

Functional Approach to Fertility Optimization

Taylor Dukes, FNP

CEO of Taylor Dukes Wellness and co-founder of Restore & Revive





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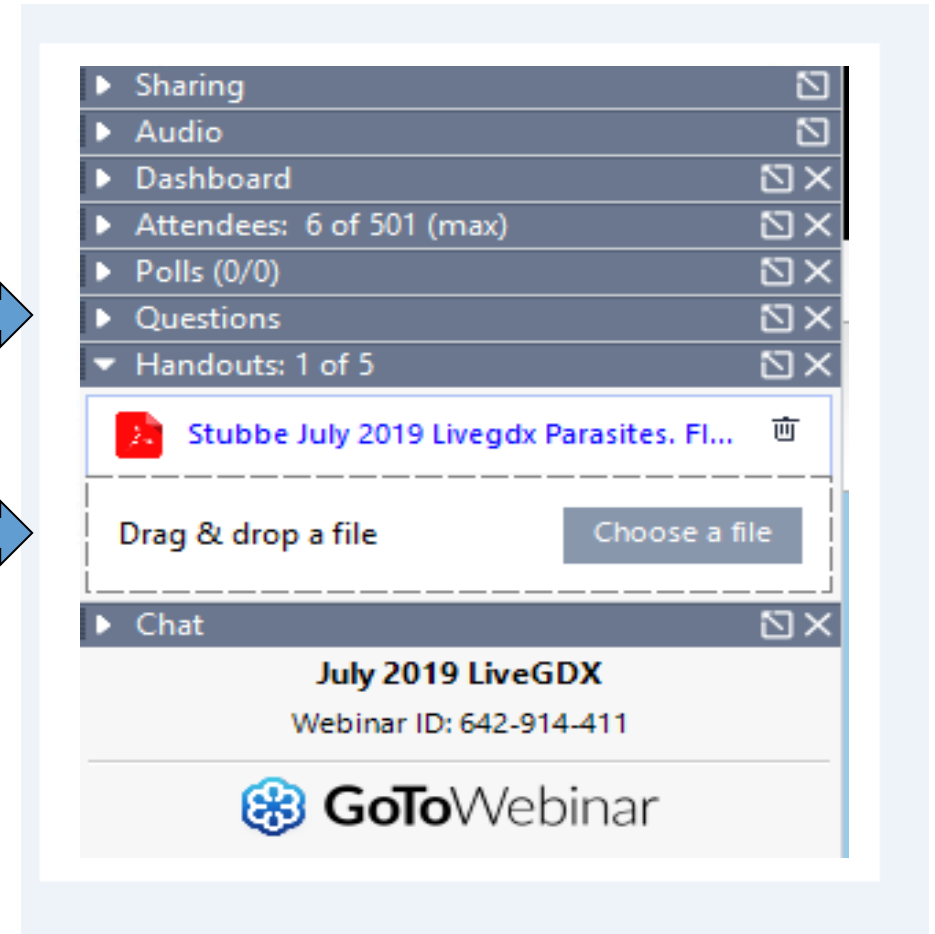
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Technical Issues & Clinical Questions

Please type any technical issue or clinical question into either the “Chat” or “Questions” boxes, making sure to send them to “Organizer” at any time during the webinar.

We will be compiling your clinical questions and answering as many as we can the final 15 minutes of the webinar.



DISCLAIMER: Please note that any and all emails provided may be used for follow up correspondence and/or for further communication.



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The screenshot shows the Genova Diagnostics website. At the top, there are social media icons (Twitter, LinkedIn, YouTube, Facebook) and navigation links (Payments, About, Contact, Search, myGDX, Region). The main header includes the Genova Diagnostics logo and navigation menus for HOME, CLINICIANS, and PATIENTS. The breadcrumb trail reads: Home / Clinicians / Medical Education.

Medical Education

Genova Diagnostics is an internationally renowned medical testing facility committed to the highest professional standards. The Medical Affairs Team provides educational support in a broad array of formats, including complementary phone consultations to healthcare professionals with Genova Diagnostic accounts. Supplemental educational materials are available for assistance in clinical application and interpretation of Genova Diagnostics tests throughout the site.

