Reimbursement Guide for Healthcare Professionals
Offering Laser Therapy Treatments

A must-read for any doctor considering reimbursement for Laser Therapy.

Information contained in this document is subject to change without notice.

Disclaimer: This Reimbursement Guide is a general reference and is intended to assist the physician or provider in obtaining reimbursement for health care services. It is not intended to increase or maximize payment by any payor. Because coverage policies and coding change frequently, it is recommended you check with your local carrier frequently. The guide is for informational purposes only, and nothing herein shall be construed as a statement, promise or guarantee by The Company regarding levels of reimbursement, payment or charge. Furthermore, all codes provided herein are for information purposes only, and shall not be construed as a statement, promise or guarantee that these codes are accurate or reimbursement will be received. The ultimate responsibility for correct coding lies with the physician or provider.

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Table of Contents

Introduction .................................................................................................................................................. 3

Insurance Overview ...................................................................................................................................... 3

The Passive vs. Active Modality Approach ............................................................................................... 5

   The Passive Modality Approach ............................................................................................................... 7

   The Active Modality Approach .................................................................................................................. 8

Laser Therapy during Therapeutic Exercise ............................................................................................... 10

   Laser Therapy during Neuromuscular Reeducation Activities .................................................................. 10

   Laser Therapy during Therapeutic Activities .......................................................................................... 11

Reimbursement Pointers ............................................................................................................................ 12

Medical Necessity Substantiation ............................................................................................................... 12

Sample Utilization Guidelines ..................................................................................................................... 14

Letter of Medical Necessity ........................................................................................................................ 15

   Sample Letter of Medical Necessity (Laser Component Only) ............................................................... 17

Cash Practice Strategies .............................................................................................................................. 20

   Patient Finance Programs ......................................................................................................................... 21

The Class IV Laser Therapy Patient Fee for Service Agreement ................................................................. 23

Applying Outcomes Management into Clinical Practice ........................................................................... 25

Evidence Based Care ................................................................................................................................... 46

Additional Reading ...................................................................................................................................... 49
Introduction

Billing and reimbursement issues are an important part of any practice. To maintain a thriving practice, receiving appropriate payment is mandatory. When it comes to reimbursement issues, a “clean claim” form is just as important as superior clinical documentation. A “clean claim” form is one that goes through the third party payor system without raising flags and creating delays, resulting in payment in a timely manner. The cleaner the claim, the faster the payment. Every effort should be made to produce a “clean claim.” A “clean claim” is further defined as one that meets all the necessary requirements of the insurance carrier. It is the responsibility of the health-care provider to understand what is needed by the carrier in order to get paid for any type of service.

The Company utilizes the expertise of consultants to create reimbursement strategies for the purchasers of a Class IV Therapeutic Aspen Laser system.

To-date, these reimbursement strategies fall into two (2) general categories.
1. The “Passive Modality” approach.
2. The “Active Modality” approach.

Insurance Overview

Insurance coverage does not guarantee payment for a particular service or procedure. Insurers vary widely in the services they cover and reimburse; even among patients insured by the same insurance company, benefits may vary according to the specific plan purchased by the employer or patient. As with any new medical procedure, coverage decisions and reimbursement payments can be unpredictable and take additional time to resolve. With information, education, and persistent claim submission, third party insurance payors will become familiar with the new procedure and become accustomed to reimbursing for it.

Over thirty years ago, the AMA began the development of a coding system to enable physicians and others to identify particular medical procedures with precision. These efforts culminated in the publication of the Physician's Current Procedural Terminology ("the CPT"), on which the AMA claims a copyright.

2002 marked the first year that the FDA granted clearance for the marketing of therapeutic lasers in the U.S. Since that time, the AMA has not dedicated a specific CPT code for the reimbursement of laser therapy. Once therapeutic outcome studies are published in recognized peer reviewed journals, this information can be used to petition the AMA’s CPT advisory committee for a new Physical Medicine and Rehabilitation code.

The Company has taken an aggressive stand in promoting evidenced based treatment protocols to validate the efficacy of Class IV Laser Therapy. Taking a passive, “wait and see” approach would inevitably lead to further delays in obtaining CPT coding due to the poor clinical outcomes generated by “Low-level”, Class III laser systems.

"The authors of Laser Therapy - Clinical Practice and Scientific Background, Dr. Jan Tun’er and Lars Hode, have performed an analysis of a number of frequently cited studies on the effects of low-power-
laser therapy. The authors state: "In many of these studies, analysis uncovered one or more reasons for the negative findings reported, the most common being the use of extremely low doses."

Tun'er and Hode also state: "The trend in laser therapy for the past 10 years has been to increase power density and dose, since this has been shown to improve therapeutic outcomes considerably. There is no point in increasing the dose if the wavelength has a low penetration factor; the penetration of the particular wavelength must be taken into account."

The laws of laser physics have demonstrated that the higher the wavelength, the deeper the penetration. Penetration is paramount in order to stimulate deep musculoskeletal, vascular, lymphatic, and neurological structures. The author’s position on “high power” lasers was reported as: "For the moment, we must rely on our own clinical experience. That experience, however, is so encouraging that it cannot be ignored, even with lack of scientific support. It would appear that “high powered” therapeutic lasers will be able to further expand the scope of laser therapy."

Jan Tun'er, states it best with the following quote from the text: "I can see two alternatives for myself: to speak up and start a conflict within the laser community, maybe discrediting the therapy itself in the eyes of the general public or to keep quiet and let US practitioners pay a lot of money for very low-powered lasers, leaving us with dissatisfied customers and discredit from those who are supposed to use laser therapy in medicine."
The Passive vs. Active Modality Approach

**Passive Therapy** is when something is done to you. Passive treatment implies lack of patient participation. Examples of this form of treatment include massage, chiropractic manipulation, mobilization, ultrasound, electrical nerve stimulation, laser therapy, ice packs, and hot packs. Passive therapy always requires another person to apply the treatment. Passive therapies usually demand more resources in terms of time and money. Passive therapy can foster healthcare provider dependence. Passive therapy codes reimburse less than active therapy codes.

**Active Therapy** means the patient is actively involved in the treatment. Therapeutic exercise and neuromuscular re-education are two common examples. The patient’s role is to actively participate in the treatment process, while the clinician’s role is assisting the patient in determining the parameters of activity that will increase function, while at the same time recognizing the activities that could exacerbate the symptoms. The clinician is the instructor and the patient is the student of the treatment process. Active therapy does not foster healthcare provider dependence. Active therapy codes reimburse more than passive therapy codes.

**Reimbursement:**

1. Active therapies always get reimbursed at a higher rate than passive therapies.

2. Many insurers will not pay for passive therapies beyond the first 30 days following an injury. Delays in payment and denials for payment are more common for passive therapy modalities performed beyond the initial 30 day period from the onset of the condition.

3. Listing "Unspecified" modality code(s) triggers manual review of claims with most insurance companies. These flags are set in the insurance companies claim review software. This flagging of the claim places your bill under immediate scrutiny. Manual reviews create delays in payment secondary to requests for additional information and documentation to substantiate the claim.

**CPT Code Active Therapy Procedure**
- 97110 Therapeutic Exercise
- 97112 Neuromuscular Re-education
- 97113 Aquatic Therapy
- 97116 Gait Training
- 97530 Therapeutic Activities

**CPT Code Passive Therapy Procedure**
- 97010 Ice Packs
- 97010 Hot Packs
- 97012 Mechanical Traction
- 97014 Electric Muscle Stimulation
- 97035 Ultrasound
- 97024 Diathermy
- 97124 Massage
- 98940-43 Manipulation
- 97780 Acupuncture
- 97026 Infrared
- 97140 Manual Therapy Techniques

Comparison of Treatment Average Reimbursement

**Passive Modality reimbursement**

- Electric Stimulation: $8-25
- Heat/Ice: $0-15
- Ultrasound: $8-25
- Diathermy: $8-25
- Intersegmental Traction: $12-25
- Infrared: $0-15
- Attended Modality, Unspecified: $8-25 (with documentation)
- Attended Electrical Stimulation: $8-25
- Unlisted Therapeutic Procedure: $8-25 (with documentation)

**Active Treatment reimbursement**

- Therapeutic Exercise: $45-60*
- Therapeutic Activities: $45-60*
- Neuromuscular Re-education: $45-60*
- *Medicare Reimbursement: $25.50 - $28.50

The insurance industry looks for providers to provide a “continuum of care”, where the patient is transitioned from passive care to active care as quickly and safely as possible.
The Passive Modality Approach

The “Passive Modality Approach” represents billing strategies that are commonly recommended by manufacturers of laser therapy devices. Please note that the Current Procedural Terminology (CPT) system, trademarked by the American Medical Association, does not provide an up-to-date code for Class III or Class IV therapeutic laser devices. The following are the most common codes used by practitioners of laser and LED therapy. The following codes are provided for informational purposes only.

**97026: Infrared**
The beauty of this code is that it is for “infrared light therapy”. The problem with this code is that it is a code for an old style heat lamp that produces infrared radiation for superficial heating of tissue; (See Figure #1) thus, reimbursement is quite low. For some practitioners (physical therapists), Medicare may reimburse it. To improve reimbursement, some providers have tried listing it as an attended modality or adding a –22 modifier to specify “unusual procedural services.”

