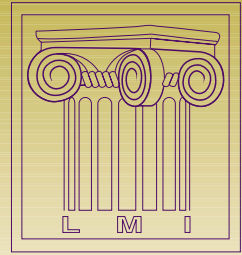


M.I.M.

R E P O R T E R



The Review of Medical Information Management For Litigation

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Medical Information Management in Diet Drug Litigation

Part II - Neuropsychiatric Claims

By Elizabeth B. Juliano, James R. Fell

Part I of Litigation Management, Inc.'s series on medical information management requirements in diet drug litigation presented the challenges inherent in the assessment and diagnosis of primary pulmonary hypertension. This issue of *The M.I.M. Reporter* focuses on what is becoming another prominent medical issue in diet drug litigation — neuropsychiatric claims.

A Class in Search of a Disorder?

Although millions of prescriptions have been written for the diet medications fenfluramine, dexfenfluramine, and phentermine, many consumers of these pharmaceuticals have not suffered from any of the cardiopulmonary disorders (i.e. primary pulmonary hypertension and cardiac valvulopathy) attributed to their intake. Enter allegations of neuropsychiatric damages.

A legal news article on diet medications noted that “in those non-surgical cases where no pathology is available, monetary damage levels may be in-

creased by asserting neurological damage.”¹ It has also been reported by some law firms that claimants seeking redress for neuropsychiatric injuries have actually outnumbered those presenting with cardiovalvular problems.² Herein lies the challenge for medical information management. While well-established diagnostic tests can ascertain the onset of cardiac valvulopathy and primary pulmonary hypertension, the situation differs for the more subjective claims of neuropsychiatric injury.

Why Neuropsychiatric?

The physiologic actions of the aforementioned medications make them an inescapable target for neuropsychiatric injury claims. Phentermine has stimulant action believed similar to the amphetamine class of drugs.³ Fenfluramine and dexfenfluramine are thought to act by influencing the release and re-uptake of serotonin by the brain.⁴ Serotonin is one of a number of neurotransmitters responsible for promulgation of nerve impulses. Disruptions in serotonin levels

are theorized as possible etiologies of mental disorders such as uncontrollable appetite, depression, obsessive-compulsion, autism, bulimia, social phobias, anxiety, panic, migraine headaches, schizophrenia, and violent behavior.⁵

The risk of serotonergic hyperstimulation, termed “serotonin syndrome” (SS), may occur when certain diet medications are utilized with other pharmaceuticals (anti-migraine drugs and certain antidepressants) which also elevate serotonin levels.⁶ Neurologically, this syndrome can manifest itself as confusion, restlessness/agitation, shivering, hyperreflexia, altered muscle tone, discoordination, gait disturbances, sweating, vomiting, weakness, tremors, rigidity, coma, and even death. The selective serotonin re-uptake inhibitors (SSRI) are

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This newsletter was prepared by the Corporate Communications Division of Litigation Management, Inc. For more information about any of the articles in this newsletter please contact James Fell, Editor, at (440) 484-2000 or 1-800-778-5424; Fax: (440) 484-2020. Questions may also be directed to the newsletter e-mail address at jfell@litigation-mgmt.com.



From the President:

Dear Readers:

Diet drug litigation continues to generate national headlines, and Litigation Management, Inc. (LMI) remains deeply involved in the medical information management aspects of these cases. To date, LMI has reviewed many thousands of pages of medical documents to provide clients with information critical to rendering case management decisions in this litigation.

In this issue of *The M.I.M. Reporter*, Litigation Management, Inc. again focuses on the special medical information management requirements of one particular aspect of diet drug litigation: in this case, neurologic injuries. Allegations of primary pulmonary hypertension (Vol. 1, No. 2) and cardiac valvulopathy have received quite a bit of attention in the media; however, neurologic claims, as well as the potential for ongoing medical monitoring of these plaintiffs, similarly require implementation of effective medical information management protocols.