- Medical Conferences**: Visit with us at a local medical conference. New locations are published frequently. [More →](#)
- Webinars**: Leaders in the field share their expertise on diagnostic and therapeutic approaches to common clinical conditions. [More →](#)
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- Bookstore**: Books recommended by Genova Diagnostics to help support your health and well-being. [More →](#)
- Consultations**: Request a complementary phone session with one of our Medical Education Specialists, available to existing clients. [More →](#)

At the bottom of the page, there are logos for GLfx, NutrEval, and DON (Division of Optimal Nutrition), along with a quote: "Providing comprehensive and innovative clinical laboratory services for the prevention, diagnosis and treatment of complex chronic disease..." attributed to Genova Diagnostics.



Patient Dropship/Online Registration

<https://youtu.be/YHd0ID9GVG4>

Genova Diagnostics' Patient Dropship/Online Registration

Practitioner Version

Our online test requisition offers practitioners a number of features to assist with the requisition process including:

- Improved accuracy/less errors
- Auto-complete information (Practitioner & Patient)

Please follow these steps to try out our new online requisition process. If you have questions, please contact us via the information on the back page.

1 If the patient won't be logging into PRC to complete the online process, please make sure to have them sign the paper copy of the requisition and include it with their sample submission.

1 Select the **Complete Online Requisition** button on the myGDx landing page.

2 Click **Start** button to begin GEAR, or click **History** to view past orders.
URL to access page after logging into myGDx portal: gdx.net/ereq or click on GEAR button from portal landing page

3 Select the appropriate **GDx Practitioner Account** for the clinician completing the request.

4 Select option to **Register a Requisition** (client has kit in office - enter Req #) **OR Ship pack to new patient** (type Panel Name - list will filter based on text - or select from drop down menu. After choosing panel, the test selection for the requisition displays below that menu for client to select testing option(s).

5 Pick the **Billing Option** that is applicable for the test.

6 Select or add the appropriate **ICD 10 diagnosis code(s)**.
If using Medicare please make sure to review the Definition of Medical Necessity

7 A practitioner may now **enter Patient Instructions** to be included on requisition for Patient dropship orders.
If registering/ordering multiple kits, additional requisitions will be added on this step by clicking **Add Another Test**.

Genova Diagnostics Online Test Requisition

8 Supply patient information needed for the test to be processed.
Patient, Insurance/Payment steps may be skipped if this is not a dropship order. See the skip button at the top of each page. Skipping pages results in GEAR emailing the patient reminding them to complete information.

9 Patient Insurance Information
Provide your patient's insurance information. If insurance information was found for your patient, you may auto-fill it by selecting their insurance from the provided list. You may also upload a copy of the patient's insurance card (front & back) and their driver's license (front & back).

10 Practitioner Confirmation
Please confirm that the data entered is accurate and ready to be submitted. You may return and enter any missing information or invite the patient to complete the registration at Step 12.

11 Payment Page
If the billing option you chose in Step 4 requires an upfront payment either you or the patient may pay securely.

12 Patient Completion (Optional)
If there's any missing information you'd like to have the patient complete, provide their name, DOB, and email to send them an invitation to complete the missing information using Genova Diagnostics' Patient Resource Center.

13 Submission Finalization
The final confirmation that the requisition has been completed and is being processed. If patient is not logging into PRC to complete information, make sure to have them sign the paper requisition and submit it with their collection pack to Genova.

Please send all questions, comments (positive or negative), and concerns to info@gdx.net. Thank you.



Functional Approach to Fertility Optimization

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Overview of this Presentation

- Understand how to optimize body prior to conception
- Review of macro and micronutrients to support conception and pregnancy
- Using the NutrEval and Metabolomix+ profiles, discuss common nutrient deficiencies important for conception





Prepare a healthy seed *and* healthy soil

- Infertility is increasing, along with the use of reproductive technology
- One of the most overlooked and undervalued approaches to fertility is screening the couple's preconception health and evaluating nutrition





Optimize Fertility With Nutrition

- Macros and micros to prioritize
- How to optimize the body *prior* to conception
- How soon to get on a prenatal
- Detox protocols prior to conception

The importance of nutrition is often overlooked or just skimmed by their doctors when patients are planning to grow their families!



Why is Mother's Health so Important?