Below are three ways these codes can be used:
- 97026: Attended photonic stimulation
- 97026: Attended infrared light therapy
- 97026-22: Attended infrared therapy

**97039: Attended Modality, Unspecified**
This is a code that is used to bill for any type of attended modality. Reimbursement is slightly better than unattended modalities because it is understood that it requires more human resources to deliver the treatment compared to an unattended modality code. The problem with any unspecified code is that the code is routinely “flagged” by insurance carriers signaling the need for a manual review of the claim. As mentioned earlier in this guide, manually reviewed claims create a delay in reimbursement, secondary to requests for additional information or documentation to substantiate treatment. Many providers have a one-page description of the treatment they will routinely send with the bill in order to expedite the review of the claim. Below are two ways that this code can be used:
- 97039: Attended infrared therapy or
- 97039: Attended laser therapy
- 97032: Attended Electrical Stimulation

This is a code that many practitioners modify for laser and LED therapy. It can be billed in a number of ways and is reimbursed better than unattended electrical stimulation, but not as well as our billing recommendations in the next chapter. Although the CPT code will stay the same (97032), the description will be changed to accurately reflect the service performed. Below are some common ways that we have seen this code utilized by physicians and therapists:
- 97032: Attended Electrical-Photonic Stimulation or
- 97032: Attended Electrotherapy/IR

**97139: Unlisted Therapeutic Procedure**
This code is for a therapeutic procedure meaning that the doctor must have one-on-one contact with the patient. The strength of the code is that it tells the insurance carrier that the doctor is spending direct treatment time with the patient. The weakness of the code is that an unlisted procedure is more likely to be closely inspected by an insurance carrier. Billing might look like:
- 97139: Photonic Stimulation: Constant attendance
The Active Modality Approach

The Company’s extensive clinical experience with Class IV Laser Therapy has determined the best clinical outcomes are obtained when the clinician administers laser therapy during the performance of:

- therapeutic exercise (97110)
- therapeutic activity (97530) or
- neuromuscular re-education activity (97112)

In addition to superior clinical outcomes, the Company’s proprietary treatment protocols allow healthcare providers to bill under existing CPT codes known for their higher reimbursement value. There are several advantages to this approach:

1. Active rehabilitation codes render higher reimbursement than passive rehabilitation codes.

2. “The cleaner the claim, the faster the payment.” By avoiding the use of “unspecified” modality and excessive passive modality coding, the healthcare provider avoids getting “flagged” for manual review of claims, requests for additional documentation to substantiate claims, and payment delays.

3. Class IV Laser Therapy Treatment Protocols suppress the firing of nociceptive afferents and reduce inflammation allowing the patient to transition from passive care to active treatment faster than “gold standard” treatment approaches. Insurance companies want to see patients transition from passive to active care as quickly as possible, and are willing to pay a premium to achieve this goal.

4. The therapeutic outcome of our active treatment protocols are superior compared to passive (static) application of laser therapy. There are six reasons (see below) that explain the mechanisms behind these outcomes. Many health care providers will use the Company’s in depth explanation of the management of musculoskeletal cases in “template” format enabling them to provide comprehensive information to the insurer when requested for the processing of a claim.

5. Many insurers will not pay for passive therapies beyond 30 days because the literature states passive modalities are of minimal value beyond that limited time frame.

Physiological and Neurological Advantages of the Class IV Laser Therapy Treatment Protocol

The Class IV Laser Therapy Treatment Protocol was initially developed to accommodate the need for better reimbursement for health care providers utilizing Class IV laser technology. Since that time, it has been determined that the movement of tissues during laser irradiation (muscles, ligaments, tendons, fascia, nerves, blood vessels, etc.) yields better clinical outcomes and faster resolution of patient complaints. There are six reasons why the Class IV Laser Therapy Treatment Protocol has greater success than other treatment protocols utilized in laser therapy.

1. Pain Gate Theory
2. Tissue Elasticity
3. Mechanical “Pumping” of Noxious Chemicals Associated with Pain
4. Increased Circulation Secondary to Motion
5. Disuse Atrophy Prevention
6. Prevention of Improper Kinematics Secondary to Pain Avoidance Behavior (Kinematics is the science of motion. In human movement, it is the study of the positions, angles, velocities, and accelerations of body segments and joints during motion.)

Procedure Codes (CPT Codes)

The following codes are timed codes and billed for every 15 minutes of services. In the section titled, "Determining How to Bill Units for 15 Minute Timed Codes," HCFA addresses how to bill for services based on the amount of treatment time furnished. Specifically, HCFA states that one unit of therapy is equal to or greater than 8 minutes but less than 23 minutes of care. Two units of care are equal to or greater to 23 minutes of care but less than 38 minutes of care. This pattern continues up to 8 units of care. In several places in the memorandum, HCFA states that providers may not bill for less than 8 minutes. The timeframes indicated in the descriptor language of the supervised modality codes describe the total time, i.e., pre-service, intra-service, and post-service time spent in performing this modality.

Common components included as part of the therapeutic procedures include chart reviews for treatment, setup of activities and the equipment area, and review of previous documentation as needed. Also included is communication with other health care professionals (such as the social worker or nurse), discussions with the family and calls to the referring physician for additional information or clarification. Subsequent to providing the therapeutic service, the treatment is recorded and, typically, the progress is documented.

For example, in 1994 the CPT editorial panel revised the CPT code for ultrasound (97035) so that it would be a 15 minute "constant attendance" modality requiring direct contact by the provider. When the CPT code was presented to the CPT editorial panel and considered by the Health Care Professionals Advisory Committee (HCPAC) at the RUC meeting, it was assumed that an ultrasound would never require 15 minutes of intra service, because that is not the appropriate clinical application for this intervention. Ultrasound was presented as typically involving 5 to 7 minutes of intra-service, 3 to 5 minutes of pre-service (preparing the patient), and 3-5 minutes of post-service. Therefore, in providing ultrasound to a patient, a practitioner would bill one unit of 97035 if the intra-service time was 5 minutes. The intra-service time for laser therapy is consistent with the ultrasound example.
Laser Therapy during Therapeutic Exercise

**97110 – Therapeutic Exercise**

Performed to improve a patient’s range of motion, strength, or mobility in active, active-assisted, passive, or resistive modes. Use of therapeutic “Low-Tech” or “High-Tech” approaches/equipment in conjunction with the application of Avicenna Class IV Laser Technology, include:

- Isometric Exercises
- McKenzie Exercises
- Sensorimotor Training
- Therabands or Theratubing
- Isokinetic Devices
- Pilates – Yoga – Mat work
- BackSYS / NeckSYS
- Swiss Gym Ball Exercises
- Lumbar/Core Training
- Strength & Endurance Exercises
- Spinal Stabilization Exercises
- Bicycles/Treadmills
- Plyometrics

These products can be found at your current equipment supplier.

**Medicare Reimbursement:** $25.00-28.00
**Major Medical, Personal Injury Reimbursement:** $45.00 - $60.00

Current research shows that it is beneficial to proceed to an active phase of care as rapidly as possible, and to minimize dependency upon passive forms of treatment. Prolonged periods of inactivity are related to increased risk of failure in returning to pre-injury status. Studies indicate that “Low-tech” rehabilitation protocols produce significant improvements with the longest periods of relief. “Low-tech” rehabilitation has been reported as the most cost effective, and the method of choice recommended for the management of musculoskeletal conditions. A large capital investment is not necessary to provide a Therapeutic Exercise component in conjunction with laser therapy in order to achieve superior clinical outcomes. “Low-tech” rehabilitation also means “low-cost.”

**Laser Therapy during Neuromuscular Reeducation Activities**

**97112 – Neuromuscular Reeducation**

Provided to improve impairments affecting areas such as sitting or standing balance, coordination, kinesthetic sense, posture, and proprioception. Common techniques include proprioceptive neuromuscular facilitation (PNF), use of equipment/balance boards designed to facilitate balance and proprioception, and Neuro- Developmental Techniques. Use of therapeutic “Low-Tech” equipment in conjunction with the application of Class IV Laser Technology, include:

- Foam Rollers
- Wobble Boards
- Janda Products
- BOSU
• Air Balance Products
• Foam Balance Products
• Duckwalker
• B.O.I.N.G.™
• UE Board & Ball™

These products can be found at your current equipment supplier.

**Medicare Reimbursement:** $25.00-28.00
**Major Medical, Personal Injury Reimbursement:** $45.00 - $60.00

**Laser Therapy during Therapeutic Activities**

**97530 – Therapeutic Activities**
Utilized to restore a patient’s functional performance with dynamic activities, such as training in specific functional movements or activities performed during daily living routines. Therapeutic activities can be performed with or without “Lowtech” equipment. “Low-tech” equipment to assist in improvement of ADL’s include, but is not limited to:

• Stretch Out® Strap
• A-T Bar™
• Slant by OPTP
• Hamstring Stretch-Rx

These products can be found at your current equipment supplier.

**Medicare Reimbursement:** $25.00-28.00
**Major Medical, Personal Injury Reimbursement:** $45.00 - $60.00
Reimbursement Pointers

Insurance Verification
Always contact the insurance company for verification of coverage for therapy services. In some situations, authorization for care must also be obtained. Document the information received thoroughly, as it may be needed for an appeal at a later date.

Request for Specific Code Reimbursement
Payment policies of a specific payor may dictate which codes may be used, both for diagnosis codes and procedure codes. Ask for any limitations on use of codes and request reimbursement amounts by the codes the provider anticipates using to define the services provided.
For Medicare, refer to the Local Medical Review Policy (LMRP) of the intermediary or carrier who is contracted to administer Medicare claims.

Medical Necessity Substantiation

Support for Medical Necessity Substantiation

1. Documentation must show objective loss of joint motion, strength, or mobility (e.g., degrees of motion, strength grades, levels of assistance required).

2. Documentation should demonstrate the patient’s inability to effectively perform land based exercise.

3. Establishment of the patient’s goals and plan of care should include progression from water to land based exercises/procedures as soon as patient is able.

4. Ongoing care documentation should address the patient’s discernable progress towards restoration of function specific to the individual patient’s needs. Expected outcomes of care should be clear.

In Addition, for Medicare:

5. Refer to the ICD-9-CM Codes (Diagnosis Codes) in your intermediary or carrier’s Local Medical Review Policy (LMRP) for appropriate covered diagnoses to use for these therapeutic procedures.

