



MSK Solutions
Pain Recovery Program

In-Practice Guide

Quick Reference Guide

Lab Testing

25-54	Pain and Inflammation
99-100	Connective Tissue
111-115	Bone Health
127-128	Muscle Health

Drug-Induced Side Effects and Nutrient Depletion

56	Pain Medications
102	Tendon and Joint Medications
116	Bone Medications

Condition-Specific Protocols

62-64	General Pain: Acute (red), Subacute (yellow), Prevention (green)
71	General Neuropathy
72	Concussion
74	Fibromyalgia
75	Dietary Sources of Pain-Relieving Nutrients
106, 175	Osteoarthritis / Degenerative Joint Disease
118-119, 175	Osteoporosis
123	Stress Fracture
134	Muscle Spasms and Trigger Points
135	Exercise Recovery
136-137	Pre- and Post-Surgery
139	Rhabdomyolysis
143-146	Diabetic Neuropathy
151-152, 156	Headaches
162	Tendinitis and Bursitis
166-167	Low Back Pain / Low Back Strain

Table of Contents

1 Principles of Musculoskeletal Health

- 1 The Importance of the Musculoskeletal System in Health and Disease
- 2 Why Nutrition is Important to Musculoskeletal Health and Pain
- 2 Building Physiologic Resilience and Metabolic Reserve Can Help Prevent Pain and Dysfunction

8 Pain and the Nervous System

- 9 Nervous System Overview
- 11 Pain Review
- 13 The Complexity of Pain
- 19 Assessing Pain
- 21 Differentiating Patterns of Pain
- 25 Diagnostic Study Consideration in Pain Cases
- 55 Treating Pain
- 57 Nutrient Support of the Nervous System and Pain
- 67 Alternative Pain Therapies
- 70 Nutritional Recommendations for Neuropathy
- 72 Nutritional Recommendations for Concussion
- 73 Nutritional Recommendations for Fibromyalgia

78 Connective Tissues: Tendons, Ligaments, Fascia and Joints

- 79 Connective Tissue Overview
- 79 Aging and Degeneration of Connective Tissue
- 84 Overview of Connective Tissue Repair Mechanisms
- 85 Connective Tissue Injury and the Healing Process
- 88 Tendinopathy: Tendinitis vs. Tendinosis
- 89 Clinical Review of Fascia
- 91 Joint Health Support
- 96 Degenerative Disc Disease
- 99 Connective Tissue Assessment and Testing
- 101 Connective Tissue Treatment
- 104 Nutrient Considerations for Connective Tissue Health

108 Bone Support

- 109 Bone Health Overview
- 109 Risk Factors for Osteoporosis
- 110 Bone Remodeling
- 111 Assessment and Testing for Bone Health
- 116 Treatment of Osteoporosis
- 117 Nutrition for Bone Health

-
- 120 Bone Fracture Healing Considerations
 - 124 How Resistance Exercise Increases Bone Strength

126 Muscle Support

- 127 Overview of Muscle Healing
- 128 Muscle Aging and Sarcopenia
- 129 Muscle Assessment and Testing
- 131 Treatment of Muscle Disorders and Sarcopenia
- 131 Contusion Recommendations
- 132 Trigger Point Recommendations
- 134 Trigger Point, Muscle Spasm and Muscle Tension Protocol
- 135 General Nutrition Strategy for Exercise Recovery
- 136 Pre- and Post-Surgical Recommendations
- 138 Sarcopenia: Mechanism of How Resistance Exercise Preserves Muscle Mass
- 139 Nutritional Recommendations for Rhabdomyolysis

140 Case Studies

- 141 Case Study #1: Peripheral Neuropathy
- 149 Case Study #2: Tension-Type Headache and Medication Overuse Headache (MOH)
- 157 Case Study #3: Rotator Cuff Tendinitis, Shoulder Bursitis and Low Back Pain (non-responder)
- 165 Case Study #4: Sacroiliitis and Thoracolumbar Strain
- 171 Case Study #5: Piriformis Syndrome and Osteopenia

