaes, and L. A. Skoglund. "Naproxen 500 mg bid versus acetaminophen 1000 mg qid: effect on swelling and other acute postoperative events after bilateral third molar surgery." *Journal of Clinical Pharmacology*. 43, no. 8(2003): 849-58 UI 12953342.

A controlled, randomized, double-blind crossover study, in which the patients acted as their own controls, was carried out to test the efficacy of naproxen 500 mg x 2 versus acetaminophen 1000 mg x 4 for 3 days on the postoperative course following third molar surgery. Acetaminophen reduced the mean swelling on the 3rd postoperative day by 22.4% ( $p = 0.023$ ) compared to that after naproxen. On the 6th postoperative day, there was 20.9% less mean swelling with naproxen ( $p = 0.44$ ), although the total swelling measurements were much less than those measured on the 3rd postoperative day. Summed pain intensity (SUMPI3.5-11) on the day of surgery revealed no statistically significant difference between the acetaminophen or naproxen regimen with the exception of 0.5 hours ( $p = 0.002$ ) and 1 hour ( $p = 0.009$ ) after first medication when acetaminophen gave less pain than naproxen. Since the drug regimens were different, summed PI for the first acetaminophen dose interval (SUMPI3.5-6) and the first naproxen dose interval (SUMPI3.5-9) was calculated. There was a tendency toward a statistically significant difference in favor of acetaminophen for SUMPI3.5-6 ( $p = 0.055$ ) but no statistically significant difference ( $p = 0.41$ ) between the treatments with respect to SUMPI3.5-9. Naproxen was statistically superior ( $p < \text{or} = 0.002$ ) to acetaminophen at 08:00, 12:00, and 16:00 hours on the 1st postoperative day and at 08:00 hours on the 2nd postoperative day, when the pain intensity level was lower than that on the day of surgery. A 3-day acetaminophen regimen reduces acute postoperative swelling better than naproxen on the 3rd postoperative day after third molar surgery but not on the 6th postoperative day when the total swelling is less.

Bjornsson, G. A., H. R. Haanaes, and L. A. Skoglund. "A randomized, double-blind crossover trial of paracetamol 1000 mg four times daily vs ibuprofen 600 mg: effect on swelling and other postoperative events after third molar surgery." *British Journal of Clinical Pharmacology*. 55, no. 4(2003): 405-12 UI 12680890.

AIMS: To evaluate the effect of a 3-day regimen of ibuprofen 600 mg x 4 on acute postoperative swelling and pain and other inflammatory events after third molar surgery compared with a traditional regimen of paracetamol 1000 mg x 4. METHODS: A controlled, randomized, double-blind, cross-over study where 36 patients (26 females, 10 males) with mean age 23 (range 19-27) years acted as their own controls. All patients were subjected to surgical removal of bilateral third molars. After one operation the patients received tablets of ibuprofen 600 mg x 4 for 3 days. After the other operation they received an identical regimen of paracetamol 1000 mg tablets. Swelling was objectively measured (mm) with a standardized face bow and the patients scored their pain intensity (PI) on a 100-mm visual analogue scale. RESULTS: There was no statistically significant difference between paracetamol and ibuprofen treatment with respect to effect on acute postoperative swelling. Swelling after paracetamol on the third postoperative day was 1.8% less than that after ibuprofen. Mean (95% CI) difference between treatments was -0.3 (-4.7, 4.1) mm. On the sixth postoperative day swelling after ibuprofen was 2.3% less than that after paracetamol. Mean (95% CI) between treatments was 0.2 (-2.4, 2.8) mm. There was no statistically significant difference in pain intensity between the paracetamol and the ibuprofen regimen on the day of surgery. The mean (95% CI) difference between the treatments for summed pain intensity on the day of surgery (SUMPI 3.5-11) was 3.31 (-47.7, 54.3) mm. Two patients developed fibrinolysis of the blood clot (dry socket) after receiving ibuprofen while none did this after paracetamol treatment. There was no noticeable difference between treatments with respect to appearance of haematomas/ecchymoses or adverse effects which all were classified as mild to moderate. CONCLUSIONS: A 3-day regimen of ibuprofen 600 mg x 4 daily does not offer any clinical advantages compared with a traditional paracetamol regimen 1000 mg x 4 daily with respect to alleviation of acute postoperative swelling and pain after third molar surgery.

Braun, T. C., N. A. Hagen, and T. Clark. "Development of a clinical practice guideline for palliative sedation.[comment]." *Journal of Palliative Medicine*. 6, no. 3(2003): 345-50 UI 14509479.

Palliative sedation is an effective symptom control strategy for patients who suffer from intractable symptoms at the end of life. Evidence suggests that the use of this practice varies considerably. In order to minimize variation in the practice of palliative sedation within our health region, we developed a clinical practice guideline (CPG) for the use of palliative sedation. Using available evidence from the literature, a five step process was employed to develop the CPG: (1) a working group was charged with the mandate to develop a draft guideline; (2) a working definition for palliative sedation was developed; (3) criteria for use of sedation were determined; (4) critical steps to be taken prior to initiation of sedation were defined; and (5) the CPG was reviewed by local stakeholders. Feedback from the wider group of stakeholders was used to arrive at the final CPG, which subsequently received approval from the local Medical Advisory Board. The process used to develop the CPG served to develop consensus within the local community of palliative care clinicians regarding the practice of palliative sedation. Subsequently, the CPG was used as a tool for educating other health care providers.

