CARPAL TUNNEL SYNDROME

The following clinical paper found gabapentin to be effective in the reduction of pain and the reduction of severity of symptoms in patients suffering from CTS - “The efficacy and safety of gabapentin in carpal tunnel patients: open label trial” (Med Clin (Barc). 2008 Mar 22;130(10):371-3).

BACKGROUND AND OBJECTIVE: To evaluate the analgesic efficacy and safety of gabapentin in the treatment of carpal tunnel syndrome (CTS), as well as the electromyographic (EMG) evolution after 6 months.

PATIENTS AND METHOD: A prospective study with a 6-month follow-up of patients with EMG diagnosis of primary CTS starting treatment with 1,800 mg/day of gabapentin. At baseline visit and after 6 months of treatment a complete clinical evaluation and an EMG study were performed. Adverse effects of gabapentin were also registered.

RESULTS: Twenty-five patients were included, mean age (standard deviation) 58.88 (7.69) years. After 6 months of treatment, a statistically significant reduction of pain (p = 0.001) and improvement of severity of symptoms (p = 0.008) were observed, although functional capacity did not change. EMG was performed in 19 patients at 6 months. Compared to baseline EMG: 52.6% patients showed no changes in EMG findings, while 5.3% patients showed improvement and in 26.3% the EMG was normal. Progression was only seen in 15.8% of patients after 6 months of treatment. In 28% of the patients gabapentin was stopped because of side effects.

CONCLUSIONS: In our series, gabapentin was effective in the reduction of pain and improvement of the severity of the symptoms. Results of EMG after 6 months of treatment showed no changes, with improvement and/or remission in 84.2% of the cases. The drug was safe and well tolerated. PMID: 18381028

With our state of the art compounding lab we have the ability to compound gabapentin into a transdermal cream that can be applied directly to the area of pain. This form of delivery may provide relief at a much lower dose, and help to limit the systemic side effects associated with the oral dosing form.

An example of how you might prescribe follows:

**COMPOUNDED MEDICATION**

<table>
<thead>
<tr>
<th>Gabapentin 10% Transdermal Cream</th>
</tr>
</thead>
<tbody>
<tr>
<td>60gm</td>
</tr>
<tr>
<td>Apply sparingly BID-TID</td>
</tr>
</tbody>
</table>
CHRONIC KNEE PAIN

The results of following study support advising older people with knee pain to use topical rather than oral NSAIDs - “Topical or oral ibuprofen for chronic knee pain in older people. The TOIB study” (Health Technol Assess, 2008 May;12(22):iii-lv, ix-155).

OBJECTIVE: To determine whether GPs should advise their older patients with chronic knee pain to use topical or oral non-steroidal anti-inflammatory drugs (NSAIDs).

DESIGN: An equivalence study was designed to compare the effect of advice to use preferentially oral or topical ibuprofen (an NSAID) on knee pain and disability, NSAID-related adverse effects and NHS/societal costs, using a randomised controlled trial (RCT) and a patient preference study (PPS). Reasons for patient preferences for topical or oral preparations, and attitudes to adverse effects, were explored in a qualitative study.

SETTING: Twenty-six general practices in the UK.

PARTICIPANTS: Participants comprised 585 people with knee pain, aged 50 years or over; 44% were male, mean age 64 years. The RCT had 282 participants: 144 in the oral group and 138 in the topical group. The PPS had 303 participants: 79 in the oral group and 224 in the topical group.

INTERVENTIONS: Advice to use preferentially oral or topical NSAIDs for knee pain.