178 Appendix

- 179 Appendix A: Anti-Inflammatory Diet
- 181 Appendix B: Gluten-Free Diet
- 184 Appendix C: Gout Diet: Low Purine Diet to Reduce Uric Acid
- 185 Appendix D: How to Successfully Implement the MSK Solutions Program in Your Practice
 - 185 In-Practice Revenue Generation Model for New Practices
 - 185 Phases of Care
 - 188 Phases of Care Implementation
 - 190 Step-by-step instructions for quick implementation
 - 191 Using the MSK Solutions Program Resources for Patient Education
 - 193 Group Visits for the Chiropractic Clinic

193 References

Principles of Musculoskeletal Health

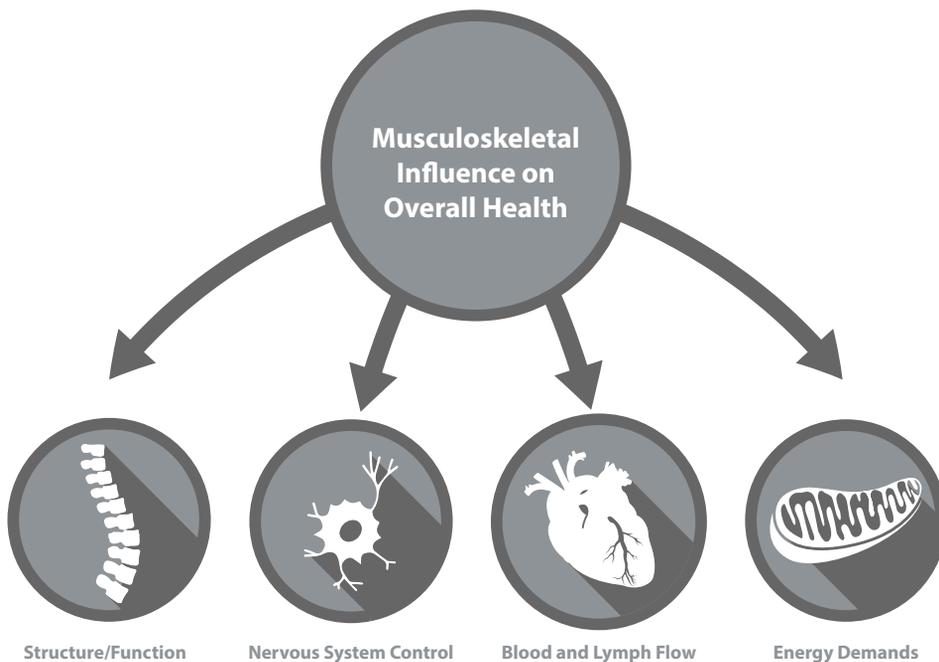


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VIDEO:
INTRODUCTION TO
THE MSK SOLUTIONS
PAIN RECOVERY
PROGRAM

THE IMPORTANCE OF THE MUSCULOSKELETAL SYSTEM IN HEALTH AND DISEASE

The musculoskeletal system is more than the coat rack on which the other organ systems are held. The musculoskeletal system constitutes more than 60% of the human body, and provides valuable insight into the health and function of the other organ systems. Imbalances within the musculoskeletal system limit the body's ability to maintain homeostasis and recover from injury and disease.

Most clinicians understand the importance of the musculoskeletal system, but are unaware of the specific ways it integrates in whole-body health. Musculoskeletal pain and dysfunction can serve as an indicator of deeper health issues, warning patients of things to come if they continue down a path of poor lifestyle decisions. Pain and dysfunction can be a powerful motivator that can be used to help patients take immediate action.



Structure/Function: The musculoskeletal system makes up most of the human body, and variations within it influence all other systems.

Nervous System Control: All functions of the body are controlled by the nervous system, i.e., peripheral and central nervous systems (ANS: sympathetic and parasympathetic nervous system, vagus nerve, and influence of the endocrine glands).

