## DISABILITY MEDICINE

The Official Periodical of the American Board of Independent Medical Examiners

### Editorial Board Contents

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---

<table>
<thead>
<tr>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EDITORIAL:</strong></td>
</tr>
<tr>
<td><strong>PRESIDENT’S MESSAGE</strong></td>
</tr>
<tr>
<td><strong>ORIGINAL RESEARCH ARTICLE</strong></td>
</tr>
<tr>
<td><strong>INTRADISCAL ELECTROTHERMAL ANNULOPLASTY – A REVIEW</strong></td>
</tr>
<tr>
<td><strong>ASSESSING IMPAIRMENT AND DISABILITY FOR SYNDROMES PRESENTING WITH CHRONIC FATIGUE</strong></td>
</tr>
<tr>
<td><strong>CME FILE</strong></td>
</tr>
<tr>
<td><strong>BOOK REVIEWS</strong></td>
</tr>
<tr>
<td><strong>CLINICAL EYE ATLAS</strong></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
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EDITORIAL:

INDEPENDENT MEDICAL EXAMINATIONS - ARE THEY UNDERUTILIZED?

A quality Independent Medical Examination can be very effective tool in preventing delayed recovery and returning the individual to productive lives. In fact, an appropriately performed Independent Medical Examination with valid and reliable data and a well written report can be very helpful in resolving claim creeping and crawling.

Indeed a credible Independent Medical Examination (IME) has been described as a key tool in the claims management process. However the ineffective use of the IME can also lead to frustrations. For instance, an IME too early or too late in the claims process or performed by unskilled examiner can become part of the problem and not the solution. In fact a poorly performed IME can at times be a nightmare in claims management.

Appropriate credentialing of Independent Medical Examiners is the key to solving the problem of poor quality Independent Medical Examinations. The end users of these Independent Medical Examinations often express their frustration about poor quality and excessive variability among these various providers. Hundreds of thousands of IMEs are performed in this country at the cost of millions of dollars. The direct IME cost in the broad context of the total claim cost is negligible, however the indirect cost of a poor quality IME can drive claim costs exponentially. The medical profession in general and the practitioners of disability medicine in particular would have to work harder to realize the full potential of the Independent Medical Examination and the IME process.

A credible IME can work both sides of claims management equation. On one hand it can validate a claim by providing expert opinion regarding a condition that may have raised skepticism among claims adjusters and adjudicators and on the other hand, IMEs can provide a strong foundation for denial of shaky claims or termination of benefits and claim closure. Yet in some other instances, it would be a catalyst for claim settlement, as both sides will gain the insight into the strength and weakness of the claim. A quality IME can therefore be a reality check for both the claimant and the claims manager.

Organizations who regularly utilize the IME, instead of lamenting about the poor quality, would do well by establishing internal processes to monitor the quality of the IMEs. The focus should not be necessarily on reducing the cost of IME but rather maximizing the effectiveness of the process. The high quality IME usually costs more than the high volume bulk IMEs sometimes performed through IME intermediaries such as brokers or vendors but the effectiveness of a high quality IME, even at the higher cost would have the financial return many times over in terms of the claims cost saving than the original cost of the IME. The old adage that you get what you pay for may be applicable here. This is not to say that all IMEs performed through IME intermediaries are necessarily of low quality, however addition of a broker in the mix may lead to the perception of transforming the IMEs into a commodity with business realities of price competition, high volumes at low cost and perception of commercializing low quality IMEs.

To solve the problems of poor quality IME and to maximize the potential for the use of IME in the adjudication of claims, all parties with stake in the process will have to work together. Physicians have much to do themselves. We have to raise the bar for the quality for IMEs and the end users would have to demand excellence from the IME providers. In this regards, American Board of Independent Medical Examiners currently is the only accreditation organization in the world that credentials IME providers with the high standard of vigorous education and training and a mandatory examination to obtain the qualification. ABIME President Tom Beller’s message in this issue is valuable to understand this process.

Mohammed I. Ranavaya, M.D., M.S., FRCP, FFOM, FAADEP, CIME, Editor in Chief
President’s Message

The American Board of Independent Medical Examiners (ABIME) was created to develop and maintain a process for ensuring an acceptable standard of competency for physicians, who provide independent medical examinations, regardless of specialty. Since its inception in 1994, over 2500 physicians have been certified. The mandatory examination to qualify for ABIME certification continues to be a high quality, comprehensive test, which is one major strength for certification.

The current examination for 2003 is the result of continuous revision and periodic addition of new questions prepared by the Examination Committee. The Examination Committee meets regularly to draft new test items, review and revise both new and old test items content, validate new test items, and participate as necessary in cut score setting exercises. This process assures that the examination is up-to-date and state-of-the-art in scope.

Human Resources Research Organization (HUMRRO), based in Alexandria, Virginia, has assisted ABIME from the initial development of the exam to the present. They provide excellent leadership and support through Dr. Dierdre Knapp and Lori Schantz, as well as other members of their staff.

The statistical review of examination results and question development provides a sound basis for continued use in certification of new physicians. For those seeking Recertification, the current exam provides for an up-to-date assessment of ability in disability medicine.

Also available and recently developed in the past year is the Alternate Pathway Program for Recertification. This consists of a combination of education and submission of answers to questions published in the Journal Disability Medicine to complete the process. ABIME staff can provide further details to those who plan to recertify by either of these methods in the coming year.

Thomas A. Beller, MD, President
American Board of Independent Medical Examiners

General Information — Disability Medicine, Volume 3, Number 1

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4
Original Research Article

INCIDENCE OF DISABILITY PENSION IN ICELAND BEFORE AND AFTER INTRODUCTION OF THE BRITISH FUNCTIONAL CAPACITY EVALUATION “ALL WORK TEST”

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Abstract

Objective: To assess changes in disability evaluation, since the introduction on September 1st 1999 of a new assessment method based on the British functional capacity evaluation, "All work test". Previously, the disability assessment was based on the applicant's medical, social and financial circumstances.

Material and methods: The study includes all those having their disability assessed for the first time at the State Social Security Institute of Iceland in 1997, 1998 and 2000. Information was obtained from the disability register on level of disability pension, gender, age and primary diagnoses.

Results: After the introduction of the new assessment method, there has been a significant increase in the number of women receiving full disability pension (p<0.0001). The number of people receiving partial disability pension has decreased (p<0.001). No significant change in the total number of new recipients of disability pension was observed.

Conclusion: The new method of disability assessment has resulted in a significant rise in the number of women receiving full disability pension. However, there has not been a rise in the total number of new disability pensioners, as the increased number of those receiving full disability pension has been balanced out by a significant fall in the number of those receiving partial disability pension.

Key words: disability, disability pension, disability assessment, functional capacity

Introduction

In Iceland disability is assessed by physicians of the State Social Security Institute (SSSI) and since September 1999 the assessment of disability grade has been based on the British functional capacity evaluation, "All work test" (1-4). Disability pension is granted according to paragraphs 12 and 13 in the National Social Security Act. Prior to September 1999 the applicant's social circumstances and earnings were important when disability grade was determined (5). According to paragraph 12 of the Social Security Act before September 1999 all those were eligible for full disability pension who were 16 to 66 years of age and “suffering from prolonged disability to such a degree as to be incapable of earning a quarter of what persons with full mental and physical health are able to earn in the same area, by work appropriate to their strength and skill and such as might reasonably be expected of them in the light of their upbringing and previous employment” (5). Over the years full disability pension has become linked to other benefits such as reduced cost of medical care, medication, physiotherapy, speech therapy, occupational therapy and increased child benefits. Individuals fortunate
enough to hold a paid job in spite of a serious illness had to pay more for these medical services than if they had been granted full disability pension even though these medical services were the prerequisite for their continued working. This linkage between pension and other benefits had become a serious disincentive to work and rehabilitation attempts because of the possibility that the next time they came up for disability revaluation the disability grade would be lowered resulting in reduced income and increased medical cost. For these reasons paragraph 12 of the Social Security Act was amended and the “All work test” introduced as the sole basis for granting full disability pension.

The “All work test” is designed to assess the effects of an individual’s medical condition and the resultant disability for all types of work. It assesses 14 physical functions (walking, walking up and down stairs, standing, sitting, rising from sitting, bending and kneeling, manual dexterity, lifting and carrying, reaching, speech, hearing, vision, continence, remaining conscious) and 4 mental activities (completion of tasks, coping with pressure, daily living, interacting with other people).

Partial disability pension is granted according to paragraph 13 of the National Social Security Act to “those who have lost at least 50% of their working capacity or have considerable expenses due to disability”\(^{(1)}\). This paragraph is unaltered, giving leeway for social circumstances to influence the disability assessment.

In the present study the effect of the new method of disability evaluation is assessed by looking at the last two whole years preceding and the first whole year succeeding its introduction.

**MATERIALS AND METHODS**

The disability register of the SSSI was used to obtain information on the number of new disability pensioners in Iceland in the years 1997, 1998 and 2000 and their gender, age, degree of disability and diagnoses according to the International Classification of Diseases on which the SSSI physician mainly based his disability assessment. Statistical significance was determined with the chi-square test\(^{(6)}\).