- Women are born with all the eggs she'll ever have
- Age and stressors significantly impact the quality of available eggs

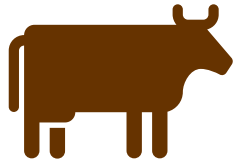
Enough and the
right nutrients for
baby

Want enough
nutrients left over
for the Mother

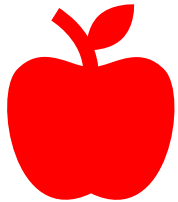
Mother's gut
health influences
baby's gut health



Macros and Micros to Prioritize



- Stock your home with pasture-raised, grass-fed, and wild-caught animal protein



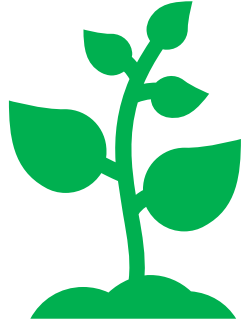
- Healthy sources of fiber include apples, prunes, ground flax seeds, and soaked chia seeds



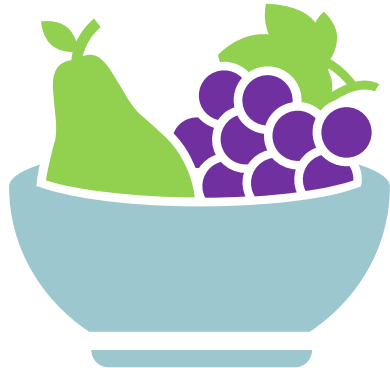
- Include liver, spinach, asparagus, and broccoli in the diet if you are trying to conceive and the first trimester



Macros and Micros to Prioritize



- It's important that women are eating an abundance of lentils, chickpeas, beans, nuts, seeds, and quinoa



- Include organ meats, pumpkin seeds, white beans, lentils, and spinach into meals to help increase iron supply



Macros and Micros to Prioritize



Healthy Fats

- Stock your fridge with wild-caught salmon, sardines, and avocado and keep these main staples in your cabinet like flax, chia, walnut, and pumpkin seeds plus organic extra virgin olive oil



Magnesium

- sprinkle in some pumpkin seeds, brazil nuts, quinoa, spinach to your meals for some extra magnesium support



How to Optimize the Body Prior to Conception



ORGANIC FOODS



FOODS THAT ARE
IN SEASON



COLORFUL FRUIT
AND
VEGETABLES



ANTI-
INFLAMMATORY
FOODS



LOW GLYCEMIC
INDEX FOODS &
INCREASED
FIBER



HYDRATION IS
KEY...BUT MAKE
SURE IT'S
FILTERED WATER



REPLACE
PLASTIC
CONTAINERS



Optimize the Body Prior to Conception

- Organic Foods
 - EWG dirty dozen list and clean fifteen list





Optimize the Body Prior to Conception

- Foods That Are In Season
 - Helps with gut diversity and allows the gut a rest from other foods
 - CSA (Community-supported agriculture) options in their area or shop at a farmer's market
- Aim For a Variety of Colorful Fruits and Veggies
 - Each color contains specific phytonutrients
 - Benefits: Enhancing your immune system, antioxidants, anti-inflammatory, etc...



Optimize the Body Prior to Conception

- Anti inflammatory Foods
 - Inflammation can damage cells and magnify health issues prior and during pregnancy
 - Can relieve symptoms of common causes of female infertility; endometriosis and PCOS
 - Turmeric, Ginger, Green Leafy Vegetables, Berries, Wild-caught salmon, Extra Virgin Olive Oil (not heated), and beets
- Low Glycemic Index Foods & Increased Fiber
 - Low glycemic index diets can reduce the risk of large-for-gestational-age (LGA) infants
 - Associated with improved pregnancy outcomes
 - An observational study of 1538 women in the US showed that higher total fiber intake three months before and during early pregnancy reduced preeclampsia risk by attenuating pregnancy-associated dyslipidemia



Optimize the Body Prior to Conception

- Hydration is Key...But Make Sure it's Filtered Water
 - Reduce their toxic load as much as possible by using filtered water in a stainless-steel water bottle.
 - Berkey water filters and Aqausana are highly rated
- Replace Plastic Containers
 - Prenatal exposure to BPA, phthalates, and polyfluoroalkyl chemicals may be associated with fetal growth restriction and hormonal imbalances