Blood and Lymph Flow: Every cell in the body depends on nutrient delivery via arterial blood flow and metabolic waste removal via lymph and venous return from every tissue and organ. The removal of waste products is dependent on limb movement and proper diaphragm function.

Energy Demands: Efficiency of the musculoskeletal system is key to balancing energy demand in the body. Musculoskeletal dysfunction creates an increase in energy demand. The greater the activity of the musculoskeletal system, the greater the energy demand for the entire body.⁽¹⁾

WHY NUTRITION IS IMPORTANT TO MUSCULOSKELETAL HEALTH AND PAIN

Traditionally, injury and dysfunction of the musculoskeletal system has been treated primarily with physical modalities and pain medication. While physical restoration and decreasing pain are vital components to restoring musculoskeletal function, especially in an acute situation, application of a similar strategy to all musculoskeletal dysfunction and pain may limit the full regenerative capacity of the body over time. In fact, chronic nutrient depletion and biochemical pathway inhibition may lead to more pain and dysfunction within the body.⁴⁻
⁶⁾ Nutrients and lifestyle approaches have largely been overlooked as vital components in supporting the musculoskeletal system and decreasing pain.

BUILDING PHYSIOLOGIC RESILIENCE AND METABOLIC RESERVE CAN HELP PREVENT PAIN AND DYSFUNCTION

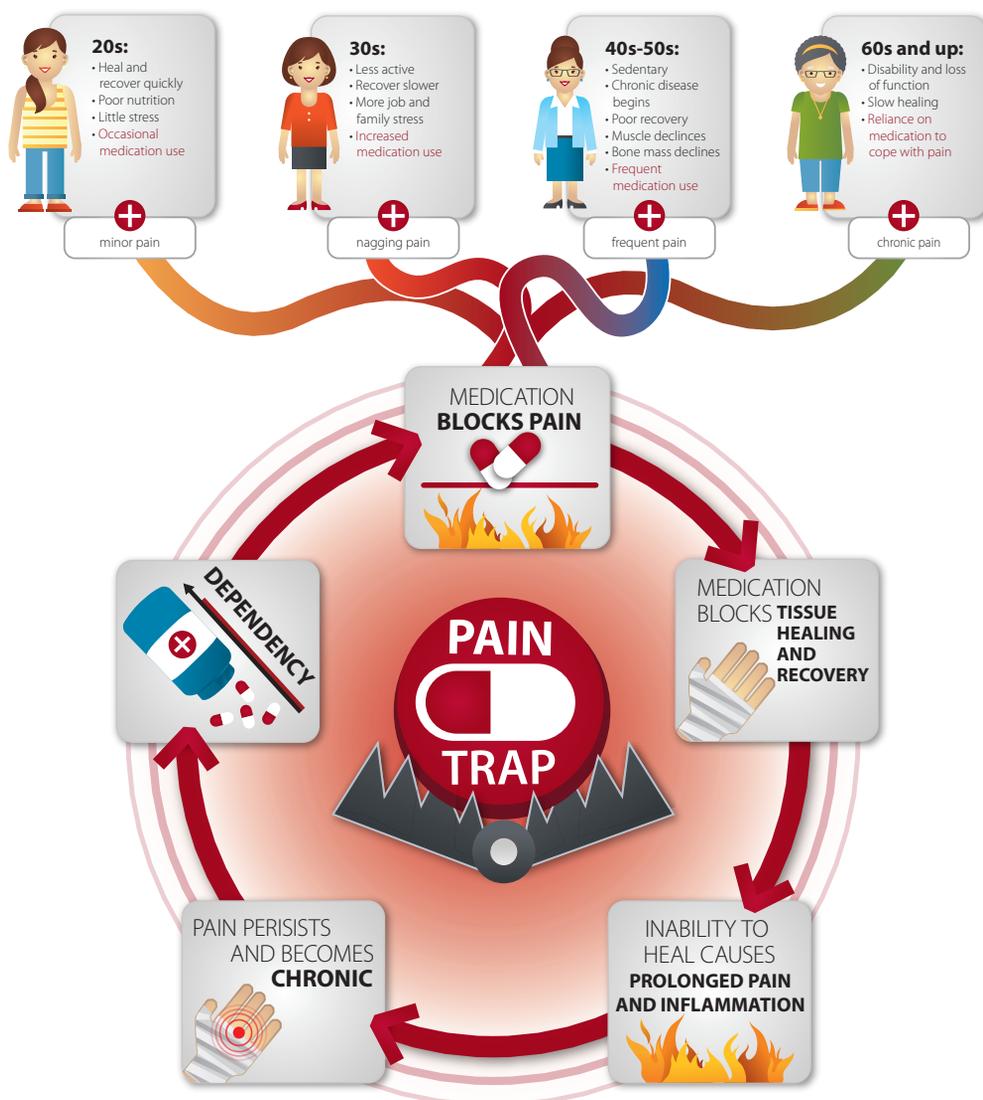
The presence of harmful signals overwhelms tissue healing, and the absence of healthy signals that promote tissue recovery can result in both chronic physical and physiological dysfunction. The Lifestyle Synergy Model (The Original Prescription) is designed to optimize the protective and regenerative ability of all tissues and organs, and provide a better strategy for pain treatment.



