Turnkey Active Care
For Patients & Providers

Protect Your Patients & Your Practice

Are You Passive About Active Care?

• Your practice is filled with patients with acute and chronic conditions that are treatable and preventable with Active Care.
• And yet, according to a recent Chiropractic Economics survey, only 50% of DCs offer their patients ancillary services such as Active Care exercises or functional testing.
• Are you ready to do something about it?

Medical Necessity

Objective Documentation of Functional Improvement

Fitness Center Drop Outs

• Studies show that 80% of new members stop going to their Fitness Center after only 3 weeks.
• Active Care provides an excellent opportunity for your practice to stand out in your community.
• Patients want to know what they can do for themselves to keep fit and healthy.
• They don’t want services that become stale or boring!

The Solution

• Provide two types of care: pain relief and preventive management
• Pain relief is where chiropractic adjustments and physiotherapeutic modalities thrive; preventive management is where rehabilitation thrives.

From Pain To Performance
Rehabilitation

- Rehabilitation of the motor system is concerned with restoration of function, not merely pain relief.
- The ultimate goal of care is to improve a patient's physical performance capacity so that they can handle the demands of their activities of daily life or job.

The Continuum

- From Passive To Active Care
- How does a rehabilitation specialist approach conservative care?
- A continuum of care incorporating a gradual transition from passive to active care approaches is employed to facilitate the "weak link."
- Passive to Semi-Active to Active

Step 1: Prevention

- Ergonomic advice, relaxation strategies, and general postural re-education
- A job analysis should uncover if keyboard, telephone, pushing, pulling, sitting, carrying, reaching, etc., demands are poorly controlled or unsafe.
- Passive

Step 2: Normalize Joint Dysfunction

- Chiropractic Adjustments
- Joint Manipulation
- Passive

Step 3: Restore Muscle Balance

- Trigger Point Therapy
- Passive
- Post-Isometric Relaxation (PIR) of overactive antagonist muscles
- Semi-active
- Self-stretches for the tight/overactive muscles
- Active
- Exercises to retrain proper motor control, coordination, strength and endurance
- Active

Step 4: Reprogram

- Coordinated Movement Subcortically
- Reflex activation of intrinsic stabilizers by Proprionsensory Training
- Swiss ball; rocker/wobble board training
- Active
Therapeutic Procedures

Active Care
- Therapeutic Procedures are time-based codes.
- Billed in 15-minute units beginning with 8 minutes.
- The patient is active in the encounter.
- Require direct one-on-one patient contact by provider of the service.

97110 Therapeutic Exercises
- Develop one functional parameter: strength, endurance, range of motion, or flexibility
- Treadmill for endurance
- Isokinetic exercise for ROM
- Lumbar stabilization exercises for flexibility
- Stability ball to stretch or strengthen

97112 Neuromuscular Re-education
- Used to describe those activities that affect proprioception
- Balance
- Coordination
- Kinesthetic sense
- Posture

97530 Therapeutic Activities
- Used when multiple parameters are trained including balance, strength, and range of motion.
- Must be related to a functional activity with direct functional improvement expected.
- Use Outcomes Assessment Tools.

97150 Group Therapy
- When supervising more than one individual, for a service that requires direct supervision, use code 97150 for each patient.
- For example, if NMR is performed in a group setting, use code 97150 — do not use 97112 and 97150 at the same time.
- Billed once per session.
Step 1: The Physical Examination

Be Data Driven
- An insurance adjuster must be able to see what you see with the patient.
- Include measurements, comparison data, test results, co-morbidity, unusual circumstances to paint a picture of what’s going on with the patient.
- In order to document your outcomes you must first decide which outcomes to track!

Muscular Dysfunction
- Most clinicians are extremely skilled in the analysis and treatment of joint dysfunction, but neglect the subject of muscular dysfunction.
- Most overlooked aspects of muscular dysfunction is muscular tightness.
- How can we give exercises without first testing for the tight muscles?

Muscle Imbalance
- Occurs in a systematic fashion
- Predictable shortening in muscles such as the upper trapezius, suboccipitals, erector spinae, iliopsoas and hamstrings
- Concomitant lengthening or inhibition occurs in the lower trapezius, deep neck flexors, deep abdominals and gluteals.

Why is this so?
- Muscles which relate to the fetal position, static work postures or slumping become overactive or even shorten, while muscles which relate to the neuro-development of upright posture or dynamic joint stability tend to become inhibited or even weak.
- Modern society’s emphasis on constrained postures and sedentary lifestyles promotes this imbalance between overactive and inhibited muscles.