Also, in this edition of the *Reporter* is the first of a series of articles describing the theoretical underpinnings of medical information management for litigation. This presentation represents several years of thought, research, and discussions by LMI and some of its closest clients. I hope that the resulting theoretical perspective will prove useful to *The M.I.M. Reporter's* entire readership in planning for the medical information requirements of challenging litigation caseloads.

At several seminars in the past, I have presented some aspects of this conceptual model of medical information management for litigation. From your responses, I have continually clarified the theory elements contained in this succession of articles. As a result, what LMI now presents is in no sense a final or static product. Consequently, any feedback that you could provide would be most welcome and appreciated.

Very truly yours,
Elizabeth B. Juliano
President

LMI ON THE ROAD

Learn more about medical information management for litigation directly from Elizabeth B. Juliano at the following meeting:

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one class of antidepressants which synergistically interact in this manner with certain diet medications.^{7,8,9} Commonly, a history of depression and prescription of antidepressant medications will be noted in the medical records of this class of claimants; therefore, all potential neurologic manifestations of SS should be evaluated in these cases.

Some diet medications are contraindicated for use concurrently with, or fourteen days following, the use of the monoamine oxidase inhibitor (MAO-I) group of antidepressants because of the risk for hypertensive crisis (HTC).¹⁰ HTC arises when the excessive release of norepinephrine (another neurotransmitter) is stimulated resulting in elevated blood pressure.¹¹ Symptoms of hypertensive crisis range from throbbing headache and flushing to the more life-threatening manifestations associated with stroke.

Neuropsychiatric Allegations

In diet drug litigation, allegations of neuropsychiatric injury can be highly variable and may represent a gamut of symptoms and disorders. Presenting conditions for this group have consisted of crying, impulsivity, employment dysfunction, cognitive problems, aggression, hallucinations, sleep disturbances, emotional distress, memory loss, and violent mood swings. With certain medications, physical dependence may also be a factor.¹² At least one firearm shooting case has been predicated on fen-phen-induced rage in the assailant.¹³ This variety of allegations, coupled with the more subjective and individualized nature of the complaints, impairs analysis of the aggregate class. Accordingly, medical information management for these claims must be accomplished on a case by case basis.

Toxicological Evidence

Alterations in neural functioning potentially associated with diet medication intake have been studied for a number of years in animal models. McCann *et al.* (1997) undertook a systematic review of the literature to evaluate neurotoxic effects of fenfluramine and dexfenfluramine. The researchers concluded that animal studies demonstrated damage to brain serotonin neurons. The possibility of similar neurotoxic effects of these medications in humans was said to remain unknown.¹⁴

Clinical Evidence

Anecdotal evidence regarding possible psychiatric effects in humans of some of these preparations extends back to the 1960's. Nightmares were noted in one patient who was prescribed fenfluramine.¹⁵ A case of suspected fen-phen-induced delirium manifested in manic symptoms was reported in a woman with pre-existing major depression.¹⁶ Onset of psychotic mania in a female with no prior depressive history was suggested as being linked to fen-phen usage.¹⁷ Conversely,

onset of a major depressive episode in a 42-year-old female with a history of recurrent depression since age 13 was said to be associated with the initiation of fenfluramine and phentermine therapy for obesity. Based upon their review of the literature, the authors opined that these medications may have a mood destabilizing influence in predisposed persons.¹⁸ Family history may be important in these cases. Suspected phentermine-induced psychosis was documented in a 32-year-old female with no prior psychiatric history, but with a family history of affective disorder in two siblings and her mother. The psychotic state was unresponsive to discontinuation of the diet medication, but did resolve with haloperidol treatment.¹⁹ In reviewing the onset of psychiatric disorders in diet medication users, full consideration should be given to both the influence of pre-existing psychiatric disorders and intake of other preparations (both prescription and “over-the-counter”) which elicit central nervous system effects.

