

**When
Moving
Hurts**



**Assess
Understand
Take Action**

GLOBAL YEAR AGAINST MUSCULOSKELETAL PAIN

OCTOBER 2009 – OCTOBER 2010

Evidence-Based Biopsychosocial Treatment of Chronic Musculoskeletal Pain

Introduction

- The biopsychosocial model is a conceptual model that proposes that psychological and social factors must also be included along with the biological variables in understanding a person's medical illness, in this case chronic musculoskeletal pain [14].
- In this model, pain is best viewed as an interactive, psychophysiological behavior pattern that cannot be separated into distinct, independent psychosocial and physical components [14].
- The biopsychosocial model has replaced the outdated biomedical reductionist approach of medicine.
- The critical elements of an interdisciplinary treatment approach (based on this biopsychosocial model) are the most clinically effective and cost-effective approach to use in patients with chronic pain.
- Biological, psychological, and social factors must all be simultaneously addressed. Psychological treatment needs to be integrated with other therapeutic components, such as physical therapy and medication management, to address all components comprising the experience of chronic musculoskeletal pain [5,14].

Psychological Treatments

- Numerous studies support the use of cognitive-behavioral therapy (CBT) and other psychological approaches for treatment of chronic musculoskeletal pain [6,7,15].
- Studies show that psychological approaches are more effective than wait-list control groups [7,15].
- Behavioral interventions yield similar outcomes, with no additional benefit when paired with usual care, and are only "moderately" superior to the following conditions: no treatment, placebo control, and wait-list control groups [15].

Effectiveness of Biopsychosocial-Based Interdisciplinary Treatment

- Comprehensive interdisciplinary programs:
 - These programs use a team approach, including a physician-nurse team, physical therapists, occupational therapists, psychologists or psychiatrists, and case managers.
 - The programs show substantial improvement in important socioeconomic outcome measures (e.g., return-to-work and resolution of outstanding legal and medical issues), in people with chronic spinal pain [5–6].
 - This functional restoration approach is also effective in chronic upper-extremity musculoskeletal disorders, temporomandibular disorders, fibromyalgia syndrome, headache, whiplash and neck pain, and repetitive strain disorders [e.g., 4,8–10].
 - A review [9] directly comparing interdisciplinary to unimodal treatment or no-treatment control patients found greater improvements in a variety of measures, including:
 - return-to-work, 68% multidisciplinary versus 32% unimodal or no treatment;
 - pain reduction, 37% versus 4%;
 - medication reduction, 63% versus 21%;
 - increases in activity, 53% versus 13%.
- Interdisciplinary programs employing only CBT and physical therapy [1,2].

- Other interdisciplinary approaches that are not formally based on a functional restoration model, but have incorporated psychological treatment components within a rehabilitation framework, also demonstrate long-term effectiveness [e.g., 2,3,11,13].
 - A study comparing efficacy of lumbar spinal fusion to CBT with exercise for back pain patients with documented underlying pathophysiology showed similar results at a 1-year or 2-year follow-ups, with both groups displaying significant clinical improvements [1].
 - Cost-utility analysis of these data show that at the 2-year follow-up, even though there were no significant differences in treatment effectiveness between the two groups, the average cost of surgery was £7,830 (approximately US\$14,400), compared to only £4,526 (approximately US\$8,323) for CBT combined with exercise [12].
 - A study evaluating the rates of low back pain, before and after the availability of two multidisciplinary nonsurgical spine clinics, showed that the annual rate of low back pain-related surgeries for patients in a particular geographical region decreased from about 60–80 per 100,000 before the introduction of multidisciplinary care in 1997 to 40 per 100,000 in 2001 after its introduction [11]. The rates of elective, first-time disk surgeries also decreased by approximately two-thirds.

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