Lifestyle Matrix
RESOURCE CENTER

Patient Education Pads

Patient Name: **Date:**

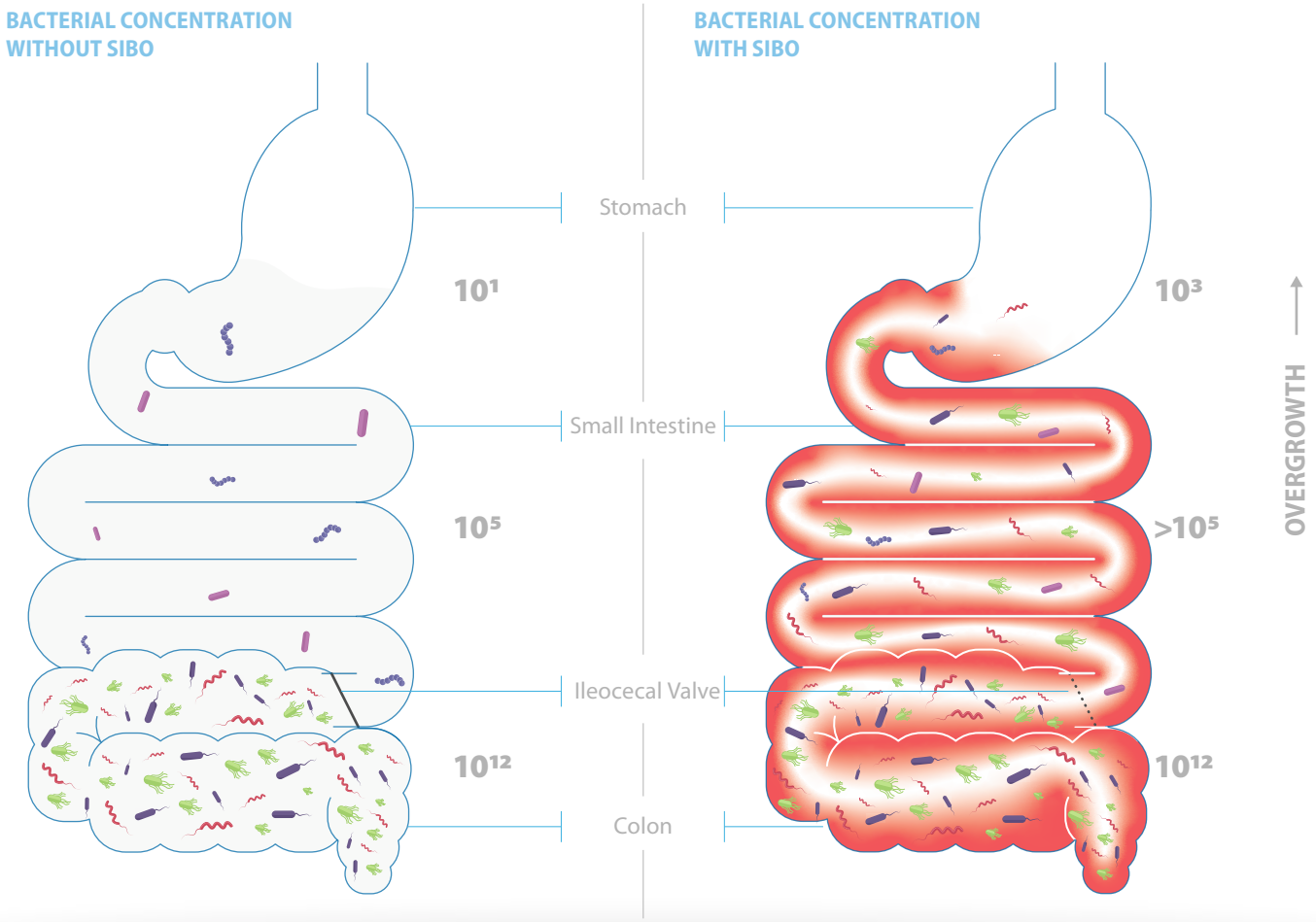
Small Intestinal Bacterial Overgrowth (SIBO)

The small intestine is the longest section of your digestive tract, where food mixes with digestive juices and nutrients are absorbed into your body. Unlike your large intestine, your small intestine normally has lower levels of bacteria due to the rapid flow of contents and the presence of bile from the liver. Certain factors may slow down, block or reverse the passage of contents from the small intestine to the large intestine, creating a breeding ground for bacteria.