FOCUS

**Focus on eating as many whole,
colorful foods as possible!**



Foods to Stay Away From During Pregnancy

Limit caffeine and alcohol intake

Dirty dozen, pesticide residue foods

Highly processed and refined food

Refined sugar and sugar alternatives like aspartame

Diet teas

Lunch meats or conventionally raised animal products

Trans fats, hydrogenated oils, refined vegetable oils

Seafood, high in Hg. Minimize tuna consumption, and poorly raised salmon

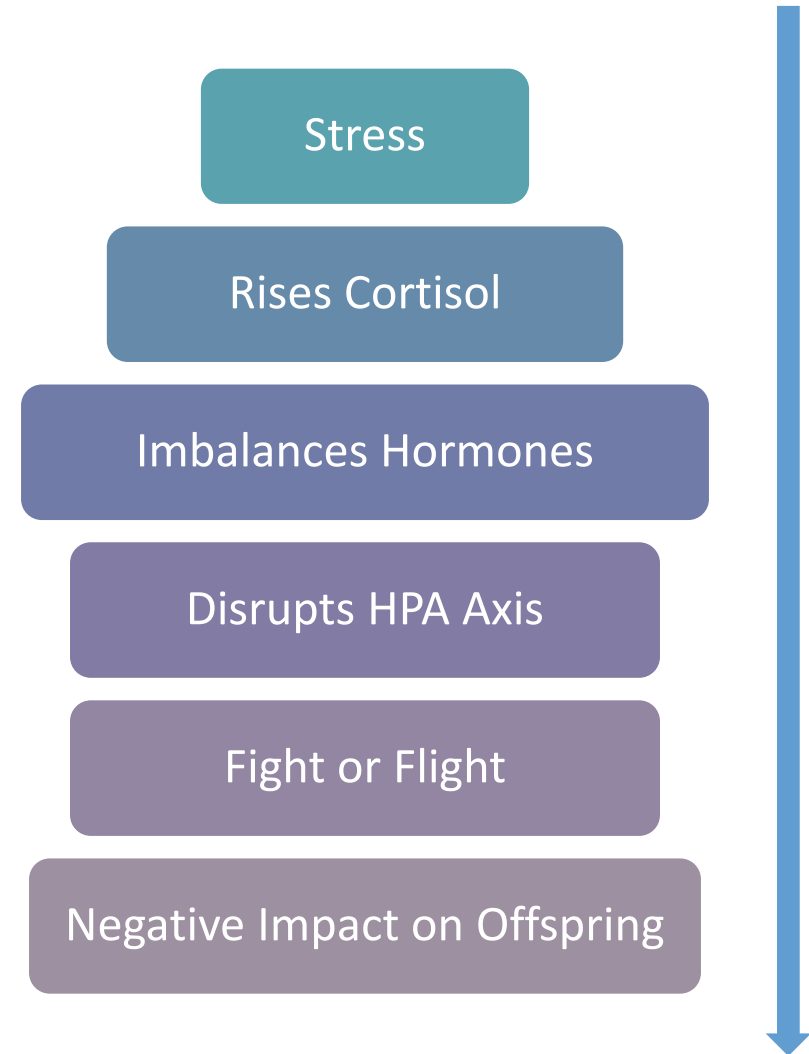
Food dyes

Sodas (loaded with sugar, or even "zero sugar sodas" that are loaded with artificial sweeteners.



The Impact of Stress

- Chronic stress leads to a persistent elevation in cortisol
 - Cortisol leads to an imbalance in other hormones or a disruption of HPA-axis
 - Fight-or-flight state
- Cortisol can lead to imbalanced sex hormones
 - Study demonstrated a connection between stress and ovulation
 - Reported high stress during ovulation were 40% less likely to conceive during that cycle compared to other less stressful months





The Impact of Stress

- When the HPA axis is activated by stressors, it can affect fertility by:
 - Lowering the FSH/LH ratio
 - Lowering oocyte capability
 - Reducing the number of sites that implantation can occur in the uterus
 - Altering the follicular fluid make-up surrounding the ovum
 - Lowers progesterone levels
 - Your body will choose to make cortisol for survival over progesterone which affects fertility
 - Impacts thyroid levels
 - Inhibit the conversion of T4 to the active T3 form



Stress Reduction Techniques

- Yoga
- Meditation
- Journaling
- Talking with a therapist
- Communicating with your partner
- Practicing gratitude
- Breathing Exercises
- Exercising – however, don't overexercise!
- Spending time with uplifting friends





The Importance of Micronutrients

- WHO estimates around 2-billion people are deficient in micronutrients, with women being at particular risk because of menstruation and metabolic demands of pregnancy
- Common Deficiencies Include:
 - Iron
 - Iodine
 - Zinc
 - Vitamin D
 - Vitamin A
 - B vitamins
 - Folate



How Soon to Get on a Prenatal?