**RESULTS**

Table 1 shows the number of new disability pensioners in the years 1997, 1998 and 2000. There are little changes between the years 1997 and 1998. Between 1998 and 2000 there is no significant change in the total number of disability pensioners (with full or partial disability pension), neither for males \((p=0.22)\) nor females \((p=0.42)\). However, between 1998 and 2000 there is a significant increase in the total number of recipients of full disability pension \((p<0.0001)\). This increase is statistically significant for females \((p<0.0001)\), but not for males \((p=0.25)\). Between 1998 and 2000 there is a significant decrease in the number of those receiving partial disability pension and this applies both for males and females \((p<0.0001)\).

Table 2 shows the age distribution of new recipients of full disability pension in the years 1997, 1998 and 2000. A significant increase occurred between the years 1998 and 2000 in the number of females older than 30 years receiving full disability pension, but the changes between the years 1997 and 1998 are slight. Table 3, which shows main diagnoses of new recipients of full disability pension, demonstrates that the increase is mainly due to diseases of the

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<thead>
<tr>
<th>Table 1: The number of new disability pensioners in Iceland in 1997, 1998 and 2000 according to gender and level of disability pension.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Females</strong></td>
</tr>
<tr>
<td>Full disability pension</td>
</tr>
<tr>
<td>Partial disability pension</td>
</tr>
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<td><strong>Total</strong></td>
</tr>
</tbody>
</table>
musculoskeletal system and connective tissue amongst females (p<0.0001) and, as can be seen in Table 4, this increase is most markedly due to soft tissue disorders.

**Discussion**

The method of disability assessment, based on the applicant's medical, social and financial circumstances, had been unaltered in Iceland for decades. Due to linkage to other benefits and income it had become obsolete and could be an obstacle towards rehabilitation and work. In order to change the situation the British method of functional evaluation, the “All work test”, was introduced. This method emphasizes strict medical criteria and abolishes social and financial criteria for the assessment of disability grade (but the disability pension itself is still income tested in Iceland). It was uncertain what the overall effect of this change would be. An increase was expected in the number of those receiving full disability pension due to serious health impairment, as the old evaluation method would have excluded some of them on basis of their income. However, it was expected that there would be some reduction in the number of those whose disability assessment would previously have been heavily influenced by social circumstances.

After introduction of the “All work test” in Great Britain in April 1995 a
considerable reduction in the number of new disability pensioners occurred\(^7\). In Iceland the development was somewhat different. The present study shows that the introduction of the “All work test” has resulted in a significant increase in the number of those receiving full disability pension for the first time. However, this has been balanced out by a reduction in the number of new recipients of partial disability pension resulting in no significant change in the overall number. The effect of the change of evaluation method is, however, not directly comparable between the two countries. The basis of the older method of disability assessment was different and there was, and still is, only one level of disability pension in Great Britain, as opposed to two levels in Iceland.

The increase in the number of people with full disability pension after the introduction of the new method in Iceland can be traced to females older than 30 years with diseases of the musculoskeletal system and connective tissue (mainly soft tissue disorders). The results indicate that the current method of disability assessment in Iceland places a relatively heavy emphasis on musculoskeletal disorders.

The main reason for introducing this new method of disability assessment in Iceland was to encourage disabled people to work. It was expected that there might be some increase in the number of those receiving full disability pension, but without increasing expenditure on disability pension, as many would carry on working. This did not turn out to be the case. The expenditure on disability pension increased considerably in the year 2000\(^8\). This indicates that the goal of increased participation of disabled people in the labour market has not yet been reached. The SSSI has recently started a vocational rehabilitation program. The results of the present study underline the importance of such a program and that it needs strengthening.

**Acknowledgements**

The authors thank professor Vilhjalmur Rafnsson for his advise regarding statistical analysis. The results of this study have been published in part in the Icelandic Medical Journal (*Laeknabladid*) in Icelandic.

### References:

5. Thorlacius S, Stefansson S, Olafsson S. Disability in Iceland: size and characteristics. Accepted for publication in Disability Medicine.
8. Information from the finance department of the State Social Security Institute of Iceland.

### Table 4: Musculoskeletal disorders amongst females in Iceland receiving full disability pension for the first time in 1998 and 2000.

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inflammatory polyarthropathies</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Osteoarthritis (spine excluded)</td>
<td>21</td>
<td>63</td>
</tr>
<tr>
<td>Systemic connective tissue disorders</td>
<td>5</td>
<td>7</td>
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<tr>
<td>Dorsopathies</td>
<td>38</td>
<td>71</td>
</tr>
<tr>
<td>Soft tissue disorders</td>
<td>8</td>
<td>39</td>
</tr>
<tr>
<td>Other diagnoses</td>
<td>5</td>
<td>3</td>
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<tr>
<td><strong>Total:</strong></td>
<td><strong>87</strong></td>
<td><strong>203</strong></td>
</tr>
</tbody>
</table>
INTRODUCTION: Approximately 90 percent of Americans will develop lower back pain at some point in their lives. Degenerative disc disease (DDD), also termed intervertebral disc disorder or discogenic low back pain caused by degenerative discs and unresponsive to non-operative treatment. Various workers' compensation systems and insurance companies have been reluctant to authorize payment for IDET procedure because of the reported controversial efficacy and utility of this procedure. The need for randomized, blinded, controlled trials is obvious to answer the question, "Is the apparent affect of the IDET procedure a real therapeutic effect?". There are also issues involved in rating permanent impairment in claimants who have had IDET. The Editor hopes that this review article will be of interest to the reader of Disability Medicine and would generate scientific discussion.

It is important to remember that chronic low back pain has numerous etiologies. It may result from sacroiliac or facet joint problems, spondylolysis, spondylolisthesis, spinal stenosis, and disc extrusion-type herniations. Other common causes include infections, discitis, tumors, and retroperitoneal disease. Often psychological problems such as depressive, adjustment, or somatization disorders may present with chronic low back pain. Therefore, prior to diagnosing DDD, other causes of chronic low back pain must be excluded.

DEGENERATIVE DISC DISEASE:
Degenerative disc disease refers to a series of changes occurring as part of the natural aging process. One of the very early changes is a loss of hydrostatic pressure which leads to disc desiccation. As the disc dries and shrinks, disc space narrowing occurs, i.e. narrowing of the space between the neighboring vertebral bodies. The nucleus becomes increasingly fibrotic and the margin separating the nucleus from the annulus becomes less distinct. Desiccation also produces shearing forces, separating neighboring layers of the annulus and creating circumferentially oriented tears or fissures (Figure 1). Over time, the circumferential tears coalesce to form radial tears that are oriented like spokes of a wheel. Consistent with the observation that DDD is a manifestation of the aging process the incidence of radial tears increases with age. Autopsy studies of asymptomatic individuals revealed posterior radial-oriented tears in 40% of those between 50 and 60 years and 75% of those between 60 and 70 years.2 The presence of radial tears is the avenue by which the nucleus protrudes into the annulus, i.e. the protrusion-type of disc herniation commonly encountered in the more advanced grades of DDD. The severity of DDD is based on the scheme initially described by Nachemson in 1960.3

Grade I: a shiny, gelatinous nucleus which is easily delineated from the annulus; no visual ruptures or distortions,

Grade II: visually apparent fibrotic changes localized within the nucleus only; the nucleus is easily delineated from the annulus,

Grade III: visually apparent fibrotic changes within the nucleus and annulus; the distinction between the nucleus and annulus is less apparent; isolated fissures are found within the annulus,

Grade IV: visually apparent fibrotic changes and fissures or tears within the nucleus and annulus.
Cadaver studies reveal lumbar DDD begins in the second decade in males and in the third decade in females.\(^4\) By age 50, approximately 97% of all lumbar discs will demonstrate some evidence of degenerative disc disease. Based on cadaver\(^4\) and radiographic\(^5\) studies, DDD is most commonly found in the L3-4, L4-5, and L5-S1 levels. Radiographic changes of DDD are three times more common at L5-S1 than at L4-5, and five times more common at L5-S1 than at L3-4. Disc protrusion-type of herniations occurs primarily at the L4-L5 and L5-S1 levels.

Despite a very high correlation between radiographic or MRI evidence of DDD and increasing age, no clinical correlation exists. Several studies have demonstrated DDD in a high percentage of asymptomatic individuals. A study by Hult found radiographic evidence of DDD in 90% of the lumbar radiographs in a group of 50 – 59 year old patients.\(^5\) Yet only 47% of the patients reported a history of back pain. Similarly, MRI studies performed on 98 asymptomatic individuals demonstrated disc bulging in 52%, disc protrusions in 27%, annular tears in 14%, and disc extrusions in one percent.\(^6\)

**IDET TECHNIQUE:** The IDET procedure is performed via standard spinal tap technique utilizing biplane fluoroscopy. Anesthesia is either local anesthetic or occasionally light sedation. The disc is entered with a standard needle then a catheter with a 6 cm thermal resistant tip is fed through the bore of the needle to the desired portion of the annulus (Figure 2). The annulus is usually entered from the patient’s less painful side. Once the appropriate positioning of the thermal resistant tip of the catheter is confirmed by biplane fluoroscopy, the tip of the catheter is heated. The protocol recommended by Saul and Saul involves heating the tip to 90ºC over a 13 minute period then maintaining this temperature for an additional 4 minutes. After the procedure is finished, the catheter is removed and the patient is observed in a recovery unit until ready for discharge the same day.