Small intestinal bacterial overgrowth (SIBO) occurs when there is an unusual increase in bacterial population in the small intestine, particularly types of bacteria not often found in that part of the digestive tract. The unwanted bacteria may produce toxins and interfere with the absorption of nutrients. Individuals with SIBO may experience gas, bloating, diarrhea, and weight loss.

Some common risk factors for SIBO may include:

- Slow or inactive motility in the small intestine
- Reduced thyroid hormone levels
- Problems with production of digestive enzymes, stomach acid or bile
- Blockages in the digestive tract
- Prolonged use of opioid medications



Lifestyle Modifications

Eliminate foods identified as sensitivities, allergies or intolerances

Decrease FODMAP (fermentable fiber) intake

Limit sugar consumption

Reduce stress levels

Eliminate snacking between meals

Exercise regularly

Nutrient Solutions

Spore-Forming Probiotics	Serum-Derived Bovine Immunoglobulins	Prokinetic Agent	Antimicrobial	Prebiotic
Help maintain a healthy and balanced gastrointestinal tract Prevent "bad" bacteria from overgrowing Decrease inflammation	Support barrier function Broad-spectrum binding capacity to toxins helps protect the gut lining Reset immune tolerance	Promotes contractions and propels contents from a stagnant GI tract Stimulates motility and transport Helps sweep away and prevents accumulation of unwanted bacteria	Promotes microbial balance and immune support Disrupts production of unwanted organisms Provides antioxidant support and soothes the GI tract	Promotes probiotic growth and diversity Supports healthy intestinal lining Strengthens gut barrier function
Bacillus coagulans: 2 billion CFU* *Bacillus clausii*: 1 billion CFU* *Bacillus subtilis:* 1 billion CFU* * Colony Forming Units	1 g/day	Artichoke Extract: 100 mg per day** Ginger Extract: 20 mg per day** **Taken on an empty stomach	Berberine: 150 mg, 3x/day Oregano Leaf Extract: 150 mg, 3x/day Sodium Caprylate: 150 mg, 3x/day	Pomegranate Extract: 500 mg/day Citrus Fruit Extract: 500 mg/day

Special Considerations for You:

_____

_____

_____

_____

_____

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PILLARS OF GI HEALTH

LT-GI-035-A 08032021

6 15033 90020 5

Patient Name: Date:

Understanding Insulin Resistance

Insulin is made by the pancreas and is critical to maintaining healthy blood sugar levels. Insulin resistance is a condition where cells become dysfunctional and unable to respond properly to insulin signals. This makes it difficult for glucose to enter the cells and be used as fuel by key tissues, such as the muscles, liver and brain.

Insulin resistance further contributes to inflammation, high blood pressure, high cholesterol, fatty liver and type 2 diabetes.

CAUSES OF INSULIN RESISTANCE

- Sugar/High Processed Food Intake
- Inactivity
- Dietary Deficiences
- Elevated Uric Acid
- Chronic Stress
- Obesity
- Environmental Factors

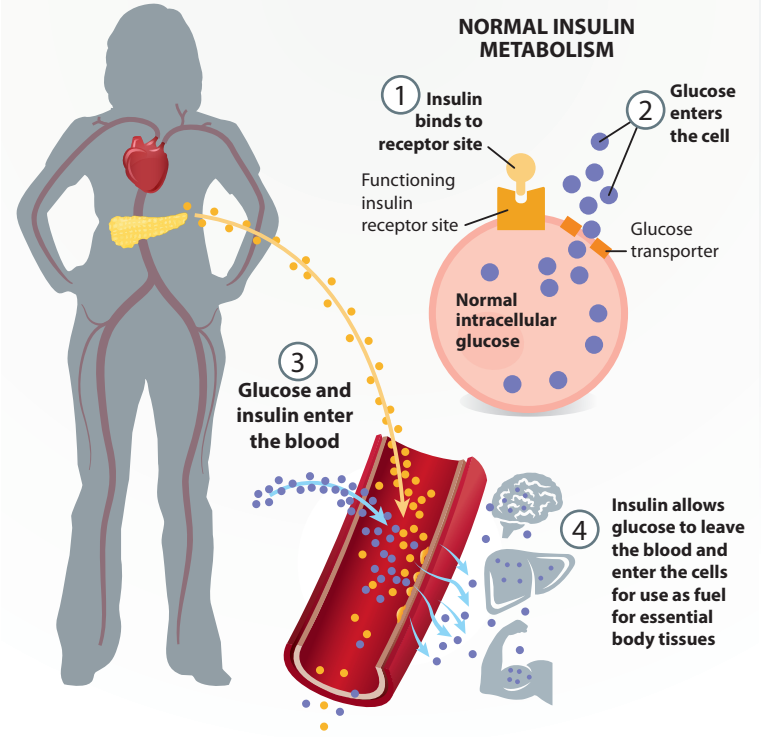
SYMPTOMS OF INSULIN RESISTANCE

- Sugar Cravings
- Fatigue
- Elevated Triglycerides
- Abdominal Weight Gain
- Continuous Hunger
- Difficulty Losing Weight

