

STUDY PROTOCOL

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# Imaging use for low back pain by Ontario primary care clinicians: protocol for a mixed methods study – the Back ON study

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## Abstract

**Background:** At any one time, one in every five Canadians has low back pain (LBP), and LBP is one of the most common health problems in primary care. Guidelines recommend that imaging not be routinely performed in patients presenting with LBP without signs or symptoms indicating a potential pathological cause. Yet imaging rates remain high for many patients who present without such indications. Inappropriate imaging can lead to inappropriate treatments, results in worse health outcomes, and causes harm from unnecessary radiation. There is a need to understand the extent of, and factors contributing to, inappropriate imaging for LBP, and to develop effective strategies that target modifiable barriers and facilitators. The primary study objectives are to determine: 1) The rate of, and factors associated with, inappropriate lumbar spine imaging (x-ray, CT scan and MRI) for people with non-specific LBP presenting to primary care clinicians in Ontario; 2) The barriers and facilitators to reduce inappropriate imaging for LBP in primary care settings.

**Methods:** The project will comprise an inception cohort study and a concurrent qualitative study. For the cohort study, we will recruit 175 primary care clinicians (50 each from physiotherapy and chiropractic; 75 from family medicine), and 3750 patients with a new episode of LBP who present to these clinicians. Clinicians will collect data in the clinic, and each participant will be tracked for 12 months using Ontario health administrative and self-reported data to measure diagnostic imaging use and other health outcomes. We will assess characteristics of the clinicians, patients and encounters to identify variables associated with inappropriate imaging. In the qualitative study we will conduct in-depth interviews with primary care clinicians and patients.

**Discussion:** This will be the first Canadian study to accurately document the extent of the overuse of imaging for LBP, and the first worldwide to include data from the main healthcare professions offering primary care for people with LBP. This study will provide robust information about rates of inappropriate imaging for LBP, along with factors associated with, and an understanding of, potential reasons for inappropriate imaging.

**Keywords:** Primary care, Low back pain, Diagnostic imaging, Cohort study, Administrative data analysis, Qualitative study

## Background

Low back pain is the world's leading cause of disability due to non-fatal health outcomes from diseases and injuries, and presents a major societal and individual burden [1, 2]. Low back pain is one of the biggest public health problems in Canada: at any one time, one in every five

Canadians has low back pain [3], and it is the second most common symptom, after a cough, seen in family practice [4–6]. Each year in Canada, direct treatment costs for low back pain exceed CAD\$8 billion [7], with significant additional societal costs associated with losses in worker productivity and associated disability payments.

For people with low back pain who seek care, the most common providers of choice are family practitioners, chiropractors and physiotherapists [8]. However, management of low back pain in these settings is not always

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# Pain Management For Primary Care Clinicians

**Dawn A. Marcus**

## Pain Management For Primary Care Clinicians:

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clinical psychology community     **Chronic Pain** Dawn A. Marcus,2005 Annotation The author simplifies the complex care of patients with chronic pain by providing practical strategies for targeting important symptoms establishing realistic treatment goals and managing patients with instructional sheets that can be copied directly from the book and used for both education and the monitoring of therapeutic compliance and response     **Pharmacology for the Primary Care Provider** Marilyn W. Edmunds,Maren Stewart Mayhew,2004 The only pharmacology resource specifically written by and for nurse practitioners this new edition provides a greater emphasis on prototype drugs while retaining its comprehensive approach to the pharmacology content needed by the primary care provider New features include prototype drug lists in the coverage of drug classes that receive expanded coverage detailed patient teaching guidelines expanded content in both the geriatric and pediatric chapters a special icon identifying the Top 200 Drugs and highlighted Clinical Alerts Comprehensive coverage is provided of all drugs commonly prescribed and used in the primary care setting Prototype drugs are presented first in each drug class with expanded coverage of these agents Clear explanations describe how each drug in a class differs from its prototype Detailed information shows how to provide effective patient teaching as well as how to gain patient compliance Chapters focus on the practitioner s role in patient teaching drug action and drug therapy Online Resources are provided at the end of each chapter The Top 200 Drugs are described according to the number of U S prescriptions dispensed Five new units improve the organization of material Renal Genitourinary Agents Unit 8 Psychotropic Agents Unit 11 Endocrine Agents Unit 12 Female Reproductive Agents Unit 13 and Health Promotion Unit 15 New chapters examine over the counter medications compliance and the therapeutic experiment overview of the nervous system substance abuse treatment of common infections weight management and complementary and alternative treatments Reorganized and redesigned format and headings are more consistent and easy to follow Content has been expanded in the geriatric and pediatric special populations chapters Ch 6 and 7 More concise coverage of disease processes features clearer ties to the Mechanism of Action sections 25 new figures have been added to the pathophysiology and Mechanisms of Action sections A Table of Common Interactions is included on the inside of the back cover     **Pain** Harald Breivik,Michael Shipley,2007 Edited by Harald Breivik and Michael Shipley this text offers the most up to date advice on the assessment and treatment of pain