**MECHANISM OF ACTION:** The proposed theory is that the heat generated by the thermal resistant tip results in (1) a modulation of collagen fibers, and (2) destruction of nociceptive nerve endings. It is generally accepted that a temperature of 65ºC is necessary to shrink collagen fibers. In separate studies by Kleinstueck et al\(^7\) and Saul et al temperature elevations at or above 65ºC were only found within 1-2 mm of the thermal tip. A review of the available scientific data indicates that the majority of the disc material exposed to the IDET thermal resistant coil did not reach a temperature sufficient to cause collagen modulation.

The second proposed mechanism of action involved destructive of nociceptive pain fibers. Small non-encapsulated nerve fibers exist around...
the entire periphery of the disc with occasional encapsulated nerve fibers on the annular surface. For the IDET procedure to successful, the temperature at the outer edge of the annulus would need to be raised sufficiently to damage the nociceptive pain fibers. The temperature mapping studies of Kleinstueck et al\(^{17}\) indicate that temperature elevations sufficient to ablate nerve endings in the clinically relevant areas were not achieved by IDET.

The mechanism of action remains a hypothesis and is not supported by the preponderance of published data. To date, no peer review articles have validated this hypothesis and confirmation of how or if the IDET procedure affects the intervertebral disc is lacking.

**PATIENT SELECTION:** The inclusion criteria for IDET, proposed by Saul et al\(^9\), include:

- Continual and unremitting low back pain for at least six months duration,
- Lack of satisfactory improvement after a comprehensively applied nonoperative care program which should include:
  - back education,
  - activity modification,
  - progressive intensive exercises,
  - a trial of manual physical therapy,
  - oral anti-inflammatory medication, and
  - at least one fluoroscopic guided epidural steroid injection.
- Normal neurologic exam
- Negative straight leg raising test.
- Absence of a neural compressive lesion identified on MRI.
- A positive provocative discogram. The discogram should reproduce the individual’s presenting pain symptoms at low pressurization (≤ 1.25-ml. volume) at one or more levels with the adjacent control level not demonstrating pain reproduction.

Karasek et al proposed adding two additional inclusion criteria:\(^{20}\)

- the presence of a radial oriented tear or fissure which reaches, at a minimum, the outer third of the annulus fibrosis, and
- an intact outer perimeter of the annulus fibrosis.

Clinically, the ideal IDET candidate should be younger than 55 years old with primarily axial or low back pain. The patient should be motivated to improve and free of major psychological issues. The disc height should be at least 50% of normal and the annular tear should be primarily in the posterior part of the disc. A disc herniation, if present, should be no more than a protrusion-type of herniation and the facet joints should be well preserved.

**DISCOGRAM:** The discogram plays a central role in deciding whether an individual is a candidate for IDET. This procedure involves injecting fluid into the disc and recording (1) the amount of fluid injected, (2) the pressure necessary to inject the fluid, and (3) the presence and characteristics of the ensuing pain. A normal healthy disc will accept up to two ml. of fluid without resistance and without pain. In the presence of degenerative disc disease, up to 4 ml of fluid can be injected before resistance is met and pain occurs. In situations of a disc extrusion-type of herniation, up to 6 ml of fluid can be injected before resistance and pain develops.

Provocative discograms, as described by Saul et al, are a very controversial procedure. It involves injecting fluid into a disc until pain occurs. The pain produced by the provocative discogram is compared to the patient’s presenting pain complaints. A provocative discogram is considered negative if there is no pain or if the pain differs in character and location from the patient’s presenting pain complaints. It is considered positive when the character and the location of patient’s presenting pain complaints are reproduced by the discogram. The patient, not the doctor, decides whether the provocative discogram is positive or negative, i.e. the result is positive when the patient says so. For a provocative discogram to meet the recommended criteria, the pain should occur after 1.25 ml of fluid is injected and should mimic the patient’s presenting pain symptoms in location and severity.

Given the obvious absence of objectivity, the reliability of provocative discograms has been seriously questioned. Several papers have documented a relationship between a positive provocative discogram and illness affirming behaviors. The presence of pain following a discogram has been correlated with the results of the Minnesota Multiphasic Personality Inventory\(^{11}\) as well as abnormal Ransford pain drawings\(^{12}\). Patients with elevated scores on the hypochondriasis,
hysteria, and depression scales tended to over-report discogram pain when compared to controls.

The validity of the discogram was challenged by Carragee et al. They analyzed the presence of low back pain following a discogram in individuals without a prior history of low back problems. They identified a clear link between the occurrence of pain following a discogram and: (1) the scores on psychometric testing, and (2) the presence of occupational disability. In this study, low back pain was reported in 60% of the control subgroup with somatization complaints, and in 80% of the control subgroup with occupational disability, yet none of the patients had a history of low back problems prior to the discogram. No control patient with normal psychometric profiles exhibited chronic pain one year after discography.

Holt evaluated the discograms in 30 male prison inmate volunteers who had no history of low back problems, normal lumbar x-rays, and normal back examinations. Over one-third of the individuals reported severe pain following the discogram. The incidence of false-positive responses was 37%.

The specificity of discogram results has been challenged in a study of patients with no history of DDD and whose low back pain was due to posterior iliac bone graft harvesting for a nonlumbar procedure. Approximately one-half of the patients reported their presenting pain complaints were reproduced by a discogram. This study appears analogous to the Waddell’s signs in which sham maneuvers produce low back pain. Just as minor pressure on the vertex scalp may falsely yield complaints of low back pain, discograms may falsely reproduce the pain of conditions other than DDD.

The outcome from a study by Slipman et al questioned the sensitivity of the discogram. They analyzed 101 patients with radial annular tears extending to the outer one-third of the annulus identified by discograms. Only a random correlation existed between the side of the patient’s annular tear and the side of the patient’s presenting pain complaints. To the authors, this study raised concerns about the validity and technique of discography and the IDET procedure.

Two studies attempted to evaluate the natural history of low back pain in patients with DDD demonstrated by discograms. Rhyme et al reported that nonradicular, discogram-positive low back pain may be expected to improve in up to two-thirds of patients with simple conservative measures. This was especially true in patients with less than five years of low back pain, greater than age 40 at the onset of symptoms, and no psychiatric disorder. Smith et al performed a retrospective study of 25 patients with chronic low back pain, a single-level positive provocative discogram, no surgery, with a minimum follow-up period of 3 years. They reported the low back pain improved in 68% of patients without psychiatric disease compared to only 33% of patient’s with psychiatric disease. The results in patients without psychiatric disease were comparable with the results usually reported with surgical treatment.

Although no study has assessed the usefulness of discogram in selecting patients for IDET, Bigos et al observed there was limited evidence that discograms improve the selection of patients who might benefit from spinal fusion surgery. Given all the questions raised by so many different authors, it is important to remember the editorial comments of Nachemson who advocated discontinuing discograms “because it is at best a disguise for ignorance, at worst an excuse for quackery.”

**POST OPERATIVE COURSE:** It is important for both the physician and the patient to understand that recovery from IDET is a slow process. Significant pain relief may take 8-12 weeks and during the first week, patients may experience an increase in their pain. Patients should do only minimal sitting or standing during the first few days, and a corset should be worn for six weeks. Athletic activities can be resumed gradually after six months.

**LITERATURE REVIEW:** The proponents of IDET assert that it is an alternative to lumbar spinal fusion for many patients and achieves satisfactory pain relief. However the peer-reviewed literature so far contains only observational case series. Small controlled trials have been attempted with equivocal and controversial results.
There is one prospective, randomized, double blind, placebo-controlled trial on IDET that is currently reported to be in progress in Australia. This trial has enrolled 75 patients with chronic discogenic pain in a blinded study. According to the study design, the thermal catheter will be inserted in both the intervention group and the control group. It would be activated in the first group and not activated in the control group. The results of that study were expected by January 2003, and remain unpublished.

To date, there are only a handful of studies analyzing the results of the IDET procedure and all of these have serious limitations and have raised more questions than provided answers. Even the theory of the catheter heating temperatures required for thickening and shrinking the collagen has been questioned.

Saul et al recently published their two-year results. Of 1116 patients with chronic low back pain of greater than three months duration referred for IDET, over 99.9% improved with an aggressive rehabilitation program. In the 62 patients who received IDET, there was a statistically significant improvement in pain, physical function and quality of life measured by a visual analog pain scale (VAS) and SF-36 scores. The authors concluded that further study was necessary to define the mechanism and reasons for clinical improvement. In addition, placebo-controlled studies needed to be performed in order to validate the results.

Karasek et al compared a group of patients in which the insurance company approved the procedure, and a “convenience control” group in which the insurance company did not approve the procedure. Outcome measures included the VAS scores, the use of opiate medication, and return to work. By the third month, 60% of the patients reported a 50% reduction in their pain, and 23% of patients were pain free. Nineteen percent of patients failed to improve with any outcome measure. The initial benefit decreased over time; after 3 months only 50% of patients demonstrated improvement with 50% deteriorating. The authors concluded that in carefully selected cases, IDET can substantially reduce the pain of internal disc disruption and appeared superior to placebo therapy. They cautioned, however, that until other papers demonstrated equal or better results, IDET “should not be considered ready for wholesale public use”.