Bruno, R., et al. "Population pharmacokinetics and pharmacodynamics of enoxaparin in unstable angina and non-ST-segment elevation myocardial infarction." *British Journal of Clinical Pharmacology*. 56, no. 4(2003): 407-14 UI 12968985.

**AIMS:** A major concern with any antithrombotic therapy is an increase in the risk of haemorrhage. The aim of this study was to analyse population pharmacokinetics and pharmacokinetic/pharmacodynamic (PK/PD) relationships for enoxaparin in patients with unstable angina (UA) and non-ST-segment elevation myocardial infarction (NSTEMI), which may help predict risk of haemorrhage. **METHODS:** Anti-factor Xa (anti-Xa) activity was measured as marker of enoxaparin concentration in 448 patients receiving the drug as a single 30-mg intravenous bolus followed by 1.0 or 1.25 mg kg(-1) subcutaneously twice a day. A population pharmacokinetic analysis was conducted and individual estimates of enoxaparin clearance and area under the curve were tested as prognostic factors for the occurrence of haemorrhagic episodes. **RESULTS:** Basic population PK parameters were an enoxaparin clearance of 0.733 l h(-1)[95% confidence interval (CI) 0.698, 0.738], a distribution volume of 5.24 l (95% CI 4.20, 6.28) and an elimination half-life of 5.0 h. Enoxaparin clearance was significantly related to patient weight and creatinine clearance, and was the only independent predictor of experiencing both all (10.7%, P = 0.0013) and major (2.2%, P = 0.0004) haemorrhagic events. A creatinine clearance of 30 ml min(-1) was associated with a decrease in enoxaparin clearance of 27% compared with that in a patient with a median creatinine clearance of 88 ml min(-1), and was related to a 1.5- and 3.8-fold increase in the risk of 'all' and 'major' haemorrhagic episodes, respectively. **CONCLUSIONS:** Enoxaparin clearance depends on body weight, and, therefore, weight-adjusted dosing is recommended to minimize interpatient variability in drug exposure and the risk of haemorrhage. The importance of an increased risk of haemorrhage with decreasing renal function must be weighed against the benefit of treatment with enoxaparin in patients with UA and NSTEMI.

Chen, J. Z., et al. "Two randomized, double-blind, placebo-controlled studies evaluating the S-Caine Peel for induction of local anesthesia before long-pulsed Nd:YAG laser therapy for leg veins." *Dermatologic Surgery*. 29, no. 10(2003): 1012-8 UI 12974697.

**BACKGROUND:** Topical anesthetics are valuable tools for many dermatologic procedures. **OBJECTIVE:** To evaluate the efficacy and safety of S-Caine Peel composed of 1:1 (wt:wt) mixture of 7% lidocaine and 7% tetracaine in the induction of local anesthesia before long-pulsed Nd:YAG laser therapy for leg veins. **METHODS:** Two randomized, double-blinded, placebo-controlled trials were performed. In study 1, 60 adults received S-Caine Peel and placebo cream for 30 or 60 minutes. Efficacy was evaluated by a patient visual analog scale and impression. The pain scale and impression were evaluated by the investigator and an independent observer. In study 2, 40 adults received 60- and 90-minute applications. **RESULTS:** In study 1, the 30- and 60-minute application times were grouped: Patients had adequate pain relief in 48% of S-Caine sites versus 23% of placebo sites (P<0.001). Investigators reported none-to-mild pain in 50% of active sites versus 33% of placebo sites (P=0.007), with adequate anesthesia in 65% of active sites versus 43% of placebo sites (P=0.002). The independent witness assessed none-to-mild pain in 52% of active sites versus 37% of placebo sites (P=0.067). In study 2, investigators rated none-to-mild pain in 75% of 60-minute and 85% of 90-minute S-Caine sites versus 30% and 50% of placebo sites (P=0.012 and P=0.002, respectively), with adequate anesthesia in 70% and 85% of 60- and 90-minute of active sites versus 25% and 20% of placebo sites (P=0.029 and P=0.001, respectively). The independent witness rated none to mild pain in 80% and 85% of 60 and 90 minute of S-Caine sites versus 35% and 50% of placebo sites (P=0.008 and P=0.004). **CONCLUSION:** The S-Caine Peel provides safe and highly effective local anesthesia when applied for at least 60 minutes for laser therapy of leg veins. Facile removal of the peel provides a unique advantage and ease in administration.

Colella, C. "Understanding failed back surgery syndrome." *Nurse Practitioner*. 28, no. 9(2003): 31-43; quiz 43-5 UI 14501553.

Cooper, R. G., C. K. Booker, and C. C. Spanswick. "What is pain management, and what is its relevance to the rheumatologist?" *Rheumatology*. 42, no. 10(2003): 1133-7 UI 12777643.

Corry, P., et al. "Confirming the position of the thoracic epidural catheter--a valuable sign." *Anaesthesia*. 58, no. 9(2003): 929-30 UI 12911392.