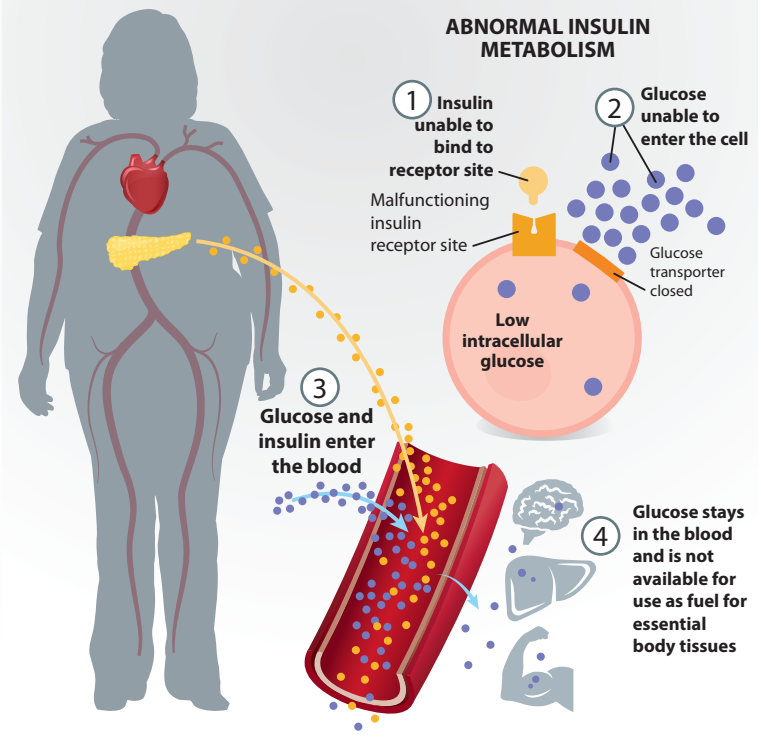
CONSEQUENCES OF INSULIN RESISTANCE

- Cardiovascular Disease
- Type 2 Diabetes
- Blood Pressure Imbalances
- Stroke
- Fatty Liver Disease (NAFLD)
- Cognitive Decline/Alzheimer's
- PCOS/Hormone Imbalances

NORMAL



INSULIN RESISTANCE



Lifestyle-Based Medicine

Low-Glycemic Impact Mediterranean Diet

- Limit sugar
- Increase fruits, vegetables and whole grains
- Three to five well-balanced meals throughout the day
- Lean protein
- Manage portion sizes

Reduce Stress Levels

- Commit to a plan
- Practice deep breathing and meditation
- Practice good sleep habits
- Take at least one 10-minute mindful walk each day
- Take stretch breaks throughout the day

Physical Activity

- Continuous movement throughout the day
- >20-minute, moderate- to high-intensity exercise sessions at least three to five days per week

Nutrient Solutions

Chromium	Vanadyl Sulfate	Alpha Lipoic Acid	Berberine
Critical nutrient for insulin binding Controls blood glucose levels	Mimics the action of insulin Improves utilization of insulin	Helps control blood glucose levels and support cellular imbalances related to insulin resistance	Improves metabolic signaling Lowers HbA1c
400-800 mcg/day	**50-100 mg/day**	**200-600 mg/day**	**1 g/day**

Baseline doses can be increased as needed

Personalized Recommendations for You:

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CM Vitals CARDIOMETABOLIC SOLUTIONS

LT-MISC-155-C 03302023

Patient Name: Date:

Mitochondria: Recharging Immune Health

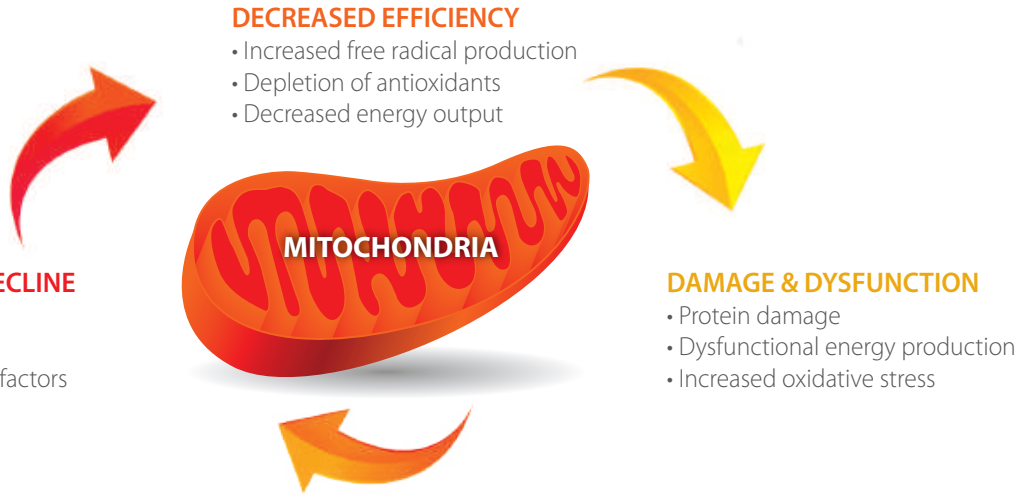
All organs and systems in the body rely on energy to function properly. Cellular energy is produced by mitochondria, which are organelles found in every cell in the body. These tiny structures generate over 90% of the body's energy, but this comes with a price—mitochondria also produce the vast majority of free radicals within the body. Free radicals cause oxidative damage, which hinders the function of our cells and contributes to inflammation and aging. In addition to producing energy, mitochondria sense danger when infections or toxins are present and are responsible for sending signals to surrounding cells.

ENERGY DEMAND IS HIGHEST IN THE:

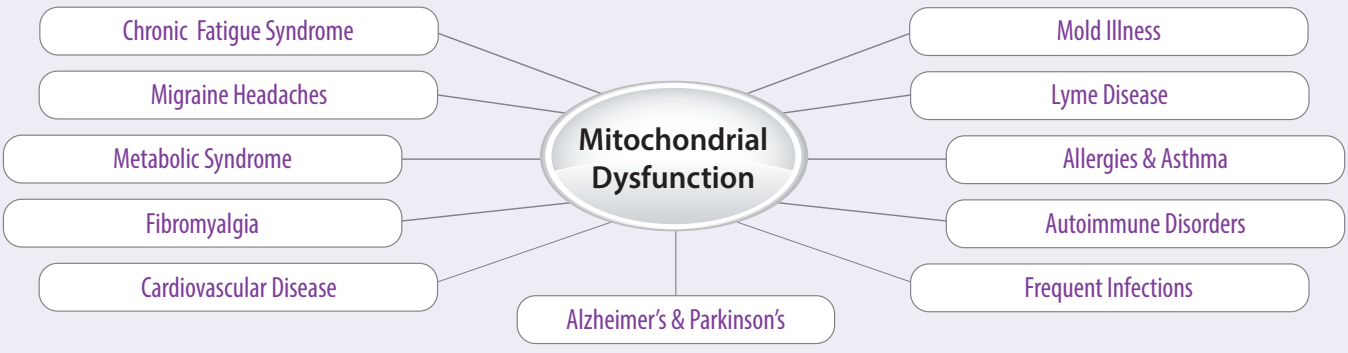
- Immune System
- Brain
- Liver
- Cardiovascular System

Normally, dysfunctional mitochondria are removed to protect the cell from damaging consequences. However, aging, excess sugar in the diet, nutrient deficiencies, toxins, physical inactivity and stress can decrease the efficiency of mitochondria and impair this removal process. When mitochondria do not produce enough energy or create excessive oxidative stress, the systems relying on the metabolic reserve of energy begin to decline in function. Eventually, this dysfunction leads to noticeable symptoms and chronic disease.

THE VICIOUS CYCLE OF MITOCHONDRIAL DECLINE



MITOCHONDRIAL DYSFUNCTION HAS BEEN ASSOCIATED WITH:



Lifestyle Recommendations

Diet

Eat at least five to seven servings of brightly colored fruits and vegetables per day. A fasting period between dinner and breakfast will aid in repair.

Exercise

Exercise has been shown to stimulate the production of additional mitochondria to increase energy production. Aim for at least 45 minutes of exercise per day and prioritize weightlifting.

Sleep

Experts recommend seven to nine hours of sleep per night. To help with restful sleep, limit use of electronics before bed, and keep the bedroom dark and cool.