Introduction to the MSK Solutions Pain Recovery Program

"No matter what I do, or don't do, I can't escape it. Even when I'm sleeping, or trying to fall asleep, part of my mind is aware of the pain that courses through my muscles, joints and spine. I can't find any relief. The worst part has been the mental anguish of knowing my life has forever changed. My once hopeful outlook had been replaced with constant pain, anxiety, and depression. My journey has also included a medical merry-go-round with doctors and treatments. To my surprise, there has been no quick fix, no clinician who fully understood my pain, and no single approach that could solve my problem. Here I am, years later, still in pain, and looking for something better."

If you're a health care professional who sees patients in pain, you've heard this story before—and you've been given 15 minutes to solve this patient's problem. You also recognize the complexity and difficulty of helping patients avoid a life of pain and dysfunction. The concept of the "Pain Trap" explains how easy it is to allow pain to become part of everyday life and get caught in a lifecycle of pain and dysfunction. The MSK Solutions Program helps your patients avoid this path and escape the Pain Trap quickly.



You know the current state of pain in the United States, and that quick solutions rarely work, especially for causes of chronic pain. According to the CDC, the musculoskeletal system, specifically low back pain (LBP), accounts for the largest contribution of lost wages, decreased quality of life and disability. The conventional approach to pain care in the US is broken, and there is no single therapy that will provide a solution. Currently, 75% of opioid misuse begins with prescription medication, and misuse is of epidemic proportions. Recently the FDA and the federal government have declared opioid misuse a national emergency, calling for more regulation and a push to incorporate alternative therapies.

The solution to chronic pain is a different approach. A way to offer hope to those in pain is to help them regain function as quickly as possible through a comprehensive intervention and prevention approach. Part of the solution requires shifting focus from symptom-centered to patient-centered, championing a new approach to the growing problem of pain and inflammation. The solution requires empowering patients to become less dependent on pain medication and a costly, broken system that ends in a cycle of perpetual, chronic pain or even worse, invasive surgery. The true solution allows patients to become independent as they learn to take control of their pain, incorporating lifestyle and nutritional strategies that accelerate healing and recovery. The MSK Solutions Program gives you everything you need to help identify, treat and guide patients to a quick recovery from painful conditions so you can transform the health of your community.

Our core philosophy is simple: The human body has an amazing ability to maintain its own health when provided with the right signals. When harmful signals are decreased, and appropriate signals are increased, cells and organ systems can create a healthy outcome and maximize the body's ability to decrease pain.

The early founders of medicine and integrative health professions recognized the importance of physical, chemical and mental balance in decreasing any factors that interfere with the body's ability to express optimal health. The Healing Matrix recognizes the complexity of pain and the need to concurrently provide balance in three key areas: Nutritional, Physical and Psychological to maximize the body's ability to heal, recover, and decrease pain. This guide will enhance your ability to treat a variety of musculoskeletal problems efficiently, better reduce pain and increase function while empowering patients in their journey to pain relief.

