
BURDEN OF ILLNESS

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Overview

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Burden of Low Back Pain

- **Number one** cause of work-related disability¹
- **2nd most common reason** (after respiratory illness) for symptom-related physician visits²
- **5th reason** for medical office visits²

Physical Burden

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Impact of Low Back Pain on Functional Abilities

Items	Median (IQR) Functional Ability*		
	Men	Women	All
Pain intensity	54.0 (26.0–67.0)	51.0 (30.0–68.5)	52.5 (28.3–68.0)
Personal care	27.0 (9.0–45.0)	22.0 (4.5–39.0)	24.5 (24.5–43.8)
Lifting	49.0 (29.0–73.0)	59.0 (33.5–71.5)	53.5 (30.0–72.8)
Walking	34.0 (12.0–63.0)	37.0 (14.0–60.0)	35.5 (13.3–61.8)
Sitting	41.0 (19.0–65.0)	49.0 (25.5–65.0)	44.5 (22.0–65.0)
Standing	40.0 (20.0–63.0)	41.0 (21.0–61.0)	41.0 (21.0–61.8)
Sleeping	29.0 (12.0–50.0)	37.0 (9.5–63.5)	32.5 (11.0–60.8)
Sex life	24.0 (7.0–47.0)	22.0 (7.0–38.5)	23.5 (7.0–43.8)
Social life	28.0 (5.0–50.0)	36.0 (10.0–61.0)	32.5 (9.0–58.8)
Travelling	38.0 (16.0–65.0)	43.0 (20.5–70.0)	41.0 (18.3–67.0)

