Functional Lab Validation & "Optimal" Range Worksheet

Client Name: __ *Date:* _____

Purpose:

Use this worksheet during the **Reveal Phase** of the R.O.O.T.S. Method™ to bridge the gap between "Normal" conventional lab results and the client's actual symptoms. This tool helps validate the need for advanced testing and identifies subclinical imbalances.

Section 1: The "Normal Lab" Paradox Audit

Compare the client's recent conventional blood work against Functional Medicine **Optimal Ranges**. If a client's value falls in the "Normal" but not "Optimal" range, check the "Subclinical" box.

Biomarker	Conventional "Normal"	Functional "Optimal"	Client Result	Subclinical?
Fasting Insulin	2.6 - 24.9 uIU/mL	**2.0 - 5.0 uIU/mL**		☐
Ferritin	15 - 150 ng/mL	**50 - 100 ng/mL**		☐
TSH	0.45 - 4.5 mIU/L	**1.0 - 2.0 mIU/L**		☐
Homocysteine	< 15.0 umol/L	**< 7.0 umol/L**		☐

Section 2: Advanced Testing Selection (The "Reveal" Strategy)

Before ordering expensive tests, validate the technology and the **Pre-Test Probability** to ensure a high Positive Predictive Value (PPV).

A. Microbiome Method Selection

Choose the most appropriate technology based on client needs: - [ ] **16S rRNA Sequencing:** Best for general "who is there" overview on a budget. (Genus level only). - [ ]

Shotgun Metagenomics: Best for complex cases (fatigue, autoimmunity). Identifies species/strains and "what they are doing" (SCFA production, toxins).

B. Organic Acid Testing (OAT) Validation

Check if the client presents with symptoms linked to validated OAT markers: - [ ] **B12 Status:** High Methylmalonic Acid (MMA) despite "normal" serum B12. - [ ] **Metabolic Blockage:** Unexplained fatigue or "brain fog" (suggests mitochondrial metabolite backup). - [ ] **Note:** Interpret neurotransmitter metabolites as *clues*, not as absolute brain-level diagnoses.

Section 3: Clinical Utility & Pre-Test Probability

Pre-Test Probability Score: Based on the client's timeline and intake, how likely is it that the suspected imbalance exists? *(1 = Unlikely / 5 = Highly Probable based on symptoms)* **Circle one:** 1 | 2 | 3 | 4 | 5

Test Accuracy (ROC/AUC) Confidence: - [ ] **High (AUC 0.90+):** Celiac Antibodies, specific pathogens. - [ ] **Moderate (AUC 0.70-0.80):** Most functional markers, OAT metabolites. - [ ] **Experimental:** Use only as a secondary clue.

Observations & Root Cause Hypotheses:

Next Steps for the R.O.O.T.S. Protocol:

- [ ] Order Shotgun Metagenomics to validate gut-brain axis concerns.
- [ ] Adjust [Nutrient/Hormone] based on Optimal Range gap (Section 1).
- [ ] Review OAT results in context of clinical symptoms, not in isolation.

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