Anecdotal medical evidence also exists for the neurological effects of these agents in humans. Conditions such as headache, mental stupor, neck stiffness, and facial dyskinesia (manifested as teeth grinding and chewing movements) associated with fenfluramine consumption have been noted in the medical literature.²⁰ A case of cerebral hemorrhage in an obese female who consumed fenfluramine and phentermine has been reported.²¹ Two cases of stroke have been documented in women aged 41 and 37, who had used phentermine. Symptoms included headache, seizure, and numbness. However, a number of significant confounding factors (oral contraceptive use, smoking patterns, family history) could have impacted the emergence and progression of the observed conditions.²²

Anecdotal evidence in the medical literature pertaining to alleged neuropsychiatric effects of diet medications must be evaluated critically. While perhaps interesting for what they may suggest, reports of one or two cases of a given disorder have questionable statistical validity in light of the thousands of other individuals who have used diet medications and suffered no adverse neuropsychiatric sequelae.

Medical Record Review

In evaluating claims of neuropsychiatric injury in diet medication cases, medical information management should focus on the following medical documents:

Claimant History: All claimant medical histories should be closely examined for every reference to neuropsychiatric symptomatology, both pre- and post-diet medication intake. Thorough review of pre-exposure medical histories may establish the presence of many of the symptoms and diagnoses attributed by the claimant to diet medication use. Pages from these records can be enlarged as courtroom ex-

hibits with the relevant passages highlighted for the jury to view as claimant testimony is challenged. Likewise, chronologies noting the onset and progression of neuropsychiatric disorders can be instructive for juries; courtroom presentations of these are best organized in a timeline exhibit.

Medical histories should also be reviewed for documentation pointing to alternate causation. Family history may reveal information on neuropsychiatric disturbances possessing some element of genetic transmission, as with certain of the mood disorders. Substance abuse histories may note intake of mind-altering recreational drugs (hallucinogens, “downers,” “uppers”) and alcohol (a depressant) which can impact central nervous system functioning and psychological well-being. An extensive pack-year-history of tobacco consumption or long-term use of birth control pills can suggest possible alternative etiologies for particular neurologic disorders, such as cerebrovascular accident. These findings also lend themselves well to exhibit development. For example, a table can be constructed in which each neuropsychiatric allegation is listed in one column, with the corresponding column noting the scope and diversity of potential alternate causation.

Neurological Assessments: A systematic neurological evaluation will review a number of neuromuscular and mental functions, and will typically incorporate the following:

- ❑ *Mental Status Examination (MSE).* A complete MSE will assess neuropsychiatric parameters, among which are level of consciousness; concentration; short, intermediate, and long-term memory; orientation to person, place, and time; insight; judgment; language; calculation abilities; capacity to reproduce simple shapes or illustrations; knowledge of basic information; and abstract thinking.
- ❑ *Cranial Nerves (CN I-XII).* Twelve cranial nerves innervate various components of the head and neck. Specific tests can be performed by the evaluator to assess dysfunction in each of these nerves. For example, testing of CN VIII evaluates auditory acuity.
- ❑ *Neuromuscular.* Motor, sensory, and reflex activities comprise this portion of the neurological examination. Motor testing assesses such indices as muscle tone and strength, the latter usually graded from “0” (no movement) to “5” (full power). Gait, positional exercises, and coordination activities also are evaluative tests for motor functioning. Sensory evaluation is accomplished by testing the claimant’s response to stimuli, such as vibration, pain, and temperature. A variety of reflex responses can be studied. Grading of extremity reflexes is based on a scale ranging from “0” (absent), to “2” (normal), to “4” clonus (repetitive rhythmic muscle contractions).

Flowcharts: Different forms of medical flowsheets, graphics, and logs are typically contained in patient records. The number of neurologic entries contained in flowcharts will vary depending on the severity of the patient's condition. Assessments contained in neurologic flowcharts can include level of consciousness, pupil reactivity, various reflex responses, handgrip strength, motor function, etc.

