Reading Medical Records

Reading Medical Records

Second Edition

J. Stanley McQuade

Carolina Academic Press

Durham, North Carolina

Copyright © 2012 J. Stanley McQuade All Rights Reserved

Libary of Congress Cataloging in Publication Data McQuade, J. Stanley (James Stanley), 1929-Reading medical records / Stanley McQuade.—2nd ed. p. cm. Includes bibliographical references and index. ISBN 978-1-61163-109-8 (alk. paper) 1. Medical records--Evaluation. 2. Evidence, Expert. 3. Medical jurisprudence. I. Title.

RA1056.M37 2012 651.5'04261--dc23

2012016495

Carolina Academic Press 700 Kent Street Durham, NC 27701 Telephone (919) 489-7486 Fax (919) 493-5668 www.cap-press.com

Printed in the United States of America

Contents

Introduction

Chapter One • Mastering the Medical Record	3
§ 1:1 The significance of medical records	3
§ 1:2 What is needed to understand a medical record	4
§ 1:3 The reference library	5
§ 1:4 Some other valuable books	6
§ 1:5 Learning to read medical records by practice	7
\$ 1:6 Reading medical records—the importance of a methodical approace	ch 7
§ 1:7 Electronic medical records	8
Chapter Two • The Documents	9
Part I. General Observations—The Big Three	
§ 2:1 General description of a medical record	9
§ 2:2 The doctors' discharge summary	9
§ 2:3 The nurses' notes	10
§ 2:4 The doctors' progress notes — the medical perspective	11
Part II. Documents Relating to Surgery	
§ 2:5 The surgical summary	11
§ 2:6 The anesthesia records	12
§ 2:7 The recovery room record	14
§ 2:8 The nurses' surgical record	14
§ 2:9 The sponge and instrument count	15
Part III. Various Other Documents	
§ 2:10 Other nursing records	15
§ 2:11 Lab work and other diagnostic data	16
§ 2:12 Imaging reports	17
§ 2:13 Reports of electrodiagnostic studies	19
§ 2:14 Respiratory function tests	19
§ 2:15 The importance of pictograms and traces	20
§ 2:16 Departmental records	20

xiii

§ 2:1	7 Documents relating to the standard of care	21
\$ 2:1	8 Patient records obtainable outside the hospital	22
Appe	ndix to Chapter Two	25
Doct	or's Records	26
Nurs	es' Hospital Records	36
Oper	ating Room Records	47
Emer	gency Department Records	56
Patho	ology Lab Reports	65
Radi	ology Reports	67
Resp	iratory Services Report	70
Depa	rtmental Records	72
Chapter	3 · Organizing Medical Data for Legal Purposes	75
§ 3:1	Introduction—preliminary organization of the medical record	75
\$ 3 : 2	The initial reading	76
§ 3:3	Making the flow sheet	77
§ 3:4	Using a computer to make the flow sheet	79
\$ 3:5	Uses of a flow sheet	79
\$ 3:6	More selective ways of presenting medical information	80
§ 3:7	Summary and conclusion—is the flow-chart method	
	energy efficient?	81
Chapter	Four · The History and Physical Examination	83
	The importance of the history and physical (H&P)	83
§ 4:2	Locations in a medical record where the H&P may appear	83
§ 4:3	The outline of the history	84
	The report of the physical examination	85
§ 4:5	Assessment and Plan	85
§ 4:6	The problem-oriented medical record	86
-	Five • Low Back and Neck Injuries	87
	duction	
	The prevalence and significance of back and neck injuries	87
	The importance of bones for lawyers	87
	Anatomy and Physiology	
\$ 5 : 3	The constituents of the musculoskeletal system—bony and	
	soft tissues	88
0	The basic anatomical structure of bones	88
-	Structure of the axial skeleton	90
-	The main divisions of the vertebral column	91
	The spinal curvatures	91
	Skeletal appendages—the costal bones (ribs)	91
§ 5:9	Appendages to the axial skeleton—the shoulder girdle	94

