Original Article

The Efficacy of Acupressure and Acustimulation Wrist Bands for the Relief of Chemotherapy-Induced Nausea and Vomiting
A University of Rochester Cancer Center Community Clinical Oncology Program Multicenter Study

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Abstract
As an adjunct to standard antiemetics for the relief of chemotherapy-induced nausea and vomiting (NV), 739 patients were randomly assigned to either: 1) acupressure bands, 2) an acustimulation band, or 3) a no band control condition. Patients in the acupressure condition experienced less nausea on the day of treatment compared to controls ($P < 0.05$). There were no significant differences in delayed nausea or vomiting among the three treatment conditions. Additional analyses revealed pronounced gender differences. Men in the acustimulation condition, but not the acupressure condition, had less NV compared to controls ($P < 0.05$). No significant differences among the three treatment conditions were observed in women, although the reduction in nausea on the day of treatment in the acupressure, compared to the no band condition, closely approached statistical significance ($P = 0.052$). Expected efficacy of the bands was related to outcomes for the acupressure but not the acustimulation conditions. J Pain Symptom Manage 2003;26:731–742.

Key Words
Acupressure, acustimulation, nausea, vomiting, chemotherapy, response expectancy

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Introduction

Complete control of chemotherapy-induced nausea and vomiting (NV) remains elusive despite decades of research on pharmacological

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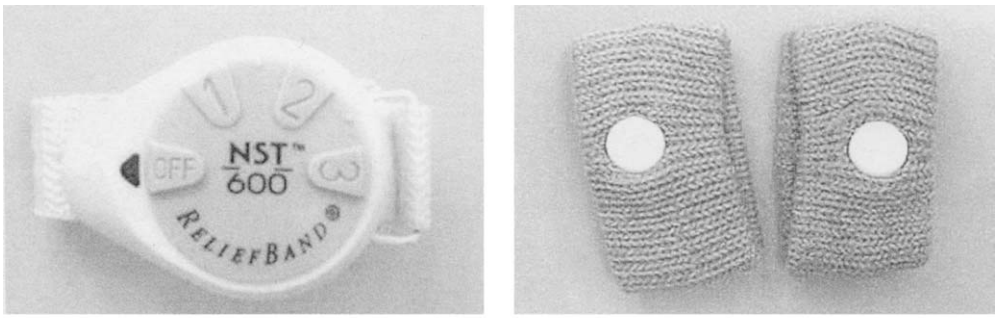
antiemetics. Nausea in particular remains a significant problem with as many as 75% of patients reporting the symptom at some point following their treatments.[1,2] Approximately one-third of patients have nausea of at least moderate intensity resulting in a significant reduction in quality of life (QOL).[3–5] Delayed nausea that occurs on Days 2–5 of the chemotherapy cycle is particularly troublesome because there is no reliable pharmacological treatment for this problem.[6,7] Not surprisingly, considerable effort and interest continue to be focused on developing better control of NV.

Evidence is emerging that the stimulation of acupuncture points, particularly the Neiguan (P6) acupuncture point (located on the inside of the wrist) is helpful in controlling NV. While no theory that is generally accepted by the scientific community adequately explains how stimulation of the P6 acupuncture point reduces nausea, recent reviews have concluded that the practice does provide relief for a significant proportion of patients.[8–11] Studies have shown the efficacy of needling (acupuncture), mild electrical stimulation (acustimulation), or constant pressure (acupressure) to the P6 acupuncture point in reducing NV associated with motion sickness,[12–15] anesthesia,[16–23] pregnancy,[24–29] and chemotherapy.[30–40] Research showing the efficacy of acustimulation and acupressure wrist bands in reducing NV is particularly intriguing because of their ease of use (Fig. 1).[14–17,26–29,33–40] Negative findings on the efficacy of these wrist bands have also been reported.[41–43]

Control of Chemotherapy-Induced NV with Wrist Bands

Four studies have examined the efficacy of acustimulation bands for control of chemotherapy-induced nausea in adult cancer patients. All used the Reliefband® (Woodside Biomedical, Carlsbad, CA), a miniaturized, battery-operated TENS device designed to stimulate the P6 acupuncture point. Pearl and colleagues[40] examined the efficacy of acustimulation in 42 patients in a randomized, double-blind, placebo-controlled crossover trial, with a follow-up. For the 18 patients who completed the crossover component of the study, patients in the active band cycle, as compared to the placebo band cycle, reported a significantly lower severity of nausea during the second through fourth post-treatment days.

Roscoe and colleagues[35] examined the efficacy of the Reliefband® in a clinical trial using a three-level crossover design (active acustimulation, sham acustimulation and no acustimulation). Two men and 25 women who experienced moderate or greater nausea at their first chemotherapy treatment were studied at their three subsequent treatments. No statistically significant differences in average nausea severity were observed between conditions. However, the data did show a very close to statistically significant decrease in the severity of delayed nausea reported during the active acustimulation condition compared to the no acustimulation condition ($P < 0.06$). In addition, patients took fewer antiemetics during the



ReliefBand® Sea-Bands®

Fig. 1. Acustimulation and acupressure wrist bands.