Diagnostic Procedures: Medical record review may disclose a variety of neurological procedures conducted to assess dysfunction. Typical of these diagnostic studies are:

- ❑ *Brain Scan.* In a brain scan a radioactive tracer enables the vascular structure of the organ to be visualized and aids in locating sites of tumors, bleeding, and blood vessel irregularity.
- ❑ *Cerebral Angiography.* Evaluation of headaches, seizures, motor disorders, strokes, etc. can be accomplished by cerebral angiography. In this study a contrast medium is injected into the vascular system to radiographically visualize structures.
- ❑ *Brain Computed Tomography (CT).* The CT scan visualizes cross-sectional slices of the brain to reveal anatomical irregularities, hemorrhage, tumors, etc.
- ❑ *Magnetic Resonance Imaging (MRI).* The MRI is useful for studying pathology of the soft tissue of the brain and may be performed in conjunction with the CT scan.
- ❑ *Positron Emission Tomography (PET).* One of the newer radionuclide studies used to evaluate diseased/traumatized brain tissue is the PET, which provides a colorized rendition of physiological functioning within the brain.
- ❑ *Echoencephalography.* Reports of brain ultrasound will be more often encountered on older records. In today's medical practice, usually the CT scan will be ordered as the study of choice.
- ❑ *Electromyography (EMG) & Nerve Conduction Velocities (NCV).* These two procedures study the speed and electrical potentials of nerve impulses. They are indicated in the evaluation of spinal disc, muscular dystrophy (MD), myasthenia gravis, polymyositis, and other nervous system disorders impacting motor functioning.
- ❑ *Electroencephalography (EEG) & Evoked Potentials (EP).* EEG evaluates brain wave electrical activity and may be undertaken with EP testing whereby various visual, auditory, or electrical stimuli are applied and the resultant brain responses recorded. Seizures, confusion, impaired consciousness, tumors, cerebral bleeds, and multiple sclerosis are a few of the conditions which can be assessed by EEG and EP.
- ❑ *Lumbar Puncture (LP).* LP measures the pressure of cerebrospinal fluid (CSF) contained in the central nervous system, and also allows for the extraction of CSF for microbial and chemical analysis. Bleeding of the brain, tumors, infections, and other problems can be evaluated in this manner.
- ❑ *Skull X-ray.* This radiological study is often part of a routine neurological work-up and may reveal diagnostic information relative to the bony tissue of the head, i.e., skull fracture.

Neuropsychological Testing: A typical neuropsychiatric test battery may include any or all of the following:

- ❑ *Intelligence tests* to evaluate disturbances in such parameters as reasoning, mathematical, and verbal skills.
- ❑ *Cognitive tests* to evaluate attention, memory, and other thought process deficits.
- ❑ *Psychological tests* and inventories to address psychiatric symptomatology and personality issues.

Achievement of valid neuropsychiatric test results can be challenging. For example, in cases of head injury, it has been estimated that at least 25% of claimants evidence some degree of malingering.²³ Accordingly, there may be the conscious or unconscious motivation on the part of the claimant to "test badly." Many of the standardized neuropsychiatric tests do attempt to correct for this type of behavior through various mechanisms built into the evaluative instrument; however, these are not infallible. To identify possible instances of this problem, the medical legal analyst should evaluate claimant medical records for inconsistencies in neuropsychiatric test findings over time, and from provider to provider.

At times, claimant medical records may include neuropsychiatric batteries of tests which have been expressly developed by an evaluator for a specific litigation. These batteries may incorporate various assessment instruments, which might be institution or clinic-specific. Findings from these studies should be accepted with caution if the particular neuropsychiatric tests have not yet received widespread professional acceptance through peer review and evaluation.

Physician Orders & Medication Administration Sheets: All references to diet medications, as well as all other preparations with neuropsychiatric actions or side effects, must be noted. Physician orders and medication administration sheets are two sources of this information. Medication details are best organized in a spreadsheet format, with columns listing brand (trade) and generic names, dosage, date ordered, duration of consumption, prescribing physician, expected versus observed neuropsychiatric side effects, etc. Medications can then be chronologically organized on the spreadsheet so that the reviewer can note prescription

patterns and possibly identify drug-based etiologies for the claimant's neurological complaints.

Special attention should be directed towards documenting the prescription of those drugs offering the potential for dangerous synergistic actions with diet medications. For example, a claimant with a psychiatric history may have consumed SSRI medications, such as fluoxetine, fluvoxamine, paroxetine, and sertraline²⁴ (risk of serotonin syndrome), or a MAO-I, such as phenelzine or tranylcypromine²⁵ (potential for hypertensive crisis).