\$ 5:10	The arm	96
§ 5:11	Appendages to the axial skeleton—the pelvic girdle	97
§ 5:12	The leg	99
§ 5:13	The extremities	102
\$ 5 :14	The anatomical position—planes and movements	103
\$ 5:15	Formal description of movements and positions	104
Part II.	Musculoskeletal Disorders	
§ 5:16	The legal viewpoint on musculoskeletal disorders and diseases	105
§ 5:17	Musculoskeletal trauma—short-term and long-term problems	106
§ 5:18	Compensation problems—percentage disability systems	106
§ 5:19	Mechanisms protecting the spine from injury	107
§ 5:20	Degenerative disc disease (DDD)	107
§ 5:21	Degenerative disease of the spine (DDS)	110
\$ 5 : 22	The clinical presentation of lumbar disc disease	111
§ 5:23	The explanation of low back syndromes	111
§ 5:24	Congenital defects of the spine—transitional vertebra	112
\$ 5 : 25	Congenital defects of the spine—pars defect	113
§ 5:26	Familial back problems—defective collagen	113
Part III.	The Diagnosis of Low Back Problems	
§ 5:27	Clinical diagnosis of lumbar disc problems	114
§ 5:28	Investigating disc problems—diagnostic imaging	115
§ 5:29	Investigating low back pain—electrodiagnostic studies	118
§ 5:30	Other tests—discogram, lumbar venogram and spinal block	118
Part IV.	Treatment and Prognosis in Low Back Conditions	
§ 5:31	Conservative treatment	119
§ 5:32	Surgical treatments—laminectomy/discectomy (L/D)	120
§ 5:33	Surgical treatment of disc disease—spinal fusion	120
§ 5:34	Newer surgeries for degenerative disc disease (DDD)	121
§ 5:35	The prognosis in low back cases	122
Part V.	Neck Problems	
§ 5:36	The differences between low back and neck problems	123
§ 5:37	The anatomy of the cervical spine—the cervical vertebrae	123
§ 5:38	Soft tissue injuries of the neck	125
§ 5:39	Life threatening neck injuries—neck fractures	125
§ 5:40	Non-fatal neck trauma—whiplash injuries	127
§ 5:41	A typical neck injury case	127
§ 5:42	The nature of soft tissue injuries	128
§ 5:43	Late-developing cervical arthritis	129
Part VI.	Proving Damage in Neck Injury Cases	
§ 5:44	Proof of neck injuries in general—severe and milder damage	130
§ 5:45	Proof of soft-tissue injury in the neck using medical records	130
§ 5:46	Physical examination of the cervical spine	132
§ 5:47	Evaluating neck injuries using diagnostic imaging	133

§ 5:48 Demonstrating soft tissue injuries of the neck using thermography	134
§ 5:49 Using thermographic evidence to show soft tissue injury	135
Part VII. Treatment and Prognosis in Neck Injury Cases	
§ 5:50 Treatment of serious neck injury cases	136
§ 5:51 Treatment of degenerative disc disease in the neck	136
§ 5:52 Prognosis in soft tissue injuries of the neck	137
Part VIII. Clinical Examination of the Musculoskeletal System	
§ 5:53 General organization of the clinical examination of the	
musculoskeletal system	137
§ 5:54 Inspection	138
§ 5:55 Examination of muscles	138
§ 5:56 Examination of the joints and joint movements	139
§ 5:57 Examination of the cervical spine	139
§ 5:58 Examination of the lumbar spine	140
§ 5:59 Examination of the hip-joint	141
§ 5:60 The examination of the knee	141
Short Working Vocabulary of Musculoskeletal Terms	143
Handwritten Report on MS Patient	148
hapter Six \cdot Injuries to the Nervous System	153
§ 6:1 Introduction — what lawyers need to know about neurological	
injuries	153
Part I. Basic Anatomy and Physiology	
§ 6:2 Anatomy and physiology — the skull	154
§ 6:3 Anatomy and physiology — general outline of the nervous system	157
§ 6:4 Anatomy and physiology — the brain cells	159
§ 6:5 Anatomy and physiology — gray matter and white matter	161
§ 6:6 Overview of structure and function in the brain and brain stem	163
§ 6:7 Anatomical features of the cerebral cortex — brain mapping	163
§ 6:8 Visual and speech centers	165
§ 6:9 Lateralization of brain functions	168
§ 6:10 The perception of pain — the thalamus	168
§ 6:11 The limbic system — emotion and memory	169
§ 6:12 The pyramidal and extrapyramidal systems	169
§ 6:13 Reticular formation — alertness and hypervigilance	171
§ 6:14 The hypothalamus and the pituitary gland (hypophysis)	171
§ 6:15 The cerebellum	172
§ 6:16 The cerebellum and the extrapyramidal system compared	172
§ 6:17 The brain stem	172
§ 6:18 The spinal cord — reflexes and fiber tracts	174
§ 6:19 The peripheral nervous system (PNS)	174
§ 6:20 The autonomic nervous system (ANS)	177