Liu et al studied 50 IDET patients with a mean duration follow-up of 11 months. They found 60% of patients exhibited at least a two-point improvement with VAS scores. Their initial favorable results decreased over time, with only 43% reporting improvement after 12 months, and 33% reporting improvement after 18 months. Derby et al, published results on 32 patients with a mean follow-up of 32 months. They reported a favorable outcome in 62.5%, no change in 25%, and an unfavorable outcome in 12.5% of patients. Paradoxically, 78% reported the procedure “met their expectations...”, although 41% of the patients with no improvement or unfavorable results were included in the group that indicated they would have the procedure again.

Preliminary results from the first multicenter, prospective, cohort study trial were reported by Wentzel et al at the North American Spine Association meeting in 2000. Fifty-five patients were reviewed. The mean age was 41 years with a minimum of 60 months of low back pain. Twenty-seven underwent a single level IDET, and 28 patients received multi-level IDET. After 2 years, there was a statistically significant improvement in VAS and SF-36 scores. Eleven percent of their patients did not improve.

Shadid et al studied 145 consecutive patients referred for IDET with a positive discogram. Of this group, 120 were available for a mean follow-up of 18 months. Overall, one-third improved, one-third remained the same, and one-third did worse.

Davis et al presented their results in a study of 60 patients with discogenic low back pain one year after IDET. Ninety-seven percent continued to experience low back pain, 30% reported worsening of their low back pain, and 40% reported less low back pain. Fifty-seven percent of patients used either the same or more pain medication. Prior to IDET, 42% of patients were employed full time whereas after IDET only 30% were employed full time. Eighteen percent of the patients underwent a lumbar fusion procedure by one year and 28% were predicted to undergo surgery by 2 years.

Barendse, Van Den Berg and colleagues concluded that IDET was not effective.
in reducing chronic discogenic pain after completing a prospective double-blind randomized trial in 28 patients. Eight weeks after the treatment they found no difference in the control group and the treatment group in terms of pain or disability.

Andersson and Wetzel reported a multicenter study, which consisted of 65 patients with 8 failures. On average, the procedure took about 70 minutes and the results were modest. There was about a two point decrease in the VAS scale and a 11% return to work in treatment group compared to those who did not receive the IDET treatment. This study included only patients with chronic, intractable discogenic pain, who had failed conservative treatment and who were also candidates for fusion surgery. The candidates also had to have a positive, provocative discography to qualify for the study. The authors concluded that the study demonstrated that IDET could be performed, with reasonable safety, in the hands of experienced spine surgeons.

In the IDET national registry, maintained by the manufacturer of the IDET thermal catheter, 200 patients participated with 42 centers involved. Only a 2-3-point reduction on the VAS pain scale was reported at a six-month follow-up. The main limitations of these observations were the lack of a control group. A prominent researcher in this field Dr. Wetzel, of the University of Chicago, concluded that IDET is “an attractive treatment that needs more work,” i.e., more research.

Recently, Heary concluded that until several important scientific questions have been answered, the IDET procedure should be considered experimental. According to Heary, until controlled studies demonstrate long-term efficacy, the IDET procedure should not be part of the available armamentarium. O’Neill et al noted there was very little research validating the efficacy of IDET, consequently there was little published evidence supporting its use.

**SCIENTIFIC CONCERNS:**

- Lack of long-term follow-up after an invasive procedure.
- Lack of peer-review evidence for the proposed mechanism of action.
- Lack of animal data.
- Lack of prospective studies comparing patients who did not receive IDET but had the same pre- and post-procedure therapy.
- Lack of randomized studies with a control population.
- Lack of consensus concerning the sensitivity, specificity, and reliability of the discogram.
- The majority of papers have been reported by the developers/inventors of the procedure or those with financial consultant agreements with the company that markets the device.

**CONCLUSION:** Intradiscal electrothermal therapy is a procedure that may hold promise in the future for treatment of chronic low back pain due to degenerative disc disease. Based on the peer-reviewed scientific literature currently available one can reasonably conclude that the proper role of IDET in the care of chronic back pain patient is not yet known and there are too many unanswered questions which relegate IDET to an experimental or investigative category. However the procedure has been done thus far on hundreds of workers’ compensation population, which are surely likely to come up for the permanent impairment evaluation requiring the use of the AMA Guides to the Evaluation of Permanent Impairment. Independent Medical Examiner is likely to face this question. Talmage, et al., in an article have proposed a satisfactory scheme to deal with such issues.

**REFERENCES:**

10Nachemson A. Lumbar discography—where are we today? Spine 1989;14:555-557
15Shahid A, Derby R et al. An independent assessment of the one to two clinical outcome of intradiscal electrothermal annuloplasty (IDET) for discogenic low back pain. Presented at the International Spinal Injection Society 9th Annual Scientific Meeting, September, 2001
16Davis TT, Delamarter RB, and Goldstein TB. IDET procedure for chronic discogenic low back pain. Presented at the American Academy of Orthopaedic Surgeons Dallas, Texas, 2002

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ASSESSING IMPAIRMENT AND DISABILITY FOR SYNDROMES PRESENTING WITH CHRONIC FATIGUE

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ABSTRACT

Many disability claims are based on the subjective symptom of fatigue, which can be caused by a wide spectrum of diagnoses including fibromyalgia, chronic fatigue syndrome and cardiopulmonary diseases. Chronic pain is very often a compounding problem.

It is vital for every insurer to have fair and objective criteria to distinguish between invalid claims and those with merit.

This review article proposes objective tools and parameters to achieve this goal.

KEYWORDS

Chronic fatigue, fibromyalgia, chronic pain, Disability Impairment

INTRODUCTION

Fibromyalgia (FM) and the Chronic Fatigue Syndrome (CFS) cover a wide spectrum of signs and symptoms, which are virtually exclusively subjective in nature. The emphasis in Fibromyalgia is on pain where the emphasis in Chronic Fatigue Syndrome is on persistent fatigue.

There are many similarities between the two conditions. (Table 1)

Over many years the presenting symptom has varied and there is a significant body of opinion that believes that the CFS and FM are similar, if not identical conditions. According to Yunus(1), these two syndromes form part of a spectrum of conditions classified as Neuroendocrine Immune Dysfunction, as demonstrated in figure 1.

Both syndromes are poorly understood in terms of causation, pathophysiology, natural history and the appropriate medical management. Research has shown that CFS and FM also share demographic features, symptoms and common physical examination findings.

Table 1: Symptom Similarities of Chronic Fatigue Syndrome and Fibromyalgia.

<table>
<thead>
<tr>
<th>SYMPTOMS</th>
<th>Fibromyalgia</th>
<th>Chronic Fatigue Syndrome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wide spread pain</td>
<td>✔ ✔ ✔</td>
<td>✔</td>
</tr>
<tr>
<td>Pain localized mainly at tender points</td>
<td>✔ ✔ ✔</td>
<td>✔</td>
</tr>
<tr>
<td>Decrease in pain threshold</td>
<td>✔ ✔</td>
<td>✔</td>
</tr>
<tr>
<td>Sleep disturbance</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Fatigue</td>
<td>✔</td>
<td>✔ ✔</td>
</tr>
<tr>
<td>Anxiety</td>
<td>✔</td>
<td>✔ ✔</td>
</tr>
<tr>
<td>Depression</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
</tr>
<tr>
<td>Neurocognitive dysfunction</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
</tr>
<tr>
<td>Exercise intolerance</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
</tr>
<tr>
<td>Headache</td>
<td>✔</td>
<td>✔ ✔</td>
</tr>
<tr>
<td>Irritable Bowel Syndrome</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
</tr>
<tr>
<td>Joint Stiffness</td>
<td>✔ ✔</td>
<td>✔ ✔</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SIGNS</th>
<th>Fibromyalgia</th>
<th>Chronic Fatigue Syndrome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tender points</td>
<td>✔ ✔ ✔ ✔</td>
<td>✔</td>
</tr>
<tr>
<td>Lymphadenopathy</td>
<td>✔ ✔</td>
<td>✔</td>
</tr>
<tr>
<td>Pharyngitis</td>
<td>✔ ✔</td>
<td>✔</td>
</tr>
<tr>
<td>Fever</td>
<td>✔ ✔</td>
<td>✔</td>
</tr>
</tbody>
</table>

CLINICAL EXAMINATION

Generally non-contributory other than in Chronic Fatigue Syndrome there is in the initial stages symptoms and signs of a viral infection.

SPECIAL INVESTIGATIONS

Non-contributory
The clinical syndromes and diagnostic criteria of these conditions are well described in medical literature(2,3), and are beyond the scope of this paper.

These syndromes present challenges to Disability Assessment in the following ways:

- There is a significant financial benefit, which accrues from a certain level of functional impairment and the impact that this has on the claimant’s ability to perform the normal activities of daily living and their occupation.
- That to remain ill has financial benefit.
- To date there have not been assessment criteria to assess functional impairment for the CFS and FM, which are aimed at assessing the exercise and work tolerance of the claimant in an objective and quantitative way.
- Admission of claims in claimants who are not objectively assessed reinforces the condition and in so doing does the claimant and society a disservice. This fosters somatization and medicalization of these conditions with the concomitant negative effects on the health care system and the economy.

**ASSESSMENT OF FUNCTIONAL IMPAIRMENT**

*Introduction*

The symptoms of patients suffering from CFS and FM are mainly subjective in nature, which complicates attempts to objectively quantify the degree of impairment. Furthermore, signs and symptoms of FM are found in the normal population who are still actively employed(4,5). Hidding et al(6) also reported “discordance between self-report questionnaires and observed functional disability” as a most striking feature of FM.

