

## MEDICAL WEIGHT LOSS

### VITAMINS, MINERALS, SUPPLEMENTS AND MEDICATIONS

#### MEDICATIONS

We now have medications called 'peptides' that help 'fix' the root cause of overweight and obesity. Peptides are amino acids that naturally occur in the body. A deficiency of the peptides, particularly GIP and GLP, can cause overweight and obesity.

GLP medications are a once weekly injection that can be given by our staff or you can be trained to give the injection to yourself at home. The needle is very small making the injection almost painless.

Insurance coverage for weight loss medications is widely variable. The easiest way to find out if these drugs are covered by your insurance company is to call the number on the back of your insurance card and ask them specifically.

- Liraglutide also known as Saxenda.
  - Glucagon-like peptide-1 (GLP-1) receptor agonist that works in the brain to reduce appetite and cravings. When food is eaten, GLP-1 is released causing insulin to be released and glucagon to shut down. Gastric emptying is slowed.
  - Indicated for weight management in adults with BMI > 30 or > 27 with at least one weight related condition such as hypertension, vascular disease or diabetes.
  - A once weekly injection that can be done at home or in the office
- Semaglutide also known as Wegovy.
  - Glucagon-like peptide-1 (GLP-1) receptor agonist that works in the brain to reduce appetite and cravings. When food is eaten, GLP-1 is released causing insulin to be released and glucagon to shut down. Gastric emptying is slowed.
  - Indicated for
  - A once weekly injection that can be done at home or in the office
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- Tirzepatide also known as Mounjaro
  - GIP and Glucagon-like peptide-1 (GLP-1) receptor agonist that works in the brain to reduce appetite and cravings by slowing gastric emptying.
  - Indicated for adults with Type 2 diabetes
  - A once weekly injection that can be done at home or in the office
  - Females using oral contraceptives should switch to another method of contraception for 4 weeks after initiation and for 4 weeks after each dose escalation.

Do NOT take if:

- you or anyone in your family has a history of medullary thyroid C-cell cancer (MTC)
- Multiple Endocrine Neoplasia Syndrome Type 2 (MEN-2)
- Severe gastroparesis
- Pregnant or breast feeding

Stop medications immediately and consult your health care provider if symptoms develop:

- mass in neck
- difficulty swallowing
- shortness of breath
- persistent hoarseness
- persistent abdominal pain that may radiate to the back
- pregnant or think you may become pregnant

Side effects may include:

- nausea, vomiting and diarrhea

How to avoid side effects

- Only eat when you are hungry
- Eat slowly
- Stop eating as soon as fullness starts

# RECOMMENDED VITAMINS, SUPPLEMENTS

## ATHLETIC GREENS

- Combination of 75 vitamins, minerals and whole food sourced nutrients including: prebiotics, probiotics, Vitamins A, Bs, C, E, calcium, phosphorus, zinc, selenium, cooper, manganese, Chromium, sodium, potassium, spirulina, lecithin, apple powder, inulin, wheat grass, alfalfa, chlorella, barley, acerola, broccoli, papaya, pineapple, bilberry, beet root, rose hip, carrot root, spinach, grape seed extract, licorice root, ginger, slippery elm, kelp, cocoa bean, green tea, lyceum berry, alpha lipoic acid and more.
- Sources: athleticgreens.com
- Amount needed: 1 scoop daily
- Cost: \$2.48 daily

## ACETYL L-CARNITINE (ALC)

- Benefits: helps with weight loss by burning fat. Improves neuropathy pain due to uncontrolled diabetes or chemotherapy. Peripheral nerve regeneration. Lowers insulin resistance and improves metabolism.
- Sources: red meat, dairy products, fish, poultry, tempeh, wheat, asparagus, avocados, and peanut butter.
- Disorders used for: Overweight, Obesity, Peripheral neuropathy
- Amount needed: 500-1000 2-3x per day
- Side effects: Gastrointestinal upset, bladder irritation, unusual body odor, stuffy nose, difficulty sleeping.