Cummings, M. "Referred knee pain treated with electroacupuncture to iliopsoas." *Acupuncture in Medicine*. 21, no. 1-2(2003): 32-5 UI 12924845.

This is a case report of a 33-year-old woman who presented with an eight year history of deep left knee pain. The pain was originally diagnosed as deriving from osteoarthritis of the hip secondary to dysplasia, however, the same pain returned at seven months, and again at 10 months, after successful hip resurfacing arthroplasty. Six to eight weeks after the start of the second relapse of referred knee pain, the patient sought acupuncture treatment at the British Medical Acupuncture Society's London Teaching Clinic. A single myofascial trigger point was found in iliopsoas that reproduced the patient's pain. It was successfully treated with two sessions of electroacupuncture applied directly to the point. Pain referral to the knee from trigger points in the upper part of rectus femoris is well recognised, however, this pattern of referral from iliopsoas has not been described previously.

Doshi, S. N., et al. "Thirty-minute application of the S-Caine peel prior to nonablative laser treatment." *Dermatologic Surgery*. 29, no. 10(2003): 1008-11 UI 12974696.

**BACKGROUND:** Advancements in nonablative laser technology necessitate concurrent developments in topical anesthesia, as patients have reported varying degrees of discomfort during these procedures. Although topical anesthetics have proven efficacious, they possess inherent limitations related to ease of use. **OBJECTIVE:** To evaluate the efficacy of the S-Caine Peel (ZARS Inc., Salt Lake City, UT), a novel topical anesthetic that dries to form a flexible membrane, for induction of anesthesia after only a 30-minute application period. **METHOD:** Twenty patients received concurrent 30-minute applications of both the S-Caine Peel and a placebo cream randomized to the right and left cheeks in a double-blinded manner. After one pass of the 1450-nm diode laser (Smoothbeam, Candela Corp., Wayland, MA), patients' pain levels were recorded on a visual analog scale (VAS). Both the investigator and an independent observer rated perceived discomfort and immediate skin reaction based on a numerical scale. **RESULTS:** Differences in VAS scores between active sites (average rating of 15 mm) and placebo sites (average rating of 47 mm) were statistically significant ( $P < 0.001$ ). A painless procedure was noted at 50% and 65% of active sites by the independent observer and investigator, respectively. This was statistically different ( $P < 0.001$ ) from the independent observer and investigator perception of pain-free procedure at the placebo site, 0% and 5%, respectively. **CONCLUSION:** The S-Caine Peel provided effective and safe dermal anesthesia after only a 30-minute application period for nonablative laser treatment with the 1450-nm diode laser. The unique vehicle readily delivers anesthetic to contoured regions of the body and eliminates the need for occlusion.

Erdogan, O., et al. "C-reactive protein and immunoglobulin-E response to coronary artery stenting in patients with stable angina." *Japanese Heart Journal*. 44, no. 5(2003): 593-600 UI 14587641.

Recent reports indicate that inflammatory mechanisms play a crucial role in the pathogenesis of atherosclerosis and neointimal proliferation as well as coronary restenosis. To provide baseline data for further studies regarding stenting, restenosis

and inflammatory response. we prospectively conducted a clinical study to investigate the time related response of plasma levels of immunoglobulin-E (IgE) and C-reactive protein (CRP) which are two different inflammatory markers mediated by different cytokines in stable patients who underwent elective coronary artery stenting. Thirteen consecutive stable patients who underwent coronary artery stenting were included in the study. Levels of IgE and CRP were determined pre- and poststent implantation on four consecutive days and at the end of the first as well as third month. Levels of these two markers were gradually elevated on postprocedure days while reaching peak values on the second and third days for IgE (initial 278 +/- 335 IU/mL vs peak 350 +/- 489 IU/mL, P = 0.01) and CRP (initial 0.5 +/- 0 mg/dL vs peak 2.7 +/- 3 mg/dL, P = 0.002), respectively. High levels gradually returned to baseline values determined at the end of the first and even third months after stent implantation implying an acute inflammatory reaction. Stent implantation seems not to cause any persistent and ongoing inflammatory response in the long-term.

Gendreau, M., M. R. Hufford, and A. A. Stone. "Measuring clinical pain in chronic widespread pain: selected methodological issues." *Best Practice & Research in Clinical Rheumatology*. 17, no. 4(2003): 575-92 UI 12849713.

Assessing clinical pain is an important task in clinical practice and research. A large empirical literature has documented that patients' pain reports can be systematically biased by a number of methodological factors. This chapter reviews a selection of methodological issues that can affect pain ratings, including: the impact of recall bias, the use of paper and electronic diaries to assess pain experiences, ecological momentary assessment methods as a way of capturing real-time pain data in the real world, and pain scaling and data analysis considerations. Data from a recent study that implemented an electronic diary for capturing real-time pain data are presented and reviewed in the context of the methodological factors reviewed above. It is concluded that methodological factors can greatly affect our understanding of patients' pain experiences. [References: 60]

Gracely, R. H., M. A. Grant, and T. Giesecke. "Evoked pain measures in fibromyalgia." *Best Practice & Research in Clinical Rheumatology*. 17, no. 4(2003): 593-609 UI 12849714.