- Ideally, patients should start preparing their body for conception 3-6 months beforehand
 - Allows them to maximize their gut and nutrient levels and prepare the baby's environment for optimized growth and development
- However, if your patient just found out they are pregnant, have them begin a prenatal as soon as possible to give their baby all the nutrients as possible



How to Choose A Prenatal for you Patients

- Choose A High-Quality Prenatal Vitamin that is GMP Certified Label
- The prenatal should contain the following:
 - Methylfolate (NOT folic acid)
 - Vitamin E
 - Choline
 - Iron
 - Zinc
 - Methylated B vitamins
 - Vitamin A in the form of beta carotene
 - Copper
 - Vitamin C
 - Calcium
 - DHA

Greenberg JA, et al. *Rev Obstet Gynecol*. 2011;4(2):52-59.
Mutalip SSM, et al. *Antioxidants (Basel)*. 2018;7(2):22.
Korsmo HW, et al. *Nutrients*. 2019;11(8):1823.
Wu BTF, et al. *PLoS One*. 2012;7(8):e43448.
Grieger JA, et al. *Nutrients*. 2019;11(7):1609.
Maia S, et al. *Nutrients*. 2019;11(3):681
Enmi H, et al. *Fertil Steril*. 2003;80(2):459-61.



Recommended Supplements for Egg Quality

- Glutathione
- N-Acetyl Cysteine (NAC)
- Coenzyme Q10
- DHEA
- Fish Oil/ Omega-3 Fatty Acids
- Vitamin C

Adeoye O, et al. *JBRA Assist Reprod.* 2018;22(1):61-66.

Dr Rosa SC, et al. *Eur J Clin Invest.* 2000;30(10):915-29.

Ben-Meir A, et al. *Aging Cell.* 2015;14(5):887-95.

Gleicher N, et al. *Reprod Biomed Online.* 2010;21(3):360-5.

Nehra D, et al. *Aging Cell.* 2012;11(6):1046-1054.

Abdollahifar MA, et al. *Anat Cell Biol.* 2019;52(2):196-203.



Why Should I Detox Before Pregnancy?

- Toxins can decrease Infertility
- Toxins can increase fetal developmental issues
- How many months should I prepare my body for pregnancy?
 - 3 to 6 months



How to Detox During Preconception

- Avoid Toxins in the First Place
 - Household and beauty products
 - Organic fruits and vegetables (dirty dozen and clean fifteen)
 - Water filtration system
- Support Your Liver
 - Exercise regularly
 - Eliminate or reduce the amount of alcohol you consume
 - Maintain a healthy weight and stabilize blood sugar
 - Eat foods with high amounts of antioxidants and anti-inflammatory properties
 - Make sure you are having bowel movements daily
 - Focus on gentle detox
 - Dry brushing, Epsom salt baths, infrared sauna, sweating, and ionic foot soaks
- Stress Relief