*Measured using visual analog scale

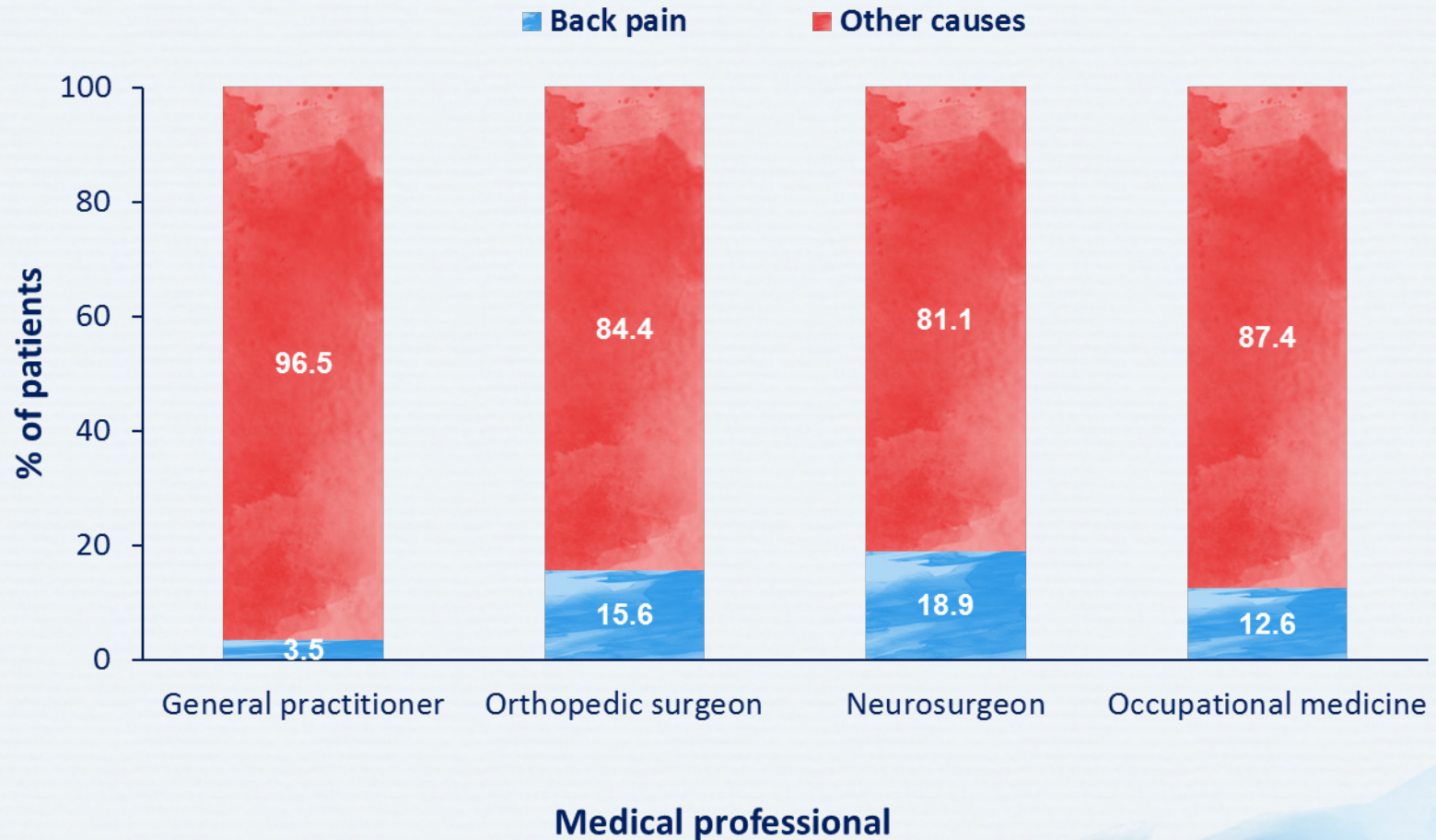
IQR = interquartile range

Kemppi C et al. *J Rehabil Med* 2012; 44(2):158–62.

Economic Burden

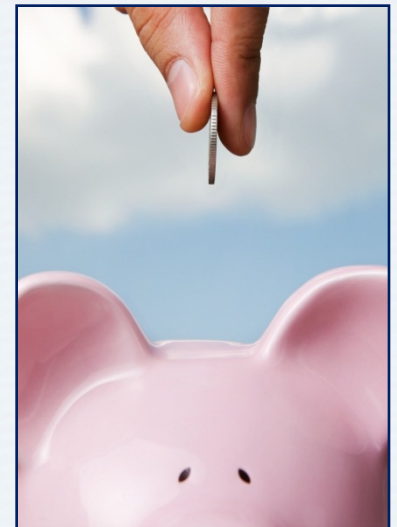
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Reasons for Medical Consultation for Low Back Pain



Financial Costs Associated with Low Back Pain

- Low back pain is the **number one cause of occupational disability** in people younger than 45 years of age
- At least **1%** of the US population is disabled due to low back pain
- Estimated direct costs to US society are **\$20–50 billion per year**
- Indirect costs (i.e., lost wages and productivity, legal and insurance expenses) exceed \$100 billion per year
- A large percentage of costs are for diagnosis/treatment and unnecessary prescriptions for rest
- The few patients who become chronically disabled account for 80% of costs



US = United States

Anderssen GBJ. In: Frymoyer JW (ed). *The Adult Spine. Principles and Practice*. Raven Press; New York: 1997; Chiodo A Et al. *Acute Low Back Pain*. Available at: <http://www.med.umich.edu/1info/fhp/practiceguides/back/back.pdf>. Accessed: October 17, 2013; Institute of Medicine. *Relieving Pain in America: A Blueprint for Transforming Prevention, Care, Education, and Research*. National Academies Press; Washington, DC: 2011; National Center for Health Statistics. *Health, United States, 2006 with Chartbook on Trends in the Health of Americans*. Hyattsville, MD: 2006; Ricci JA et al. *Spine (Phila Pa 1976)* 2006; 31(26):3052-60; Stewart WF et al. Lost productive work time costs from health conditions in the United States: results from the American Productivity Audit. *J Occup Environ Med* 2003; 45(12):1234-46.

Economic Impact of Low Back Pain



- Costs associated with low back pain exceed costs associated with coronary disease and combined costs of rheumatoid arthritis, respiratory infection, stroke and diabetes¹
- Direct costs for chronic low back pain account for 15% of the total annual cost per patient²
- Indirect costs account for of 85% of the total annual medical cost per patient²

1. McKenzie RA, May S. *The Lumbar Spine: Mechanical Diagnosis and Therapy*. 2nd ed. Spinal Publications; Waikanae, NZ: 2003.