It is also evident that only minorities of patients are unable to work(7), and that most patients are able to continue working with workplace adaptation(4).

The above makes it imperative that some form of objective measurement be incorporated into the impairment assessment of these subjective syndromes. This will not only result in increased fairness in distinguishing between non-valid claims and those with merit, but will help maintain affordable insurance premiums to all.

Impairment is defined by the AMA as “conditions that interfere with an individual’s activities of daily living”(8).

The World Health Organization defines it as “any loss or abnormality of psychological, physiological, or anatomical structure or function”(9).

The assessment of impairment in function, is the primary role of the Independent Medical Examiner (IME). The IME should be in possession of all medical documentation to date, and should utilize the assessment tools as described in the following sections to quantify impairment.

**Pre-assessment criteria**

Functional impairment can only be assessed once the patient has received optimal treatment available, the condition has stabilized and the point of maximal medical improvement (MMI) has been reached.(9)

According to international literature, no specific period of time could be established which could be regarded as an optimal period of treatment prior to MMI having been reached.

However, it is reasonable to assume that no clinician can prescribe all the treatment modalities agreed upon to be considered as optimal treatment, during a period of less than two years. This is necessary to allow different classes of medication to take full effect, to adjust dosages if indicated, and to institute a proper rehabilitation and work integration/adaptation program.

The IME must also ensure that the diagnosis was made correctly and according to the CDC criteria for CFS, and the ACR criteria for FM.

**Quantifying Functional Impairment**

The spectrum of symptoms that may lead to impairment, include the following(11, 12):

- Pain
- Headache
- Myofascial pain
- Joint pain

![FIGURE 1](image-url)
• Back pain
• Fatigue
• Cognitive impairment, mainly decreased memory, concentration, persistence and pace.
• Sleep disorders
• Mood disorders
• Various somatic symptoms like irritable bowel syndrome etc.

Table 2 summarizes the suggested assessment tools to be utilized to quantify impairment severity due to the symptoms experienced, and is adapted from the American Academy of Disability Evaluating Physicians (AADEP) position papers on CFS and FM(7,10).

In addition to the assessment criteria as suggested by AADEP (Table 2), our working group have included the following objective parameters:
• Objective proof of pain therapy
• Exercise capacity measurement

We also propose an overall evaluation of the validity of data, as described in section 4.

More specific details of the various impairment assessment tools, as specified in Table 2.

i Pain Intensity/Frequency Grid (PIFG)

Pain intensity should be classified as minimal, slight, moderate or marked, according to the criteria as used by the American Medical Association (AMA)(8). The use of non-narcotic or narcotic analgesics serves as an important differentiator. The frequency of pain experienced should also be documented as intermittent, occasional, frequent or constant.

The above categorization of pain intensity and frequency should be done by the examining physician, on information received by direct questioning of the patient, as well as collateral information received from family, friends and/or the employer.

ii Pain Questionnaire (Annexure A)

Various pain questionnaires are available which have been proven in international research to be useful tools in the quantification of the intensity of pain.

We recommend the pain questionnaire of Hyman(13), as it also assesses the patient’s:
• Motivation
• Likelihood of responding to a rehabilitation program
• Expectations of disease outcome
• Work satisfaction

Also, these questions give an indication of the presence and extent of psychiatric overlay. If the pain is made worse by all physical activities e.g. bending, kneeling, sitting, lying as indicated by the questionnaire, the validity of the data should be questionable, as certain movements should have no effect on the pain.

iii Pain diagram

The pain diagram should be completed by the claimant (Annexure B). The important data

<table>
<thead>
<tr>
<th>SYMPTOMS</th>
<th>ASSESSMENT TOOLS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAIN</td>
<td>• Pain intensity/frequency grid</td>
</tr>
<tr>
<td>• Headache</td>
<td>• Pain questionnaire</td>
</tr>
<tr>
<td>• Myofascial pain</td>
<td>• Pain diagram</td>
</tr>
<tr>
<td>• Joint pain</td>
<td>• Objective proof of pain therapy</td>
</tr>
<tr>
<td>• Back pain</td>
<td>• Fibromyalgia impact questionnaire (F1Q)</td>
</tr>
<tr>
<td></td>
<td>• ADL impairment</td>
</tr>
<tr>
<td></td>
<td>• ROM impairment where indicated</td>
</tr>
<tr>
<td>FATIGUE</td>
<td>• ADL impairment</td>
</tr>
<tr>
<td></td>
<td>• Exercise capacity</td>
</tr>
<tr>
<td>COGNITIVE IMPAIRMENT</td>
<td>• Neuropsychiatric analysis for impairment in memory, concentration, persistence and pace</td>
</tr>
<tr>
<td>MOOD DISORDERS</td>
<td>• Psychiatric evaluation of</td>
</tr>
<tr>
<td></td>
<td>• Social interaction</td>
</tr>
<tr>
<td></td>
<td>• Activities of daily living</td>
</tr>
<tr>
<td></td>
<td>• Task completion (concentration, persistence, pace)</td>
</tr>
<tr>
<td></td>
<td>• Adaptation to work stress</td>
</tr>
<tr>
<td>SLEEP DISORDERS</td>
<td>• Assess according to AMA Guides, 4th Edition</td>
</tr>
<tr>
<td>SOMATIC SYMPTOMS</td>
<td>• Assess according to AMA Guides, 4th Edition</td>
</tr>
</tbody>
</table>
obtained from the type of pain and its distribution, should make physiological and pathological sense, and fit the patient’s diagnosis. If not, symptom magnification or malingering should be considered.

iv Objective proof of pain therapy
In addition to the pain intensity/frequency grid, impairment in Activities of Daily Living (ADL) and the Fibromyalgia Impact Questionnaire (FIQ), which are all subjective measures of pain, the assessor should substantiate the degree of pain by requesting the following objective evidence:

- Extracts from clinical records of the treating family physician to verify the number and frequency of consultations to seek treatment and/or prescriptions for pain relief.
- Copies of such prescriptions for pain relief medication, or copies of pharmacy bills.

v Self-report questionnaires
Various self-report questionnaires exist to evaluate subjective complaints like pain, tiredness, depression, etc.

Although these questionnaires are of limited value because of a lack of objectivity, it is felt that the information gained can contribute significantly to the holistic assessment of the disabled individual.

It is recommended that the FIQ\(^{14}\) be used in all cases.

Scrutinizing the contents of the FIQ after completion may yield valuable information about the extent of the client’s symptomatology. A total score for the questions exceeding 70 out of a possible total of 82, may indicate symptom magnification, somatization or malingering.

vi Impairment in Activities of Daily Living (ADL)
Claimants should be requested to complete a questionnaire on the impact of the disease on their abilities to cope with activities of daily living. Examples of ADL are given in table 3.

The client’s level of impairment in the activities of daily living should be quantified as follows:

**CATEGORY:**
1. No impairment. Functions as any normal person.
2. Mild impairment. Has difficulty with the specific activity, but can cope.
3. Moderate impairment. Can only do the specific activity with discomfort and effort.
5. Extreme impairment. The specific activities are impossible to do.

vii ROM impairment
FM may cause joint or back pain, which may limit the normal range of motion of certain joints or the spine.

This range of motion (ROM) impairment should be recorded with a goniometer or inclinometer as described in the AMA Guides, 4th Edition, Chapter 3.

**Pain with no ROM limitation, constitutes no impairment.**

viii Exercise Capacity Testing
The AMA Guides suggests that fatigue as a symptom of respiratory or quantifying impairment in exercise capacity should, objectively assess cardiac disease. This is done

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>EXAMPLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-care, personal hygiene</td>
<td>Bathing, grooming, dressing, eating</td>
</tr>
<tr>
<td>Communication</td>
<td>Hearing, speaking, reading, writing, using keyboard</td>
</tr>
<tr>
<td>Physical activity</td>
<td>Intrinsic: Standing, sitting, reclining, walking, stooping, squatting, kneeling, reaching, bending, twisting, leaning. Functional: Carrying, lifting, pushing, pulling, climbing, exercising</td>
</tr>
<tr>
<td>Sensory function</td>
<td>Hearing, seeing, tactile feeling, tasting, smelling</td>
</tr>
<tr>
<td>Hand functions</td>
<td>Grasping, holding, pinching, percussive movements, sensory discrimination</td>
</tr>
<tr>
<td>Travel</td>
<td>Riding, driving, traveling by airplane, train, or car</td>
</tr>
<tr>
<td>Sexual function</td>
<td>Participating in desired sexual activity</td>
</tr>
<tr>
<td>Sleep</td>
<td>Having a restful sleep pattern</td>
</tr>
<tr>
<td>Social and recreational activities</td>
<td>Participating in individual or group activities, sports, hobbies.</td>
</tr>
</tbody>
</table>
by using one of various graded exercise protocols on either a treadmill or cycle-ergometer, as described in the Guides on p171, to determine maximal energy expenditure in metabolic equivalents (METS).

METS represents the multiples of resting metabolic energy, which the patient can achieve with maximum effort exercise testing, with one MET being equal to an oxygen consumption of 3.5 ml/kg/min.