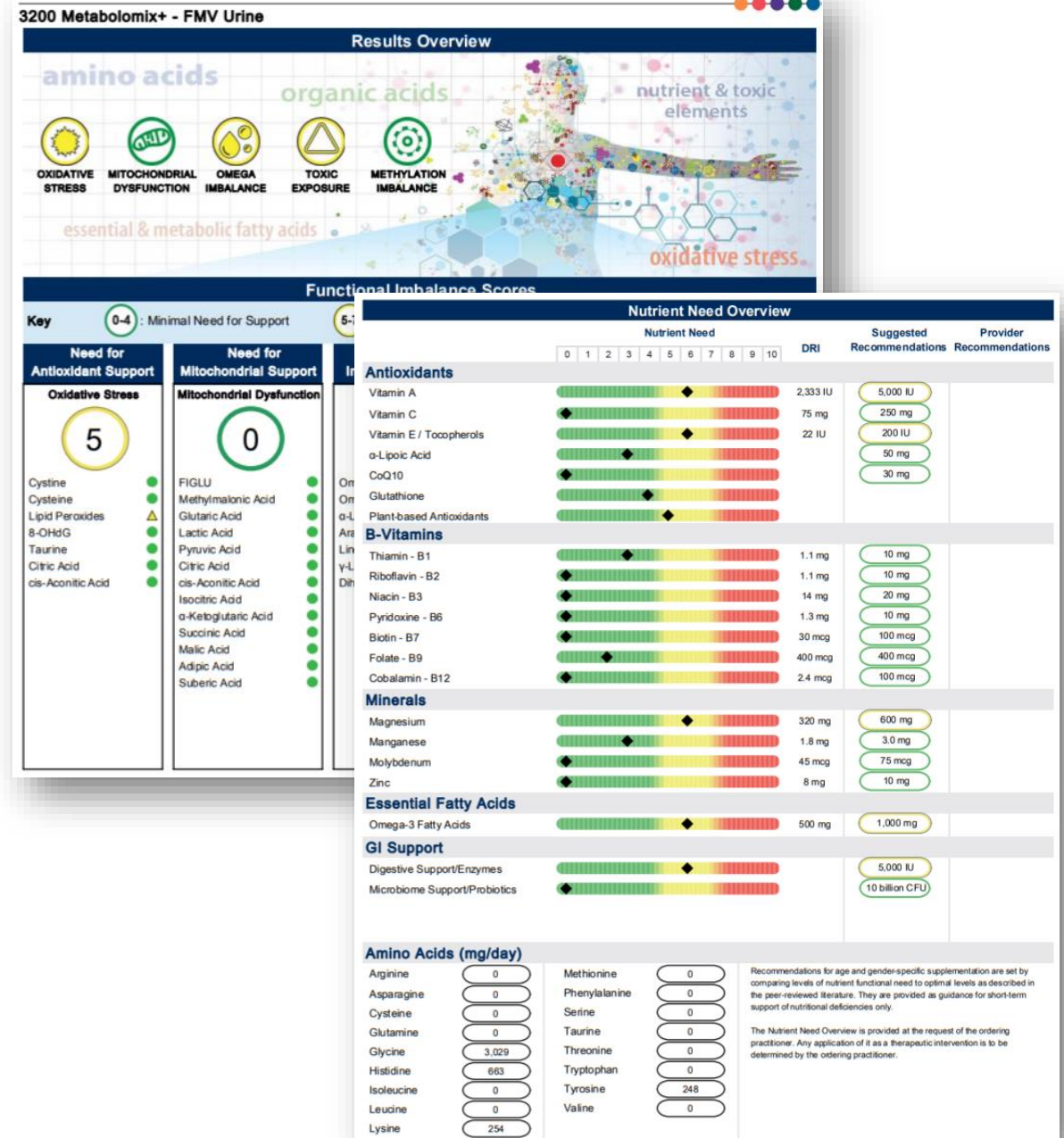
Track these things during pregnancy

- Labs
 - Vitamin D levels
 - RBC magnesium
 - Lipid Panel
 - CBC, CMP, blood sugar
 - Hemoglobin a1c
 - Hcg
 - Progesterone
 - Iron panel w/ ferritin
 - Full thyroid Panel
 - TSH, Free T3, Free T4, Reverse T3, Antibodies



