



*We customize individual prescriptions
for the specific needs of our patients.*

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PRESCRIPTION COMPOUNDING FOR

**PAIN
MANAGEMENT**

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FIBROMYALGIA

The following clinical paper concludes that low-dose naltrexone may be an effective, highly tolerable, and inexpensive treatment for fibromyalgia - "Fibromyalgia symptoms are reduced by low-dose naltrexone: a pilot study" ([Pain Med.](#) 2009 May-Jun;10(4):663-72).

ABSTRACT

OBJECTIVE: Fibromyalgia is a chronic pain disorder that is characterized by diffuse musculoskeletal pain and sensitivity to mechanical stimulation. In this pilot clinical trial, we tested the effectiveness of low-dose naltrexone in treating the symptoms of fibromyalgia.

DESIGN: Participants completed a single-blind, crossover trial with the following time line: baseline (2 weeks), placebo (2 weeks), drug (8 weeks), and washout (2 weeks). **PATIENTS:** Ten women meeting criteria for fibromyalgia and not taking an opioid medication.

INTERVENTIONS: Naltrexone, in addition to antagonizing opioid receptors on neurons, also inhibits microglia activity in the central nervous system. At low doses (4.5 mg), naltrexone may inhibit the activity of microglia and reverse central and peripheral inflammation.

OUTCOME MEASURES: Participants completed reports of symptom severity everyday, using a handheld computer. In addition, participants visited the lab every 2 weeks for tests of mechanical, heat, and cold pain sensitivity.

RESULTS: Low-dose naltrexone reduced fibromyalgia symptoms in the entire cohort, with a greater than 30% reduction of symptoms over placebo. In addition, laboratory visits showed that mechanical and heat pain thresholds were improved by the drug. Side effects (including insomnia and vivid dreams) were rare, and described as minor and transient. Baseline erythrocyte sedimentation rate predicted over 80% of the variance in drug response. Individuals with higher sedimentation rates (indicating general inflammatory processes) had the greatest reduction of symptoms in response to low-dose naltrexone.

CONCLUSIONS: We conclude that low-dose naltrexone may be an effective, highly tolerable, and inexpensive treatment for fibromyalgia. PMID: 19453963

With our state of the art compounding laboratory and pharmaceutical experience, we have the ability to compound naltrexone into capsules in a variety of strengths.

An example of how you might prescribe follows:

COMPOUNDED MEDICATION

Low Dose Naltrexone 4.5mg

Capsules

#30

Take 1 capsule HS

CONNECTIVE TISSUE DISORDERS

Phonophoresis represents a method to apply topical medications through the skin to treat soft tissue injuries and inflammatory conditions. The following study concluded that phonophoretic effect occurred with dexamethasone - "Phonophoresis and the absorption of dexamethasone in the presence of an occlusive dressing" (*J Athl Train.* 2007 Jul-Sep;42(3):349-54).

ABSTRACT

CONTEXT: Phonophoresis is purported to represent a method to apply topical medications through the skin to treat soft tissue injuries and inflammatory conditions. Few data are available to demonstrate the clinical effectiveness of the treatment.

OBJECTIVE: To determine the effect of ultrasound on the transcutaneous absorption of dexamethasone when occluded with a dressing.

DESIGN: Crossover design.

SETTING: University general clinical research center.

PATIENTS OR OTHER PARTICIPANTS: Ten healthy subjects (age = 29.2 +/- 8.8 years; height = 170.0 +/- 3.9 cm; mass = 67.5 +/- 18.4 kg).

INTERVENTION(S): Two grams of 0.33% dexamethasone cream were applied to a 10-cm (2) area on the anterior forearm. The drug was applied to the skin and occluded with a dressing for 30 minutes before the ultrasound and sham ultrasound treatments. The treatments were applied over the drug and occlusive dressing. Ultrasound treatments were delivered at an intensity of 1.0 W/cm (2) (50% pulsed) at an output frequency of 3 MHz for 5 minutes and compared with sham ultrasound treatments that were delivered at an intensity of 0.0 W/cm (2) (50% pulsed) at an output frequency of 3 MHz for 5 minutes. All subjects received both the ultrasound and sham treatments, and the order in which subjects received the treatments was counterbalanced.

MAIN OUTCOME MEASURE(S): Serum samples were drawn before treatment and immediately posttreatment and at 2, 4, 6, 8, and 10 hours posttreatment. Using high-performance liquid chromatography, we analyzed serum to determine dexamethasone concentrations.

RESULTS: A 2-way repeated-measures analysis of variance (condition x time) revealed a significant main effect for ultrasound treatment (P = .047). The rate of appearance and the total concentration of dexamethasone in the serum were greater in subjects after phonophoresis than after sham ultrasound. The sham group had only trace amounts of dexamethasone in the serum, indicating that drug absorption was negligible without the ultrasound energy. The effect size of the phonophoresis condition fell within a 95% confidence interval after the baseline measurement.