Limit Sugar

Excess sugars increase oxidative stress, deplete antioxidants and impair mitochondrial energy production. Do your best to restrict added sugars as much as possible.

Heat/Cold Therapy

Using extreme heat and cold like that in saunas or ice baths can induce mitochondrial repair. Even cold showers can be beneficial.

Nutrient Recommendations

Mitochondrial Support	Vitamins C & E Magnesium	Fish Oil (EPA + DHA)	CoQ10	Phosphatidylcholine
Acetyl L-carnitine helps to fast-track raw materials for energy production into the mitochondria. NAC is a key component of glutathione, a potent antioxidant. When combined with ALA, these nutrients act to combat oxidative stress and cellular damage.	Antioxidant vitamins C & E work to neutralize free radicals created from energy production. Magnesium is necessary for hundreds of reactions in the body and contributes to energy production.	EPA and DHA help control oxidative stress and inflammation. These essential fatty acids support overall mitochondrial function.	CoQ10 is an antioxidant, as well as an essential component of energy production pathways.	Phospholipids aid in cell signaling and the resolution of the inflammatory cycle.
ALC: 500 mg NAC: 600 mg ALA: 200 mg	Vitamin C: 250 mg Vitamin E: 50-800 IU Mg: 75-235 mg	4 g/day	100-300 mg/day	10 g/day

Recommendations:

Stress

& Thyroid Dysfunction

The hypothalamic-pituitary-adrenal (HPA) axis and the hypothalamic-pituitary-thyroid (HPT) axis are closely connected. Imbalances in one system often cause imbalance in the other. Additionally, symptoms such as fatigue, chronic pain, weight gain, mood and memory problems, and menstrual irregularities can result secondary to HPA and thyroid dysfunction. Testing can help distinguish whether imbalances in the HPA axis, HPT axis, or both systems are present.

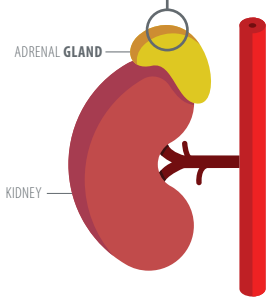
Chronic stress and inflammation increase the body's demand for cortisol. Elevated levels of cortisol are catabolic, meaning they break down the body and may cause extreme fatigue, joint and muscle pain and sleeplessness. High levels of cortisol also directly suppress thyroid function, by inhibiting release of TSH and decreasing T4 to T3 conversion. T3 is the metabolically active form of thyroid hormones and it is crucial that levels remain within normal range to promote optimal health.

HORMONE **RELEASE**

CRH+ACTH

EPI+NE

CORTISOL

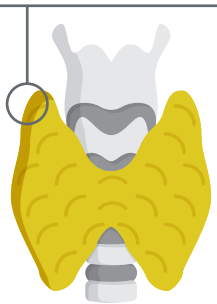


ADRENAL **GLANDS**

LOWERS **TSH**

LOWERS **T4** ▶ **T3** CONVERSION

RISE IN **RT3** (INACTIVE)



THYROID

PHYSICAL **SYMPTOMS**

FIGHT-OR-FLIGHT **RESPONSE**

Rise in blood pressure
Increased heart rate
Increased anxiety

HORMONE **RELEASE**

Decrease in thyroid hormone production
Decrease in sex hormone production

HYPOTHYROID **SYMPTOMS**

Unexplained weight gain
Cold hands and feet
Fatigue
Fine brittle hair or hair loss
Body temperature below 98.2°
High cholesterol
History of infertility or miscarriage

ACTH Adrenocorticotropic hormone
CRH Corticotropin-releasing hormone
EPI Epinephrine
NE Norepinephrine
RT3 Reverse T3
TSH Thyroid-stimulating hormone
T3 Triiodothyronine
T4 Thyroxine

Lifestyle Recommendations

MOVEMENT

Aim for 150 minutes of walking per week or 10,000 steps per day

STRESS MANAGEMENT

Identify your stressors

Prioritize what is most important in your life

Schedule time off

Spend time in nature

DIET

Avoid sugar

Avoid inflammatory foods like gluten, dairy and soy

Eat three to five well balanced meals per day with lean protein, colorful vegetables and healthy fats

Eat within a 12-hour window or less and at least two hours before bed

SLEEP

Aim for at least 30 minutes of outdoor (even overcast) light each day with sunglasses off for some of the time

Aim for seven to eight hours of quality sleep each night

Avoid blue light from cell phones and screens at least two hours before bedtime

Keep the bedroom cooler for more restful sleep

Nutrient Recommendations

Iodine
Tyrosine
Iron

Iodine, tyrosine and iron increase the production of thyroid hormones.