2. Ekman M et al. *Spine (Phila Pa 1976)* 2005; 30(15):1777-85.

Economic Impact of Low Back Pain



Results of a meta-analysis demonstrated:

- Comorbidities including musculoskeletal pain, neuropathic pain, depression, anxiety and sleep disorders were more common in patients with chronic low back pain than in control patients
- Drug use was significantly higher in patients with low back pain
- Direct costs for patients with chronic low back pain were nearly triple those of control patients

Cost of Low Back Pain with a Neuropathic Component

- Costs for patients with neuropathic back pain higher than for typical back pain patients
 - As much as 67% high than costs for a patient with nociceptive back pain only

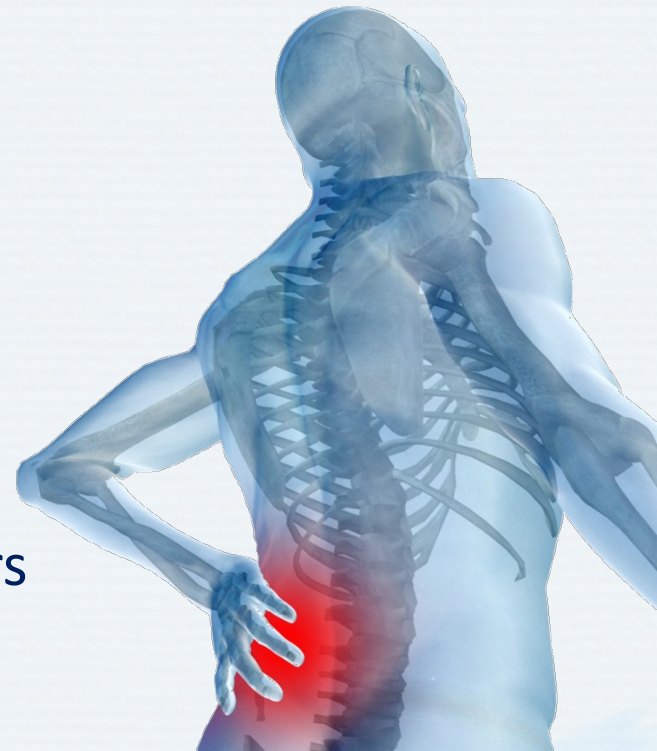
Costs of Chronic Low Back Pain

United States

- Total costs of low back pain exceed \$100 billion per year¹

United Kingdom

- Direct costs of back pain estimated to be £1.6 billion per year²
- Indirect costs of musculoskeletal disorders including back pain are estimated to be £590-624 million per year^{3,4}



Comorbidities

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Low Back Pain Comorbidities

Pain cohorts	Comorbid pain conditions* (%)										Mean
	Stroke	LR	CR	Fibro	OA	LBP	Migraine	RA	PBS	IC	
Low back	4.2	9.8	2.1	4.0	17.0	100.0	2.7	0.8	2.1	0.2	1.5
Lumbar radiculopathy	4.8	100.0	6.0	5.0	24.5	46.8	2.6	1.0	1.8	0.2	2.0

Note: infrequent comorbid conditions were omitted from the comorbid pain conditions in the table.

CR = cervical radiculopathy; HIV = human immunodeficiency virus; IC = interstitial cystitis; Fibro = fibromyalgia;

LR = lumbar radiculopathy; MS = multiple sclerosis; OA = osteoarthritis; PBS = painful bladder syndrome; RA = rheumatoid arthritis

Davis JA et al. *J Pain Res* 2011; 4:331-45.

Sleep and Mental Health Comorbidities Associated with Low Back Pain

Pain cohorts				Depression (%)				
	>1 sleep comorbidity (%)	>1 mental health comorbidity (%)	Mental health condition Mean (SD)	MDD	Other depressive symptoms	Total	Other psych disorders (%)	Anxiety (%)
Low back	7.3	18.4	1.4 (0.8)	4.5	4.4	7.9	4.8	6.5
Lumbar radiculopathy	8.1	17.1	1.4 (0.7)	4.5	3.7	7.5	4.4	5.6

MDD = major depressive disorder; SD = standard deviation

Davis JA et al. *J Pain Res* 2011; 4:331-45.

Summary

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Burden of Illness of Low Back Pain: Summary

- Reduces a patient's ability to function
- Increases health care utilization and costs