6. Licensed therapist or physician must provide one on one care throughout the period billed.

7. Always keep Medicare’s Medical Necessity Clause in Mind: “Payable Physical Therapy - To be covered PT services, the services must relate directly and specifically to an active written treatment regimen established by the physician after any needed consultation with the qualified physical therapist and must be reasonable and necessary to the treatment of the individual’s illness or injury. The services must be of such a level of complexity and sophistication or the condition of the patient must be such that the services required can be safely and effectively performed only by a qualified physical therapist or under his supervision. Services which do not require the performance or supervision of a physical therapist are not considered reasonable or necessary PT services.”
8. Therapeutic Exercises (Source: Medicare) may be considered medically necessary if at least one of the following conditions is present and documented in the patients’ medical records maintained by the provider:
   a. The patient has weakness, contracture, stiffness secondary to spasm, spasticity, decreased range of motion, gait problem, balance and/or coordination deficits, abnormal posture, muscle imbalance, or
   b. The patients’ needs to improve mobility, stretching, strengthening, coordination, control of extremities, dexterity, range of motion, or endurance as part of activities of daily living training, or re-education.

9. Therapeutic Exercises (Source: Aetna) - Instructing a person in exercises and directly supervising the exercises. Purpose is to develop and/or maintain muscle strength including range of motion, stretching and postural drainage. Therapeutic exercise is performed with a patient either actively, active-assisted, or passively (e.g., treadmill, isokinetic exercise lumbar stabilization, stretching, strengthening). Therapeutic exercise is considered medically necessary for loss or restriction of joint motion, strength, functional capacity or mobility which has resulted from disease or injury. Standard treatment is 12 to 18 visits within a 4-6 week period.

   Note: Exercising done subsequently by the member without a physician or therapist present and supervising would not be covered. It is not considered medically necessary to perform therapeutic exercises, kinetic therapy, and/or neuromuscular reeducation on the same day.

10. Neuromuscular re-education (Source: Medicare) can be considered reasonable and medically necessary if at least one of the following conditions is present and documented in the patient’s medical records maintained by the provider:
    a. The patient has the loss of deep tendon reflexes and vibrational sense accompanied by paresthesia, burning, or diffuse pain of the feet, lower legs, and/or fingers,
    b. The patient has nerve palsy, such as peroneal nerve injury causing foot drop, or
    c. The patient has muscle weakness or flaccidity as the result of a cerebral dysfunction, a nerve injury or disease, or has spinal cord disease or trauma.

11. Neuromuscular Re-education – (Source: Aetna) This therapeutic procedure is provided to improve balance, coordination, kinesthetic sense, posture, and proprioception to a person who has had muscle paralysis and is undergoing recovery or regeneration. Goal is to develop conscious control of individual muscles and awareness of position of extremities. The procedure may be considered medically necessary for impairments which affect the body's neuromuscular system (e.g., poor static or dynamic sitting/standing balance, loss of gross and fine motor coordination, hypo/hypertonicity) that may result from disease or injury such as severe trauma to nervous system, cerebral vascular accident and systemic neurological disease. Standard treatment is 12 to 18 visits within a 4-6 week period. It is not considered medically necessary to provide neuromuscular re-education, kinetic therapy, and/or therapeutic exercises on the same day.

12. Therapeutic activities (Source: Aetna) - This procedure involves using functional activities (e.g., bending, lifting carrying, reaching, catching and overhead activities) to improve functional performance in a progressive manner. The activities are usually directed at a loss or restriction of mobility, strength,
balance or coordination. They require the professional skills of a provider and are designed to address a specific functional need of the member. These dynamic activities must be part of an active treatment plan and directed at a specific outcome.

13. According to Aetna, certain physical medicine modalities are considered duplicative in nature and it would be inappropriate to perform or bill for these services during the same session, such as:
   1. Microwave and diathermy
   2. Neuromuscular re-education and therapeutic exercises
   3. Whirlpool and Hubbard tank
   4. Infrared and ultraviolet
   5. Microwave and infrared
   6. Kinetic activities and therapeutic exercises
   7. Functional activities and ADL
   8. Orthotics training and prosthetic training

Sample Utilization Guidelines

For non-neurological injuries/illnesses, it is expected that patient will progress to independent care within 2 months; however “the contractor recognizes variability in strength, recovery time, and the ability to be educated, and allows for a recertification for additional therapy, as long as adequate medical documentation by the supervising physician is recorded in the medical record and the patient continues to demonstrate progress.”

- First four weeks of therapy - maximum of 16 sessions
- Second four weeks of therapy require an update to the treatment plan - maximum of 12 sessions
- Claims that indicate therapy has exceeded eight weeks will be reviewed with specific attention to clinical justification and medical necessity of the procedures
- The patient must have documentation showing sustained progress toward defined goals.
Letter of Medical Necessity

Denial for medically necessary care is increasing within the healthcare delivery system. A skillfully drafted letter of medical necessity is an essential part of a request for reimbursement for therapeutic laser technology, when medically necessary treatment has been denied. A Letter of Medical Necessity, whether being submitted to a private insurance company, workers compensation board, personal injury insurer, or other funding source, should contain the information needed to convince the reader that therapeutic laser technology, in conjunction with the Class IV Laser Therapy Treatment Protocols, is necessary to meet the medical needs of the person for whom the technology is being prescribed. This section is intended as a guide to preparing such a letter of medical necessity.

The Letter of Medical Necessity should be written by a medical professional familiar with the requesting party's medical condition. The professional should briefly describe their credentials and relationship to the requesting party. This professional may be a medical physician, chiropractor, nurse, physical therapist, occupational therapist, or other medical professional. However, note that most insurance companies require a physician's prescription as part of the request for reimbursement. Therefore, letters of medical necessity not written by a physician should be endorsed by a physician or accompanied by a physician's prescription.

Elements of a Letter of Medical Necessity

1. Description of Condition - The letter should contain, usually at the beginning, a thorough description of the requesting party's condition. This description should include an explanation of how the condition affects the requesting party's function. For example, the affects of the condition on the individuals activities of daily living (ADL’s).

2. Class IV Therapeutic Laser Technology Description – The effects of high-power therapeutic laser technology should be described in some detail. A more thorough description is required when the requested technology is new, unique, customized or not frequently requested.

NOTE: Keep in mind that when following the Class IV Laser Therapy Treatment Protocols, you have not billed the insurer for the laser component of your therapeutic intervention. You are defending the appropriateness of the Therapeutic Activity/Exercise or Neuromuscular Reeducation. The Class IV Therapy Laser saves the insurance company money because you, as the healthcare provider, are able to transition your patients into active rehab faster than other providers not incorporating laser therapy in their office.

3. The Relationship of High-Power Laser Therapy to Medical Needs - The letter should explain how the requested therapeutic laser technology addresses the requesting party's medical needs or functional limitations.

4. Inability of Alternatives to Meet Medical Needs - Where there are alternatives, especially less expensive alternatives, available to meet the requesting party's medical needs, the letter should explain
why these alternatives are not appropriate for the requesting party. Also, the specific features that make therapeutic laser technology the necessary and appropriate alternative should be identified.

5. **Statement of Medical Necessity** – Utilize one of the following statements to reinforce the necessity of the requested treatment:
   a. The service or benefit will, or is reasonably expected to, prevent the onset of an illness, condition, or disability.
   b. The service or benefit will, or is reasonably expected to, reduce or ameliorate the physical, mental, or developmental effects of an illness, injury, or disability.
   c. The service or benefit will assist the individual to achieve or maintain maximum functional capacity in performing daily activities, taking into account both the functional capacity of the individual and those functional capacities that are appropriate for individuals of the same age.

6. A Few More Tips in the Construction of a Letter of Medical Necessity
   a. Be sure to include dose, frequency of administration, and anticipated duration of therapy.
   b. Include the diagnosis for which this prescription is being written.
   c. With as much detail as possible, explain how high-power laser therapy will assist the patient to maintain functional capacity.
   d. Consider information available to you about the patient, such as compliance with other regimens, family and home supports, or coping skills, which the insurer may not know.
   e. Review previous and failed treatments.
   f. Include journal references on unusual or new treatment modalities.
   g. Be specific about psychological factors that are relevant to your chosen treatment.
   h. Be specific about goals.
   i. Provide any other information you have which a distant administrator may not know

10. If All Else Fails, Give Them the Facts
   a. You are saving them money by using the Class IV Therapy Laser in order to transition patients from passive care to active care faster than “gold standard” therapeutic approaches. Your approach with the Class IV Therapy Laser heals deeply damaged tissue quicker, thus allowing a safer transition from Passive to Active care.
   b. You are not billing them for the laser, just the exercises and activities performed during the visit.
   c. Active therapy does not foster healthcare provider dependence.
   d. Acknowledge that your office is sensitive to the fact that with any sound business, managed care organizations (MCOs) and third-party payors want to pay the least for the most. As a provider of health care, you understand the necessity to demonstrate efficacy of treatment. State that clinical outcomes will be utilized in the measurement of efficacy and the demonstration of quality improvement. This has allowed you to demonstrate the Class IV Laser Therapy Treatment Protocols are a cost-effective form of treatment, producing desired outcomes using valid scientific and credible measurement instruments. Outcome measurements allow you to practice “evidence based medicine” and to establish yourself in the managed care market.
Sample Letter of Medical Necessity (Laser Component Only)

To whom it may concern:

I am writing to request authorization of payment for John Patient to receive Class IV Laser Therapy, for the diagnosis of Chondromalacia Patellae. This request is medically necessary for the following reasons:

Patient’s Condition

Chondromalacia literally means "softening of the cartilage", and Patellae means "the knee-cap." So Chondromalacia patellae means "softening of the articular cartilage of the knee-cap." The articular cartilage is the cartilage lining under the knee-cap that articulates with the knee joint. Under normal circumstances, it is smooth and shiny, so that it glides smoothly along the articular groove of the femur as the knee bends. When it "softens", it may break down, causing irregularities along the undersurface of the patella. A noted reduction in Mr. Pine’s daily activities include, inability to stand for longer than 15 minutes duration, inability to walk without demonstrating compensatory pain avoiding behavior- 5 minutes, inability to run greater than 25 steps, difficulty walking up stairs, and difficulty going from a seated to standing position.