**Pharmacotherapy Principles and Practice, Third Edition** Marie Chisholm-Burns,Terry Schwinghammer,Barbara G. Wells,Patrick Malone,Joseph T. DiPiro,2013-03-08 Learn the essential principles of pharmacotherapy and how they apply to today s healthcare Pharmacotherapy Principles Practice Third Edition uses a solid evidence based approach to teach you how to design implement monitor and evaluate medication therapy This trusted text provides everything you need to gain an in depth understanding of the principles essential optimal pharmacotherapy of disease In order to be as clinically relevant as possible the disease states and treatments discussed focus on disorders most often seen in clinical practice Chapters were written or reviewed by pharmacists nurse practitioners physician assistants and physicians who are authorities in their fields

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Dawn Marcus,2008-12-10 Patients with chronic pain present a unique set of challenges to the primary care clinician In Chronic Pain A Primary Care Guide to Practical Management Second Edition leading pain specialist Dawn A Marcus MD again offers practical clear and succinct evidence based approaches to the diagnosis and treatment of the myriad painful conditions clinicians see in their offices every day such as headache back pain arthritis fibromyalgia and abdominal pain Sections addressing pain management in children pregnant women and seniors are also included This new edition is designed to provide a pragmatic approach to assessing and treating the complex issues and characteristics of chronic pain patients New chapters expand upon the evidence based recommendations and practical office tools previously provided with the addition of new chapters addressing risk management pain syndromes in the shoulder upper extremity and lower extremity and cancer and end of life pain Chronic Pain A Primary Care Guide to Practical Management Second Edition provides strategies and techniques that are designed to improve the confidence with which the primary care physician can approach patients with complex pain complaints reduce staff stress and improve patient success

### **Pharmacotherapy**

*Principles and Practice, Third Edition* Joseph DiPiro,2013-01-23 Pharmacotherapy Principles Practice pares back the exhaustive coverage of Pharmacotherapy A Pathophysiologic Approach 7 e by over 1 000 pages to topics and a depth of coverage the editors have identified as essential to pharmacy practice Collectively this textbook represents the work of over 160 authors and 145 reviewers

### **Journal of the American Medical Association ,2010      Pharmacotherapy**

**Principles and Practice, Sixth Edition** Marie A. Chisholm-Burns,Terry L. Schwinghammer,Patrick M. Malone,Jill M. Kolesar,Kelly C Lee,P. Brandon Bookstaver,2022-02-04 All the main concepts from the landmark Pharmacotherapy A Pathophysiologic Approach distilled down to a concise clinically focused full color resource Providing a solid evidence based approach Pharmacotherapy Principles Practice Sixth Edition explains how to design implement monitor and evaluate medication therapy You ll gain an in depth understanding of the underlying principles of the pharmacotherapy of disease and their practical application Pharmacotherapy Principles Practice includes chapters on geriatrics pediatrics and palliative care Each of the subsequent disease based chapters covers disease epidemiology etiology pathophysiology clinical presentation and diagnosis nonpharmacologic therapy followed by therapeutic recommendations for medication selection desired outcomes dosing and patient monitoring Features Chapters are written reviewed by pharmacists NPs PAs and physicians considered authorities in their fields Learning objectives with associated content identified with a margin rule Disorder based organization makes finding answers quick and easy Surveys the full range of organ system disorders treated in pharmacy practice Knowledge building boxed features within chapters cover Clinical Presentation Diagnosis Patient Encounters and

Patient Care and Monitoring Guidelines Standardized chapter format Laboratory values are presented in conventional and System International units Key concepts are indicated in text with numbered icons Content on cultural competency Glossary Online Learning Center **Clinical Guidelines in Adult Health** Constance R. Uphold, Mary Virginia Graham, 2003 Primary Care Book for health providers **The Lancet**, 1943 **Clinical Pharmacy**, 1992 Chronic Pain Management for Physical Therapists Harriët Wittink, Theresa Hoskins Michel, 2002 This is the first and only book on chronic pain management written specifically for physical therapists This unique resource provides physical therapists and physical therapy students with practical information for treating patients with chronic pain **Medical Management of Vulnerable & Underserved Patients: Principles, Practice, Population** Jr. Talmadge King, Margaret Wheeler, Alicia Fernandez, Dean Schillinger, Andy Bindman, Kevin Grumbach, Teresa Villela, 2006-08-10 This is the only reference currently available that focuses on the treatment of patients living with chronic diseases in poor and minority populations **Medical-surgical Nursing** Joyce M. Black, 1997 Lethal Judgments Melvin I. Urofsky, 2000 He shows how these 1997 cases relate to two other famous cases Karen Ann Quinlan and Nancy Beth Cruzan and carries the controversy up to the recent trials of Dr Jack Kevorkian Urofsky considers the many facets of this knotty argument He differentiates between discontinuation of medical treatment assisted suicide and active euthanasia and he sensitively examines the issue's social and religious contexts to enable readers to see both sides of the dispute He also shows that in its ruling the Supreme Court did not slam the door on the subject but left it ajar by allowing states to legislate on the matter as Oregon has already done By treating assisted suicide simply as a legal question observes Urofsky we miss the real importance of the issue

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