Functional Postural Analysis

Breakthroughs In Active Care
Upper & Lower Crossed Syndromes

Sherrington’s Law Of Reciprocal Inhibition

“The ON - OFF Law”

BICEPS = ON
TRICEPS = OFF

Facilitated = Tight/On/Short
STRETCH

Inhibited = Weak/Off
STRENGTHEN

Posterior View
Lateral View

Upper Crossed Syndrome

Lower Crossed Syndrome

Facilitated Muscles

Inhibited Muscles

Upper Crossed Posture

Flying Buttresses

“Gothic Shoulders”
Lower Crossed Posture

The “Beer Belly Posture”

Let’s Work It!
Upper & Lower Crossed Postural Analysis

Muscle Dysfunction

- Usually secondary to joint dysfunction
- The key to facilitating a weak muscle is to begin by adjusting the spinal fixation
- If abnormal movement patterns are repeated long enough, the muscle imbalances will become memorized as a faulty motor program.

Movement Pattern Analysis

Muscle Imbalance & Dysfunction

Movement Patterns

- Sedentary lifestyle leads to an overuse of the postural, anti-gravity muscles.
- Shortening or tightness develops along predictable lines in muscles that “fight” to maintain static posture against gravity.
- Other muscles have as their primary function maintaining stability during dynamic activities.
- Since we generally are working in constrained postures without much variety of movement, these dynamic stabilizers are underused and weaken or even atrophy.

Movement Pattern Analysis

- There are predictable muscle imbalances present in most of the patients you see.
- Six movement pattern tests screen for the proper functioning of the majority of the clinically significant muscles we address.
6 Movement Patterns

1. Prone Hip Extension
2. Hip Abduction
3. Trunk Curl
4. Seated Arm Abduction
5. Trunk Lowering From Push Up
6. Supine Neck Flexion

1. Prone Hip Extension

- Palpation of the posterior musculature reveals a pattern of contraction from caudad to cephalad
- Hamstrings then Gluteus maximus then Erector spinae
- Premature contraction of a muscle indicates overactivity

2. Hip Abduction

- Hip Hiking: Overactive Quadratus lumborum
- Ratcheting: Inhibited Hip Abductors
- Anterior leg excursion: Overactive Iliopsoas.
- Posterior leg excursion: Overactive Hamstrings.
- External Rotation: Overactive Piriformis
- Internal Rotation: Overactive TFL

3. Trunk Curl

- Ratcheting: Inhibited Abdominals & Overactive Erector spinae
- Foot lift prior to 30° of Flexion: Overactive Iliopsoas
- Chin poking: Overactive SCM and Suboccipitals

4. Seated Arm Abduction

- Elevated shoulder girdle prior to 30° of Arm Abduction: Overactive Upper Trapezius and Levator scapulae
- Inhibited Serratus anterior and Lower Trapezius

5. Trunk Lowering From A Pushup

- Winging of the scapula
- Inhibited Serratus anterior
6. Supine Neck Flexion

- Ratcheting: Inhibited Deep Neck Flexors and Scalenes
- Chin poking: Overactive SCM and Suboccipitals

Grade 0 – 3

- 0 = Normal Movement Pattern
- 1 = Restricted Range of Motion
- 2 = Restricted Range of Motion + Instability
- 3 = Restricted Range of Motion + Instability + Ancillary Muscle Recruitment

Let’s Work It!

Movement Pattern Analysis

BREAKTHROUGH COACHING

Post Isometric Relaxation
Rehabilitation Through Manual Therapy

Muscle Histology: Active Components

- The muscle-tendon contains active (contractile) and passive (non-contractile) components.
- The active component is related to the interaction between the contractile proteins (actin and myosin) within the muscle fibers.

Muscle Histology: Passive Components

- The passive components consist of the connective tissue within and around the muscle (perimysium, epimysium, endomysium, sarcolemma).
- Muscle Stretching Technique has its main effect on the passive elements.
Reciprocal Inhibition

- Muscle imbalances once formed are easily perpetuated by reciprocal inhibition.
- The tighter muscles continuously inhibit their weakened antagonists, thus perpetuating the problem.
- This reflex occurs at a spinal cord level.