Research has shown that it is reasonable to expect a person to maintain 40% of his maximal exercise capacity for an 8-hour working day(6).

Therefore, calculating 40% of the patient’s maximal workload, and comparing it to the work descriptions which could be maintained (Table 4), would classify the claimant’s abilities on physical grounds into either capable of doing light work, moderate work, heavy, very heavy, or arduous work.

The definitions of these different work intensities can be obtained from the USA Dictionary of Occupational Titles(15).

It is recommended that exercise capacity testing be utilized to quantify the physical fatigue, or lack of energy, of a FM or CFS patient in the manner described above.

Due to the fluctuating nature of FM and CFS symptoms, the client should undergo exercise testing on at least two occasions at least one month apart.

Clients who meet the minimum recommended METS level for their type of work (Table 4), should not be considered disabled on the basis of fatigue, but should be evaluated according to any other criteria applicable (Table 2).

OTHER IMPAIRMENTS

Should the client suffer from significant impairment due to other symptoms of these syndromes, e.g. cognitive impairment, mood or sleep disorder, these impairments should be evaluated according to the appropriate section in the AMA Guides, 4th Edition.

Validity of Data

Because of the subjective nature of the symptoms of CFS and FM, the examining physician should always, before deciding on the extent of permanent impairment, attempt to validate the authenticity of the data obtained.

This could be compared to the Waddell signs, which indicate non-organic causes for low backache(16). If two or more of the following are present, symptom magnification or malingering may be considered.

1. A normal clinical examination, with specific reference to the minimum number of tender points needed to diagnose FM according to the ACR criteria.

2. Positive distraction test
   This refers to a specific tender point (-s) eliciting pain upon direct pressure, but fails to reproduce the same response when the same pressure is applied while the patient’s attention is distracted.

3. A normal psychometric evaluation.

4. Total non-physiological or non-pathological pain distribution or type of pain as evidenced by the pain questionnaire and/or pain diagram. This should also apply when the pain distribution and nature does not fit the clinical diagnosis.

5. Non-correlation of exercise capacity (METS) achieved with pulse rate response and workload achieved. A patient complaining of excessive tiredness at low workloads and low pulse rate acceleration, should be viewed with suspicion, in the absence of cardiological and/or pulmonological disease. Patients with true impairment in exercise capacity will show excessive pulse rate acceleration at low workloads.

6. Total FIQ score exceeding 70 out of a possible total of 82 points.

Table 4 Oxygen and Energy Requirements for Different Work Intensities.

<table>
<thead>
<tr>
<th>WORK INTENSITY FOR 70 KG PERSON</th>
<th>OXYGEN CONSUMPTION</th>
<th>METS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light work</td>
<td>7 ml/kg/min</td>
<td>&lt; 2 METS</td>
</tr>
<tr>
<td>Moderate work</td>
<td>8-15 ml/kg/min</td>
<td>2-4 METS</td>
</tr>
<tr>
<td>Heavy work</td>
<td>16-20 ml/kg/min</td>
<td>5-6 METS</td>
</tr>
<tr>
<td>Very heavy</td>
<td>21-30 ml/kg/min</td>
<td>7-8 METS</td>
</tr>
<tr>
<td>Arduous work</td>
<td>&gt; 30 ml/kg/min</td>
<td>&gt; 8 METS</td>
</tr>
</tbody>
</table>
Format of Report
The medical examiner should supply the employer and/or insurer with a complete medical report covering all the aspects mentioned in Table 5.

Assessing Disability
Disability is the alteration of capability to meet personal, social or occupational demands due to an impairment(8).

Disability assessment is a legal and not a medical decision, taken by a panel of experts including a
• Medical advisor
• Legal advisor, and
• Claims consultant

The insurer assesses a disability claim by carefully evaluating the following four categories.
1 Claimant
2 Job description
3 Disability clause conditions
4 Medical condition

1 Claimant
Factors that need to be considered include:
• Gender and age
• Experience and qualifications
• Income, and
• Previous occupations

2 Job description
Generally, occupations can be classified into the following categories:
• Manual
• Operative
• Clerical
• Supervisor in clerical field
• Technical
• Supervisor in technical field
• Managerial
• Specialized, and
• Mixed

### TABLE 5

<table>
<thead>
<tr>
<th>1. DIAGNOSIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Diagnosis should be based on the 1990 American College of Rheumatology criteria.</td>
</tr>
<tr>
<td>• Cite the historical and current physical findings that support the diagnosis.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. TREATMENT AND RESPONSE TO THERAPY</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Response to therapy</strong></td>
</tr>
<tr>
<td>a) Pharmacological intervention</td>
</tr>
<tr>
<td>Name type of drugs and damages prescribed.</td>
</tr>
<tr>
<td>Note period of treatment, compliance and response to therapy.</td>
</tr>
<tr>
<td>Has the point of MMI been reached? Give details.</td>
</tr>
<tr>
<td>b) Non-pharmacological intervention</td>
</tr>
<tr>
<td>• Cognitive-behavioral therapies</td>
</tr>
<tr>
<td>• Cognitive-behavioral therapies</td>
</tr>
<tr>
<td>• Exercise-based programs</td>
</tr>
<tr>
<td>• Other non-pharmacological treatments</td>
</tr>
<tr>
<td>Has the point of MMI been reached? Give details.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. FUNCTIONAL IMPAIRMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe the frequency and severity of symptoms experienced.</td>
</tr>
<tr>
<td>Provide adequate details in terms of the assessment tools discussed above:</td>
</tr>
<tr>
<td>• Pain:</td>
</tr>
<tr>
<td>• PIFG</td>
</tr>
<tr>
<td>• Initial pain questionnaire</td>
</tr>
<tr>
<td>• Pain diagram</td>
</tr>
<tr>
<td>• Objective proof of pain therapy</td>
</tr>
<tr>
<td>• FIQ</td>
</tr>
<tr>
<td>• ADL impairment assessment</td>
</tr>
<tr>
<td>• ROM impairment if indicated</td>
</tr>
<tr>
<td>• Fatigue:</td>
</tr>
<tr>
<td>• ADL impairment</td>
</tr>
<tr>
<td>• Exercise capacity test</td>
</tr>
<tr>
<td>• Cognitive impairment:</td>
</tr>
<tr>
<td>• Neuropsychiatric analysis</td>
</tr>
<tr>
<td>• Mood disorders:</td>
</tr>
<tr>
<td>• Psychiatric evaluation</td>
</tr>
<tr>
<td>• Somatic symptoms:</td>
</tr>
<tr>
<td>• Impairment assessment as per AMA Guides 4th Edition</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4. CURRENT ABILITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe the usual activities of daily living (ADL’s) that the claimant is still capable of doing:</td>
</tr>
<tr>
<td>• Working</td>
</tr>
<tr>
<td>• Recreation</td>
</tr>
<tr>
<td>• Shopping</td>
</tr>
<tr>
<td>• Travel</td>
</tr>
<tr>
<td>• Housework</td>
</tr>
<tr>
<td>• Self care</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5. WORKPLACE ADAPTATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Impact on activities at work</td>
</tr>
<tr>
<td>• Is intervention at the workplace/change of occupation possible?</td>
</tr>
<tr>
<td>• What effect has therapy had on work ability?</td>
</tr>
<tr>
<td>• Has an occupational therapy assessment been done?</td>
</tr>
</tbody>
</table>
The percentage of time spent supervising, sitting down, standing or doing manual labour should be specified by the employer.

The METS requirements of the specific type of job in question is matched with that of the exercise capacity test achieved by the claimant.

3 Disability clause conditions

Precise disability clause wordings differ from one insurer to the other, but generally the following types of disability cover are sold:

3.1 According to type of work

3.1.1 Own occupation

A claim is considered when a claimant cannot do his own specific job. This is a more expensive type of disability cover and is usually sold to professional people. In these cases the exact job description of each claimant is evaluated in terms of his or her medical impairment.

3.1.2 Own/similar occupation

A claim is considered when a claimant is unfit to do his or her own occupation, and will also not be fit to perform a similar occupation which he or she may reasonably be expected to follow, taking into account education, training and experience.

3.1.3 Any occupation

This is a cheap type of disability cover with a very wide policy definition, and the degree of disability has to be very high to qualify for a claim. Here qualifications, experience, income, etc. are irrelevant, and the claimant literally has to be unable to do any work, i.e. even simple tasks like access control to buildings/venues, selling tickets, etc.

3.2 According to duration of disability

3.2.1 Total and permanent disability

The disease has to be optimally treated and still result in impairment to such a degree that the person is totally and permanently unfit to work. The impairment must be irreversible and must permanently prevent the patient from working; diseases that are treatable (e.g. hypertension) or periodic in nature (e.g. epilepsy) therefore do not qualify as causes for disability in this category.

3.2.2 Total disability

In this category a monthly income is provided and periodic medical review required to determine sustained disability. Temporary disability due to treatable or episodic types of diagnoses (e.g. acute backache) may qualify for a claim provided the other parameters of disability assessment are met.

4 Medical condition

The medical condition is assessed by the IME according to the information as described previously. It is therefore important to supply as much medical information as possible in order to be able to make an informed decision.

Availability of employment

It is important to realize that disability insurance only insures the ability to work, and not the availability of alternative employment or the ability to commute to work.