Pharmacy Logs: As with medication administration records, pharmacy logs document product identification and consumption patterns for diet preparations. "Pharmacy shopping" may be detected in claimants who attempt to amass recreational quantities of stimulant diet medications through the use of multiple prescribers and differing dispensing pharmacies.

Insurance and Billing Records: For a number of reasons, claimants may not completely disclose the breadth of their encounters with psychiatrists, psychologists, and various types of mental health counselors. Records documenting third party payments should be scrutinized to identify additional providers who may have conducted other neuropsychiatric evaluations.

Employment Records: When a plaintiff claims loss of employment and earning power, occupational records should be reviewed to ascertain extent of employment prior and subsequent to the alleged neuropsychiatric injuries. Disability accommodations required on the job, impairment of performance, problematic behavior, etc. should be noted. Hiring, annual, and episodic physical examinations should be reviewed for any evidence of symptom development, counseling, etc. Employment records may also yield clues regarding psychological, alcohol, and drug abuse referrals to Employee Assistance Programs.

Summary

Neuropsychiatric claims in diet drug litigation must be comprehensively reviewed to evaluate their veracity. Structured application of medical information management concepts to an analysis of this population's medical records will assist attorneys and their experts in this determination.

An upcoming issue of *The M.I.M. Reporter* will examine medical information management in another aspect of diet medication litigation that is also coming into the forefront: medical monitoring. While primary pulmonary hypertension, cardiac valvulopathy, and neuropsychiatric allegations command most of the attention in current class actions, medical monitoring may present an equal or greater group of potential claimants. However, if properly planned and exe-

cuted, medical information management in these cases need not be overwhelming.

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BACK ISSUES

Prior issues of *The M.I.M. Reporter* are available in limited quantities. Please contact the newsletter Editor for complimentary copies.

Strategic Determinants of Medical Information Management In Toxic Torts

by Elizabeth B. Juliano, Carey J. Marousek, and James R. Fell

Decision Triad

The interplay of three critical variables defines the nature of information management in mass toxic tort litigation containing some medical element. Two of these factors — *toxicology* and *epidemiology* — constitute the foundation for the medical information management (MIM) process. The scientific community must first peer-review and validate published toxicologic and epidemiologic research before concluding that an association exists between a named agent and a given medical condition. However, once this consensus is achieved, the third variable — *diagnostic criteria* — assumes a prominent role in the toxic tort.

The dynamic interaction of these three variables evolves across the lifespan of the toxic tort. The relative importance of each of these parameters will vary depending both on the developmental stage of the litigation and the concomitant medical knowledge requirements of the legal department. This relationship defines the MIM approach that is appropriate for the toxic tort at a given point in time. Furthermore, an understanding of this changing relationship can be translated into significant reductions in case preparation costs in that the most effective MIM strategies can be implemented while continuing to optimize the production of medical knowledge to address attorney needs.

Defining Elements

Several mass torts are presented in the accompanying table. Developmentally, each is at a different phase in maturity. For instance, although asbestos litigation continues to generate thousands of cases annually, these torts have been around since the 1970's and are very "mature." Conversely, diet drug litigation erupted relatively recently and is at a more "junior" stage of development. Current affirmation of toxicologic, epidemiologic, and medical evidence for each of these mass torts differs, and is compared and contrasted within the table.

Toxicology

Toxicological information is derived from research studies on the effects of controlled exposure to a named agent employing either human subjects, or animals which to some degree replicate human physiological functioning. Despite the fact that animal studies can pose particularly difficult admis-

sibility issues, published toxicological data will continue to be introduced in toxic torts to support or refute causation. As a toxic tort grows and matures, the value of toxicological information increases because additional scientific research clarifies the extent of a causal association between an agent and alleged medical effects.

Epidemiology

Epidemiological information is produced from studies which seek to identify a correlation between exposure to a given agent and certain observed conditions in a sample population. Such research attempts to establish a statistically significant link between the agent and these disorders, while excluding other variables which could have impinged on the suspected relationship. This latter activity can prove quite confounding in itself. Continued epidemiological research generates additional information which either strengthens or weakens the suggested association between an agent and the alleged medical outcomes.

