Reading Medical Records
Contents

Introduction xiii

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 approach 7
§ 1:7 Electronic medical records 8

Chapter Two · The Documents 9
Part I. General Observations—The Big Three 9
§ 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 11
§ 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 15
§ 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
## CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>§ 2:17</td>
<td>Documents relating to the standard of care</td>
<td>21</td>
</tr>
<tr>
<td>§ 2:18</td>
<td>Patient records obtainable outside the hospital</td>
<td>22</td>
</tr>
<tr>
<td><strong>Appendix to Chapter Two</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doctor’s Records</td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>Nurses’ Hospital Records</td>
<td></td>
<td>26</td>
</tr>
<tr>
<td>Operating Room Records</td>
<td></td>
<td>36</td>
</tr>
<tr>
<td>Emergency Department Records</td>
<td></td>
<td>47</td>
</tr>
<tr>
<td>Pathology Lab Reports</td>
<td></td>
<td>56</td>
</tr>
<tr>
<td>Radiology Reports</td>
<td></td>
<td>65</td>
</tr>
<tr>
<td>Respiratory Services Report</td>
<td></td>
<td>67</td>
</tr>
<tr>
<td>Departmental Records</td>
<td></td>
<td>70</td>
</tr>
</tbody>
</table>

### Chapter 3 · Organizing Medical Data for Legal Purposes

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>§ 3:1</td>
<td>Introduction—preliminary organization of the medical record</td>
<td>75</td>
</tr>
<tr>
<td>§ 3:2</td>
<td>The initial reading</td>
<td>75</td>
</tr>
<tr>
<td>§ 3:3</td>
<td>Making the flow sheet</td>
<td>76</td>
</tr>
<tr>
<td>§ 3:4</td>
<td>Using a computer to make the flow sheet</td>
<td>77</td>
</tr>
<tr>
<td>§ 3:5</td>
<td>Uses of a flow sheet</td>
<td>79</td>
</tr>
<tr>
<td>§ 3:6</td>
<td>More selective ways of presenting medical information</td>
<td>79</td>
</tr>
<tr>
<td>§ 3:7</td>
<td>Summary and conclusion—is the flow-chart method energy efficient?</td>
<td>80</td>
</tr>
</tbody>
</table>

### Chapter Four · The History and Physical Examination

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>§ 4:1</td>
<td>The importance of the history and physical (H&amp;P)</td>
<td>83</td>
</tr>
<tr>
<td>§ 4:2</td>
<td>Locations in a medical record where the H&amp;P may appear</td>
<td>83</td>
</tr>
<tr>
<td>§ 4:3</td>
<td>The outline of the history</td>
<td>83</td>
</tr>
<tr>
<td>§ 4:4</td>
<td>The report of the physical examination</td>
<td>84</td>
</tr>
<tr>
<td>§ 4:5</td>
<td>Assessment and Plan</td>
<td>85</td>
</tr>
<tr>
<td>§ 4:6</td>
<td>The problem-oriented medical record</td>
<td>85</td>
</tr>
</tbody>
</table>

### Chapter Five · Low Back and Neck Injuries

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>§ 5:1</td>
<td>The prevalence and significance of back and neck injuries</td>
<td>87</td>
</tr>
<tr>
<td>§ 5:2</td>
<td>The importance of bones for lawyers</td>
<td>87</td>
</tr>
<tr>
<td><strong>Part I. Anatomy and Physiology</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>§ 5:3</td>
<td>The constituents of the musculoskeletal system—bony and soft tissues</td>
<td>88</td>
</tr>
<tr>
<td>§ 5:4</td>
<td>The basic anatomical structure of bones</td>
<td>88</td>
</tr>
<tr>
<td>§ 5:5</td>
<td>Structure of the axial skeleton</td>
<td>90</td>
</tr>
<tr>
<td>§ 5:6</td>
<td>The main divisions of the vertebral column</td>
<td>91</td>
</tr>
<tr>
<td>§ 5:7</td>
<td>The spinal curvatures</td>
<td>91</td>
</tr>
<tr>
<td>§ 5:8</td>
<td>Skeletal appendages—the costal bones (ribs)</td>
<td>91</td>
</tr>
<tr>
<td>§ 5:9</td>
<td>Appendages to the axial skeleton—the shoulder girdle</td>
<td>94</td>
</tr>
</tbody>
</table>
§ 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
## CONTENTS

§ 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**  
Handwritten Report on MS Patient 143  

**Chapter Six · Injuries to the Nervous System**  
§ 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
CONTENTS

§ 6:59 Testing sensation
§ 6:60 Clinical testing of reflexes
Glossary of Anatomical Terms Relating to the Nervous System
Short Working Glossary of CNS Terms
Specimen Handwritten Note on CNS Patient

Chapter Seven · Psychiatric Disorders and Disability

Part I. Introductory Matters
§ 7:1 The legal importance of emotional and behavioral harm
§ 7:2 Overview of the topics to be discussed

Part II. Mental Health Professionals
§ 7:3 Psychiatrists and clinical psychologists
§ 7:4 Other mental health professionals

Part III. Mental Science and Mental Disorders
§ 7:5 Controversies and schools of thought
§ 7:6 The notion of mental science
§ 7:7 Behaviorism
§ 7:8 Psychoanalytic theory of mental disorders
§ 7:9 Mental disorders of particular importance to lawyers
§ 7:10 Anxiety and depression
§ 7:11 Obsessive compulsive disorders (OCD)
§ 7:12 Post-traumatic stress disorder (PTSD)
§ 7:13 Mechanisms involved in stress syndromes
§ 7:14 Schizophrenia spectrum disorders (SSDs)
§ 7:15 Dementias
§ 7:16 Personality disorders

Part IV. Standard Classifications of Mental Disorders
§ 7:17 DSM-IV and ICD-10
§ 7:18 The DSM-IV reporting system.
§ 7:19 The use of DSM-IV by lawyers
§ 7:20 The use of psychological tests and inventories — the MMPI
§ 7:21 The objectivity and reliability of psychiatric opinion

Short Working Vocabulary of Psychiatric Terms
Dictated and transcribed report of psychiatric history and physical examination

Chapter Eight · The Heart and Cardiovascular Disability

§ 8:1 Introduction — the meaning of the term cardiovascular
§ 8:2 The legal importance of the cardiovascular system
§ 8:3 Cardiac diseases and cardiac disability

Part I. Anatomy and Physiology
§ 8:4 General description of the heart
§ 8:5 The cardiac cycle — systole and diastole
§ 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  
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 working glossaries, 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.
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.