Part II. Brain Disorders

\$ 6:21	Injuries to the brain — concussion and brain contusion	179
\$ 6 : 22	Types of head injury — skull fractures	179
\$ 6:23	Whiplash injuries	180
\$ 6:24	How whiplash injuries produce cortical damage — the coup-	
	contrecoup theory	182
\$ 6:25	Diffuse axonal injuries (DAIs)	182
\$ 6:26	Intracranial bleeding	184
\$ 6:27	Raised intracranial pressure (RICP)	185
\$ 6 : 28	Intracranial bleeding — diagnosis and treatment	185
§ 6:29	Observation of head injured patients	186
Part III.	Impairments Following Head Injuries	
§ 6:30	Global injuries and local injuries	188
\$ 6:3 1	Impairments following head injury	189
\$ 6 : 32	Subtle and gross neurological and mental changes	191
§ 6:33	Complications of head injury — epilepsy	191
\$ 6 : 34	Complications of head injury — Parkinsonism	192
Part IV.	Proof of Neurological Impairment	
\$ 6 : 35	Evaluating CNS damage — clinical examination	192
\$ 6 : 36	Evaluating brain damage — electrodiagnostic studies (EDs)	192
\$ 6 : 37	Contrast angiography	195
\$ 6 : 38	Structural imaging — CT scanning	196
§ 6:39	Structural imaging — magnetic resonance imaging (MRI)	196
\$ 6 : 40	Structural imaging — ultrasound imaging (U/S)	197
§ 6:4 1	Radionuclear imaging (RNI) — brain scans	197
\$ 6 : 42	Functional imaging — PET scans and SPECT	197
\$ 6:43	Functional imaging — magnetic resonance spectroscopy (MRS)	198
\$ 6 : 44	Neuropsychological evaluation (N/P)	198
Part V.	The Neurological Examination	
\$ 6:45	Clinical evaluation of the CNS — evaluating mentation	199
§ 6:46	Clinical evaluation of the CNS — the first cranial nerve	200
\$ 6:47	Examination of the cranial nerves — the second cranial nerve	200
\$ 6:48	Examination of the cranial nerves — third, fourth and sixth nerves	203
§ 6:49	Examination of the cranial nerves — the fifth cranial nerve	204
§ 6:50	Examination of the cranial nerves — the seventh cranial nerve	204
\$ 6 : 51	Examination of the cranial nerves — the eighth cranial nerve	204
§ 6:52	Examination of the cranial nerves — ninth and tenth cranial nerves	206
§ 6:53	Examination of the cranial nerves — the eleventh cranial nerve	206
§ 6:54	Examination of the cranial nerves — the twelfth cranial nerve	207
§ 6:55	Clinical evaluation of the peripheral nervous system	207
§ 6:56	Clinical testing of muscle power	207
	Clinical testing of muscle tone	208
§ 6:58	Clinical testing of coordination	208