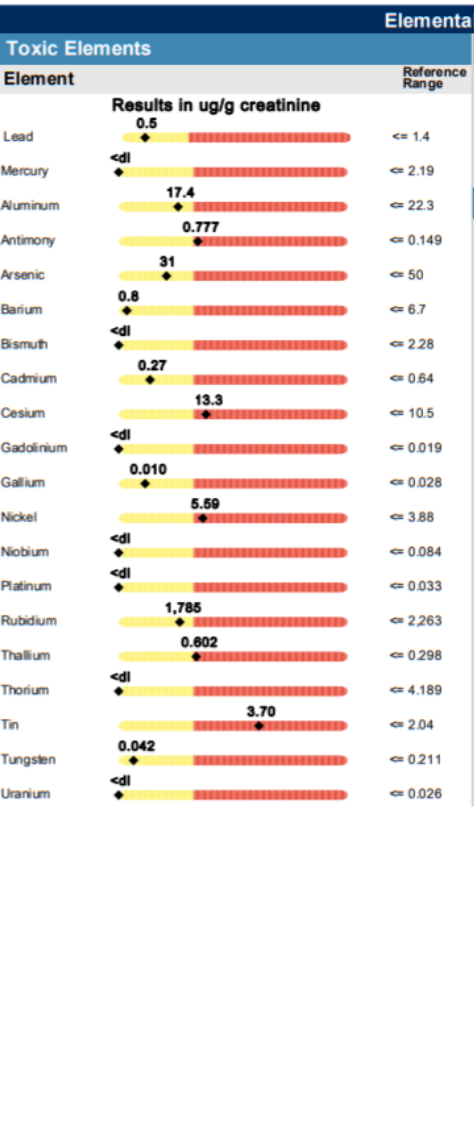
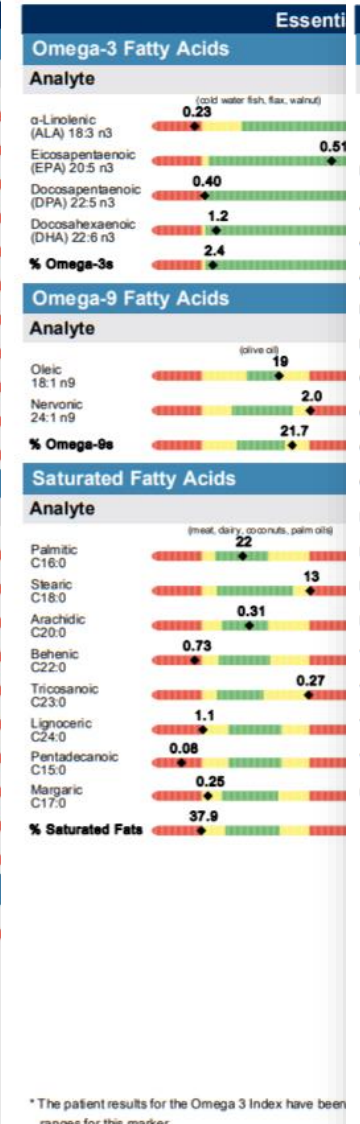
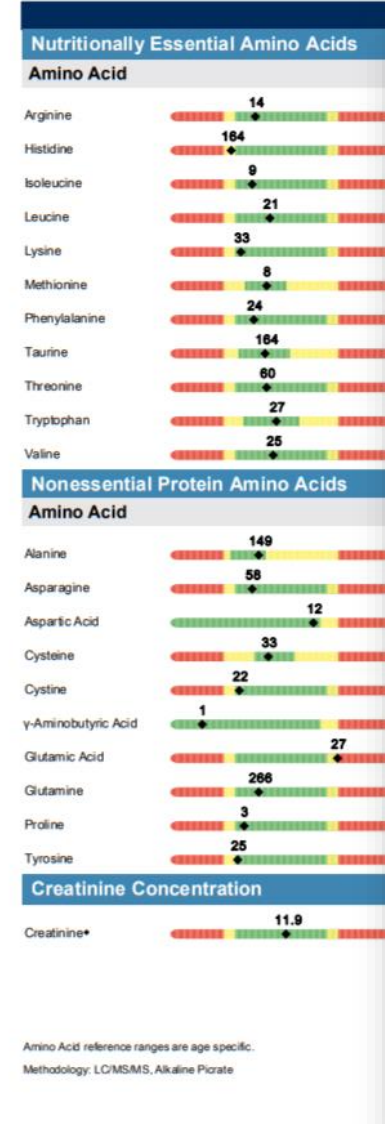
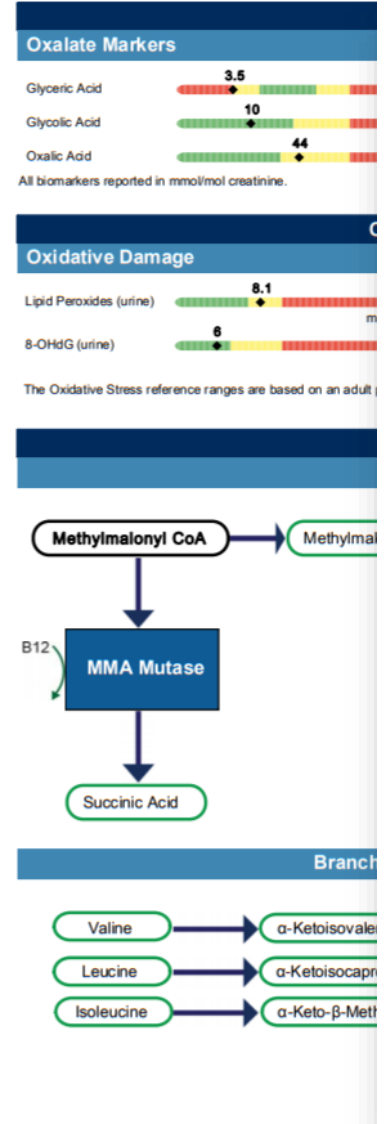
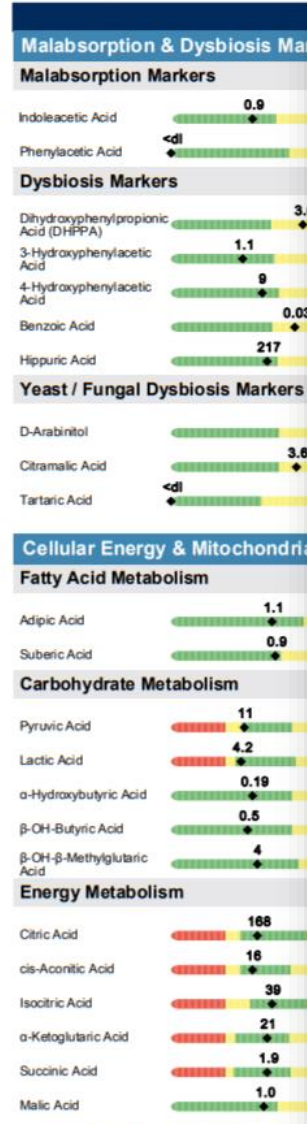
Clinical Case Study