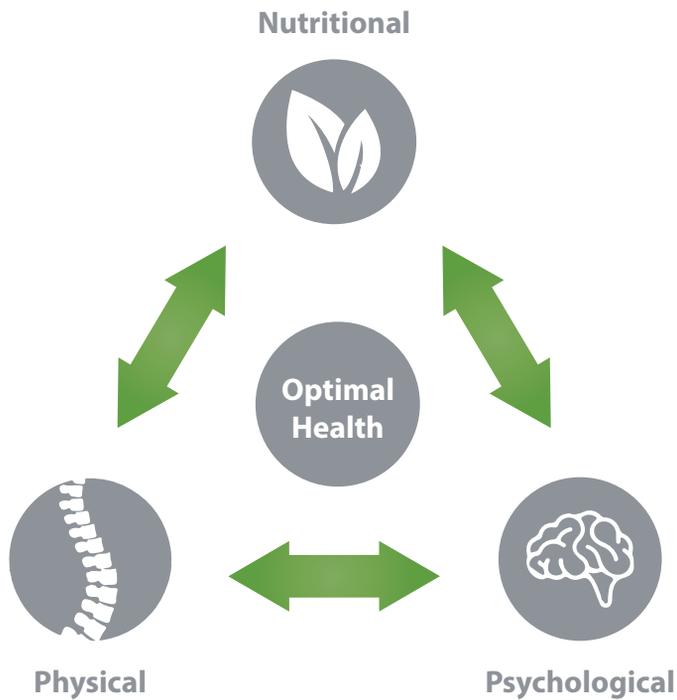
The MSK Solutions Program In-Practice Guide offers:

- A simple system to transform the problem of pain in your community
- Nutrient solutions for acute and chronic pain issues
- Nutritional protocols for common musculoskeletal problems including joint, tendon and ligament
- Dietary and nutrient solutions for acute and chronic inflammation
- Easily recognizable case presentations and protocols for quick implementation



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VIDEO:
 THE HEALING
 MATRIX EXPLAINED

THE HEALING MATRIX



NUTRITIONAL BALANCE

- Physiological Resilience
- Metabolic Reserve
- GI Health
- Diet/Nutrients
- Hydration
- Inflammation
- Eliminating/Limiting Toxic Exposure

PHYSICAL BALANCE

- Physical Injury/Damage
- Posture/Ergonomics
- Spinal Alignment
- Physical Activity/Fitness
- Movement Quality/Quantity
- Physical Function/Activities of Daily Living
- Stability
- Mobility

PSYCHOLOGICAL BALANCE

- Community/Connection and Purpose/Relationships
- Stress Response/Coping Skills/HPA Axis Balance
- Emotional/Mental Health/Hopeful Outlook
- Sleep Quality and Quantity



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VIDEO:
NUTRITION FOR
HEADACHES

Tension-Type Headache and Medication Overuse Headache (MOH)

PATIENT PRESENTATION

A 62-year-old male presents with severe headaches of 10 years duration. The patient states that his headaches started approximately a year after his father died, which was 11 years ago. From what the patient recalled the headache symptoms initially fit a tension-type headache presentation in what was most-likely triggered from the stress of his father's passing. Currently, the headaches are episodic but occur daily in 1-2 hour increments. The pain is described as a band squeezing his forehead and wrapping to the temporal regions bilaterally, and pain behind the eyes on both sides as well. His pain level reaches an 8/10 on the Visual Analogue Scale (VAS) without a prodrome, photophobia or nausea but severely limits his productivity at work, and motivation to want to interact socially with others including his family. Recently, his mother was diagnosed with early onset Alzheimer's disease, forcing him to take a job as a bank teller which he strongly disliked. He did see his primary care physician years ago for the headaches but was told to continue over-the-counter (OTC) medication to manage the symptoms, since it was working. The only thing that completely relieves the headaches is Excedrin®. The patient takes Excedrin® both to mitigate current headaches and prophylactically to prevent future headaches. This behavior of self-medication adds up to 10-12 Excedrin® a day. The patient was involved in a car accident 20 years ago, in which he hit his head against a window and suffered a concussion and moderate whiplash. Ironically enough he reported that he suffered no headaches from the concussion or whiplash incident. While reviewing the patient's health history it was also noted that he admitted to drinking 6 or more cups of coffee per day, and the patient described his stool as black, tarry, and sticky.