Fibromyalgia is defined by widespread pain and tenderness at a minimum of 11 of 18 defined tender points. Current evidence indicates that tender points are not unique to fibromyalgia and are simply regions in the body where all people are more tender. Tenderness (i.e. sensitivity to pressure) is widespread in fibromyalgia rather than being confined to tender points, and patients are also more sensitive to heat, cold and electrical stimulation. Using the number of painful tender points as a measure of tenderness is clinically expedient but is theoretically vulnerable to bias and is influenced by subjective distress. Other means of assessing tenderness (e.g. pressure dolorimeter devices, or more elaborate psychophysical methods) demonstrate the same increased pain sensitivity in fibromyalgia that is noted with tender point assessments, but these measures are relatively independent of biasing factors or distress. Fibromyalgia is one of only a few syndromes defined by the presence of both spontaneous (i.e. clinical) and evoked (i.e. experimental) pain. While the issues associated with the evaluation of spontaneous pain are shared with all chronic pain syndromes, the issues associated with the evaluation of evoked pain sensitivity are specific to fibromyalgia and related musculoskeletal disorders. This chapter focuses on the evaluation of altered pain sensitivity in fibromyalgia. It describes current measurement methodology, briefly reviews studies of sensitivity to experimentally evoked painful and non-painful sensations, analyses the factors assessed by different measurement methodologies, and concludes with recommendations for future diagnostic criteria and measurement methods. [References: 48]

Grines, C. L., et al. "A randomized, double-blind, placebo-controlled trial of Ad5FGF-4 gene therapy and its effect on myocardial perfusion in patients with stable angina." *Journal of the American College of Cardiology*. 42, no. 8(2003): 1339-47 UI 14563572.

**OBJECTIVES:** The primary objective of this study was to determine whether intracoronary administration of the adenoviral gene for fibroblast growth factor (Ad5FGF-4) can improve myocardial perfusion compared with placebo.

**BACKGROUND:** Animal studies and observational clinical studies have shown improvement in perfusion of the ischemic myocardium using genes encoding angiogenic growth factors; however, randomized, double-blind data in humans are lacking.

**METHODS:** We performed a randomized, double-blind, placebo-controlled trial of intracoronary injection of 10(10) adenoviral particles containing a gene encoding fibroblast growth factor (Ad5FGF-4) to determine the effect on myocardial perfusion. Fifty-two patients with stable angina and reversible ischemia comprising >9% of the left ventricle on adenosine single-photon emission computed tomography (SPECT) imaging were randomized to gene therapy (n = 35) or placebo (n = 17). Clinical follow-up was performed, and 51 (98%) patients underwent a second adenosine SPECT scan after 8 weeks.

**RESULTS:** Overall (n = 52), the mean total perfusion defect size at baseline was 32.4% of the left ventricle, with 20% reversible ischemia and 12.5% scar. At eight weeks, Ad5FGF-4 injection resulted in a significant reduction of ischemic defect size (4.2% absolute, 21% relative; p < 0.001) and placebo-treated patients had no improvement (p = 0.32). Although the change in reversible perfusion defect size between Ad5FGF-4 and placebo was not significant (4.2% vs. 1.6%, p = 0.14), when a single outlier was excluded a significant difference was observed (4.2% vs. 0.8%, p < 0.05). Ad5FGF-4 was well tolerated and did not result in any permanent adverse sequelae.

**CONCLUSIONS:** Intracoronary injection of Ad5FGF-4 showed an encouraging trend for improved myocardial perfusion; however, further studies of therapeutic angiogenesis with Ad5FGF-4 will be necessary.

Guerra, J., et al. "Acupuncture for soft tissue shoulder disorders: a series of 201 cases." *Acupuncture in Medicine*. 21, no. 1-2(2003): 18-22; discussion 22 UI 12924842.

A retrospective observational study was performed on shoulder pain cases seen in a community general practice. Two hundred and one patients were treated with acupuncture (on distant points plus local shoulder points), moxibustion and auriculotherapy. Data was retrieved from records over a three-year period to assess the effect of acupuncture and moxibustion on pain, mobility and disability, and to compare perceived efficacy rates with published reports from Chinese acupuncturists. Using a four-point outcome scale in this series of 201 patients the study found: one patient (0.5%) reported no improvement, 12 (6%) simple improvement, 68 (33.8%) remarkable improvement, and 120 (59.7%) clinical resolution. Only two patients left the programme. In conclusion, treatment of soft tissue shoulder disorders with acupuncture and moxibustion in this series seems to have good clinical results in diminishing symptoms, shortening disease duration time and improving functional ability, even in long-lasting disease (up to 10 years). A combination of distant points plus local points, moxibustion and auriculotherapy seems to increase effectiveness, reduce the number of sessions per patient, and increase the time between sessions, suiting the needs of patients and those of a busy National Health Service clinic. The authors report results similar to those reported by Chinese acupuncturists when using similar diagnostic procedures, techniques, outcome measures and patients. This case series is the first step towards conducting a randomised controlled trial (RCT) of acupuncture efficacy in shoulder

pain. Such trials are needed to confirm the perceived efficacy of acupuncture from observational studies.