IODINE
300-1,000 mg/day

TYROSINE
300-1,000 mg/day

IRON
15 mg/day

Zinc
Selenium
Vitamin A
Vitamin C
Vitamin E

Antioxidants zinc and selenium, and vitamins A, C and E increase production of thyroid hormones, increase conversion of T4 to T3, and improve cellular sensitivity to thyroid hormones.

ZINC
20-50 mg/day

SELENIUM
100-600 mcg/day

VITAMIN A
3,000-7,000 IU/day

VITAMIN C
400-800 mg/day

VITAMIN E
200-400 IU/day

Vitamin B2
Vitamin B3
Vitamin B6

Vitamins B2, B3 and B6 increase the production of thyroid hormones.

VITAMIN B2
50 mg/day

VITAMIN B3
50 mg/day

VITAMIN B6
50 mg/day

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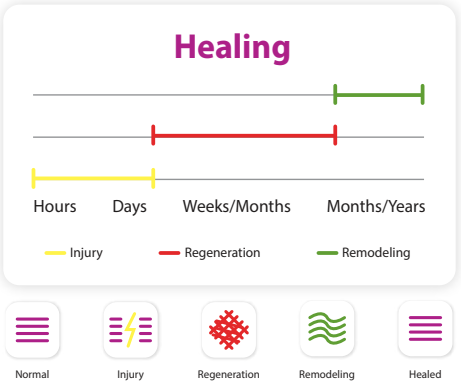
SOS STRESS RECOVERY PROGRAM