FIRST OFFICE VISIT: EXAMINATION

Upon physical exam it was noted that the patient's blood pressure (BP) was 156/95 seated and dropped to 136/90 upon standing. Although both positions indicated he had hypertension, the difference in blood pressure regulation, commonly referred to as orthostatic hypotension, can be tied to multiple causes that will be addressed in the discussion section. His left radial pulse was 90 beats per minute (bpm), which is normal but in the upper range, was found to be slightly irregular in rhythm with what felt like a "shortened beat" every 4-5 beats, and strengthened with a "bounding" feeling. The respiratory rate was 20, which is elevated. An eye exam showed mild yellowing of the sclera. Motion palpation of the cervical and thoracic spine revealed hypomobile biomechanical positions of the vertebral segments C1-C2 in a posterior-right restricted position, C3-C5 in a posterior-left restricted position, a severely restricted cervico-thoracic junction (C7-T1), and T3-T6 segments restricted in a posterior right inferior position. The suboccipital triangle musculature was hypertonic and painful on palpation on both right and left sides which was most likely contributing to greater occipital nerve impingement in conjunction with the vertebral motion restrictions. On abdominal exam, palpation of the right upper quadrant over the area of the liver, and epigastric areas were painful. A complete blood count (CBC) displayed low counts of white blood cells (WBCs), red blood cells (RBCs), and hemoglobin (Hgb). On the comprehensive metabolic panel (CMP), liver enzymes (AST and ALT) were mildly elevated as well.

SECOND OFFICE VISIT: TREATMENT PLAN AND TREATMENT

Prior to beginning treatment, a consultation was completed where lab results were reviewed with the patient. He was then educated on the side effects and nutrient depletion that is associated with excessive NSAID use. He was made aware that his pattern of self-medication is a primary factor contributing to the severity and prevalence of his headaches.

It was recommended that he gradually reduce the Excedrin® use over the next month until he's completely tapered off and avoid alcohol use immediately to protect the liver. The patient's recommendation included a 90-day plan that included nutrition and chiropractic manipulative therapy (CMT). An evidence-based nutraceutical protocol was implemented with targeted nutrients, herbs and vitamins that have been shown to effectively treat headache symptoms, gastric ulcers and support liver function. The headache protocol was recommended for 30 days, in conjunction with and followed by a stress, gastrointestinal ulcer, liver protective and detoxification support.

NUTRIENT SUPPORT FOR HEADACHES

Nutrient	Dose	Mechanism of Action
Turmeric Root Extract (Complete Turmeric Matrix (Standardized to contain 45-55% Curcuminoids, 3-8% Volatile Oil, 2-6% Turmerin Protein)	500-1,000 mg /day for 30 days	Curcumin's NFkB-modulation decreasing cytokine production and provides anti-inflammatory and antioxidant support
Magnesium (chelated)	470 mg /day for 30 days	Co-factor for over 350 enzymes in the body and nerve-to-nerve pain signaling, as well as muscle-relaxing effects
Bee Propolis Extract	950 mg /day for 30 days	Flavonoids and caffeic acid phenethyl ester (CAPE) act as potent antioxidants and dampen 5-LOX and COX-1 and COX-2 enzyme activity in the inflammatory cascade
Skullcap Root Extract	1.4 g /day for 30 days	Antioxidant properties along with COX-2 enzyme inhibition and the ability to modulate NF-kB
N-acetyl Cysteine	600 mg /day for 30 days	Increases production of glutathione providing systemic oxidation support
Alpha Lipoic Acid	200 mg /day for 30 days	Recycles and recharges other antioxidants and minimizes oxidative damage
Acetyl L-carnitine	500 mg /day for 30 days	Increases medium chain fatty acid oxidation and mitochondrial energy production
Vitamin D	10,000 IU /day for 30 days	Anti-inflammatory, proper neurotransmitter metabolism, immune balancing and prophylactic