Treatment Recommended

I will be utilizing an FDA cleared Class IV therapeutic laser with the following treatment:

- Dosage: 5000 Joules
- Frequency: 3 times per week
- Duration: 30 days

Class IV Laser Therapy differs from that of other laser and light therapy devices by supplying up to 1500 times more power deep into target tissues (up to 6 inches) using only a single treatment hand piece. Due to the higher amount of energy delivered, this laser device is not considered to be a "low-level" or "cold" laser.

Benefit of Class IV Laser Therapy

The current “Gold Standard” in care for treatment of this condition focuses on management of pain through the use of physical therapy modalities (e.g. ice, electric stimulation, ultrasound). These modalities lack the ability to penetrate the bony patella and reach the defective cartilage underneath that creates pain, inflammation, and loss of function.

Pharmacological management (Cox II inhibitors) are also utilized for this condition, however it has been shown that the reduction in pain and inflammation comes at a high cost with the potential for heart disease and gastrointestinal complications.

Physical therapy modalities and pharmacological management of chondromalacia patellae do not address the most import part of the condition, the rebuilding of healthy cartilage tissue on the undersurface of the patella.

Class IV Laser Therapy energy can penetrate the patella, decrease inflammation and pain, restore function, and most importantly, stimulate the production of healthy cartilage cells thus reversing some of the damage created by the present condition. Class IV Laser Therapy is the only physical therapy modality that can penetrate the patella and provide a physiotherapeutic treatment that will assist Mr. Pine in achieving or maintaining maximum functional capacity in performing daily activities.
Class IV Laser Therapy is the only physical therapy modality to provide all of the following physiological benefits within one single modality. Clinical studies and trials of FDA Cleared laser therapy indicate the following beneficial effects of laser light therapy on tissues and cells:

1. **Accelerated Tissue Repair And Cell Growth.** Photons of light from lasers penetrate deeply into tissue and accelerate cellular reproduction and growth. No other physical therapy modality can penetrate the bony patella and deliver healing energy to the articular surface between the underside of the patella and the femur. The laser light increases the energy available to cells so that cells can take on nutrients faster and get rid of waste products. Cells of cartilage, bone, tendons, ligaments and muscles are repaired faster as a result of exposure to laser light.

2. **Reduced Fibrous Tissue Formation.** Laser therapy reduces the formation of scar tissue following tissue damage and acute and chronic inflammatory processes. This point is paramount because fibrous (scar) tissue is less elastic, has poorer circulation, is more pain sensitive, is weaker, and is much more prone to re-injury and frequent exacerbation.

3. **Anti-Inflammation.** Laser light therapy has an anti-inflammatory effect, as it causes vasodilation and activation of the lymphatic drainage system. As a result, there is a reduction in swelling caused by biomechanical stress, trauma, overuse, or systemic conditions.

4. **Analgesia.** Laser therapy has a beneficial effect on pain through the suppression of nerve signal transmission over unmyelinated c-fibers that transmit pain to the brain. This means that a greater amount of stimuli is required to create an action potential within the nerve to signal pain. Another pain blocking mechanism involves the production of high levels of pain killing chemicals such as endorphins and enkephalins from the brain and adrenal gland.

5. **Improved Vascular Activity.** Laser light will significantly increase the formation of new capillaries (angiogenesis) in damaged tissue that will speed up the healing process. Additionally, the literature has noted that microcirculation increases secondary to vasodilation during laser treatment.

6. **Increased Metabolic Activity.** Laser therapy creates higher outputs of specific enzymes, greater oxygen, and food particle loads for blood cells.

7. **Improved Nerve Function.** Slow recovery of nerve function in damaged tissue can result in motor and sensory disturbances resulting in loss of function to the affected extremity. Laser therapy accelerates the process of nerve cell regeneration and increases the amplitude of action potentials to optimize motor and sensory nerve functions.

8. **Immunoregulation.** Laser light has a direct effect on immunity status by stimulation of immunoglobulins and lymphocytes. Laser light is absorbed by chromophores (molecule enzymes) within the mitochondria that react to laser light. The enzyme flavomono-nucleotide is activated and starts the production of ATP (adenosine-tri-phosphate), which is the major carrier of cell energy and the energy source for all chemical reactions in the cells.

9. **Trigger Points and Acupuncture Points.** Laser therapy stimulates muscle trigger points and acupuncture points on a non-invasive basis providing musculoskeletal pain relief. Additionally, a restoration of muscular tonus and balance between agonist, antagonist, and synergistic relationships.
improves joint biomechanics and protects them from potentially dangerous stress/strain and shear forces.

Outcomes
Our office is sensitive to the fact that, as with any sound business, managed care organizations (MCOs) and third party payors want to pay the least for the most. As a provider of health care, we understand the necessity to demonstrate efficacy of treatment. Clinical outcomes will be utilized in the measurement of efficacy and the demonstration of quality improvement. In the past, this has allowed us to demonstrate the Class IV Laser Therapy as a cost-effective form of treatment, producing desired outcomes using valid scientific and credible measurement instruments. Outcome measurements have allowed us to practice “evidence based medicine”, and to establish ourselves in the managed care market.

Thank you very much for your consideration and assistance in providing Mr. Patient with the reimbursement for the services necessary for a favorable and cost-effective therapeutic outcome. Class IV Laser Therapy is reasonably expected to reduce or ameliorate the physical and developmental effects of Mr. Patient's condition. If you have any questions, please do not hesitate to call.

Respectfully,

Dr.

Enclosed:
Class IV Laser Therapy Spec Sheet
Class IV Laser Therapy Abstracts Relevant to This Case
Cash Practice Strategies

The Company has created an opportunity for uninsured or under-insured patients to receive Class IV Laser Therapy treatment through participating providers. These plans also work well for the provider who wants to add Class IV Laser Therapy as a “cash modality” within their practice. These programs were designed so, regardless of the payor environment, Class IV Laser Therapy providers could maintain maximum profitability with their Class IV laser investment.

These innovative plans are as follows:
1. Patient Finance Programs
2. Class IV Laser Therapy Patient Service Agreement
Patient Finance Programs

Third party patient financing makes it easy for patients to take advantage of a physician's services. Not all patients' insurance plans are created equal. And, many of those who need treatment the most don’t have health insurance coverage.

Offering a financial solution can help more prospective patients say “yes”, and schedule their treatment immediately. However, the costs and risks associated with offering credit through your practice can significantly impact profitability. That's why third-party patient financing can be a powerful tool that benefits your practice in multiple ways, including:

- Turning more consultations into treatments
- Improving cash flow and profitability
- Decreasing the business risk of offering credit

Additionally, patient financing can give your practice a significant competitive advantage over other practices.

Benefits

Medical Economists estimate that utilizing a third-party payment plan can boost production by 25-50 percent. Approximately, 20% of patients decline or delay recommended treatment due to their financial situation, possibly representing tens of thousands of dollars a year in lost revenues and referrals. Another 20% discontinue care prematurely before their condition is fully resolved, secondary to financial issues.

Studies have shown the average American only has about $300 of available credit on their consumer cards, and does not feel comfortable writing a check for more than $500 out of their monthly cash flow. Because of this, it is not the total cost of treatment that concerns the patient, but how they are going to pay for it, especially for those seeking higher-level procedures or treatment not covered in full by insurance

Patient Finance Companies

Care Credit
GE Capital
PO Box 960061
Orlando, FL 32896-0061
Phone: (800) 677-0718
Website: [http://www.carecredit.com/](http://www.carecredit.com/)

About Care Credit
CareCredit, a part of GE Capital, offers healthcare financing for consumers through a network of over 150,000 providers. Founded in 1987, CareCredit was initially offered to doctors to help their patients pay for new dental implant technology. Continued advancements in technology, and procedures that are often not covered or fully covered by insurance, have created new choices for care, increasing the demand for financing options. CareCredit is a healthcare credit card that can be used as a payment option for certain
expenses not covered by insurance or to bridge situations when desired care exceeds insurance coverage.

**Advance Care**
19046 Bruce B. Downs Blvd. #78
Tampa, FL  33647
Phone:  1-800-432-9470
Fax:  1-813-333-6467
Website:  [http://www.advancecarecard.com/](http://www.advancecarecard.com/)

About The Advance Care Card
As a leading provider of patient financing for elective procedures, we truly believe the Advance Care card offers patients the most affordable financing options available. Whether you choose to use the card for cosmetic surgery, dentistry, chiropractic care, orthodontics, weight loss or hair restoration, the Advance Care Card combines low interest rates with the flexibility you need. We make it simple and affordable to finance your treatment. You deserve it.

**MedChoice Financial**
Phone:  (561)952-1760 or toll free 1-800-358-8980
e-mail:  info@medchoicefinancial.com
Website:  [https://www.medchoicefinancial.com/](https://www.medchoicefinancial.com/)

About MedChoice Financial
MedChoice Financial is a financial services company specifically designed to serve our providers and patients needs. We have assisted thousands of patients and received the treatments they want. The MedChoice card is accepted at thousands of locations nationwide. MedChoice makes it easy to apply with a very simple application and immediate approval online. Once you have a MedChoice card you may use it again and again without reapplying.
The Class IV Laser Therapy Patient Fee for Service Agreement

The Class IV Laser Therapy Patient Fee for Service Agreement is not a credit card plan, but offers patients a “Fee For Service” Discount. Please note that it is illegal for a healthcare provider’s office to have a dual billing schedule. A dual billing schedule is one where the office charges one set of fees to the insurance company and another (usually lower) set of fees to cash paying or uninsured patients.

With the Class IV Laser Therapy Patient Service Agreement, the provider charges the usual and customary fee for each laser treatment; HOWEVER, the provider can throw in “bonus visits”, which are determined by the amount of pre-paid care that the patient purchases.

Here’s how it works:

1. The provider estimates the number of visits the patient will need after performing the initial examination.

2. The provider recommends Class IV Laser Therapy as the best possible treatment of the patient’s condition. The provider can expand on this depending on the condition.