## ALPHA LIPOIC ACID (ALA)

- Lowers oxidative stress by scavenging free radicals
- Benefits: slows cognitive decline, helps remove heavy metals, protects and regenerates nerves. Lowers insulin resistance and improves metabolism. Helps remove mercury, arsenic, iron and other metals that act as free radicals.
- Sources: red meat
- Disorders used for: Pre-diabetes, diabetes, Peripheral neuropathy, Alzheimer disease
- Amount needed: 250 mg twice daily with food
- Side effects: gastrointestinal upset

## APPLE CIDER VINEGAR (ACV)

- Benefits: lowers food cravings, supports metabolism, lower blood glucose
- Sources: should be organic, raw and unfiltered such as Bragg
- Disorders used for: Overweight, Obesity, Peripheral neuropathy, Diabetes, Pre-Diabetes, Gut issues
- Amount needed: dissolve 1-2 tsp of honey in warm water. Add 2 tablespoon ACV daily

## CINNAMON

- Benefits: lowers glucose levels
- Disorders used for: Pre-diabetes, Diabetes
- Amount needed: 500-1000 mg twice daily or about ½ teaspoon

## CHOLINE

- Benefits: helps lower weight, lowers cholesterol, promotes strong cell membranes. May improve memory and nervous system. Used by the renal system to control water level balance.
- Amount needed: injection weekly

## Coenzyme Q10

- Also known as CoQ10, ubiquinone or ubiquinol
- Potent antioxidant with highest tissue concentration found in the heart and LDL cholesterol. Synthesized from tyrosine. Can be lowered by medications such as statins and some beta blockers
- Benefits: lowers myalgias caused by statins, powerful nerve protector, antioxidant.
- Amount needed: 100 mg daily
- Side effects: rare but can include abdominal discomfort, nausea, vomiting, diarrhea, rash, headache
- Caution: has antiplatelet effect and may increase risk of bleeding.

## CURCUMIN

- Found in turmeric and curry
- Benefits: lowers inflammation, increases HDL (good) cholesterol and lowers triglycerides, improves neuropathy pain due to uncontrolled diabetes or chemotherapy. Peripheral nerve regeneration.
- Disorders used for: Peripheral neuropathy, Elevated lipids
- Amount needed: 500-1000 mg twice daily + black pepper
- Side effects: high doses may cause gastrointestinal symptoms

## FIBER

- Benefits: lowers blood pressure, improved the gut, lowers LDL (bad) cholesterol
- Sources: skins of vegetables and fruits
- Amount needed: 10 grams daily

## INOSITOL

- Benefits: helps maintain energy/nutrient transfer across the cell membrane. Helps convert fat stores into byproducts used by the body. Helps lower cholesterol. Improves insulin sensitivity, lowering blood pressure, weight loss.
- Amount needed: 600-1200 mg daily or MIC injection weekly

## MAGNESIUM

- Benefits: lowers migraine episodes. Lowers insulin resistance and improves metabolism. Improved insulin secretion. Needed to convert Vitamin D into usable form. Increase bone density.
- Sources: Naturally found in pumpkin seeds, nuts, coffee, quinoa, spinach, buckwheat and beans
- Amount needed: 200-1500 mg daily. Choose aspart, malate, glycinate or taurate forms.
- Side effects: loose bowel movements
- Caution: magnesium oxide is poorly absorbed. Monitor labs values to prevent high blood levels.

## MELATONIN

- Synthesized from 5-HTP and serotonin. More active with dim light or darkness.
- Benefits: sleep and dreaming, lowers body temperature, anti-inflammatory, boosts immune system
- Amount needed: 3- 6mg **sustained release** take at bedtime
- Caution: substances and medication may lower melatonin and include: caffeine, nicotine, alcohol, beta-blockers, diuretics, calcium channel blockers.