RESULTS: Changes in the global WOMAC score at 12-months were equivalent in both studies: topical - oral, RCT difference=2 [95% confidence interval (CI) -2 to 6], PPS difference=1 (95% CI -4 to 6). There were no differences in the secondary outcomes, except for a suggestion, in the RCT, that those in the topical group were more likely to have more severe overall pain and disability as measured by the chronic pain grade, and more likely to report changing treatment because of inadequate pain relief. There were no differences in the rate of major adverse effects but some differences in the number of minor ones. In the RCT, 17% and 10% in the oral and the topical group, respectively, had a defined respiratory adverse effect (95% CI of difference -17% to -2.0%); after 12 months, the change in serum creatinine was 3.7 mmol/l (95% CI 0.9 to 6.5) less favourable in the oral than in the topical group, and 11% of those in the oral group reported changing treatment because of adverse effects compared with 1% in the topical group (p=0.02). None of these differences were seen in the PPS. Oral NSAIDs cost the NHS 191 pounds and 72 pounds more per participant over 1 year in the RCT and PPS respectively. In the RCT the cost per QALY in the oral group, from an NHS perspective, was in the range 9000-12,000 pounds. In the PPS it was 2564 pounds over 1 year, but over 2 years the oral route was more cost-effective. Patient preference for medication type was affected by previous experience of medication (including adverse reactions), other illness, pain elsewhere, anecdotes, convenience, severity of pain and perceived degree of degeneration. Lack of understanding about knee pain and the action of medication led to increased tolerance of symptoms. Potentially important symptoms may inadvertently have been disregarded, increasing participants’ risk of suffering a major adverse effect.

CONCLUSIONS: Advice to use either oral or topical preparations has an equivalent effect on knee pain, but oral NSAIDs appear to produce more minor adverse effects than topical NSAIDs. Generally, these results support advising older people with knee pain to use topical rather than oral NSAIDs. However, for patients who prefer oral NSAID preparations rather than a topical NSAID, particularly those with more widespread or severe pain, the oral route is a reasonable treatment option, provided that patients are aware of the risks of potentially serious adverse effects from oral medication. Further research is needed into strategies to change prescribing behaviour and ensure that older patients are aware of the potential risks and benefits of using NSAIDs. Observational studies are needed to estimate rates of different predefined minor adverse effects associated with the use of oral NSAIDs in older people as are long-term studies of topical NSAIDs in those for whom oral NSAIDs are not appropriate. PMID: 18505668


BACKGROUND: Topical ibuprofen provides an alternative treatment to oral ibuprofen for the treatment of chronic knee pain.

OBJECTIVE: To compare the efficacy of topical versus oral ibuprofen in chronic knee pain treatment.

STUDY DESIGN: Prospective, randomized, unblinded pilot study.

SETTING: A private pain management practice.

METHODS: Twenty patients received either ibuprofen tablets 3 times daily (2400 mg total) or 4% topical gel 4 times daily (320 mg total) for 2 weeks. Subjects completed the Western Ontario and McMaster Universities (WOMAC) Osteoarthritis Index, the Medical Outcomes Study 12-Item Short Form (SF-12v2) Health Survey, and a satisfaction questionnaire.

RESULTS: Comparison of WOMAC and SF-12v2 mean changes from baseline showed no differences between groups. Patient satisfaction and study treatment convenience were rated equivalently between groups. Within the topical group, significant improvements (P < 0.05) were experienced in the mean differences of WOMAC Pain scores from baseline to 2 weeks (-82.6, -158.3 to -6.8), WOMAC Stiffness scores from baseline to one week (-25.3, -50.0 to -0.6) and baseline to 2 weeks (-47.8, -95.7 to 0.1), WOMAC Physical Function scores from baseline to one week (-175.9, -348.6 to -3.2) and baseline to 2 weeks (-312.1, -580.5 to -43.7), and patient satisfaction scores from baseline to one week and baseline to 2 weeks. Within the oral group, significant improvements (P < 0.05) were experienced in mean differences of WOMAC Physical Function from baseline to one week (-342.6, -638.1 to -47.1) and baseline to 2 weeks (-323.2, -637.1 to -9.2).

LIMITATIONS: As this was a preliminary investigation, the sample size of 20 subjects is a limitation in this study.

CONCLUSION: Treatment of chronic knee pain with topical ibuprofen provided comparable clinical efficacy and patient satisfaction as oral ibuprofen in this pilot study. PMID: 20859315

With our state of the art compounding lab we have the ability to compound ibuprofen into a topical cream at strengths to meet the unique needs of each of your patients.