CO	NTE	NTS
-----------	-----	-----

§ 6:59 Testing sensation	209
§ 6:60 Clinical testing of reflexes	210
Glossary of Anatomical Terms Relating to the Nervous System	211
Short Working Glossary of CNS Terms	216
Specimen Handwritten Note on CNS Patient	220
Chanten Causa – Druchistric Discurdans and Dischility	227
Chapter Seven · Psychiatric Disorders and Disability	227
Part I. Introductory Matters	227
§ 7:1 The legal importance of emotional and behavioral harm	227
§ 7:2 Overview of the topics to be discussed Part II. Mental Health Professionals	227 228
	228
§ 7:3 Psychiatrists and clinical psychologists§ 7:4 Other mental health professionals	228
Part III. Mental Science and Mental Disorders	229
\$ 7:5 Controversies and schools of thought	229
\$ 7:6 The notion of mental science	229
§ 7:7 Behaviorism	230
§ 7:8 Psychoanalytic theory of mental disorders	230
§ 7:9 Mental disorders of particular importance to lawyers	230
\$ 7:10 Anxiety and depression	231
\$ 7:11 Obsessive compulsive disorders (OCD)	231
§ 7:12 Post-traumatic stress disorder (PTSD)	232
§ 7:13 Mechanisms involved in stress syndromes	233
§ 7:14 Schizophrenia spectrum disorders (SSDs)	234
§ 7:15 Dementias	236
§ 7:16 Personality disorders	237
Part IV. Standard Classifications of Mental Disorders	237
§ 7:17 DSM-IV and ICD-10	237
§ 7:18 The DSM-IV reporting system.	238
§ 7:19 The use of DSM-IV by lawyers	238
§ 7:20 The use of psychological tests and inventories — the MMPI	239
§ 7:21 The objectivity and reliability of psychiatric opinion	241
Short Working Vocabulary of Psychiatric Terms	242
Dictated and transcribed report of psychiatric history and	
physical examination	247
Chapter Eight • The Heart and Cardiovascular Disability	249
\$ 8:1 Introduction — the meaning of the term <i>cardiovascular</i>	249
§ 8:2 The legal importance of the cardiovascular system	249
\$ 8:3 Cardiac diseases and cardiac disability	24)
Part I. Anatomy and Physiology	201
§ 8:4 General description of the heart	252
§ 8:5 The cardiac cycle — systole and diastole	254

§ 8:6 The arterial tree — systolic and diastolic blood pressures	255
§ 8:7 Capillaries and capillary beds	256
§ 8:8 The venous return to the heart	258
§ 8:9 Central control of cardiac output and local blood supply	258
§ 8:10 The electrical activity of the heart	259
§ 8:11 Blood flow in the various organs and body systems	261
Part II. Diseases of the Cardiovascular System	
§ 8:12 Cardiovascular diseases which are important to lawyers	264
§ 8:13 Coronary artery disease (CAD)	264
§ 8:14 Myocardial infarction (MI)	265
§ 8:15 Tests used to diagnose myocardial infarction	267
§ 8:16 Initial treatment of acute myocardial infarction	268
§ 8:17 Interventional treatments of coronary artery disease	269
§ 8:18 Other surgeries to improve cardiac performance	273
§ 8:19 Estimating the prognosis following a heart attack	274
§ 8:20 Cerebrovascular disease	276
§ 8:21 Cerebrovascular accidents (CVAs)	276
§ 8:22 Shock	277
§ 8:23 The response of the body to acute blood loss	278
§ 8:24 Treatment of acute severe hemorrhage	278
§ 8:25 Peripheral vascular disease	280
Part III. Tests Used In Determining Cardiac Functioning	
§ 8:26 Cardiac imaging — X-rays, contrast studies, CT and MRI	281
§ 8:27 Cardiac imaging — sonocardiography	282
§ 8:28 Electrodiagnostic studies	284
§ 8:29 Testing function — left ventricular ejection fraction (LVEF) and	
exercise treadmill testing (ETT)	286
Part IV. The Clinical Examination of the Cardiovascular System	
§ 8:30 The clinical examination of the heart—observation	290
§ 8:31 Examination of the cardiovascular system — auscultation	290
§ 8:32 Examination of the cardiovascular system — palpation	292
Short Working Vocabulary of Cardiovascular Terms	294
Specimen Handwritten Note on CVS Patient	300
Chapter Nine • The Lungs	305
§ 9:1 Introduction — the legal importance of lung disease	305
Part I. Anatomy and Physiology of the Lungs	
§ 9:2 Basic anatomy	305
§ 9:3 The mechanics of breathing — inspiration	307
§ 9:4 The mechanics of breathing — expiration	307
§ 9:5 The upper airways	307
§ 9:6 The lower airways — the bronchial tree	308
§ 9:7 Gas exchange in the lungs — the alveoli	310