CONCLUSIONS: We found that a phonophoretic effect occurred with dexamethasone when its application saturated the skin. PMID: 18059989.

We have the ability to compound dexamethasone as an ultrasound gel for use in phonophoresis.

An example of how you might prescribe follows:

COMPOUNDED MEDICATION

Dexamethasone 0.4%
Phonophoresis Gel
 30ml
 Use as directed in office

COMPLEX REGIONAL PAIN

The following paper reports an apparent clinical benefit for patients suffering from CRPS following oral administration of phenoxybenzamine -“Treatment of complex regional pain syndrome type I with oral phenoxybenzamine: rationale and case reports” ([Pain Pract.](#) 2008 Mar-Apr;8(2):125-32).

ABSTRACT: “The nonselective alpha-adrenergic antagonist, phenoxybenzamine, has been used in the treatment of neuropathic pain syndromes, specifically, complex regional pain syndrome (CRPS) types I and II. This agent has also previously been used in intravenous regional peripheral blocks for treatment of CRPS I; however, an intravenous preparation of phenoxybenzamine is not currently available in the U.S.A. In this case series, systemic administration was more appropriate for three of the four patients, as their syndromes had spread beyond the initial area of surgery or trauma. We report an apparent clinical benefit in three of the four patients following oral administration. We postulate that this may be due to the noncompetitive (irreversible) blockade of alpha(1)- and alpha(2)-adrenergic receptors. We further hypothesize that this blockade could reduce stimulation of an increased population of adrenergic receptors in hyperalgesic skin, blunt the stimulation by norepinephrine of alpha(2)-adrenergic receptors on macrophages, and ultimately reduce the release of proinflammatory cytokines from cellular elements.”

PMID: 18194348

An example of how you might prescribe follows:

COMPOUNDED MEDICATION

**Phenoxybenzamine 5mg
Capsules
#60
1-2 capsules PO QD**

This study suggests that treatment with phenoxybenzamine could be considered as a first choice for early CRPS - “Complex regional pain syndrome (reflex sympathetic dystrophy and causalgia): management with the calcium channel blocker nifedipine and/or the alpha-sympathetic blocker phenoxybenzamine in 59 patients” ([Clin Neurol Neurosurg.](#) 1997 Feb;99(1):26-30).

ABSTRACT: “Complex Regional Pain Syndrome (CRPS) is the new name for entities formerly known mostly as Reflex Sympathetic Dystrophy and Causalgia. Treatment of CRPS with either the calcium channel blocker nifedipine or the alpha-sympathetic blocker phenoxybenzamine was assessed in 59 patients, 12 with early stages of CRPS, 47 with chronic stage CRPS. In the early stage CRPS patients, 3 of 5 were cured with nifedipine and 8 of 9 (2 of whom had earlier received nifedipine) with phenoxybenzamine, for a cure rate of 92% (11 out of 12). In the chronic stage CRPS patients, 10 of 30 were cured with nifedipine; phenoxybenzamine cured 7 of 17 patients when administered as a first choice and another 2 of 7 patients who received nifedipine earlier, for a total late stage success rate of 40% (19 out of 47). The most common side effects necessitating discontinuing the drug were headaches for nifedipine and orthostatic dizziness, nausea and diarrhea for phenoxybenzamine. All male patients on phenoxybenzamine experienced impotence, but this did not lead to discontinuing this agent and immediately disappeared after stopping the drug. These results once again stress the importance of early recognition of CRPS, and treatment with either of these drugs could be considered as a first choice for early CRPS, especially because in this series this treatment was not combined with physical therapy making it very cost-effective. In the chronic stage of CRPS, treatment with these drugs was much less successful (40%), even though it was always combined with physical therapy, but it can still be considered, either as a first choice or when other types of treatment have failed.” PMID: 9107464

With our state of the art compounding lab and pharmaceutical knowledge and experience, we can compound phenoxybenzamine into capsules.

Prescriber Name _____

Prescriber Address _____

City _____ State _____ Zip _____

Phone _____ Fax _____

Date _____ Patient Name _____ DOB _____

Address _____ City/State/Zip _____ Phone _____

Patient will pick up at pharmacy Please ship to patient

Bill Insurance Plan: _____ ID# _____

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

Fibromyalgia

Low Dose Naltrexone 4.5mg

Capsules

Quantity #30

Directions: Take 1 capsule HS

Connective Tissue Disorders

Dexamethasone 0.4%

Phonophoresis Gel

Quantity 30ml

Directions: Use as directed in office

Complex Regional Pain

Phenoxybenzamine 5mg

Capsules

Quantity #60

Directions: 1-2 Capsules PO QD

Directions

Prescriber's Signature _____ Refills: 1 2 3 4 5 6 7 8 9 10 11 12 NR