Diagnostic Criteria

The derivation of medical diagnostic criteria also represents a changing scenario. In the very early stages of a new type of toxic tort, injuries attributed to an implicated agent(s) tend to be nonspecific. At times, no matching disorder state can be identified within the context of the World Health Organization's International Classification of Diseases (ICD). Recent mass tort examples of this have included "human adjuvant disease" (silicone breast implants) and "sick building syndrome" (school and office building environments). However, as medical science advances, diagnostic parameters may be identified to better define the disorder. In some cases, such a degree of diagnostic specificity can be established so as to create a new disease name and entity, as has occurred with "asbestosis" and "silicosis."

From Theory to Practice

For practical purposes, how does this abstract perspective on MIM translate into real world applications? To address this question, Litigation Management, Inc. has formulated dynamic models, or paradigms, for structuring MIM. These paradigms will be subsequently presented in several upcoming issues of *The M.I.M. Reporter*.

Determinant Factors in Cases of Selected Toxic Tort Litigation (1999 Status)

LITIGATION FOCUS	STATUS OF TOXICOLOGICAL EVIDENCE	STATUS OF EPIDEMIOLOGICAL EVIDENCE	STATUS OF MEDICAL DIAGNOSTIC CRITERIA
"ENVIRONMENTAL ILLNESS"	Some medical professionals have criticized the field of "clinical ecology." Animal studies can often be challenged on the basis of research methodology and transferability of findings. Difficulty in extrapolating findings from studies of high-exposure populations (i.e. occupational exposures) to bystander, low-level exposure populations.	While the presence of a cluster may be identified in a given mass tort, potential competing variables which offer alternative causation can be difficult to rule out.	No established ICD codes exist for most of these conditions. For example, "Sick Building Syndrome," "Environmental Illness," and "Multiple Chemical Sensitivity" are more conceptual than diagnostic in their applications. Issues arise as to which diagnostic studies and immunologic tests offer the best means to both diagnose these disorders and establish causation.
POWERLINE & LOW LEVEL ELECTROMAGNETIC FIELD RADIATION	Physicists dispute possible effects of low-level EMF exposures typically encountered in the non-industrial setting. Problems designing comparable animal exposure studies make extrapolation of findings to human subjects difficult.	Driving force in EMF cases has been epidemiological studies. However, it is difficult to accurately reconstruct exposure history to low-level EMF's. Populations are exposed to a wide variety of sources of EMF's and other potentially toxic agents in home/work environment resulting in the argument for competing causation.	While clear diagnostic criteria exist for general medical conditions such as cancer and leukemia, no condition, such as an "EMF cancer," has been classified in ICD coding.
DIET MEDICATIONS	Animal studies on the nature of potential pathological side effects of these drugs continue. In some cases, i.e. neurologic effects, procedural issues can impact transfer of findings from these animal tests to human populations.	Number of published epidemiologic studies has been growing since original medical reports released. Exposure correlation to cardiac valvulopathy and primary pulmonary hypertension regarded as sufficiently strong by medical and regulatory communities to limit use of some preparations.	Clear diagnostic criteria for specific conditions, such as primary pulmonary hypertension and cardiac valvular disorders, exist. Neurologic disorders have proven more difficult to qualify in these exposure cases due to variety of, and difficulty in evaluating, alleged symptoms.
SILICONE BREAST IMPLANTS	Procedural issues have arisen in animal testing, i.e. direct silicone injections into subject animals versus insertion of silicone encapsulated inside implant. Controversy also exists regarding the form of the chemical tested, i.e. are studies on the effects of "silica," "silicon," and "silicone" comparable?	While original epidemiological studies may have indicated the possibility of silicone-related diseases, subsequent analyses by independent investigators and government groups have typically revealed negative or weak correlations.	Clear diagnostic criteria exist for many autoimmune and connective tissue diseases, but not for nonclassic disorders such as "Atypical Connective Tissue Disease" and "Human Adjuvant Disease." Questions arise as to how causation can be identified for these non-classical disease states.
ASBESTOS	Toxicological evidence generally accepted by medical and scientific community for specific conditions, such as mesothelioma.	Correlation studies linking occupational asbestos exposure to development of certain asbestos-related diseases is also accepted. However, smoking histories and other impacting variables in study populations can confound these findings.	"Asbestosis" and "mesothelioma" are coded diseases in International Classification of Diseases (ICD) manual. Standardized diagnostic criteria have been developed by professional organizations for certain of the asbestos-related disorders.