CONTENTS

§ 9:8 The blood supply to the lungs and lung filtration	310
§ 9:9 Blood—the hemoglobin molecule	312
§ 9:10 Oxygen saturation and the partial pressure of oxygen	312
§ 9:11 The oxygen cascade	314
§ 9:12 The respiratory quotient	315
Part II. Lung Diseases	
§ 9:13 The legal focus on certain lung diseases	315
§ 9:14 Lung trauma	315
§ 9:15 Chronic obstructive lung disease (COLD) — the basic	
pathological processes	316
§ 9:16 The clinical picture in emphysema	317
§ 9:17 Typical findings in the medical records in COPD cases	318
§ 9:18 Typical imaging and other test reports in COPD cases	320
§ 9:19 Spirometry reports in COPD	321
§ 9:20 Occupational lung diseases	321
§ 9:21 Hypersensitivity reactions in the lungs	321
§ 9:22 Clinical characteristics of fibrosing lung disease	322
§ 9:23 Relevant items in an industrial lung disability claim	324
Part III. The Investigation of Lung Diseases	
§ 9:24 The uses and limitations of the chest X-ray	324
§ 9:25 Investigation of lung diseases — arterial blood gases (ABGs)	325
§ 9:26 Typical arterial blood gas findings in various diseases	326
§ 9:27 Evaluating lung diseases — spirometry	327
§ 9:28 Evaluating lung disease — flow/volume loops	328
§ 9:29 Physiological testing — anatomical and physiological dead space	330
§ 9:30 Physiological testing — measurement of residual volume	332
§ 9:31 Physiological testing — diffusion testing	332
§ 9:32 Bronchograms and bronchoscopes	332
Part IV. Examination of the Respiratory System	
§ 9:33 Clinical examination of the respiratory system — generally	333
§ 9:34 Clinical examination of the respiratory system — inspection	333
§ 9:35 Clinical examination of the lungs — palpation and auscultation	334
§ 9:36 Clinical examination of the lungs — auscultation	334
§ 9:37 Clinical examination of the lungs — testing lung function	334
Short Working Vocabulary of the Respiratory System	335
Specimen Handwritten Note on Lung Patient	340
Short Glossary of Symbols and Acronyms	345
Index	361

Introduction

This book is designed to enable a lawyer or paralegal or any other compensation professional to read and work with a medical record and to converse with medical consultants.

The items which it contains are simple. The first three chapters provide a general introduction to medical records and their use in the legal context. Chapter two contains a brief description of the basic documents which make up a medical record, showing how they come into being, where they may be found and the kinds of information that they are likely to contain. A fairly complete set of illustrative documents is appended to this chapter. Chapter three discusses how the materials in a medical record can be organized and presented efficiently by means of a flow-chart. Chapter four deals with the basic template that lies behind most medical documents, the history and physical examination.

