

What Testing Should be Done Before Starting the Weight-loss program?

- 1) **Routine laboratory testing** should be done that includes: a CBC, a Complete Metabolic Panel (with kidney and liver functions), a urinalysis, Thyroid function testing (TSH), Vitamin D-3 assessment, Testosterone levels (Both men and women). These tests are typically covered by Medical Insurance but if they are not, our clinic can provide you with access to substantially discounted lab fees for out-of-pocket charges through Quest Diagnostic Labs.
- 2) **Whole Genome DNA Sequencing**, identifying all 30,000 genes in your body is used as a data-base for analysis with computer program applications (**Apps**) that identify not only your abnormal metabolic pathways and disease risks but also gene variants that have contributed to your weight gain problem. 5 years ago, whole genome sequencing cost about \$50,000. Recent advances in DNA sequencing have lowered this cost to under \$600.
- 3) **The LEAP/MRT Test**

Many physicians and Dietary Counselors describe some of the foods we eat as “inflammatory”. Many medical studies have shown that on-going inflammation can negatively influence a person’s Quality of Life and contribute to insulin-resistance, leading to obesity. We believe that there are no foods that are intrinsically inflammatory for everyone, but based on years of clinical experience using a food “sensitivity” test in our Medical Practice (LEAP/MRT), we believe that it can be useful for developing a diet that avoid foods that may be “inflammatory” for a specific individual. Medical Insurance companies have designated the LEAP/MRT test an “Outside-of-the-box” or “Experimental” food allergy test, and consequently, they are permitted to deny insurance coverage for this test. Like whole genome DNA sequencing, if you choose to do a LEAP/MRT test, you will need to pay the testing company directly (Oxford Biomedical Technologies), we do not benefit financially from recommending this test (or recommending DNA sequencing). As our patient, we will help you collect your DNA cheek swab correctly and if you choose to do a LEAP/MRT test, we will also collect your blood in our office. As of 10/2023, the cost of the LEAP/MRT test was \$335.00.

Is the Weight-loss Plan the Same for Everyone?

A “Weight-loss Genetics” Program is designed for you alone. **Your** weight-loss plan will be constructed by incorporating the genetic influences we uncover in your genome and your LEAP-“food sensitivity” testing results, both of which may have contributed to your weight-gain. There are gene-variants that influence hunger perception, over-eating behavior, how dietary fats are used for fuel, and the propensity for storing energy as fat. In addition, DNA analysis apps can help us select the best type of exercise for your body. Bad dietary habits have often developed among both thin and obese people and regardless of your weight, they will likely need modification. Inexpensive, tasty, and energy dense foods are consumed by most of us

several times per week. When the calories we consume exceeds our caloric needs, our genes have evolved to efficiently store excess energy as fat. Our fat storage genes evolved to provide us a survival advantage by preparing us for emergency caloric needs during “lean times” however, most people living in first-world countries are at low risk for ever experiencing “lean times.” In addition to excessive caloric intake triggering fat storage, there is also a normal decrease in energy expenditure that accompanies aging that reduces our caloric needs. Our Weight-loss plans are specifically designed to avoid the genetically-controlled metabolic slowing that occurs with severe calorie-restricted dietary plans.

What is GLP-1 and How Does it Affect Obesity?

Glucagon-like peptide-1 (GLP-1) is a protein hormone released by the intestines in response to food. Its effects are to reduce appetite and feelings of hunger. In addition, it slows the release of food from the stomach and increases the feeling of fullness (satiety) after eating. Medications that stimulate the receptor (agonists) for GLP-1 mimic the actions of GLP-1 and have found usefulness in Type-2 diabetes, not only for reducing blood glucose levels (and Hemoglobin A1C), but have also significantly affected weight-loss success among the medication recipients. A re-branded form of Mounjaro called Zepbound, was approved by the FDA specifically for weight loss in late 2023. The most common side-effects are nausea, vomiting and diarrhea; these symptoms are usually mild and when experienced, typically last only a few weeks. For more information, click on the “GLP-1RAs” tab on top of the home page under “More”. If requested, a GLP-1RA medication will be prescribed as a weekly injection during the Weight-loss program. Under most circumstances, we can keep your out-of-pocket costs of Mounjaro to under \$100 / month (Ask us how we do this). *To continue a GLP-1RA treatment, you must continue as an active patient with follow-up office visits every 3 months.