## METHONINE

- Benefits: helps breakdown fat stores and prevents fatty build-up in the arterial system. Aids in digestion and removal of heavy metals before conversion to cytosine, a precursor to glutathione which helps detox the liver.
- Amount needed: injection weekly

## MIC

- Methionine, Inositol, Choline Chloride
- Lipo/Ultraburn contains MIC + L-carnitine, B1, B2, B3, B6, B12, lidocaine and Chromium
- Amount needed: weekly injections

## MIX Tablets by Life Extension

- Mixture of more than 50 high potency vitamins, minerals, fruit and vegetable supplement
- Amount needed: 1-2 capsules daily

## MONOUNSATURATED FATTY ACIDS (MUFA)

- Source- olives, olive oil, nuts, avocado, seeds, dark chocolate, canola oil, sunflower seeds/oil, safflower oil
- Benefits: lowering blood pressure, improves lipids, improves endothelial function and antithrombotic properties, reduce LDL (bad) cholesterol, reduce triglycerides, increase HDL (good) cholesterol, reduce oxidation and inflammation, lower risk of cardiovascular disease and stroke
- Amount needed: 3-4 tablespoons (50 mg) of olive oil daily, 1 ½ cup of nuts daily
- Olive oil is great substitute for butter or hydrogenated vegetable oil.
- Olive oil is great moisturizer. Keep it in the shower, rub on wet skin then towel dry. Repeat daily

## OMEGA-3S POLYUNSATURATED FATTY ACIDS (PUFA)

- Eicosapentaenoic acid (EPA), Docosahexaenoic acid (DHA)
- Benefits: lowers LDL (bad) cholesterol, lowers triglycerides, lower blood pressure, anti-inflammatory, lower heart rate, reduce body fat and weight, lower insulin resistance, reduces risk of cardiovascular disease. Essential for brain function. Lowers migraine episodes. Improves neuropathy pain. Lowers insulin resistance and improves metabolism. Antithrombotic, antiarrhythmic
- Sources: cold water fatty fish, grass fed animals. NutraVege is good choices for vegan or fish allergy. Walnuts, flax seed.
- Amount needed: 1000-4000 grams per day of 3:2 EPA to DHA ratio
- Caution: mild anticoagulation properties. Consult your provider prior if taking a blood thinner.

## PROBIOTICS

- Live microorganisms that work to restore the normal balance of intestinal flora.
- Benefits: lowers triglycerides, prevents viral infections such as colds, flu, COVID. Improves gut issues. Lower pH of gut.
- Sources: Naturally found in fermented foods such as yogurt, buttermilk, sauerkraut, kefir and kimchi.
- Amount needed: 15-50 billion organisms twice daily

## RED YEAST RICE

- Monascus purpureus is a fermented product of rice that prevents the synthesis of cholesterol. Molecules include monacolin (better known chemically as Lovastatin). Also contains ergosterol, amino acids, flavonoids, alkaloids, sterols, isoflavones and MUFA, all of which help lower cholesterol.
- Benefits: lowers LDL (bad) cholesterol by 30%. Increases HDL (good) cholesterol
- Amount needed: 600-4800 mg daily
- Caution: avoid brands containing citrinin which may be damaging to kidneys.

## RED Wine

- Alcohol should always be consumed in moderation
- Red wine is rich in bioactive polyphenols including flavonoids (quercetin, catechin, epicatechin), proanthocyanidins, anthocyanins, phenolic acid (gallic, caftaric, caffeic) resveratrol.
- Amount needed: 4-6 ounces per day
- Benefits: lowers risk of hypertension and cardiovascular disease

## RESVERATROL

- Benefits: lowers total cholesterol, triglycerides and LDL (bad) cholesterol
- Sources: red wine
- Amount needed: 250 mg daily + NAC 1000 mg twice daily
- Should be used with N-acetyl cysteine (NAC) for best results

## SPIRULINA

- Benefits: antioxidant. Packed full of many nutrients. Can lower LDL cholesterol and triglycerides. Can lower cancer risk. Can lower glucose levels.
- Sources: Blue-green algae

## Vitamin A

- Deficiency most common in vegetarians and alcoholism
- Benefits: Needed for T4 production.
- Sources: animals as retinol, plants as beta-carotene which is a provitamin A precursor, converted to retinol in the gut. Carrots, cantaloupe, sweet potatoes, spinach, milk, margarine, eggs, butter, meat
- Amount needed: 700-3000 mcg (~2300-10,000 IU) preformed daily