Post Isometric Relaxation (PIR)

- PIR is a gentle muscle relaxation technique that can be used to restore a muscle to its maximum length without dynamic stretching.
- There should be no pain.
- The patient is asked to resist with only minimal force (isometrically) and to breathe in for 8-10 seconds.
- Give the patient the auditory cue, “Don’t let me move you.”

Post Isometric Relaxation (PIR)

- The patient is then told to “let go” (relax) and exhale slowly. It is important for the therapist to wait to feel the relaxation.
- The therapist could wait 10 to 20 seconds or longer as long as relaxation is taking place. Due to pure relaxation there should be an increase in the range of motion.
- If the patient has difficulty relaxing, hold the isometric phase for 30 seconds before having the patient “let go.”

Post Isometric Relaxation (PIR)

- Usually three to five times is all that is necessary to obtain spontaneous stretch each session.
- Along with the breathing, having the patient look up (with the eyes only).
- This helps facilitate the inspiration, which facilitates the muscle.
- Have the patient look down during expiration to aid in relaxation.

Sternocleidomastoid Syndrome

- SCM is one of the most complex muscles in the body.
- The pain referral pattern of the SCM includes pain over the cheekbone, in the forehead, on top of the head, in and behind the ear, over the chin, over the SC joint, over the forehead, and deep in the throat.
Iliopsoas Syndrome

- If one was limited to directing treatment to a single muscle, probably the most profound effects could result by treating the iliopsoas muscle.
- The iliopsoas muscle plays a primary role in determining postural faults and may have a profound effect on the stresses placed on the lumbar spine, ultimately resulting in discopathy.

Let's Work It!

Post Isometric Relaxation

When To Perform Functional Tests

- As soon as the patient is out of the acute pain phase of care; when the goal of care transitions from pain relief to functional restoration.
- Retest at each re-eval and update care plan.
- Include a battery of tests, which are safe, inexpensive, time efficient, reliable, and comparable to normative databases.

Functional Capacities Evaluation

Functional Performance Tests

- Dynamic Strength & Endurance Tests
- Flexor : Extensor Ratio Testing
- Balance & Coordination Tests
- Range of Motion Testing

Doctor & Patient Motivation

- Functional tests identify the patient’s “weak link”.
- If a patient is less than 85% of normal for any specific test, then rehab training is required.
- These tests provide unmistakable evidence that the patient’s condition may be due to factors in the patient’s and not the doctor’s control.
**Functional Capacities**

- "Valid, reliable, safe, practical, and responsive measures of trunk strength and endurance."
- 4 Tests
  - Repetitive Sit-up
  - Repetitive Arch-up
  - Repetitive Squatting
  - Static Back Endurance

**Endurance**

Arch Up, Sit Up, Squats


**Physical Performance Testing**

- "Valid, reliable, safe, practical, and responsive measures of trunk strength and endurance."
- 4 Tests
  - Repetitive Sit-up
  - Repetitive Arch-up
  - Repetitive Squatting
  - Static Back Endurance

**Functional Test Procedures**

- Repetitive Sit-ups - Arch-ups - Squatting
  - 50 reps maximum
  - 2-3 seconds per repetition
  - "If the motion becomes clearly jerky or asymmetrical, the test should be stopped"
- Static Back Endurance
  - 240 seconds maximum
  - "Test discontinued if aggravated by pain or muscle spasm."

**Functional Test Guidelines**

- Patient warm-up for 5 minutes prior to beginning testing (bicycle/ergometer)
- Tests are retested in the same order
- 1-minute interval between each test
- Tester may count repetitions aloud but should remain as neutral as possible
- Test terminated if patient told more than one time to correct trunk motion
- Patient informed about mild painful feelings in tested muscle groups during the couple of days following the maximal test.

**Balance & Coordination Tests**
One Leg Stand

- The doctor is near the patient.
- The patient stands on one leg; nonsupport leg is bent 60 degrees at the hip and 90 degrees at the knee so that the ankle is at the height of the support leg's knee.
- The patient maintains the position as long as possible.
- Time the duration the position can be held, i.e., until the patient moves the support foot, puts other foot down, or reaches out to grasp with the hand(s).