3. The provider or a member of the staff’s billing department then reviews the “Special Program” they have for the Class IV Laser Therapy by utilizing the Class IV Therapy Laser Patient Service Agreement form.
Class IV Therapy Laser Patient Service Agreement

Patient Name _________________________________________________________
Address _______________________________________________________________________________________
City, State Zip ___________________________________________________________________________________
Phone _________________________________________________________________________________________
Email _________________________________________________________________________________________

You have been recommended for Class IV Laser Therapy for the treatment of your current condition. Since your condition may require multiple treatments, our office has arranged for a “fee for service” discount to assist you in lowering your out-of-pocket expenses.

The Fee for Service Discount is designed to start you on your way to better health. It is an affordable alternative to the "Wait and See" approach to your health. It is a series of laser therapy treatments over 2 - 4 weeks in conjunction with a custom-tailored home exercise program. Since there is no insurance paper work required, we can pass on a considerable savings to you.

TREATMENT PACKAGE #1
5 Visit Treatment Plan includes (1 FREE Bonus Visit):
5 VISITS @ 75.00 = $375.00
1 BONUS VISIT @ 75.00 ($75.00) SAVINGS

TREATMENT PACKAGE #2 (offers a 15% savings)
10 Visit Treatment Plan includes (2 FREE Bonus Visits):
10 VISITS @ $63.75 = $637.50 ($112.50 savings)
2 BONUS VISITS @ 75.00 ($150.00) SAVINGS

TREATMENT PACKAGE #3 (offers a 20% savings)
15 Visit Treatment Plan includes (3 FREE Bonus Visits):
15 VISITS @ 60.00 $900.00 ($225.00 savings)
3 BONUS VISITS @ 75.00 ($225.00) SAVINGS

I would like to participate in the Fee for Service program. I understand that this program is designed to start me on my way to better health, does not imply a cure, and may require me to actively participate in a home exercise program for optimal results.

Refunds: Refunds will be provided and paid within 30 days of receipt of the written termination request from the patient or from the date in which this office terminates this agreement. The refund amount will be based upon this agreement fee less the total number of individual services performed calculated at this office’s normal fee schedule for the services. If the services performed are equal to or greater than the agreement fee, then there will be no refund or monies owed either to our office or to the patient.

Patient Signature __________________________ Date ______ Office Representative Signature ______________ Date __________
Applying Outcomes Management into Clinical Practice

ABSTRACT: The paradigm shift in health care from case management to cost contained, outcomes management (OM) has vaulted the study and use of valid and reliable outcomes tools. OM, when used appropriately, can measure progress, or the lack thereof, in three critical areas which include pain management, physical capacity (impairment), and disability.

PURPOSE: To describe various outcomes instruments and their respective goals in OM.

METHODS: An extensive literature search were utilized.

RESULTS: A categorization of OM tools, including a brief discussion of each. In addition, a time-line recommending a "when to use what" approach is offered.

INTRODUCTION: Outcomes management (OM) is becoming a popular approach utilized in modern managed care to assure quality and contain costs. OM can be defined as the measurement of symptom and/or function of a patient's clinical status. The process of assessing outcomes starts on the initial visit which is essential in order to establish baselines and to help in goal setting. Of importance, OM tools are simple to administer, low in cost (many OM tools are patient, rather than doctor driven), and low-tech oriented (no expensive equipment is required).

The critical issue is to establish functional goals, and then to follow those goals by documenting patient status and progress over time by utilizing OM. The promotion of quality without sacrificing cost is a critical component of outcomes management. The ratio of quality to cost as described by Frymoyer defines value. Quality can be assessed by the demonstration of improved outcomes. Therefore, evidence based treatments can be assessed for both value and quality by the use of OM. The primary goal of care in the acute stage is symptomatic relief of pain, and in the sub-acute to chronic stage, prevention of disability. These goals are achieved by focusing on returning function (reducing impairment) which result in activity limitations/intolerance, and the use of OM can help the provider determine when to focus on each of these goals. To clarify, the term disability refers to "...a decrease in, or the loss or absence of, the capacity of an individual to meet personal, social, or occupational demands, or to meet statutory or regulatory requirements." (4. AMA 1994, 317. -see ref 32) On the other hand, the term impairment refers to "...the loss, loss of use, or derangement of any body part, system, or function." (4 Ibid. p.315). Therefore, these do not mean the same thing as the same loss of function or impairment may result in a different level of disability. More specifically, a concert pianist who amputates a digit may be completely disabled from his/her vocation as a performing musician thus resulting in a high level of disability. However, the same impairment in a worker who does not necessitate the use of the amputated digit in their vocation or avocation, may not be disabled what so ever. Therefore, impairment has to do with dysfunction while disability has to do with how that dysfunction affects their activities of daily living (ADL's).

Case management refers to the care of a patient, taking into consideration all the complexities with which they present. In some cases, there are little if any complexities that interfere with the resolution of their presenting complaint. A stereotypic example is a young man or woman who sustains a low level, mechanical back injury for the first time. If past history is noncontributory and the patient complies with treatment recommendations, resolution can be expected without significant complications. However, in
some cases, especially those who present with chronic conditions where the etiology is multifactorial, a successful outcome may depend on identifying one or several barriers which may interfere with recovery, thus further reinforcing chronicity.

The care one renders to the complicated, multifactorial case may necessitate treatment of a psychosocial issue such as job dissatisfaction, low pain tolerance, depression, an abusive job or ADL task, and so on, more so than their physical impairment. Hence, if the provider is being sought in a primary care setting and proper case management is practiced, it is necessary to obtain a complete current and past history (including medical, family, occupational, social and habits history), perform a complete exam, and review past health care provider records. The health care provider must then weigh the information obtained to determine where care is most needed.

To make this process less cumbersome, a "continuum of care" should be followed to achieve quality assurance (see table 1). By keeping track of these steps, the provider can stay focused on treatment goals and address important issues as they arise.

CONTINUUM OF CARE
- Diagnostic Triage (rule out red flags)
- Determine End Point of Care
- Reassurance/Advice
- Provide Symptomatic Relief
- Identify Barriers to Recovery
- Utilize Outcomes Management
- Promote Functional Restoration

Table 1

In general, outcomes management is designed to establish baselines, document progress, assist in goal setting, and motivate patients. It has something to offer the patient, provider, and payor.

OVERVIEW: CATEGORIES OF OM TOOLS
There are many different outcomes management (OM) tools and determining what tool is most appropriate and when to use that tool is no easy task. To assist the provider in determining when each of the goals of care are reached, OM includes valid and reliable, quantifiable measurements of patients symptoms, impairment/functional limitations, and disability/functional capacity.
Other outcomes categories include general health, patient satisfaction, and psychometric information regarding abnormal illness behavior. The various outcome management tools can be divided into two large categories, those which are patient driven or subjective and those which are provider driven or objective.

For example, the measurement of pain has classically been a subjective measure as the provider is generally, requesting a patient to verbally respond to a noxious stimulus. Examples of subjective/patient driven OA tools include:
- the Visual analog scale (measures pain intensity)
- pain diagram (measures location and quality of pain)
- McGill Pain Questionnaire (measures sensory, cognitive, and motivational evaluation to pain)
- algometry
- Rheumatology Rating Scale (Grade 0-IV) (see table 2).
In the latter, the provider rates the patient response to a palpatory stimulus not by asking the patient to rate the pain level but rather, by observing for facial grimace, signs of withdraw, i.e., pain behavior. By comparing the painful sites to uninvolved body areas, the provider can determine if the response is increased physiologically (appropriate behavior), exaggerated or, non-organic in character (an exaggerated response to a non-noxious stimulus). By combining this objective pain assessment technique with a subjective numerical pain scale, the provider can determine the patient's perception of their pain tolerance in relation to the observed behavior. By doing so, consistency between the two (or the lack thereof) gives the provider important information regarding patient pain threshold as well as sincerity. Using a 0 to 10 numerical pain scale, severe pain intensity has been considered by some as pain greater than 6 (usually documented as "6/10", allowing the reader to understand that a 0-10 scale was used.)

Other methods of tracking outcomes based on pain perception will be covered in more depth later in this paper. The measurement of physical capacity (isolated function of muscles and/or joints) using inexpensive, low-tech approaches has also been reported. These tests in essence, evaluate impairment or dysfunction. For example, Range of Motion, Strength, and Endurance can all be tested. Alaranta showed that low-tech tests are reliable and valid and normative data has also been published on these simple and inexpensive, squatting, trunk flexion, and trunk extension tests.

There are a number of questionnaires available for identification of patient perception of their disability or activity intolerance.

A partial list includes:

- Oswestry Low Back Pain Disability Questionnaire (see figure 1),
- Spinal Function Sort and Hand Function Sort,
- Neck Disability Index,
- Roland-Morris Questionnaire, and
- Functional Assessment Screening Questionnaire (FASQ).
Fig. 1 REVISED OSWESTRY LOW BACK PAIN DISABILITY QUESTIONNAIRE

The Oswestry Disability Index is considered the gold standard for assessing the disability level of back pain.


Functional capacity or whole body movement tests16,20 can also be measured although testing is more complicated and time consuming. Examples of functional capacity tests include: lifting, carrying, aerobic capacity, static positional tolerance, balancing, and hand function.

CRITERIA
Some of the criteria used for judging whether an OM tool is good or not are summarized in Table 2. These criteria will help you determine whether a specific tool is worth the financial expense or time spent in your clinic16.

Criteria for Outcomes Management Tools
- Safety
- Reliability
- Validity
- Normative Database
- Cost (Time, money)

Table 2

Outcome assessment tools should be time efficient, inexpensive and valid to be of practical use for you in your clinic. Table 3 outlines the different types of validity and includes a brief definition of each21.