**After symptoms subside utilize protocol as needed with relapsing onset or triggering of symptoms for 5-10-day increments*

Appendix D

IN-PRACTICE REVENUE GENERATION MODEL FOR NEW PRACTICES

First Office Visit	\$150	Exam, X-Rays, Acute Supplement Pack
Second Office Visit (ROF)	\$250	Sell Red, Yellow, Green Care Plan Adjustments, supplements, diet plan that covers next 4-8 weeks of care
Reassessment	\$125	Yellow or Green Care Plan for next 4 weeks
Wellness Care	\$75	One visit per 4-6 weeks, and monthly supply of fish oil, probiotic, and multivitamin

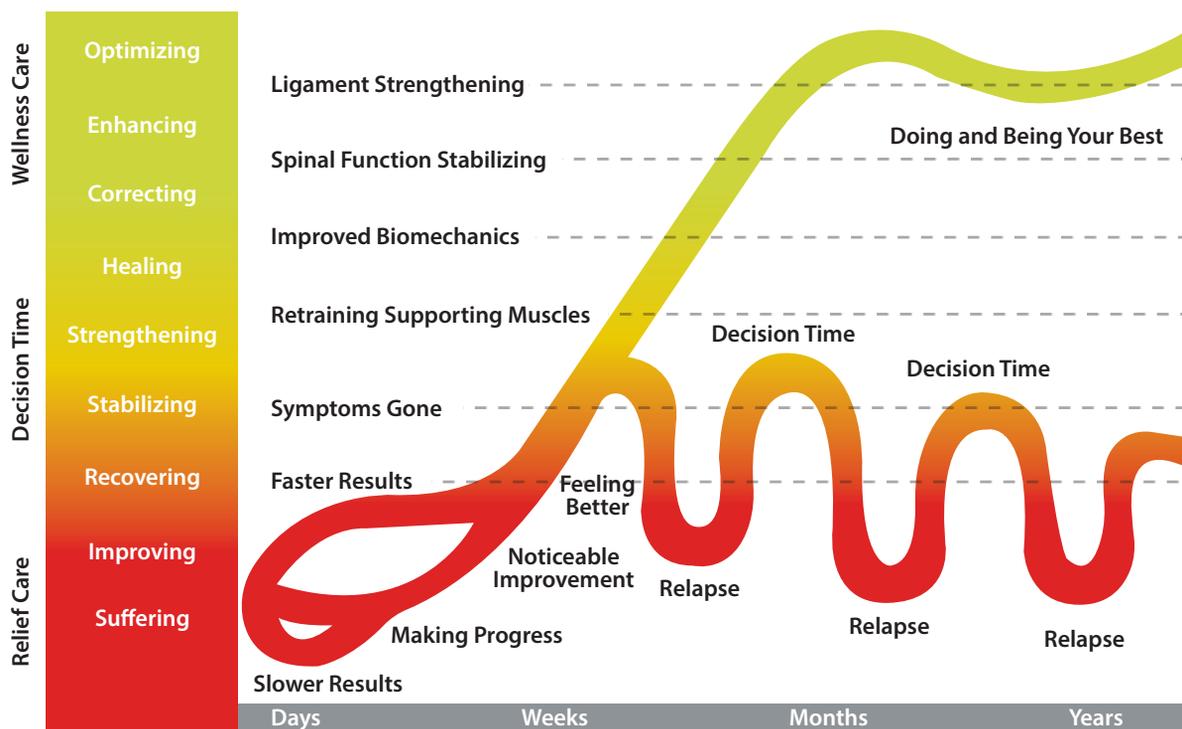
Based on insurance/cash fees, and assuming one patient starts a Red Care Plan and continues through Yellow, (total of three months of care) you would produce \$525. Assuming the patient followed through with Wellness recommendations for the remaining nine months of the year, it would provide an additional \$675, bringing the 12-month total to \$1,200.