Hiller, B., and M. Rosenberg. "Ultracet: a new combination analgesic." *Journal of the Massachusetts Dental Society*. 52, no. 2(2003): 38-40 UI 12886580.

Jones, J. S., et al. "Periprostatic local anesthesia eliminates pain of office-based transrectal prostate biopsy." *Prostate Cancer & Prostatic Diseases*. 6, no. 1(2003): 53-5 UI 12664066.

Up to 96% of patient who undergo prostate biopsy report pain. We performed periprostatic local anesthesia injection in an effort to improve patient acceptance of prostate biopsy. Sixty patients were randomized to receive either local injection of lidocaine in the periprostatic nerves or no anesthetic. Lidocaine was injected through a 7-inch spinal needle placed through a transrectal ultrasound biopsy guide. Ten-core biopsies were immediately performed. Following biopsy, all patients gave a Visual Analog Scale (VAS) assessment of their pain experienced during biopsy. A majority of patients reported Visual Analog Scale (VAS) scores in the moderate (28.6%) or severe (28.6%) ranges unless local anesthesia was given. Only one of 27 patients (3.7%) receiving local anesthetic reported moderate pain, and none reported severe pain. Mean VAS pain scores were 1.4 in the anesthetic group and 4.5 in the control group ( $P < 0.0001$ ). No difficulty was encountered from scarring in the five patients who underwent nerve sparing radical retropubic prostatectomy following local anesthetic injection. Periprostatic injection of local anesthetic essentially eliminates pain from prostate biopsy. Nerve-sparing radical retropubic prostatectomy is not more difficult as a result.

Kampe, S., et al. "The continuous epidural infusion of ropivacaine 0.1% with 0.5 microg x mL(-1) sufentanil provides effective postoperative analgesia after total hip replacement: a pilot study." *Canadian Journal of Anaesthesia*. 50, no. 6(2003): 580-5 UI 12826550.

**PURPOSE:** To assess the analgesic efficacy and functional outcome of postoperative epidural infusion of ropivacaine combined with sufentanil in a randomized, controlled trial. **METHODS:** Thirty-two ASA I-III patients undergoing elective total hip replacement (THR) were included. Lumbar epidural block using 0.75% ropivacaine was combined with either propofol sedation or general anesthesia for surgery. On arrival in the recovery room, the epidural infusion was commenced at a rate in mL calculated as follows: (height in cm - 100) x 0.1. Eleven patients received an epidural infusion of ropivacaine 0.1% with 0.5 microg x mL(-1) sufentanil (Group R+S0.5), ten patients ropivacaine 0.1% with 0.75 microg x mL(-1) sufentanil (Group R+S0.75), and 11 patients ropivacaine 0.1% with 1 microg x mL(-1) sufentanil (Group R+S1) over a postoperative study period of 44 hr. All patients had access to iv piritramide via a patient-controlled analgesia (PCA) device. Postel-Merle-d'Aubigne scoring system (PMA score) was assessed preoperatively, three weeks after surgery, and three months after surgery by an orthopedic surgeon blinded to study group. **RESULTS:** Motor block was negligible in all three groups. After eight hours of epidural infusion, sensory block had regressed completely in all patients. There was no significant difference with regard to visual analogue scale (VAS) scores (at rest:  $P = 0.55$ , on movement:  $P = 0.63$ ), consumption of rescue medication ( $P = 0.99$ ), patient satisfaction ( $P = 0.22$ ), and the incidence of adverse events. All treatment regimens provided effective postoperative analgesia with only a minimal use of supplemental opioid PCA. There was no difference between groups regarding orthopedic PMA score (pain:  $P = 0.24$ , mobility:  $P = 0.65$ , and ability to walk:  $P = 0.44$ ). **CONCLUSION:** Ropivacaine 0.1% with 0.5 microg x mL(-1) sufentanil for postoperative analgesia after THR provides efficient pain relief and, compared with 0.75 and 1 microg x mL(-1) sufentanil, reduces sufentanil

consumption without compromise in patient satisfaction, VAS scores, and functional outcome.

Kampe, S., et al. "Continuous epidural infusion of ropivacaine with sufentanil 1.5 microg x mL(-1) for postoperative analgesia after total knee replacement." *Canadian Journal of Anaesthesia*. 50, no. 6(2003): 617-8 UI 12826559.

Kereiakes, D. J., et al. "Pharmacoinvasive management of acute coronary syndrome in the setting of percutaneous coronary intervention: evidence-based, site- and spectrum-of-care strategies for optimizing patient outcomes in NSTEMI-ACS." *Journal of Invasive Cardiology*. 15, no. 9(2003): 536-53 UI 12947218.

King, C. R., and A. Khabazian. "Avinza (morphine sulfate extended-release capsules)." *Clinical Journal of Oncology Nursing*. 7, no. 4(2003): 458-60, 478 UI 12929281.

Kuczkowski, K. M., and J. L. Benumof. "Once a post-dural puncture headache patient always post-dural puncture headache patient?" *Acta Anaesthesiologica Belgica*. 54, no. 2(2003): 167-8 UI 12872436.

It is well known that symptoms of post-dural puncture headache (PDPH) are more likely if there has been a preceding PDPH. We herein present a patient who developed a PDPH following each of two dural punctures separated by 9 years.