References:

3 Harrison’s Principles of Internal Medicine, 14th Edition, P2483-2485.
13 Ref. Pain Questionnaire
ANNEXURE A
CHRONIC PAIN : QUESTIONNAIRE

To Our Patient

Please fill this out prior to seeing the doctor. This helps us to help you.

When did your current problem begin? ______________________
What were you doing when you first hurt yourself? ________

Where was your pain/problem at the beginning? ____________

Since the beginning, has your pain/problem been constant or intermittent? __________________________________
How many previous episodes of this problem have you had? _____________________________________________

If you have been seen at any other office/clinic/hospital/emergency room, please answer the following:

When and by whom were you previously treated __________

What tests or x-rays were done for this ____________________
What were the diagnoses given for your problem ____________

List any medicines which you have taken for this problem _____________________________________________
List any therapies you have tried for this problem ___________________________________________________

Did anything that you have previously tried, help or hurt your pain/problem __________________________________

For each of the next three questions, please indicate on the line, the number between 0 and 100 that best describes your pain. A zero (0) would mean “no pain” and a one hundred (100) would mean “pain as bad as it could be”. Only write one number on each line.

Your pain right now ______________________________________
Your typical or average pain ________________________________
Your pain at its worse _____________________________________

For the questions below select only one number:
Please indicate how anxious (e.g. tense, uptight, irritable, fearful, difficulty in concentrating/relaxing) you have been feeling during the last week:

Not at all anxious 1 2 3 4 5 6 7 8 9 10 Extremely anxious

Please indicate how depressed (e.g. down-in-the-dumps, sad, downhearted in low spirits, pessimistic, feelings of hopelessness) you have been feeling during the last week.

Not at all depressed 1 2 3 4 5 6 7 8 9 10 Extremely depressed

Please indicate how much you agree with the statement: If I become sick, I have the power to make myself well again:

Completely disagree 1 2 3 4 5 6 7 8 9 10 Completely agree

Please indicate how much you agree with the statement: Health professionals, like my doctor, control my health:

Completely disagree 1 2 3 4 5 6 7 8 9 10 Completely agree

Please indicate how much you agree with the statement: I cannot do physical activities, which might make my pain worse:

Completely disagree 1 2 3 4 5 6 7 8 9 10 Completely agree

If you are currently employed or out on work, leave, please complete the following questions:

Please indicate how much you enjoy the tasks involved in your job:

Hardly ever 1 2 3 4 5 6 7 8 9 10 Almost always

Please indicate how well you get along with your fellow workers:

Don’t get along at all 1 2 3 4 5 6 7 8 9 10 Get along very well

Please indicate how certain you are that you will be able to do your normal work within 3 months:

Not at all certain 1 2 3 4 5 6 7 8 9 10 Very certain
ANNEXURE A
CHRONIC PAIN : QUESTIONNAIRE (CONTINUED)

In the table below, place a checkmark into each box that identifies where your pain is and how it feels:

<table>
<thead>
<tr>
<th>HEAD</th>
<th>NECK</th>
<th>BACK</th>
<th>ARMS</th>
<th>LEGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Right Side</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left Side</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Both Sides</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharp</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dull</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aching</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Throb</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stabbing</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pins and Needles</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How often does your pain occur? (circle only one)
- a) constant (90% of the time)
- b) frequent (75% of the time)
- c) intermittent (50% of the time)
- d) occasional (25% of the time)

Would you describe your pain as (circle only one):
- a) minimal-an annoyance
- b) slight-tolerable, some limitation in activities that produce pain
- c) moderate-a marked limitation in all activities that produce pain
- d) severe-precludes all activities that produce pain

If you have numbness, how often? (circle only one)
- a) constant (90% of the time)
- b) frequent (75% of the time)
- c) intermittent (50% of the time)
- d) occasional (25% of the time)

Are you currently (circle only one):
- a) working at your regular job
- b) working at home
- c) going to school
- d) working in a modified capacity at your job/home/school
- e) unemployed
- f) retired
- g) out on disability from work (if so, how long _________)

In the table below, indicate with a check mark whether any of these activities has an effect on your symptoms:

<table>
<thead>
<tr>
<th>BETTER</th>
<th>WORSE</th>
<th>NO EFFECT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bend</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Squat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crawl</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Climb</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crouch</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kneel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reach</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Push</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pull</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sitting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rising from sitting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rising from lying</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Turning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lying on back</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lying on stomach</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sleeping</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cough</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sneeze</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Walking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Running</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lifting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Morning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Evening</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ANNEXURE A

CHRONIC PAIN: FOR PATIENTS WITH BACK OR LEG PROBLEMS (CONTINUED)

When your back or leg hurts, you may find it difficult to do some of the things you normally do. This list contains some sentences people have used to describe themselves when they have back pain or sciatica. When you read them, you may find that some stand out because they describe you today. As you read the list, think of yourself today. When you read a sentence that describes you today put a check in the yes column. If the sentence does not describe you today, check the no column.

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I stay at home most of the time because of my back problem or leg pain (Sciatica).</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>I change my position frequently to try and get my back or leg comfortable.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>I walk more slowly than usual because of my back or leg pain (sciatica).</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Because of my back problem, I am not doing any of the jobs that I usually do around the house.</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Because of my back problem, I use a handrail to get upstairs.</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Because of my back problem, I have to hold onto something to get out of an easy chair.</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>I get dressed more slowly than usual because of my back problem or leg pain.</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>I only stand for short periods of time because of my back problem or leg pain.</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Because of my back problems, I try not to bend or kneel down.</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>I find it difficult to turn over in bed because of my back problem or leg pain</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>My back or leg is painful almost all of the time.</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>I have trouble putting on my socks (or stockings) because of the pain in my back or leg.</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>I only walk short distances because of my back or leg pain.</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>I sleep less well because of my back problem.</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>I avoid heavy jobs around the house because of my back problem.</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>Because of my back problem, I am more irritable and bad tempered with people than usual.</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Because of my back problem, I go upstairs more slowly than usual.</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>Because of my back problem, my sexual activity is decreased.</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>I keep rubbing or holding areas of my body that hurt or are uncomfortable.</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>Because of my back problem I am doing less of the daily work around the house than I would usually do.</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>I often express concern to other people over what might be happening to my health.</td>
<td></td>
</tr>
</tbody>
</table>

ANNEXURE C – PAIN DIAGRAM

In the diagrams below, mark the areas of the body, using the symbols, where you have experienced any of the following symptoms this past week.
CME QUESTIONS FILE

The following questions are based on articles in Disability Medicine, Vol 2:

1. Which of the following most commonly is a pattern of muscle weakness in thoracic outlet syndrome?
   a. Decreased biceps, triceps, and serratus anterior
   b. Decreased biceps and triceps but normal serratus anterior
   c. Normal biceps, decreased triceps and decreased serratus anterior
   d. Decreased biceps, normal triceps, and decreased serratus anterior.

2. The dollars per day cost of keeping a injured worker off work is estimated at
   a. $100
   b. $200
   c. $300
   d. $500

3. Fibromyalgia has been most commonly associated with which mental disorder:
   a. Generalized anxiety disorder
   b. Major depression
   c. Personality disorder
   d. Neurotic disorder

4. Which HLA gene has been associated with reflex sympathetic dystrophy?
   a. HLA B27 and HLA DD2
   b. HLA B2 and HLA DF2
   c. HLA DR6 and HLA DQ1
   d. HLA E2 and HLA DQ2

5. A potent cytokine with a wide range of proinflammatory activities:
   a. TNF alpha
   b. TNF beta
   c. TNF gamma
   d. TNF delta

6. HLA DR6 is associated with:
   a. Cold CPRS I
   b. Fibromyalgia
   c. Mild traumatic brain injury
   d. Chronic fatigue syndrome

7. What percent of major depression is due to general medical illnesses or other conditions?
   a. 5 - 10%
   b. 10 – 15%
   c. 15-20%
   d. 20-25%

8. With regard to thoracic outlet syndrome, comparison of blood pressure measurements in the left and right arms, a disparity of how much is unusual?
   a. 5 mm HG
   b. 10 mm
   c. 15 mm
   d. 20 mm

9. In thoracic outlet syndrome of the clinical tests available which of the following is not useful?
   a. Allen's test
   b. Finkelstien's
   c. Adson's test
   d. Elevated arm stress test

10. Of the imaging tests, the most useful in diagnosis of Thoracic Outlet Syndrome is:
    A. Chest x-rays
    B. Cervical x-rays
    C. Shoulder x-rays
    D. Thoracic spine x-rays

Answer for previous CME questions from Disability Medicine Vol 2, #3

Questions can be found on pages 97, 101, 102, and 68:
Questions 1 to 5 on page 97 are from Evaluation of Sexual Function Disability: A Systematic Approach:
Questions 1 to 4, on page101 are from Classifying Fibromyalgia: Taxonomic Lessons from the Icelandic Disability Register, (Disability Medicine, Vol 2, #2):
Questions 1 to 5, on pages 101-2, Facial Pain, An Overview of Evaluation (Disability Medicine, Vol 2, #2):
Questions 1 to 4, on page102 are from Neuropsychological Assessment (Disability Medicine, Vol 2, #2):
Questions 1 to 11, on page 102 and 68 are from State of the Art Reviews: Risk and Disability in the Workplace, Vol 15, #4:

Answer for CME file from Disability Medicine Vol 2, #4

Questions 1 to 5, on page 146, are from Social circumstances of recipients of disability pension in Iceland (editor offers apology for overlooking the lack of numbering the questions)
BOOK REVIEW

CROSS-EXAMINATION: THE COMPREHENSIVE GUIDE FOR EXPERTS

Authors: Steven Babitsky and James J. Mangraviti, Jr.
SEAK, Inc. Falmouth 2003

Reviewed by:
Mohammed I. Ranavaya, M.D., M.S., FRCPI, FFOM, FAADER, CIME

The legendary American Jurist Justice Oliver Wendell Holmes once said, “cross examination is the crucible under which truth is extracted”. Some cross-examinations in highly contested cases have been described as a full contact sport. Every expert witness needs to know the pitfalls and landmines in the process can make or break their reputation. In fact, the ultimate measure of every expert is how well the expert performs during cross examination. In the book Cross-Examination: The Comprehensive Guide for Experts, the authors Steve Babitsky and James J. Mangraviti, Jr., who are themselves experienced attorneys have outlined what it takes for the experts to master the art of truthfully and carefully responding to each and every question faced during cross-examination. This comprehensive book with 414 pages and 10 chapters is essentially a “how to” manual for expert witnesses to prepare for cross-examination.

