

# MUSCULOSKELETAL DISORDERS: PRIMARY AND SECONDARY INTERVENTIONS

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# The Biopsychosocial Model of Musculoskeletal Pain and Disability

# **More Heuristic Perspective than the Outdated Biomedical Reductionism Approach**

**2003 STAR Symposium**

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**Complex and Dynamic  
Interaction among Physiologic,  
Psychologic and Social Factors,  
Which Perpetuates and May  
Worsen the Clinical Presentation**

# **DISTINCTION BETWEEN DISEASE AND ILLNESS (Turk & Monarch, 2002)**

- **Disease**: An objective biological event involving the disruption of specific body structures or organ systems due to anatomical, pathological or physiological changes
- **Illness**: A subjective experience or self-attribution that a disease is present, creating physical discomfort, behavioral limitations and psychosocial distress

# ANALOGOUS TO DISTINCTION BETWEEN NOCICEPTION AND PAIN

- NOCICEPTION: The stimulation of nerves that convey information about tissue damage to the brain
- PAIN: More subjective perception that is the result of the transduction, transmission and modulation of sensory input. May be filtered through an individual's genetic composition, prior learning history, current physiological status, and sociocultural influences

# BIOPSYCHOSOCIAL MODEL FOCUSES ON ILLNESS

- The interrelationships among biological changes, psychological status, and the sociocultural context all need to be considered
- This helps to explain the diversity of pain or illness expression, including its severity, duration and psychosocial consequences

**Musculoskeletal Pain Disability,  
Especially When it Becomes  
Chronic in Nature, Often Cannot  
be “Cured” but Only Managed**

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# Distinctions among Primary, Secondary and Tertiary Care

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**PRIMARY CARE:** Involves symptom control when acute pain predominates (usually 0-10 weeks after injury occurrence).

**SECONDARY CARE:** The first level of rehabilitation when primary care does not resolve the problem. The first stage of secondary care (rehabilitation) involves reactivation during the transition from primary care to return-to-work (2-6 mos. After occurrence + some postop). Designed to facilitate return to productivity before progressive deconditioning and psychosocial barriers supervene.

# TERTIARY CARE:

Interdisciplinary care required because disability predominates with significant physical and psychosocial deterioration (usually 4-6 mos. after initial injury occurrence)

## Treatment Guidelines For Primary Care

- Deal with patients' fears and misconceptions about musculoskeletal pain
- Provide a confident explanation of the reasons for the pain, as well as a prognosis

## Treatment Guidelines, cont.

- Empower the patient to resume/restore normal activities through simple prescribed exercises and graded activity. This should be supplemented, when necessary, by simple adjunctive approaches such as analgesics and manual therapy for symptomatic relief.

# SUMMARY OF RISK FACTORS OR “FLAG” CATEGORIES

**RED FLAGS.** Potentially significant physiological risk factors for developing chronic low back pain if not appropriately assessed.

**YELLOW FLAGS:** Potentially significant psychosocial risk factors for developing chronic low back pain

## FLAG CATEGORIES, CONT.

**BLUE FLAGS:** Perceived occupational factors believed by patients to impede their recovery

**BLACK FLAGS:** Objective occupational or workplace factors that may initially lead to the onset of low back pain, and may promote disability once the acute episode has occurred

# THE IMPORTANCE OF EARLY INTERVENTION/PREVENTION

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**Long-Term Outcome Results at 12-Month Follow-up** (from Gatchel et al., 2003)

<b>OUTCOME MEASURE</b>	<b>HR-I</b>	<b>HR-NI</b>	<b>LR</b>	<b>p Value</b>
	<b>(n=22)</b>	<b>(n=48)</b>	<b>(n=54)</b>	
% Return-to-Work at Follow-up*	91%	69%	87%	.027
Average # Health Care Visits Regardless of Reason**	25.6	28.8	12.4	.004
Average # Health Care Visits Related to LBP**	17.0	27.3	9.3	.004
Average # of Disability Days Due to Back Pain**	38.2	102.4	20.8	.001
Average of Self-Rated Most "Intense Pain" at 12-Month Follow-Up (0-100 scale)**	46.4	67.3	44.8	.001
Average of Self-Rated Pain Over Last 3 Months (0-100 scale)**	26.8	43.1	25.7	.001
% Currently Taking Narcotic Analgesics*	27.3%	43.8%	18.5%	.020
% Currently Taking Psychotropic Medication*	4.5%	16.7%	1.9%	.019

\* Chi-square analysis    \*\* ANOVA

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## Cost-Comparison Results (Average Cost Per Patient/YEAR;

from Gatchel et al., 2003)

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<u>COST VARIABLE</u>	<u>HR-I</u>	<u>HR-NI</u>
	<u>(n=22)</u>	<u>(n=48)</u>
Health care Visits Related to LBP	\$1,670	\$2,677
Narcotic Analgesic Medication	\$70	\$160
Psychotropic Medication	\$24	\$55
Work Disability Days/Lost Wages	\$7,072	\$18,951
Early Intervention Program	\$3,885	NA
<b>TOTALS</b>	<b>\$12,721</b>	<b>\$21,843</b>

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