Landham, P. R., J. W. Alford, and M. G. Ehrlich. "The risks of overly effective postoperative epidural analgesia." *American Journal of Orthopedics (Chatham, Nj)*. 32, no. 7(2003): 353-5 UI 12892281.

Continuous epidural analgesia is frequently used to provide supplemental postoperative pain control. Epidural analgesia has the potential to mask the early symptoms that signal impending complications after even routine surgical procedures. We report a case of sciatic nerve palsy following epidural anesthesia after an uncomplicated leg length correction. Good epidural anesthesia may remove a patient's normal protective sensation, allowing pain and other signs of nerve compression from prolonged unchanged postoperative positioning to go unnoticed. This case highlights the need for heightened awareness of potential neurologic compromise in the setting of epidural analgesia. We recommend closely monitoring the patient's neurologic condition and frequently evaluating the patient's position in bed.

Mystakidou, K., et al. "Long-term cancer pain management in morphine pre-treated and opioid naive patients with transdermal fentanyl." *International Journal of Cancer*. 107, no. 3(2003): 486-92 UI 14506751.

There is emerging data supporting the use of TTS-F (transdermal therapeutic system-fentanyl) in opioid naive patients. Our study examines the safety and efficacy of TTS-F in the long-term control of cancer pain in opioid naive patients and those transferring from oral morphine. Pain was assessed in 589 patients (Group A: 268 opioid naive, Group B: 321 transferring from morphine) using a Visual Analogue Scale (VAS; 0-10), based on selected questions from the Greek Brief Pain Inventory (GBPI). Overall treatment satisfaction was assessed on a 4-point scale. Quality of Life (QOL) and ECOG (0-4) status were also recorded. These were assessed in relation to TTS-F dose, pain type (neuropathic, combined, nociceptive), concomitant use of anti-inflammatory drugs and other demographic data. Of 589 patients, 59 (10%) withdrew as a result of inadequate pain satisfaction or for other reasons. There were no discontinuations due to side effects; no Grade 3-4 events occurred. A total of 530 continued on-study, 211 patients died during study period and 295 departed; all (506; 89%) were satisfied with their pain relief. Analysis of patients at

baseline, 28 days, 6 and 12 month time points (n = 153 Group A; n = 214 Group B) with respect to QOL and pain measures indicated a statistically significant ( $p < 0.001$ ) improvement in all measures across time independent of pain type, or any other patient characteristic(s). In patients with intolerable pain, transfer to TTS-F offers an efficient and safe long-term analgesic option. TTS-F offers durable long-term maintenance of pain relief with acceptable side effects in opioid naive patients. In general, TTS-F as a first line analgesic approach for carefully selected and monitored patients experiencing moderate to severe cancer pain should be considered. Copyright 2003 Wiley-Liss, Inc.

Nickel, J. C., et al. "Levofloxacin for chronic prostatitis/chronic pelvic pain syndrome in men: a randomized placebo-controlled multicenter trial." *Urology*. 62, no. 4(2003): 614-7 UI 14550427.

**OBJECTIVES:** To perform a Canadian multicenter randomized placebo-controlled trial to evaluate the safety and efficacy of 6 weeks of levofloxacin therapy compared with placebo in chronic prostatitis/chronic pelvic pain syndrome (CP/CPPS). Uncontrolled studies have supported the use of antibiotics in CP/CPPS. **METHODS:** Men with a National Institutes of Health (NIH) diagnosis of CP/CPPS (specifically, no infection localized to the prostate) were randomized to levofloxacin (500 mg/day) or placebo for 6 weeks in 11 Canadian centers. Patients were assessed at baseline and at 3, 6, and 12 weeks with the NIH Chronic Prostatitis Symptom Index (NIH-CPSI) and global patient assessments (subjective global assessment and patient assessment questionnaire). **RESULTS:** Eighty men (average age 56.0 years, range 36 to 78; duration of symptoms 6.5 years, range 0.6 to 32) were randomized to receive levofloxacin (n = 45) or placebo (n = 35). All were evaluated in an intent-to-treat analysis. Both groups experienced progressive improvement in symptoms as measured by the NIH-CPSI. However, the difference in response was not statistically or clinically significant at end of treatment (6 weeks) or at the end of the follow-up visits (12 weeks). No patients withdrew because of adverse events. One patient withdrew before the 6-week assessment. Adverse events (all mild) were reported in 20% of the levofloxacin group and 17% of the placebo group. **CONCLUSIONS:** This pilot placebo-controlled study showed that 6 weeks of levofloxacin therapy in men diagnosed with CP/CPPS resulted in symptom improvement that was not significantly different from that with placebo at end of treatment or follow-up. The clinical ramifications of these findings need to be addressed.

Novella, G., et al. "Pain assessment after original transperineal prostate biopsy using a coaxial needle." *Urology*. 62, no. 4(2003): 689-92 UI 14550444.