Like their previous book on Writing and Defending Your Expert Report: The Step-by-Step Guide with Models the authors once again have given the real life scenarios as to how to prepare, anticipate, recognize and effectively deal with opposing attorney’s tactics to discredit, misquote or twist expert witnesses words. Techniques from the opposing counsel such as ambush questions, repeated questions, hypothetical questions have all been described and effective counter techniques have been given in the book. From the book, one can expect to learn how to prepare for and defeat the opposing counsel’s tactics, anticipate what the other side is likely to ask and why. The book also tells you how to effectively deal with personal attacks and offensive behaviors during cross-examinations by the other side. The questions regarding money and fees and other financial arrangements have been dealt with satisfactorily.

One of the unique reader friendly features of the book is the executive summary, which precedes every chapter and makes it a real breeze to review the key points described in a chapter. This comes in really handy for busy medical practitioners who may not have the luxury of time available to them to read the entire book but would still benefit from the key points described in the executive summary.

After reading the book, I realized that had I read the book just a week earlier I could have prevented some of the abuse that I was subjected to by the opposing counsel. Particularly I like the Chapter 7 the legal limitations to the scope of cross-examination and Chapter 8 and 9 dealing with the skills necessary to defeat the opposing counsel’s cross-examination tactics and the technique to answer trick and difficult questions. Chapter 9 also outlines 75 trick and difficult questions with how to respond to them techniques.

Chapter 10 of the book in my opinion is the icing on the cake and describes how to become “highly resistant” to cross-examination and teaches the skills necessary to take advantage of the opportunity to turn the table on the opposing counsel. In short, this chapter should be read by anyone who wishes to become a “bullet-proof” expert.

In summary, Cross-Examination: The Comprehensive Guide for Experts, would be a useful addition to the library of any independent medical examiner and expert witness who deals with medical/legal issues leading to testimony under oath. The information contained in the book is integral for understanding the cross-examination process. The book is comprehensive and reader friendly and is worth the modest price. It serves as a valuable companion to the other wonderful work and valuable contributions by the authors in the field of Disability Medicine.
BOOK REVIEW

CLINICAL EYE ATLAS
Editors: Daniel H. Gold, M.D., Richard Alan Lewis, M.D., M.S.
Published by: AMA Press 2002, American Medical Association, Chicago
ISBN: 1-57947-192-7
Reviewed by: Michael A. Krasnow, DO, PhD, Professor Ophthalmology, Marshall University, Huntington, WV

“Clinical Eye Atlas” is a comprehensive text and atlas of the eye for ophthalmologists and non-ophthalmologists. This book is divided into 14 sections covering most topics of ophthalmology. Section editors are recognized specialists in their respective areas. For example, Keith Carter, an ophthalmic plastic surgeon at the University of Iowa, edited the section on lids. Eve Higginbotham, a glaucoma specialist and chairperson at the University of Maryland, edited the section on glaucoma. As a result, each section is well organized, well referenced, and substantive. Information is presented in an outlined form and frequently referenced to high quality pictures or diagrams. The lists in this book are very helpful. The criterion for the diagnosis of most ocular diseases is presented. Also helpful are the differential diagnoses of various disease processes, e.g., one list includes 24 causes of choroidal folds.

There are shortcomings inherent in a book of this type. Not all ocular problems are presented. Therapy is evolving and therefore, therapeutic recommendations should be re-evaluated in light of the latest journals. Restasis, for example, is the new therapeutic agent for dry eyes and is not mentioned. The discussion of postaglandin therapy in glaucoma is dated. These should not be viewed as major shortcomings, however, for this book is more a basic reference and atlas than a “how to” book. “Clinical Eye Atlas” should be an important reference book for the practitioner of disability medicine as well as a desirable office reference for the practicing ophthalmologist.

BOOK REVIEW

REVIEW OF VISUAL IMPAIRMENTS: DETERMINING ELIGIBILITY FOR SOCIAL SECURITY BENEFITS
National Research Council
Published by: National Academy Press 2002
ISBN: 0-309-08348-6
Reviewed by: Michael A. Krasnow, DO, PhD, Professor Ophthalmology, Marshall University, Huntington, WV

This book represents the National Research Center (NRC) study performed at the request of the Social Security Administration (SSA) regarding methods of determining disability for people with visual impairments, to recommend changes in this process, and to identify areas of research to improve disability determinations.

This book, Visual Impairments, is a result of the recommendation of the NRC committee. The report focuses on tests of visual function, visual task performance, and assessment of vision on infants and children. The report makes a number of recommendations. Visual acuity testing is basically unchanged. However, the NRC recommends contract sensitivity testing as a supplementary basis for disability determination when vision is between 20/50 and 20/200. Automated static projection perimetry is recommended instead of Goldmann perimetry. This recommendation is extremely practical since few offices use Goldmann perimetry. The testing of other visual functions such as color vision and glare is only recommended when these impairments are severe. The NRC recommends that SSA invest in the development tests of visual task performance for future use.

The NRC report is 230 pages in length with an appendix of employment and economic consequences of visual impairment. Visual impairment is recommended for its detailed analysis of this subject and for its wealth of reference materials. It is necessary reading for those persons working in the area of ocular disability.
This comprehensive but compact volume provides the first book on laryngeal electromyography. The authors have extensive experience in laryngeal EMG (particularly Sataloff and Mandel) and have crystalized their clinical observations with an extensive review of laryngeal EMG literature dating back 50 years.

The book is intended for practitioners of various disciplines involved in voice disorders. Chapter 1 provides a brief overview of its importance in the diagnosis of voice disorders. Chapter 2 describes current concepts in anatomy and physiology of the voice. This is an excellent review for laryngologists but is particularly valuable for electrophysiologists in other fields (neurology, physiatry, and others) familiar with EMG, but not with its applications in the larynx. Chapter 3 on vocal fold hypomobility discusses the various conditions that cause vocal fold movement disorders, which are the most common reasons for obtaining laryngeal electromyography.

Chapter 4 reviews the concepts of electrodiagnostic evaluation. This chapter will serve as a useful review for experienced electrodiagnosticians, but it is intended primarily for laryngologists and others involved extensively in voice care, but with limited experience in electromyography. Chapter 5 on laryngeal electromyography details specific techniques of laryngeal EMG, needle placement, special aspects of laryngeal muscles, and technical controversies. It also includes 115 references on laryngeal EMG.

The practical aspects of the book are enhanced by Chapter 6 which discusses clinical applications of laryngeal EMG and presents case studies in which it has been valuable in clinical care of patients with voice disorders.

In addition, the book includes two appendices. The first is an outline summarizing the important facts in the book. This appendix should help the reader inexperienced in this subject to identify facts of particularly importance. The outline also serves as a guide to material recommended by the authors for inclusion in teaching conferences and lectures on laryngeal EMG. The second appendix is a 26-page list of suggested readings that includes nearly everything published on laryngeal EMG, much of which is not listed in computer data bases searched by physicians.

Laryngeal Electromyography is a concise, practical and informative book that provides not only academic background but also useful clinical guidelines. It will help the experienced electromyographer prepare to begin performing laryngeal studies.

For electrophysiologists already doing laryngeal EMG, it offers a convenient overview and extensive literature review, as well as clinical observations that may be of value. For laryngologists, it provides a perspective on the importance of laryngeal EMG, when it should be ordered, how it should be performed, and the science, art and pitfalls of interpretation.

This book is recommended highly for any otolaryngologist caring for patients with voice complaints, and for any neurologist, physiatrist or other electrophysiologist interested in learning to perform laryngeal electromyography.
The exceptional 3D anatomical model on these discs are built from a full cadaveric MR data set. It can be viewed layer-by-layer, bone to skin, including such features as muscle attachment points, bony regions and dermatomes. Every visible structure can be clicked on to reveal detailed anatomical and clinical text, comprehensive enough for those in training and detailed enough for experts. Also included are hundreds of slides (MR, X-Rays, diagrams), fully labeled dissection pictures. Beautiful video clips of a moving dissection and biomechanics that demonstrate the dynamic actions for most major muscles.

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