Validity
- Face or Content (the test results make sense)
- Construct (the test result follows acceptable theory and is applicable to the case)
- Concurrent (correlates with other measures)
- Discriminant -sensitivity (high true + rate)
- -specificity (high true - rate)
- Prescriptive - ability to classify patients into different treatment groups which will optimize outcomes

Table 3
CLASSIFICATION OF OUTCOMES ASSESSMENT TOOLS

Aspen Laser Systems - www.AspenLasers.com - info@aspenlasers.com

A pen and paper questionnaire approach is particularly valuable for gathering outcomes information as they represent time-efficient, inexpensive, and simple methods for gathering information. They are easy to administer and score and do not take up a significant amount of provider or staff time while providing valid and useful information to assess outcomes. Tools such as an inclinometer are also invaluable for quantifying objective data of a patient's functional status and therefore, can determine progress.

SYMPTOMS/PAIN

Pain level can be assessed by the use of some type of scale, such as a 0-10 scale. Use of this addresses the patient's perception of their pain level. Tracking of pain is important as severe pain intensity is described as one of the four factors which predicts that a patient's condition may be complicated and out last the usual natural history42.

Examples of OA instruments belonging in this category include

- VAS (Visual Analogue Scale)4
- NPS (Numerical Pain Scale)21,22, and
- McGill/Melzack Pain Questionnaire6,7.

The VAS instrument can be divided into three scores4 (see figure 2): I pain level right now I average pain grade I worst pain grade I When describing the “average pain grade” for the chronic patient, request their pain level as it relates to the last 6 months. To reduce the three numbers to one, the AVERAGE of the 3 ratings is obtained and then multiplied by 10 to yield a score 0-100 score. The final score can then be categorized as “Low Intensity” (pain<50); or “High Intensity” (pain >50)4. The VAS, like other measures of a patient's progress, should be performed every 2 weeks, since a patient's failure to progress over a 2 week period may indicate a need for a change in the management approach42.
Figure 2

TRIPLE VISUAL ANALOGUE SCALE

INSTRUCTIONS: Please circle the number which best describes the question being asked.

NOTE: If you have more than one complaint, please answer each question for each individual complaint and indicate which score is for each complaint.

EXAMPLE:

--------headache----------neck------------------low back
0-----1-----2-----3-----4-----5-----6-----7-----8-----9-----10

1. What is your pain RIGHT NOW?
0-----1-----2-----3-----4-----5-----6-----7-----8-----9-----10

2. What is your TYPICAL or AVERAGE pain (for chronic patients, refer to last 6 months)?
0-----1-----2-----3-----4-----5-----6-----7-----8-----9-----10

3. What is your pain AT ITS WORST (How close to "0" does your pain get at its worst?)
0-----1-----2-----3-----4-----5-----6-----7-----8-----9-----10

What percentage of your awake hours is your pain at its best? _________%

CALCULATION: Pain "now" + Average pain + Pain at worst / 3 X 10 = ______ (0-100)
Low Intensity = pain < 50
High Intensity = pain >50

NAME _____________________________________
AGE________
DATE______________
DOA___________
Another option in the “pain perception” category includes the McGill/Melzack Pain Questionnaire (6).


This instrument was designed to measure three items:

- Sensory discrimination
- Motivational evaluation
- Cognitive evaluation

The Pain Drawing is a very popular tool used to assess pain in terms of quality (sharp, ache, numb, burning, etc.) and location. Though this method of assessing pain is primarily qualitative, a scoring method has recently been reviewed and found to correlate reliably with the Hy (Hypochondriasis) and Hs (Hysterical) scales of the Minnesota Multiphasic Personality Inventory (MMPI)23. The reviewers concluded that this could screen out 93% of patients with “poor psychometrics”, and hence, could prompt an appropriate psychological referral. A palpation method of assessing pain which is scored not by the patient but rather, by the provider is also available. Therefore, this approach allows for a more objective manner of gathering pain tolerance than simply relying on the patient's verbal account of their pain level. This quantifiable method of assessing tissue tenderness follows the American College of Rheumatology recommendations (Table 4).

**STANDARDIZED PALPATION OF TENDERNESS**

Using 4 kg of pressure (enough to blanch the tip of the thumbnail if you pressed on a table).

- Grade 0 = no tenderness
- Grade 1 = tenderness w/ no physical response
- Grade II = tenderness w/ grimace & /or flinch
- Grade III = tenderness w/ withdrawal (+ jump sign)
- Grade IV = withdrawal to non-noxious stimuli

Table

Wolfe F, Smythe HA, Yunnus MB, et al. The American College of Rheumatology 1990 Criteria for Classification of Fibromyalgia. Arthritis Rheum 1990;33:160-172. Standardized Palpation of Tenderness8 Using 4 kg of pressure (enough to blanch the tip of the thumbnail when pressed on a table). Grade 0 = no tenderness Grade 1 = tenderness w/ no physical or verbal response Grade II = tenderness w/ grimace & /or flinch Grade III = tenderness w/ withdrawal (+ jump sign) Grade IV = withdrawal to non-noxious stimuli

**PHYSICAL CAPACITY (IMPAIRMENT)**

Physical capacity tests measure function such as joint mobility, muscle strength and endurance. Examples include cervical rotation mobility, hip range of motion and trunk extensor endurance. Excellent reliability and normative databases have been found for spinal and extremity range of motion testing9-11, 24-37. These tests are inexpensive, time efficient, reliable, valid, and have normative databases. Hence, they serve as objective outcomes data and therefore, can help determine the level of function change before and after treatment or rehabilitation intervention.

One of the more published physical capacity tests is the Sorensen test or, the static back extensor endurance test38. Sorensen's test, has been found to be able to predict first time onset of LBP in healthy individuals, as well as predict recurrence rates in those already suffering a LBP episode39,40. The test is performed with the prone patient's pubic bone at the edge of the table and their upper torso off the table.
With the subject's arms folded across their chest, they are asked to raise their trunk up to horizontal and maintain the position as long as possible ("normal" is age and gender specific but averages between 1 to 1.5 minutes, with a maximum of 4 minutes prior to terminating the test)10.

**FUNCTIONAL CAPACITY (DISABILITY)**

a) Condition specific questionnaires

Condition-specific Questionnaires (a.k.a. Disease-specific questionnaires) are available for many regional complaints. Lower back, neck, headache, upper extremity and lower extremity regions all lend themselves to independent functional questionnaires regarding functional limitations.

Regarding low back pain (LBP), the Oswestry Low Back Pain Questionnaire12,13, the Roland- Morris Disability Questionnaire16, the Dallas Pain Questionnaire41, and the Low Back Pain TyPEs (Technology of Patient Experience specification)42 are examples. In addition, there are many others, of which some have been more recently introduced43,44.

The Oswestry Low Back Pain Questionnaire12 is very popular and often used as a "gold standard" in studies comparing other low back questionnaires43-45. A "Revised" version measures both impairment (function) and disability (limited ADL’s)13. Erhard and Delitto reported that a score of 11% was necessary for discharge and return to work readiness46.

Roland-Morris Disability Questionnaire16 was originally derived from the sickness illness profile (SIP)47 but was modified for the low back and is often used with the VAS. There are 24 items to check off to describe their condition as it feels today. Scores range from 0-24 covering a range from no complaint to extreme disability. Reliability has been established when compared to the SIP and its major subscales48.

The Low Back Outcome Score was recently introduced by Ruta et al., who utilized a stringent reliability and validity process to screen this instrument43 The validity and reliability of the instrument was established. This article also contains a good literature review and includes several of the previously mentioned instruments.

Similarly, the Quebec Back Pain Disability Scale was also recently introduced, demonstrating a test-retest reliability of 0.92, and Cronbach's alpha coefficient of 0.9644. This instrument was also compared to the Roland-Morris, Oswestry, and SF-36 scales and found reliable and valid. It was recommended to be used to monitor a patient's progress in treatment or rehabilitation programs.

Low Back Pain TyPEs (Technology of Patient Experience specification)42 was not designed to result in a single score. Rather, each question is sufficiently important to stand alone and serve as a baseline for future comparative assessment (per communication with Deyo). In essence, this instrument serves as an excellent history form specifically designed for LBP patients. The Neck Disability Index15 was designed to assess the disability associated with conditions of the cervical spine. This instrument was patterned after the Oswestry Low-Back Pain Disability Questionnaire, is scored similarly, and was validated and found reliable.

The Headache Questionnaire49 consists of 85 questions and was used by Whittingham, et. al., in testing the treatment efficacy of manipulation for headaches. No scoring method was received (personal correspondence with the author) and therefore, this may serve as an excellent history gathering device,
void of a quantitative numerical score. More recently, the Headache Disability Inventory (HDI) was developed and met validity/reliability criteria and is able to be scored. In addition, 48 of the possible 100 points represent functional information and 52 of the 100 points represent emotional information. In addition to the Low Back TyPEs, the Health Outcomes Institute has developed many other condition-specific questionnaires or "TyPEs" (Technology of Patient Experience specification). These include the following conditions:

- carpal tunnel syndrome
- asthma
- chronic obstructive pulmonary disease
- depression
- hypertension/lipid disorders
- osteoarthritis
- rheumatoid arthritis
- allergic rhinitis
- smoking cessation

There are several instruments which can be used to assess upper extremity (UE) dysfunction. For example, shoulder injuries can be assessed by the use of the Self-assessment of Function questionnaire. This is a 15 question instrument which includes activities of daily living as the main outcomes assessing gathering method. A scoring method is available for quantification. The shoulder can also be assessed by the use of the "American shoulder and elbow surgeons shoulder evaluation form". This consists of five sections which include pain (5-0 scale), motion (5-0 scale), strength (5-0 scale), stability (5-0 scale), and function (4-0 scale). The latter comprises aspects of a physical exam with some exception regarding the history.

Upper extremity pain can be assessed by the use of the Upper Extremity Pain Questionnaire. This is ideal for elbow, wrist/hand, or carpal tunnel complaints. This instrument consists of 17 items which represent activities of daily living (ADL's), which are scored on a 0 to 10 scale, similar to a visual or numerical pain scale.