**OBJECTIVES:** To assess whether the use of a coaxial needle reduces discomfort in patients undergoing multiple-core transperineal prostate biopsy to detect prostate cancer. **METHODS:** From October 2002 to January 2003, we enrolled 102 consecutive patients with a suspicion of prostate cancer. In every case, we performed a 14-core transperineal prostate biopsy under transrectal ultrasound guidance. The patients were randomized into two groups: group 1 (n = 51) in which we used the 17-gauge coaxial TruGuide needle, and group 2 (n = 51) in which the conventional transperineal technique was used. At the end of the procedure, patients were asked to complete a questionnaire regarding the level of pain experienced. **RESULTS:** The studied groups were comparable in age, total prostate-specific antigen value, and prostate volume. The whole procedure was significantly less painful in group 1 (2.20 +/- 1.20 versus 2.90 +/- 1.73,  $P = 0.01$ ). We failed to show any significant pain score differences during rectal probe insertion ( $P = 0.10$ ), transrectal ultrasonography ( $P = 0.16$ ), and execution of local anesthesia ( $P = 0.11$ ). The pain score recorded during the multiple-core prostate sampling was significantly lower in group 1 (1.53 +/- 1.5 versus 2.43 +/- 1.86,  $P = 0.009$ ). No statistically significant differences were found in the complication rates between the two groups.

CONCLUSIONS: The use of a coaxial needle reduces the procedure's invasiveness and patient's pain compared with the conventional transperineal prostate biopsy.

Pimple, C., and D. Okeson. "Promoting pain management in Kansas: a collaborative effort." *Kansas Nurse*. 78, no. 7(2003): 7-8 UI 14528597.

Prommer, E. "Ketamine to control pain." *Journal of Palliative Medicine*. 6, no. 3(2003): 443-6 UI 14509494.

Rousseau, P. "Palliative sedation and sleeping before death: a need for clinical guidelines?[comment]." *Journal of Palliative Medicine*. 6, no. 3(2003): 425-7 UI 14509488.

Scheinfeld, N. "The role of gabapentin in treating diseases with cutaneous manifestations and pain." *International Journal of Dermatology*. 42, no. 6(2003): 491-5 UI 12786883.

BACKGROUND: Gabapentin was first approved by the FDA in 1993 as an add-on treatment for partial epileptic seizures. In May of 2002, it was approved as treatment for post-herpetic neuralgia by the Food and Drug Administration. It appears to be a promising agent in the treatment of pain, alterations of sensation and pruritus associated with dermatological disease, but no review of these uses exists.

METHODS: Medline and Google searches were performed for the words "Gabapentin" and "Neurontin." The articles found were reviewed. Article identified that contained references to the treatment of skin disease and neuropathic pain were examined and their contents surveyed. RESULTS: Approximately 1200 articles were located in Medline that referred to Gabapentin or Neurontin. Over 150 articles reviewed its use for neuropathic pain, neuritis or neuralgia of various sorts. Approximately 20 articles reviewed its use for a variety of dermatological conditions or diseases with dermatological manifestations that included: pain control associated with wound dressing changes, erythromelagia, piloleiomyoma related pain, brachioradial pruritus, Glossodynia, vulvodynia, and reflex sympathetic dystrophy. Over 100 articles that related to Gabapentin side effects were reviewed. CONCLUSIONS: Gabapentin is a very promising medication in the treatment of post-herpetic neuralgia and pain. Because dermatological patients suffer pain from painful tumors, after surgery, in conjunction with neuropathic ulcers, during dressing changes involving serious medical conditions, its applications seem manifold. Future studies must assess its role in the treatment of pruritus and other dermatological conditions involving pain or alteration of sensation. [References: 51]

Schull, M. J., et al. "Emergency department gridlock and out-of-hospital delays for cardiac patients." *Academic Emergency Medicine*. 10, no. 7(2003): 709-16 UI 12837644.

OBJECTIVES: To determine the effect of simultaneous ambulance diversion at multiple emergency departments (EDs) (gridlock) on transport delays for patients with chest pain. METHODS: Retrospective data on consecutive ambulance patients with chest pain and the diversion status of EDs in Toronto were obtained from January 1998 to December 1999. Gridlock was calculated separately for the four city quadrants as the daily duration of episodes where all EDs in the quadrant were simultaneously diverting ambulances. The primary outcome was 90th percentile ambulance transport interval (scene departure to hospital arrival). RESULTS: Eleven thousand four hundred patients were included (mean age 67 years; female 51%; severity of illness: moderate to life-threatening 89%). Gridlock occurred an average of 1.1 hour/day, and 3,060 patients were transported on days when it occurred. Ninetieth percentile transport interval was 15.5 minutes (95% CI = 15.3 to 15.9) for patients not exposed to gridlock vs. 17.4 minutes (95% CI = 16.8 to 17.8) for

patients who were exposed to gridlock. In multivariate analyses, gridlock was associated with both transport and total out-of-hospital interval delays (0.2 min/hour, 95% CI = 0.1 to 0.4 and 0.2 min/hour, 95% CI = 0.04 to 0.4, respectively). Delays were similar regardless of patient severity of illness ( $p = 0.5$ ). Age (0.8 min/10 years, 95% CI = 0.5 to 1), female gender (1.9 min, 95% CI = 1.3 to 2.6), advanced care paramedics (5.3 min, 95% CI = 4.4 to 6.3), and snowfall (0.8 min/cm, 95% CI = 0.2 to 1.5) were also independently associated with delays. CONCLUSIONS: Ambulance diversion was associated with delays in out-of-hospital ambulance transport for chest pain patients, but only when it resulted in gridlock. The magnitude of the out-of-hospital delay was the same regardless of the patient's severity of illness.