The remaining five chapters deal with important terms and concepts in clinical medicine. This is not medicine as it is taught to doctors, but specially selected and interpreted to meet the needs and purposes of compensation lawyers. The topics treated here are:

- 1. Head injuries and the related topic of mental impairments
- 2. Musculoskeletal problems
- 3. Cardiac disability and
- 4. Lung disability heart and lung disability.

These topics (brains, bones, hearts and lungs) cover most of the medical problems raised in personal injury and compensation evaluation. The items presented even within these topics have been further selected out, for much of the information that is important to doctors is more or less irrelevant to lawyers. Other items, e.g. intervertebral disc disease or minimal brain damage, are treated in some detail since they are common injuries and, moreover, give lawyers handling head injuries and back cases a good deal of difficulty.

Some special tools have been added.

1. Short working glossaries. A very short glossary (just a few pages) has been appended to each of the five medical chapters. These are not intended as reference dictionaries, but rather as a list of the basic terms which must be understood in order to work efficiently in these areas. These terms should, if possible, be learned off: the time and effort involved will be repaid many times over in saving the reader from the chore of constant reference to a medical dictionary.

2. Model handwritten notes have also been added to each of the four medical chapters. Each represents the history and physical examination in an appropriate case. These are intended to teach the reader the common terms and especially the abbreviations which are used by doctors in handwritten progress notes etc. They are ,of course, accompanied by translations. The use of symbols and especially letter abbreviations (acronyms) is increasing in medicine as elsewhere, and quite large dictionaries of abbreviations can be needed to cover them all. For the most part, however, only a (relative) few are in common use and most of these will be found in these model notes.

These two items, the model handwritten notes and the short wworking glosssaries, should be studied very seriously. They are the key to handling medical information efficiently. They should be committed to memory in the interests of efficiency and not just treated as reference works. It should very seldom be necessary to go beyond these simple resources.

3. A short additional glossary of abbreviations and symbols has also been appended to the book. This is taken from the list of officially recognized acronyms published by a small hospital. It was compiled by a very intelligent nurse and is, I think, superior to the published lists of many large referral hospitals. The reader should become as familiar as possible with this list, but it is a short reference work not intended to be memorized in advance.

4. **Illustrative drawings**. More than eighty computer drawn illustrations and diagrams have been provided on the principle that one picture is worth a thousand words. These have been interpolated into the medical chapters at appropriate points in the text for the convenience of the reader.

This book is the fruit of more than two decades of experience in teaching law students, lawyers, and paralegals how to read and work with medical records. This experience is the foundation of my belief that a considerable degree of competence in this area is well within the ability of any one who wishes to acquire it. This book is particularly designed for the young lawyer or legal assistant who is just beginning to do personal injury or disability work. It is short and (I hope) clear and readable, but it contains more than enough information for most legal purposes. A lawyer does not have to know how to diagnose and treat diseases, only to evaluate them for compensation purposes. Fortunately this does not require a vast amount of medical learning. Indeed all that is needed, at least in the initial reading of a medical record, is to be sufficiently familiar with basic terms and concepts to form some idea of what was happening in the case. Detailed and more accurate understanding can be supplied later by further reading and discussion with medical consultants. The latter is extremely important. To be able to communicate meaningfully and efficiently with doctors and other medical personnel is indeed the basic prerequisite for anyone working in the compensation area. Ignorance of basic terms and notions on the part of the lawyer leads to long and frustrating conferences, with prolonged explanations by the doctor which are as often as not misunderstood by the lawyer. The very basic level of familiarity with things medical which is contained in these pages is more than is ordinarily required to facilitate useful communication between the two professions.

One last point. There is more information in this little book than is absolutely required for an elementary course in medical records. For instance, I do not normally in my course deal with the autonomic nerves, or with eye ear nose and throat matters. But, as I say to my law students, don't throw the book away or leave it to gather dust on your bookshelves.

INTRODUCTION

Keep working with it. Take it down in the odd spare moment and read a chapter or even a few sections; you will be surprised how much better you will perform and how much more understanding of cases you will achieve.