The knee can be assessed by using the Functional Index Questionnaire (FIQ). This is an 8 item questionnaire regarding ADL's associated with lower extremity function. Each question is responded to by choosing one of four options which include "no problem", "can do with problem", "unable" or "unknown" (Figure 4). When used in series, this instrument can yield outcome information which can provide the practitioner with information which can help determine a treatment plan or clinical decision.
Figure 4

FUNCTIONAL INDEX QUESTIONNAIRE (FIQ) (KNEE)

The following information is to be recorded at approximately the same time each day (preferably at bedtime). Put an "(" in the column that best describes the way you feel Please complete the following: "Today did you have any problem or discomfort in your left / right knee at all with the following activities?"

<table>
<thead>
<tr>
<th>Unable</th>
<th>Can do with problem</th>
<th>No problem</th>
<th>Unknown</th>
</tr>
</thead>
</table>

1. Walking as far as 1 mile

2. Climbing up 2 flights of stairs (16 steps)

3. Squatting

4. Kneeling

5. Sitting for prolonged periods with your knees bent in one position

6. Climbing up 4 flights of stairs (32 steps)

7. Running a short distance (100 yards-length of football field)

8. Walking a short distance (1 block)
b) General Disability Questionnaires

The Disability category includes questionnaires which can help predict the "difficult to manage" case. One example of such an assessment scale used to attempt to determine who is at risk for becoming permanently disabled from chronic pain is called the Vermont questionnaire. The use of this instrument was compared to the ability of a group of physicians to predict disability based solely on experience56. This model had a predictive value of 89% and was better in predicting disability than the physician group across all samples.

The study indicated two potential uses for this type of predictive model. The first is to stratify patients into those who:

- are going to return to work (RTW) with certainty, almost regardless of the treatment type received (very low disability scores).
- will be resistant to treatment and may not RTW "no matter what" (very high scores).
- are likely to RTW if treated effectively.

The second potential use is to alert health care providers to the critical risk factors associated with difficult LBP cases. There is a short version with a total of 14 questions which requires approximately 3-5 minutes to complete. Both validity and reliability of this instrument has been reported in a recently publish article by the Vermont Rehabilitation Engineering Research Center for Low Back Pain57.

The FASQ (Functional Assessment Screening Questionnaire) is a 15 item checklist designed for a primary care population in evaluating disability associated with chronic pain17. A third scale, FABQ (Fear Avoidance Beliefs Questionnaire) is also available58. This instrument may be used when assessing the chronic pain patient where fear avoidance behavior is suspected. This questionnaire is also useful as a psycho-social screening test as fear of pain associated with activity is common in the chronically painful patient.

c) Functional Capacity Tests

Functional capacity tests assess whole body movements or functions as opposed to single functions such as straight leg raise or spinal ROM's. Hence, since multiple functions are assessed by this method, this type of testing is often utilized when assessing work capacities when returning an injured worker back to the work place or when determining an individuals level of disability. Various tasks are assessed when assessing a patient for returning to work which may include the following: lifting and carrying - assessed by the PILE (Progressive Isoinertial Lifting Evaluation)59 and the Job Demands Questionnaire14 aerobic - assessed by a cycle ergometer, treadmill tests, step tests, or by field tests60 static position tolerance - assesses position tolerances which include reaching from standing, stooping, crouching, and kneeling positions14 balancing - assessed by a one-leg balance tests61 hand function - assessed by Matheson's hand sort where the patient matches activities from charts which correlate with their particular occupation14.

The Spine and Hand Function Sort are methods of gathering information from the patient which helps define their current vocational or work level14. This is completed by the patient matching work and other activities of daily living (ADL's) with charts which correlate to their particular work and lifestyle activities. This information is important as it helps identify the typical physical stressors the patient is confronted with on a daily basis. In addition, when combined with physical measurements of function, such as ROM, strength, balance, lift/carry, etc., the spine and/or hand sort is a key piece of data from which work restrictions can be logically and intelligently established.
OTHER TYPES: Psycho-social issues are a major complicating factor in patient management and must be identified early in patient management. This outcomes assessment category is described as "Psychometrics." If improvement is not noted, certainly by the end of the initial 6 weeks of care, this issue should be thoroughly investigated. Patients with significant problems in this area may require a tertiary treatment center or a multidisciplinary team. At minimum, the addition of a clinical psychologist who specializes in chronic pain behavior is a necessary addition to the management team. Patients in this category often have one or more of the following: job dissatisfaction, previous disability, high anxiety, depression, symptom magnification, pain avoidance behavior, catastrophizing, and poor coping strategy. Drug or alcohol dependency and family problems.

A partial list of instruments in this category include:
1. HSQ (last 3 questions, #36-8)51;
2. Waddell Non-Organic LBP Signs*63;
3. SARS (Somatic Amplification Rating Scale)*64;
4. Modified Zung Depression Index65;
5. Modified Somatic Perception questionnaire66;
6. SCL-90R67;
7. DRAM (Distress and Risk Assessment Method)68;
8. Beck's Depression scale69; and
9. Fear Avoidance Beliefs Questionnaire (FABQ)58.

*Obtained through physical examination procedures, NOT by questionnaires.

Of those listed above, Waddell's Non-organic LBP signs (#2) and the SARS (#3) are physical examination procedures. The former has been well accepted and used as a "gold standard" in many studies. It is made up of 8 tests which are placed into 5 categories. The SARS is a 7 item scale which is made up of many of the 8 test/5 category scale items introduced by Waddell but are "graded" with reference to severity.

The Waddell signs include the following categories:
1. Pain - Superficial and Deep (2 tests)
2. Simulation - Axial compression and Trunk rotation (2 tests)
3. Distraction - Supine versus sitting straight leg raise test ("flip sign")
4. Regional Neurology - Non-anatomical neurological findings (2 tests) a. Motor b. Sensory
5. Overreaction or Exaggeration Waddell states that neck pain and nerve root tension may be provoked by the two simulation tests (axial compression and trunk rotation, respectively), and that care must be practiced to avoid a "false positive" Waddell sign if either of these conditions exist.

The SCL-90-R (Symptom Checklist-90, Revised) appears to be an increasingly popular instrument for measurement of maladjustment in a chronic low back pain (CLBP) population67. It is comprised of nine scales but only two common important factors are represented, i.e., general psychological discomfort and physical symptoms. Hence, two scales were identified as being sufficient to separate the measurement of physical symptoms (somatization scale) from the more reliable composite measure (Global severity index or, GSI) which measures psychological discomfort. Therefore, advantages of this instrument include its brevity, ease of administration, its face validity to CLBP patients, and its superior reliability. Regardless of the psychometric instrument utilized, it must be remembered that these instruments are only "screens" for
psychological distress. If scores are relatively high, a psychological referral will most likely lead to the most appropriate care. Patient Satisfaction has become an important outcomes issue, especially with managed care companies and with quality control assessment. These instruments yield important information about the quality of the health care service as perceived by the patient by assessing the following:

1. Acceptance of care
2. Perception of the technical competence of a health care provider
3. The setting where care was provided
4. The effectiveness of the health care provider

This instrument was used in a study comparing MD and DC patient satisfaction with regard to the "report of findings" given to the patient by the health care provider, and with overall patient satisfaction. There are several varieties which can be used in a clinical setting. These include:

- Visit-Specific Questionnaire
- Patient Satisfaction Questionnaire
- The Chiropractic Satisfaction Questionnaire

The next category measures Job Dissatisfaction.

One method of assessing outcomes is the Modified Work APGAR which resulted from working with 3,020 aircraft employees to identify job dissatisfaction risk factors for reporting acute back pain at work. Factors identified in the MMPI (psychosocial responses) and certain work perceptions resulted in the following observations and these findings prompted the formation of the Modified Work APGAR.


Some caution should be used when considering the use of the work APGAR as many patients may be unwilling to filling out this form for fear of employer retribution (per communication with Erhard).

**THE INTEGRATION OF OA’S INTO CLINICAL PRACTICE:**

Once an instrument is selected for use in the clinical setting, deciding when it should be used is another challenge. To assist in answering this question, case management may be broken down into the following stages:

1. Initial/Base line
2. Follow-up/Re-examination
3. At times of exacerbation
4. At the conclusion or discharge of the case

There has been a great influx of new instruments reported in many referenced journals claiming to be able to assess various problems or conditions. Many of these outcomes assessment tools are reported to be valid and reliable. Because of the increasing number of instruments now available, it is practical to categorize these by variety or assessment goal. More specifically, some OA tools yield information regarding general health while others are condition-specific such as low back pain questionnaires. When instruments from several categories are utilized and grouped together, the interpretation of the valid information obtained will facilitate case management of a patient by identifying the pain and disability issues as well as the impact the condition is having on the patient's general health or lifestyle. By identifying these items, appropriate goals can then be addressed. Many of these groupings or, outcomes
management systems, address demographics, diagnosis, lifestyle risk factors, co-morbidity issues, prognosis issues and treatment. Most importantly, once an instrument is chosen, it should be utilized throughout the remainder of the patient's care, since these instruments are not interchangeable.

Categories may include:
1. Pain perception;
2. Condition-specific functional disability questionnaires;
3. General health;
4. Psychometrics;
5. Patient satisfaction;
6. Job dissatisfaction; and
7. General Disability, and
8. Job Demands (see Table 5).