- 28 y/o female
- Diagnosed with Hashimoto's
- Several miscarriages
- Case workup included stool and nutrient testing plus basic blood work labs
- Goal was to focus on optimizing her health 6 months prior to conception and continue to monitor certain markers throughout pregnancy





Clinical Case Study



* The patient results for the Omega 3 Index have been adjusted to reference ranges for this marker.



Thyroid Labs

TSH	2.95		0.40-4.50 mIU/L
T4, FREE	0.9		0.8-1.8 ng/dL
T3, FREE		1.9 L	2.3-4.2 pg/mL
T3 REVERSE, LC/MS/MS	12		8-25 ng/dL

This test was developed and its analytical performance characteristics have been determined by Quest Diagnostics Nichols Institute San Juan Capistrano. It has not been cleared or approved by FDA. This assay has been validated pursuant to the CLIA regulations and is used for clinical purposes.



Protocol we implemented

- Implemented gut healing protocol
 - Addressed digestion and dysbiosis
- Focused on opening detox pathways
- Reset circadian rhythm
- Replenished nutrients via supplements and diet
- Put her on an anti-inflammatory diet
- Optimized other markers on her blood work such as: low iron, thyroid, and vitamin D levels



Presenter:

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***We look forward to
hearing from you!***

Questions?



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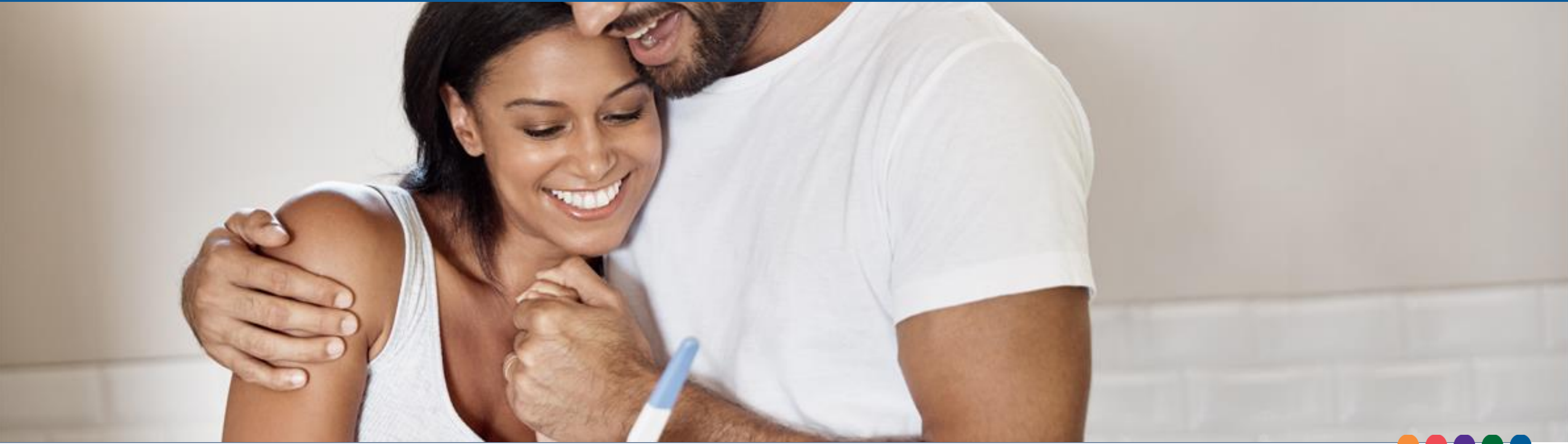
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