

Clinical Rationale for Measuring Resting Metabolic Rate (RMR) in Patients Using GLP-1 Therapy

As GLP-1 receptor agonists (such as semaglutide, tirzepatide, or liraglutide) gain popularity in metabolic and weight management, understanding their impact on resting metabolic rate (RMR) is critical. RMR testing provides an objective, data-driven method to individualize care, optimize energy balance, and support safe, sustainable outcomes.

1. Quantify the Metabolic Impact of GLP-1 Therapy

GLP-1 agents reduce appetite and caloric intake, but they can also lower total energy expenditure—including RMR—as the body adapts to reduced intake and body weight. Measuring RMR helps clinicians assess metabolic adaptation, identify plateaus, and guide nutrition and activity adjustments.

2. Prevent Excessive Caloric Restriction

Unmonitored caloric restriction can drive unwanted loss of lean body mass, nutrient deficiencies, and fatigue. Tracking RMR allows clinicians to set individualized calorie prescriptions that maintain muscle mass and preserve metabolic rate while supporting fat loss.

3. Personalize Nutrition and Maintenance Plans

Every patient responds differently to GLP-1 therapy. Measuring RMR enables personalized nutrition targets and supports the transition from active weight loss to maintenance without rebound gain. RMR data guide clinicians in setting sustainable caloric goals.

4. Detect Metabolic Suppression or Overadaptation

In some patients, prolonged GLP-1 use may cause an over-suppressed metabolic state. Regular RMR testing allows for timely detection, helping clinicians decide whether to adjust medication, add resistance training, or reassess thyroid and hormonal markers.

5. Support Long-Term Success and Patient Engagement

Providing RMR data reinforces adherence, validates progress, and helps patients understand their changing metabolism. This transparency builds trust and supports retention when tapering off GLP-1 therapy.

Weight Loss Phase	Maintenance Phase
↓ Caloric Intake ↓ RMR (Adaptive Response)	Stable Intake RMR Stabilization

Selected References

1. Kushner RF, et al. "Effects of GLP-1 Receptor Agonists on Energy Balance." *Obesity* (2023).
2. Polyzos SA, et al. "Metabolic Adaptation During Weight Loss Therapy with GLP-1 RAs." *Diabetes Care* (2022).
3. Johannsen DL, et al. "Resting Metabolic Rate Adaptation in Obesity Treatment." *Nature Metabolism* (2021).