Souron, V., L. Delaunay, and P. Schiffrine. "Intrathecal morphine provides better postoperative analgesia than psoas compartment block after primary hip arthroplasty." *Canadian Journal of Anaesthesia*. 50, no. 6(2003): 574-9 UI 12826549.

PURPOSE: Intrathecal morphine and psoas compartment block represent two accepted techniques to provide postoperative analgesia after hip arthroplasty. We designed a prospective, randomized, single-blinded study to compare these two techniques. METHODS: Patients scheduled for primary hip arthroplasty under general anesthesia were randomized to receive either an intrathecal administration of 0.1 mg morphine (Group I,  $n = 27$ ) or a psoas compartment block with ropivacaine 0.475% 25 mL (Group II,  $n = 26$ ). Pain scores, morphine consumption, associated side-effects were assessed for 48 hr postoperatively. In addition, patient's acceptance and satisfaction of the postoperative analgesic technique were also recorded. RESULTS: During the first 24 hr, pain scores (3.3 +/- 9.6 mm vs 22.8 +/- 27.1 at H+6, 3.3 +/- 8.3 mm vs 25 +/- 26.7 mm at H+12, 7 +/- 14.9 mm vs 21.9 +/- 29 mm at H+18) and morphine consumption (0.56 +/- 2.12 mg vs 9.42 +/- 10.13 mg) were lower in Group I than in Group II. Urinary retention was the more frequent side-effect occurring in 37% of cases in Group I vs 11.5% in Group II ( $P < 0.05$ ). No major complication occurred. Despite better analgesia provided by the use of intrathecal morphine, there was no difference in the satisfaction scores between groups. CONCLUSION: 0.1 mg intrathecal morphine administration provides better postoperative analgesia than single-shot psoas compartment block after primary hip arthroplasty.

Upton, P. D., J. G. Smith, and D. R. Charnock. "Histologic confirmation of carotidynia." *Otolaryngology - Head & Neck Surgery*. 129, no. 4(2003): 443-4 UI 14574303.

Weizer, A. Z., et al. "Prospective evaluation of pain medication requirements and recovery after radical perineal prostatectomy." *Urology*. 62, no. 4(2003): 693-7 UI 14550445.

OBJECTIVES: To perform a study to quantify the variables relating to postoperative pain, activity, and gastrointestinal function after radical perineal prostatectomy to allow comparisons with alternative treatments. METHODS: Ninety-eight consecutive radical perineal prostatectomy candidates between January 2001 and December 2001 with clinically localized prostate cancer were prospectively evaluated. The time to tolerate solid food, time to unassisted ambulation, postoperative pain levels (analog pain scale of 1 to 10), and perioperative analgesic requirements (in morphine equivalents) were selected as the analysis endpoints and correlated with preoperative (age, American Society of Anesthesiology class, body mass index, and serum prostate-specific antigen level), intraoperative (node dissection, operating room time, and estimated blood loss), and postoperative (Gleason score, tumor stage, and lower extremity neurapraxia) patient variables.

RESULTS: The mean time to tolerate solid food and unassisted ambulation was 21.2 +/- 1.4 and 22.4 +/- 0.8 hours, respectively; 25.5% of patients experienced transient lower extremity neurapraxia, which was associated with longer operative times (P = 0.001). In a multivariate regression analysis, lymph node dissection correlated with both a prolonged time to tolerate solid food (P = 0.002) and unassisted ambulation (P = 0.001) and neurapraxia with an extended time to unassisted ambulation (P = 0.018). The narcotic requirements were greatest on postoperative day 1, totaling 31.7 +/- 3.0 morphine equivalents, of which 90.5% +/- 3.1% were met with oral analgesics. The average maximal pain scores were highest the first week after discharge (4.7 +/- 0.3), yet approached baseline levels by 4 weeks (1.7 +/- 0.2) after surgery at which time no patient required any pain medication. CONCLUSIONS: Modern radical perineal prostatectomy offers a favorable outcome profile with early patient recovery and low narcotic requirements. A future prospective study should directly compare radical perineal, retropubic, and laparoscopic prostatectomy to document whether the latter offers any advantages with respect to these outcome parameters.

Witter, J., and L. S. Simon. "Chronic pain and fibromyalgia: the regulatory perspective." *Best Practice & Research in Clinical Rheumatology*. 17, no. 4(2003): 541-6 UI 12849710.

Chronic pain is an important clinical entity that represents a currently unmet medical need. Relief of pain is an important public health goal for patients of all ages, from perinatal to geriatric. This article will describe some of the current regulatory issues in developing and approving drugs to treat chronic pain. It will also begin to familiarize the reader with the importance of the so-called 'label' and some of its roles to enable the best 'risk-benefit' decisions be made for, and by, patients with chronic pain.

Zarnegar, R., C. Jenner, and J. Filshie. "Acupuncture in a patient with neurofibromatosis." *Acupuncture in Medicine*. 21, no. 1-2(2003): 66 UI 12924851.