<table>
<thead>
<tr>
<th>AGE (years)</th>
<th>EYES OPEN (seconds)</th>
<th>EYES CLOSED (seconds)</th>
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<tr>
<td>20-59</td>
<td>29-30</td>
<td>21-28.8</td>
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<tr>
<td>60-69</td>
<td>22.5</td>
<td>10</td>
</tr>
<tr>
<td>70-79</td>
<td>14.2</td>
<td>4.3</td>
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</tbody>
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Global Range of Motion

<table>
<thead>
<tr>
<th>Region</th>
<th>ROM</th>
<th>Global</th>
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</thead>
<tbody>
<tr>
<td>Cervical</td>
<td>F + E + L/R LF + Rot</td>
<td>385 deg.</td>
</tr>
<tr>
<td>Th-Lumbar</td>
<td>F + E + L/R LF</td>
<td>175 deg.</td>
</tr>
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Range of Motion Testing

Low-Tech Rehabilitative Exercise Procedures

Let’s Work It!

Functional Performance Tests
**Stability Trainers**

- The aim of core stability training is to effectively recruit the trunk musculature and then learn to control the position of the lumbar spine during dynamic movements.
- Thera-Band® Stability Trainers are closed cell foam pads with an anti-slip ridged surface and oval foot fitting shape.
- These foam pads are very effective for balance training, rehabilitation of lower extremities, and for sports performance enhancement.

**Scapular Stabilization Wall Angels**

- Stand against wall with feet shoulder-width apart.
- Gently press lower back against wall.
- Place back of elbows, forearms, and wrists against wall.
- Bring arms up and down slowly in a small arc of motion while keeping elbows in contact with wall. Flap “wings” 3 sets of 10 repetitions.

**Therapeutic Exercise Progression**

- Pain-Free Range of Motion
- Isometric Exercises
- Stretching Exercises
- Spinal Stabilization
- Strengthen with Resistance Exercises Tubing & High Tech
- Neuromuscular Re-Education

**Resistance Tubing**

- Resistance Tubing involves the use of an elastic band that provides resistance to the active muscles.
- Resistance exercise increases muscle strength and mass, bone strength and the metabolism.
- It increases muscle strength by putting more than the usual amount of strain on a muscle.
- This increased load stimulates the growth of small proteins inside each muscle cell that play a central role in the ability of the muscle to generate force.

**Thera-Band**

![Thera-Band Color Progression Image](image)

**Thera-Band Rehab and Wellness Station**

- Multi-Planar Wall Unit
- Pro Series® Exercise Balls
- Fixed Length Tubing
- 4 Instructional Posters
- Accessories
- Stability Trainers Floor Unit
- Exercise Software
Let's Work It!

Spinal Stabilization

Recurrence & Chronicity

- If the flexors and extensors are not in the proper ratio and a patient is given exercises to strengthen both the flexors and extensors in equal proportion, the exercise will reinforce this dysfunction.
- The literature states that a patient with a reversal of the normal Flexor:Extensor Ratio has a much greater likelihood of recurrence and chronicity.
- For this reason, the Flexor: Extensor Ratio must be addressed prior to exercise.

Flexor : Extensor Ratio Testing

The Flexor/Extensor Ratio

- The extensors muscles of the lower back should be approximately 30% stronger than the flexors.
- This ratio is 1 to 1.3.
- The extensors muscles of the neck should be approximately 40% stronger than the flexors.
- This ratio is 1 to 1.4.
- This is called the Flexor/Extensor Ratio.

The Reality Of Health Club Exercise

- Walk into any Health Club and you’ll see many people doing abdominal workouts and very few people doing back extensor exercises.
- Why, because it’s not fun – everybody wants an abdominal six-pack up front!
- Everybody wants one, but unless you have the proper ratio, you can exercise your abs all day and you’ll still end up with a chronic low back condition.

Assess The Flexor/Extensor Ratio

- A strengthening exercise protocol should begin by assessing the patient’s Flexor/Extensor Ratio and this can be done in several ways.
- You can use computerized muscle testing equipment, such as JTech.
- You can use weight stack equipment to measuring the Ten Repetition Maximum (10RM) Weight. This is the amount of weight that a patient can comfortably perform ten repetitions of in both directions of the plane of motion being analyzed.
An Alternate Method

- The 10RM can be measured with resistance against tubing by counting the number of repetitions the patient can perform in each direction and then checking the ratio.
- This method can be tedious.
- You can also measure the 10RM with resistance against tubing by measuring the duration of time the patient can exercise in both directions of the plane of movement with a stopwatch.

Peak Performance DVD

- Movement Pattern Analysis
- Post-Isometric Relaxation
- Neuromuscular Re-education
- Bonus Exercises
- Price $79 by mail $49 today.

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