<table>
<thead>
<tr>
<th>Compound</th>
<th>Strength</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ibuprofen</td>
<td>25%</td>
<td>Transdermal Cream</td>
</tr>
<tr>
<td>60gm</td>
<td>Apply to affected knee(s) Q4-6H PRN</td>
<td></td>
</tr>
</tbody>
</table>
NEUROPATHIC CANCER PAIN

The following clinical studies discuss the effectiveness of amitriptyline and baclofen in treating neuropathic cancer pain.

“Amitriptyline effectively relieves neuropathic pain following treatment of breast cancer” (Pain. 1996 Feb;64(2):293-302).

ABSTRACT: “The effectiveness of amitriptyline in relieving neuropathic pain following treatment of breast cancer was studied in 15 patients in a randomised, double-blind placebo-controlled crossover study. The dose was escalated from 25 mg to 100 mg per day in 4 weeks. The placebo and amitriptyline phases were separated by a 2-week wash-out period. Visual analogue and verbal rating scales were used for the assessment of pain intensity and pain relief. Other measures included the number of daily activities disturbed by the pain, the Finnish McGill Pain Questionnaire, adverse effects, anxiety, depression, pressure threshold and grip strength. Amitriptyline significantly relieved neuropathic pain both in the arm and around the breast scar. Eight out of 15 patients had a more than 50% decrease in the pain intensity (‘good responders’) with a median dose of 50 mg of amitriptyline. The 7 patients who had a less than 50% effect had drug concentrations equaling those of the good responders. The ‘poor responders’ reported significantly more adverse effects with amitriptyline and placebo than the good responders. It is concluded that amitriptyline effectively reduced neuropathic pain following treatment of breast cancer. However, the adverse effects of amitriptyline put most of the patients off from using the drug regularly.” PMID: 8740607


PURPOSE: Baclofen is a γ-aminobutyric acid receptor agonist commonly used for managing many types of neuropathic pain. The effect of baclofen on cancer pain has not previously been studied. This retrospective study evaluated the efficacy of baclofen in patients with cancer pain.

METHODS: We reviewed the medical records of all patients given baclofen orally as an analgesic for cancer at 5 institutions.

RESULT: Twenty-five patients received 10 to 40 mg of baclofen for cancer pain relief. Twenty patients have undergone neuropathic pain such as paroxysmal or lancing, sharp, or like an electric shock. Baclofen was effective in 21 of 25 patients and significantly reduced Numeric Rating Scale (pain score, 0-10; P < .0001). Nine patients reported mild adverse events: none of these 9 patients had to discontinue baclofen due to adverse events.

CONCLUSION: Our findings suggest that baclofen may be a useful adjuvant analgesic in the treatment of cancer pain. PMID: 19114602

With our state of the art compounding lab and pharmaceutical knowledge and experience, we can compound baclofen and amitriptyline together as a transdermal cream.

An example of how you might prescribe follows:

<table>
<thead>
<tr>
<th>COMPOUNDED MEDICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baclofen 2%/Amitriptyline 2%</td>
</tr>
<tr>
<td>Transdermal Cream</td>
</tr>
<tr>
<td>90gm</td>
</tr>
<tr>
<td>Apply locally TID</td>
</tr>
</tbody>
</table>
Directions

All topical compound %s are per 1 ml or 1 gm unless otherwise noted

**Carpal Tunnel Syndrome**
[ ] Gabapentin 10% Transdermal Cream
Quantity 60gm Directions: Apply sparingly BID-TID

**Chronic Knee Pain**
[ ] Ibuprofen 25% Transdermal Cream
Quantity 60gm Directions: Apply to affected knee(s) Q4-6H PRN

**Neuropathic Cancer Pain**
[ ] Baclofen 2%/Amitriptyline 2% Transdermal Cream
Quantity 90gm Directions: Apply locally TID

**Directions**

Prescriber’s Signature____________________________________ Refills: 1 2 3 4 5 6 7 8 9 10 11 12 NR

Compounding Pharmacy Solutions
6105 Beverly Hill Street Suite 201
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Fax: (713) 782-2644