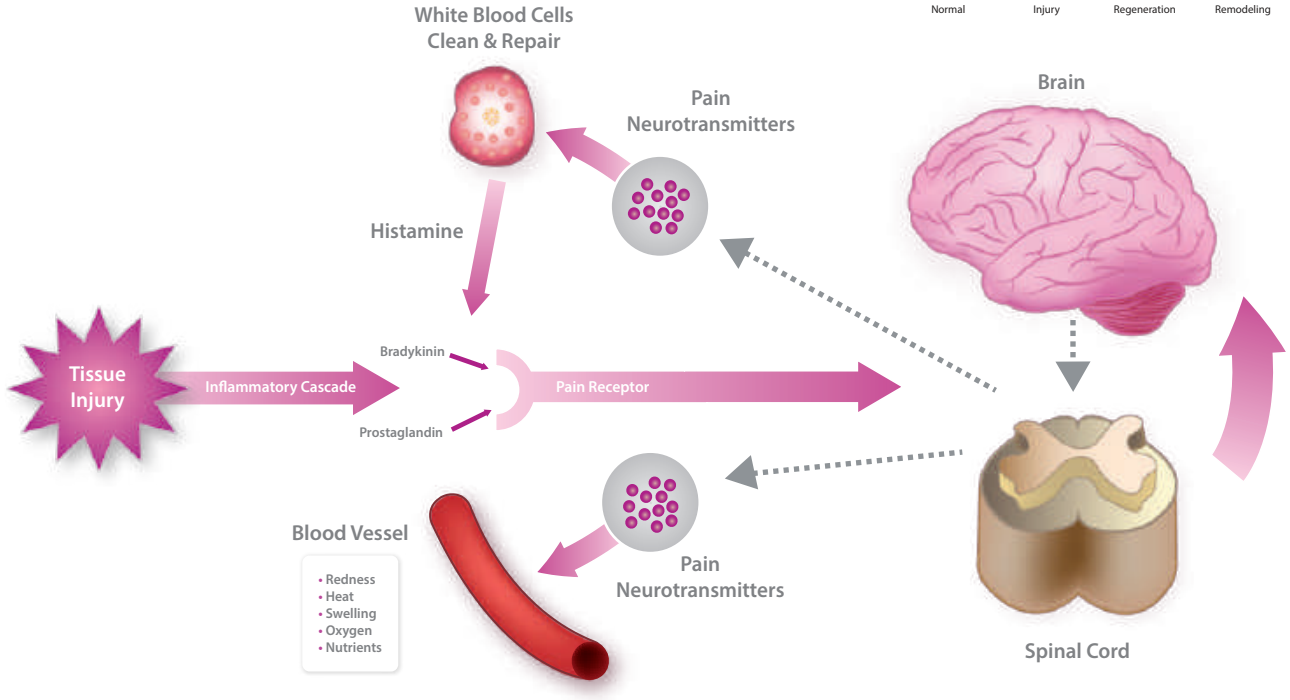
LT-SOS-011-B 10132020

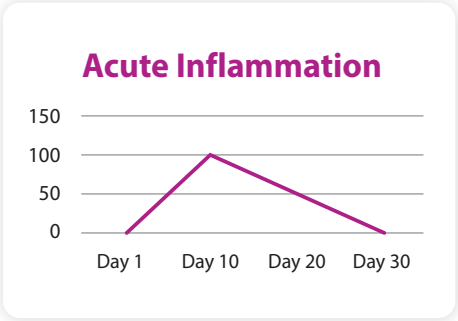
Patient Name: Date:

Understanding Pain and Healing

Tissue injury causes the release of inflammatory mediators. Each of these factors triggers a pain signal to the brain, releases neurotransmitters, and activates immune cells. The healing process goes beyond the initial stage of pain and inflammation. Incomplete tissue regeneration runs the risk of recurring injury, inflammation and transitioning to chronic pain. In addition, lifestyle factors also drive or resolve inflammation, which affects pain and healing time.

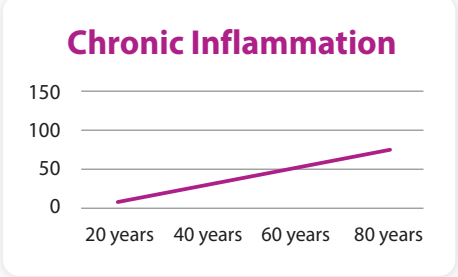






Acute Inflammatory Response

An acute inflammatory response typically follows a significant injury such as a broken bone or laceration. Typically, pain, heat, redness, swelling and loss of function occur. It is important for acute inflammation to resolve completely within a few weeks to allow the longer phases of tissue regeneration and remodeling to begin.



Chronic Inflammatory Response

Uncontrolled, chronic inflammation fuels many major diseases and leads to tissue degradation and prolonged pain signaling. Chronic inflammation is a self-perpetuating cycle characterized by continuous damage and repair.

Resolvers of Pain and Inflammation

Nutritional

- ☐ Water intake recommendation
- ☐ Limit sugar intake
- ☐ Decrease processed foods, increase vegetable and fruit intake

Physical

- ☐ Movement recommendation
- ☐ Stretching recommendation
- ☐ Ergonomic check

Psychological

- ☐ Sleep recommendation
- ☐ De-stress recommendation
- ☐ Start a gratitude journal

Decrease Pain and Inflammation

- Curcumin
  - Alleviates pain and inflammation in joints and GI tract
  - Potent antioxidant
  - Speeds healing and recovery
  - Improves mood and adrenal stress

Nervous System and Muscle Spasms

- GABA
- Glycine
- Magnesium
  - Calming effect on nervous system through neurotransmitter support
  - Decreases muscle spasms
  - Improves sleep quality by increasing REM sleep

Reduce Scar Tissue Formation

- Proteolytic Enzymes:
  - Bromelain
  - Protease
  - Amylase
  - Papain
  - Trypsin
  - Lipase
  - Chymotrypsin
- Decreases swelling, bruising and excess fibrin

New Collagen Synthesis

- Type I Collagen
- Type II Collagen Hydrolysate
- Hyaluronic Acid
  - Provides raw material to heal tendons, ligaments, discs, fascia and joint cartilage
  - Stimulates chondrocytes, tenocytes, and synovial cells to increase production of type I and II collagen, and hyaluronic acid

Collagen Alignment

- Vitamin C
- Quercetin
- Rutin
  - Co-factor for collagen synthesis and alignment
  - Antioxidant to protect and maintain collagen
  - Inhibits inflammation and boosts immune function
  - Increases gut barrier function

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MSK Solutions Pain Recovery Program