BOOK REVIEW

REYNOLDS, CECIL R. (EDITOR). *Detection of Malingering During Head Injury Litigation*. NEW YORK: PLENUM PRESS, 1998. HARDCOVER, 291 PAGES. \$45.

In dispensing justice for medical injury claims, one of the most difficult determinations can be ascertaining the veracity of plaintiff injury allegations. This situation becomes especially "slippery" when the allegations potentially involve some component of conscious exaggeration, or actual fabrication, of physical and mental symptoms by the grieving party with the intent to realize financial or legal gain. While the layperson might at best term this "faking," or at worst "lying," the psychiatric profession has medicalized it by labeling it with a more forgiving "malingering."

Identification of malingering in head injury litigation poses a particular problem. As a result of the partially subjective and sometimes subtle complaints presented in these cases, it can be relatively simple for claimants to expand or falsify symptoms. Estimates of the magnitude of malingering in head injury litigation range from 1% to 50%.

Detection of Malingering During Head Injury Litigation is a comprehensive and descriptive collection of evaluative instruments, authored by a variety of contributors, that are useful in the determination of *bona fide* versus fictionalized neuropsychological injury. Editor Cecil Reynolds aptly notes that diagnosing malingering is fraught with sensitive emotional, philosophical, and value-laden pitfalls. The label "maligner" conjures up a variety of negative images and judgments, especially in the courtroom. Certain caveats are suggested by this work to ensure

the issue of malingering is tactfully and professionally addressed by both attorneys and clinical evaluators.

The text opens with a selection from contributors David Faust and Margaret Ackley describing how patient-supplied information exists on a continuum ranging from completely accurate to completely inaccurate, making a precise evaluative appraisal troublesome. Within this framework, differentiation can be made between unintentional and intentional misinformation. Sources of intentionally inaccurate information may include poor patient effort, false symptoms, exaggerated symptoms, false attributions, false baseline data, and denial of positive abilities. Unintentional sources for inaccurate information may arise from testing methodology, extraneous factors, normal error, functional disorders (i.e. hypochondriasis or characterological), as well as actual brain disorders.

Reynolds describes the three congruencies an expert should consider in evaluating head injury malingering: congruence of the current symptom presentation with the known history and facts surrounding the injury, congruence of the symptoms in juxtaposition with one another, and congruence of the course of symptom development and history with known outcomes. Nonetheless, Reynolds notes that even with the best of neuropsychological tests, efforts to detect a clever maligner can be thwarted.

Medical information management of claimant records is a critical aspect in detecting malingering in head injury litigation. According to Reynolds, review of medical records is a valuable adjunct to neuropsychological testing in validating a plaintiff's reporting of medical history and disorders. For example, the editor notes that it is highly exceptional that an individual would never have experienced a headache, mood swing, relationship problem, or forgetfulness prior to the date of the head injury. Therefore, a wide variety of documents, including birth, developmental, educational, employment, legal, medical, mental health, substance abuse treatment, and military records, should be acquired and analyzed in cases of suspected malingering.

Reynolds concludes by discussing the ramifications for rehabilitation and employment in head injury cases. Research appears to indicate that in at least 90% of cases of mild head injury there is a "substantial" return to life functioning and work within six months of the injury.

As this work largely represents the scientific work of a variety of neuropsychological testing specialists, *Detection of Malingering During Head Injury Litigation* is a useful resource for both attorneys preparing for and medical experts consulting/testifying in these types of cases.

Reviewed by: Elizabeth B. Juliano and James R. Fell

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