## Vitamin B Complex

- B-Vitamins are best taken together in a complex
- Life Extension B-complex pills
  - B1 (Thiamine), B2 (Riboflavin), B3 (Niacin), B5 (Pantothenic Acid), B9 (Folate), B12 (Methylcobalamin), inositol, PABA
  - Taken 1-2 times daily
- B-complex Vitamin injection
  - B1 (Thiamine), B2 (Riboflavin), B3 (Niacin), B5 (Pantothenic Acid), B6 (Pyridoxine), B12 (Cyanocobalamin)
  - As often as weekly

## Vitamin B1 Thiamine

- Benefits: Improves neuropathy pain due to uncontrolled diabetes or chemotherapy. Peripheral nerve regeneration.
- Disorders used for: Peripheral neuropathy

## Vitamin B2 Riboflavin

- Benefits: lowers migraine episodes
- Amount needed: 2 mg twice daily
- Side effects: yellow urine

## Vitamin B3 Niacin

- Benefits: Reduces LDL (bad) cholesterol by 20%, reduce triglycerides, increase HDL (good) cholesterol, increase LDL particle to more protective size. Lowers risk of myocardial infarction.
- Amount needed: 100-4000 mg daily with meal. Start with 100 mg daily and gradually titrate up weekly. Sustained-release is best.
- Side effects: flushing which may be avoided by taking with meals, apples or apple sauce, avoiding alcohol for 4 hours, adding quercetin 500 mg or lowering dose.
- Caution: Avoid flush-free or inositol hexaniacinate (IHN) which is not the active form and not beneficial. Liver function tests need to be monitored with every dose change.

## Vitamin B6 Pyridoxine

- Benefits: Lowers insulin resistance and improves metabolism.
- Amount needed: 50-100 mg daily
- Caution: Do not exceed 250 mcg daily

## Vitamin B7 Biotin

- Benefits: supports the activities of enzymes involved in fatty acid synthesis, gluconeogenesis (the generation of glucose from non-carbohydrate sources) and amino acid breakdown. Needed for cellular energy. Supports healthy hair, skin and nails.
- Amount needed: 500-600 mg daily
- Best if taken with alpha lipoic acid

## Vitamin B9 Folate or Folic Acid

- Benefits: along with B6 and B12, lowers homocysteine which is increased risk for coronary heart disease and stroke. Lowers insulin resistance and improves metabolism.
- Sources: dark green leafy vegetables
- Amount needed: 200 mcg to 5 mg daily

## Vitamin B12 Methylcobalamin

- Methylated B12 is the activated form. B12 is needed to change homocysteine to methionine
- Benefits: lowers oxidative stress. Lowers insulin resistance and improves metabolism.
- Disorders used for: Peripheral neuropathy
- Amount needed: 500 mcg 1-3 times daily or 1500 mcg daily, injection

## Vitamin C Ascorbic Acid

- Benefits: May prevent viral infections such as colds, flu, COVID. Decreases overactive lung function in asthma and allergies. Lowers insulin resistance and improves metabolism. Improves gut issues.
- Sources: citrus fruits
- Amount needed: 200-2000 mg daily

## Vitamin D Calcitriol

- Found in most every tissue in the body including heart muscle and walls of arteries. Regulates hundreds of genes including renin-angiotensin system (RAS) located in the kidneys that regulates blood pressure.
- Benefits: lower blood pressure, lowers cardiovascular disease and boosts immune system. Myalgias caused by statin therapy. Prevention/treatment of osteopenia/osteoporosis. Lowers insulin resistance and improves metabolism. Inhibits autoimmune inflammation
- Sources: Sun, fortified in milk, cereal
- Amount needed: 2000-10,000 IU daily to obtain lab value of 40-100 ng/ml

## VITAMIN E

- Vitamin E refers to 8 tocopherols
- Benefits: antioxidant that may lower risk of cardiovascular disease and asthma. Lowers insulin resistance and improves metabolism.
- Amount needed: 400 units daily of mixed tocopherols

## ZINC

- Benefits: May prevent viral infections such as colds, flu, COVID. Converts T4 to T3. Improves gut issues.
- Amount needed: 5-40 mg daily if deficient; up to 25 mg daily at onset of viral infection and continue for 2-3 days.
- Side effects: unpleasant taste, nausea