Table 5. Outcome Assessment Classification

<table>
<thead>
<tr>
<th>CATEGORY BASED ON ASSESSMENT GOALS</th>
<th>OUTCOME ASSESSMENT INSTRUMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PAIN LEVEL</td>
<td>1. Numerical Pain Scale (NPS)19,21\n</td>
</tr>
<tr>
<td>2. REGION/CONDITION-SPECIFIC DISABILITY Q's</td>
<td>4. Oswestry Low Back Pain Disability Questionnaire12,13\n</td>
</tr>
<tr>
<td>NECK</td>
<td>8. Neck Disability Index (NDI)15</td>
</tr>
<tr>
<td>HEADACHE</td>
<td>9. Headache Disability Questionnaire (HDI)50</td>
</tr>
<tr>
<td>3. GENERAL HEALTH</td>
<td>10. Dartmouth COOP charts74\n</td>
</tr>
<tr>
<td>4. PSYCHOMETRICS</td>
<td>13. HSQ 2.0 (Mental health scale and questions 37- 39)*51\n</td>
</tr>
</tbody>
</table>
18. Beck's Depression Scale
19. Fear Avoidance Beliefs Questionnaire
20. SCL-90-R

5. PATIENT SATISFACTION
   21. Patient Satisfaction Q.
   22. Visit specific Q.
   23. Chiropractic Satisfaction Q.

6. JOB DISSATISFACTION
   24. APGAR

7. GENERAL DISABILITY
   25. Vermont Disability Questionnaire
   26. Vermont Disability Q. - Brief form
   27. Functional Assessment Screening

Questionnaire (FASQ)
   28. Fear Avoidance Beliefs Q. (FABQ)

8. JOB DEMANDS
   29. Job Demands Questionnaire (JDQ)

* Only parts of the questionnaire relate to the categories.
** Represents physical examination tests, not self-administered questionnaires

Though there are many opinions as to which of the many instruments should be utilized at initial visit, re-examination, exacerbation, or discharge, one thing is clear. That is, in order to determine outcomes, one must utilize the same instruments on follow-up that were initially used at baseline. Failure to do so will not allow for an accurate assessment of outcomes as different instruments have methods of scoring, do not carry the same reliability or validity, and are not comparable.

An example of a timeline approach to utilization of OM tools.

**Acute Pain Patient Initial Visit:**
Patient Forms:
1) VAS
2) Condition-specific functional questionnaire (i.e. Oswestry, neck disability index)
3) SF-36 (Acute form- General Health)
4) Job Demands Questionnaire if patient is disabled
Examination:
5) Range of motion

**At follow-up (the options include):**
Patient Forms:
1) VAS
2) Condition-specific functional questionnaire (i.e. Oswestry, neck disability index)
3) Job Demands Questionnaire if not done initially and job involves significant lifting, carrying or prolonged sitting/standing (>1 hour without a break)
4) Patient Satisfaction Questionnaire
5) SF-36 (Acute form) Examination:
6) Range of motion
7) Strength/endurance tests within patient's intolerance

If at 4 weeks patient has made no progress with above OA's, on the next visit patient completes the following:
Forms:
1) Matheson's spinal or hand function sort
2) SCL-90 (or, Beck Depression Inventory, Zung Depression Questionnaire, Examination:
3) Static position tolerance tests
4) Aerobic capacity tests
5) Hand function tests

Conclusion: A Practical Approach
With a little training, Outcomes Management (OM) can contribute greatly to the musculoskeletal practice. Improved goal setting, patient motivation, determining end points of care, and chart documentation are all clear benefits. Most of the resources mentioned in this article are demonstrated in a practical workbook and videotape by S. Yeomans77. Also, there is software available to process the outcomes data generated from all the outcome assessment tools described in this article78. OM is here to stay. Instead of relying on unreliable, invalidated assessments of our patients status which are of little value in a managed care environment, it is now possible to modernize your practice with little expense. OM will continue to become streamlined. Of greatest benefit will be the ability to compare patient data for epidemiological and clinical research purposes.

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Evidence Based Care

Do you find insurance reviewers claiming your care is not consistent with published guidelines? Do you know best what your patient needs?

DL Sackett, a proponent of evidence-based care (EBC), said, "Clinical expertise should be informed but not replaced by evidence."17 This article describes an outcome-based audit approach that can be used to enhance clinical decision-making in a valid, predictable manner.

Evidence-Based Care

EBC is best suited to prevent physicians from offering care proven to be ineffective. It is not as valuable in actually recommending what should be done. The following myths about back care have been disproved, and EBC urges physicians to stop adhering to them:

- Prolonged rest is an appropriate prescription for back pain.
- Advice to gradually resume near-normal activities should be delayed until pain is gone.
- Manipulation is harmful.
- X-rays are necessary on the first visit for spine pain patients.
- Surgery is an option for severe, subacute back pain.
- Patients should not return to work until their pain is completely gone.
- Chronic patients should be advised to avoid activities that hurt them.

Functional Outcome-Based Care

Evidence-based care is being thrust upon us, but how can it help us with individual case management decisions? Expert clinicians such as Cyriax, McKenzie and Lewit have always recommended an empirical approach informed by experience.2,7,9 A recent study has tested this empirical, outcome-based approach and shown that it is an excellent guide to making such decisions.3

In an empirical, outcome-based approach, each treatment session is an experiment whereby a hypothesis is formed and tested. The first step is to find a position or movement that reproduces the patient's characteristic symptoms. This is termed the patient's mechanical sensitivity (MS). The second step is to find a movement that is dysfunctional or impaired. This is called abnormal motor control (AMC). After treatment, the MS and AMC can then be used as a post-treatment outcome to audit the patient's "within-session" response to care. In Hahne's study,3 trunk range of motion (ROM) and straight-leg-raise ROM were tested before and after treatment, and at the beginning of the follow-up treatment. The objective of the study was to see if post-treatment changes were a useful predictive guide of future outcome. The findings were as follows:

- Pain intensity improvement was at least one point on a 0-10 numerical rating scale.
- Both pain and ROM improved significantly.19
- Within-session changes predicted 12-64 percent of "between-session" improvement in ROM.
- Individuals achieving within-session reductions in MS were at least 3.5 times more likely to have significant "between session" improvement.

This is a very important study of the functional outcome-based model. By identifying both MS and AMC pre-treatment, clinicians were able to empirically determine the best course of treatment by rechecking or
auditing for improvement post-treatment. The treatment, which results in a within-session improvement, is considered to be within the patient's "functional range" because it creates a "positive slope" in the patient's recovery.6,8 This study provides proof that an outcome-based approach utilizing measurement of the symptomatic behavior of MS and AMC at pre- and post-treatment (i.e., within-session) can successfully guide the selection of treatment(s) most likely to yield ongoing recovery between treatments. In an era in which evidence-based care is diluting the value of individualization of care, this paper provides a powerful validation of the need to combine evidence-based guidelines with clinical individualization based on empirical testing of patients functional-symptomatic response to mechanical loading.12,18 Another recent study by Long compared the McKenzie approach of prescribing treatments that reduced a patient's MS within-session to guidelines based care.10 The McKenzie treatments were far superior in both acute and chronic patients, and importantly, did not make any patients worse.

Motivating Patients to Perform Self-Care
Another benefit of an outcome-based audit approach is that it proves to the patient the value of the care. Many patients are skeptical of manual therapy or exercise and the benefits must be proved to the patient in order to increase compliance with a therapeutic regimen.1 Especially if self-care is prescribed, such motivational issues are increasingly relevant.11,13,14,15,16 Harding warns that if the goal is to promote self-care, there is a risk of attribution to passive care if the audit is performed after manual therapy.4,5 The goal is that the patient should attribute to something they can do for themselves, rather than to the clinician's adjustment, soft-tissue care, or passive modality. McKenzie has also recommended that a separate audit should follow active self-care and precede any passive care, in order to motivate the patient to adhere to a self-care prescription.7 EBC guidelines inform our practices with general principles of care, but they do not guide our clinical decision-making on an individual basis. As a general rule, treatments that result in within-session improvement should be repeated, and those that don't, discarded.

References


Additional Reading

International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM)

The ICD-9-CM consists of:
- a tabular list containing a numerical list of the disease code numbers in tabular form;
- an alphabetical index to the disease entries; and
- a classification system for surgical, diagnostic, and therapeutic procedures (alphanumerical index and tabular list).

The National Center for Health Statistics (NCHS) and the Centers for Medicare and Medicaid Services <http://www.cms.hhs.gov> are the U.S. governmental agencies responsible for overseeing all changes and modifications to the ICD-9-CM.

History of the ICD-9-CM Coding System
ICD-9-CM coding system used in United States to code signs, symptoms, injuries, diseases, and conditions, originated in 17th-century England. The beginnings of diagnostic coding are found in London Bills of Mortality, an ongoing statistical study of diseases that evolved into the International List of Causes of Death in 1937. Over the years, revisions were made and the title was changed to the International Classifications of Causes of Death.

The World Health Organization used this information to assist in tracking morbidity, as well as mortality, for the purpose of making statistical assessments of international health and disease trends. After more revisions, the title was again changed to International Classification of Diseases (ICD). In 1978, the World Health Organization published its ninth revision of this list (ICD-9). ICD-9 is recognized internationally. The United States National Center for Statistics modified the ICD-9 statistical study with clinical information for indexing medical records, medical case reviews, ambulatory, and other medical care programs. The purpose of this modification was to provide a more precise clinical picture of the patient than was needed for statistical grouping and trend analysis. This final change resulted in the current ICD-9-CM, the International Classification of Diseases, 9th Revision, Clinical Modification.

ICD-9-CM Linkage to CPT
ICD-9-CM codes form a crucial partnership with CPT procedural codes. The ICD-9-CM codes indicate the reason why the CPT procedure or service was performed. Most third party payers employ claims edits or automatic denial/review commands within the computer software used to review claims. "Diagnosis to procedure" edits are among the most common type of edits apply to claims. These edits ensure that payment is only made for specific procedure codes when provided for a patient with a specific diagnosis code or predetermined range of ICD-9-CM codes. ICD-9- CM codes have been required on all claims for Medicare since April 1, 1989. There has been an increase in "diagnosis to procedure" edits, as all Medicare claims are required to contain a relationship between the CPT procedure code and the ICD-9-CM diagnostic code. Most insurance companies use similar edits. CPT is a trademark of the American Medical Association. It is an abbreviation for Current Procedural Terminology. CPT is a systematic listing and coding of procedures and services performed by physicians. Each procedure or service is identified
by a 5-digit code. The use of CPT codes simplifies the reporting of services. With this coding and recording system, the procedure or service rendered by the physician is accurately identified.