PHASES OF CARE

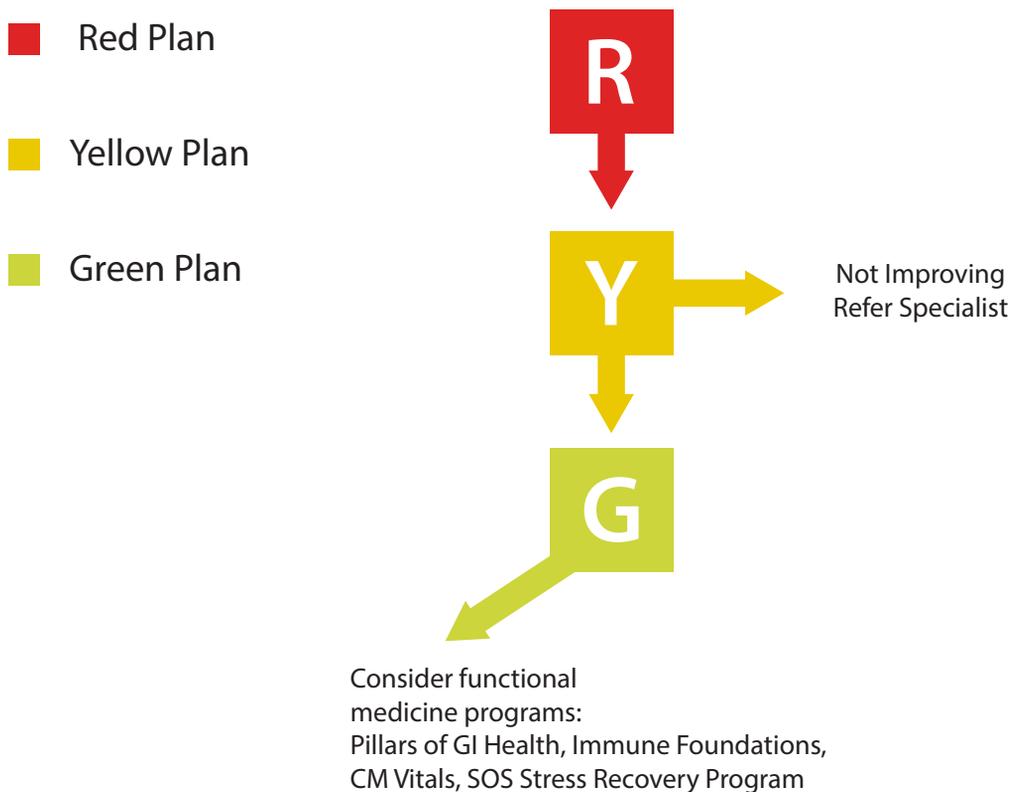
The MSK Solutions Program is simple and straightforward: The goal is to progress a patient in pain to relief, fully restore function, and ultimately help the patient live a life of wellness. The length of the journey is based on the individual needs of the patient. As the clinician, it is important to set the timeline and patient expectations for a plan of care based on your assessment.

As you can see below, a typical care plan involves an initial focus on reducing acute pain and inflammation (red), followed by a subacute rehabilitation phase (yellow), and wellness phase (green). The MSK Solutions Program complements these recommendations by offering a Red, Yellow and Green Care Plan template that can be used as a base for a variety of musculoskeletal conditions. For example, protocols for strains/sprains, low back pain, neck pain, headaches and tendonitis could all have Red, Yellow and Green phases of care that have different nutrient needs at each phase. The clinician would choose the nutrient or combination of nutrients that would be most appropriate for the individual patient. For most musculoskeletal conditions this means 1-3 nutrients would be applied for each phase.

TYPICAL CHIROPRACTIC TREATMENT PLAN



MSK SOLUTIONS PROGRAM PHASES OF CARE DECISION TREE





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