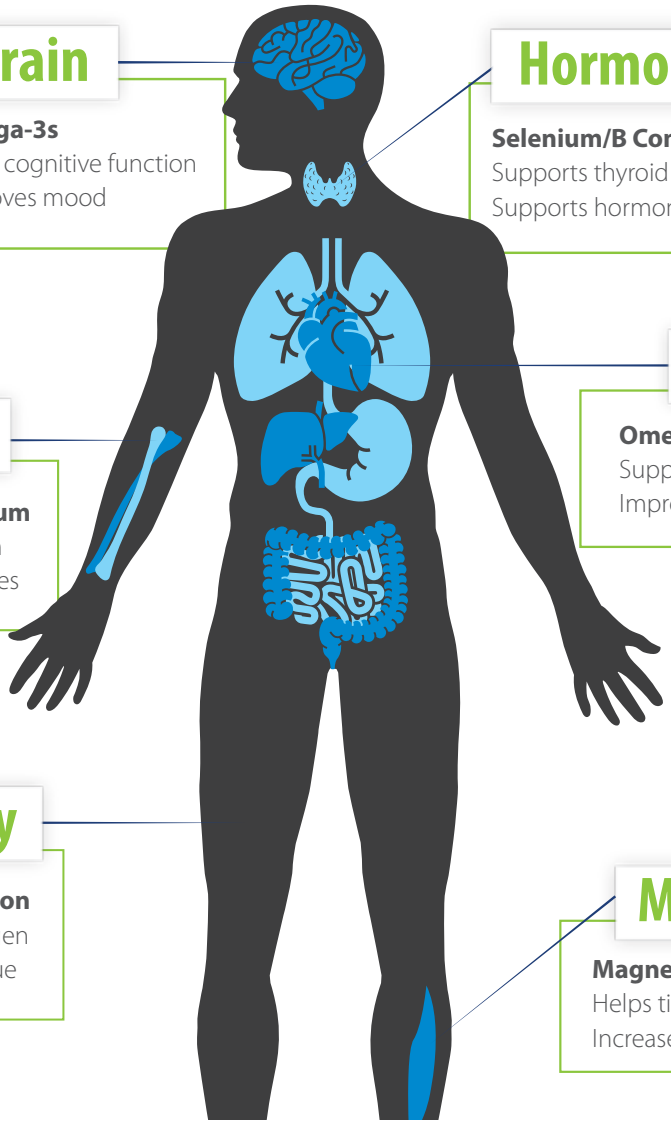
LT-MSK-004-A 02092018

Patient Name: Date:

Nutritional Wellbeing

Nutrition in America has changed over the decades from meals with high nutritious and low-calorie content to high-calorie and low nutrition. Nutrient depletion in America is not driven by food deficiency, but by a taste for processed foods, which can lead to poor digestion and dysbiosis. Having stomach issues and poor digestion can make you feel uncomfortable and weighed down, and can lead to impaired nutrient absorption over time. It's important to aim for diet and lifestyle plan that reinforces healthy digestion and allows your body to properly absorb the array of nutrients it needs to function optimally.

Vitamins and Minerals for the Whole Body



Brain

Omega-3s
Helps cognitive function
Improves mood

Hormones

Selenium/B Complex
Supports thyroid function
Supports hormone regulation

Heart

Omega-3s/Magnesium
Supports cholesterol levels
Improves blood pressure

Bone

Vitamin D/Calcium
Regulates calcium
Builds strong bones

Energy

B Complex/Iron
Increases oxygen
Reduces fatigue

Muscles

Magnesium/B Complex
Helps tight muscles
Increases energy

General Health

Multivitamin
Replenish nutrient depletion from poor diet

Detoxification

B Complex/Selenium
Rids body of toxins

Immune System

Vitamin A/Zinc
Disease resistance

Lifestyle Recommendations

Diet

- Prepare and cook your own meals
- Buy local, organic, seasonal produce
- Eliminate sugary and processed foods from your diet
- Eat plenty of colorful vegetables
- Enjoy more meals with family and friends

Activity

- Participate in community events
- Start a walking program
- Spend time outside
- Engage in aerobic activity appropriate to your health
- Enjoy active time with family and friends

Reduce Stress

- Engage in spiritual activities such as prayer or meditation
- Practice deep breathing
- Volunteer your time
- Aim for 7-8 hours of sleep each night

Nutrient Recommendations

Multivitamin	Vitamin D	Multimineral	Functional Foods
• Supports many physiological processes • Promotes visual acuity • Build strong bones • Supports detoxification • Aids in digestion	• Builds strong bones and teeth • Aids in digestion • Improves immunity • Supports healthy muscle function • Supports neurological development	• Builds and maintains metabolic reserve • Essential for healthy enzyme activity • Supports nerve and muscle function • Keeps bones strong • Boosts immune system function	• Improves metabolic reserve • Supplements a nutrient-poor diet • Supports healthy digestion • Convenient, healthy option for on-the-go meals
Take as directed on label	2,000-5,000 IU/day	Take as directed on label	Once daily

Recommendations:

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WELL MATRIX

LT-MISC-202-A 01092020

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