Sample mechanistic report

A fictional educational example

This document is a fictional educational sample created to show the structure of a Biomelogic mechanistic analysis. It is not based on a real client. It is not medical advice, not a diagnosis, and not a treatment plan. It is provided so prospective clients can understand the structure, depth, and uncertainty handling of the written deliverable before engaging.

All names, ages, labs, timelines, and findings are synthetic.

Methodology

Biomelogic engagements produce a written mechanistic summary that maps observed signals onto the Host Capacity Model, weighs competing explanations openly, and translates the synthesis into care-team discussion points. The work is interpretive, not clinical. It is intended to be read alongside a licensed clinical team, not in place of one.

SYNTHETIC CASE SNAPSHOT

Pseudonym: "Patient A" · Age range: 35–44 · Region: omitted

Long-running multi-system presentation across digestive, autonomic, and post-meal energy domains. Several specialist evaluations, no unifying explanation. Records reviewed include a hydrogen/methane breath test, comprehensive stool analysis, basic metabolic and inflammatory panels, prior empirical antimicrobial trials, and self-reported timeline.

Report structure

Every Biomelogic written deliverable follows the same scaffold. Sections may expand or contract by case complexity.

- Case snapshot in client framing
- Primary pattern summary
- Biological axes map
- Upstream / downstream hierarchy
- Host Capacity Model interpretation
- Competing explanations weighed
- Contradictions and uncertainty
- Lab-pattern interpretation
- Mechanistic hypotheses with confidence tiers
- What this does not prove
- Questions for the medical team
- Suggested clinician discussion areas
- Educational next-test logic
- Scope limitations

Mechanistic map (synthetic)

UPSTREAM / DOWNSTREAM HIERARCHY

- Upstream — Reduced anaerobic ecology after repeated antimicrobial cycles.
- Midstream — Fermentation pattern shifted toward proximal small bowel.
- Downstream — Post-meal autonomic load and energy crash.

COMPETING EXPLANATIONS

- (A) Persistent SIBO recurrence — supported by breath pattern; weak vs. observed dietary modulation.
- (B) Bile-acid signalling shift — supported by stool markers; gap in directly measured bile-acid metabolites.
- (C) Post-viral autonomic component — supported by timeline; weak in absence of formal autonomic workup.

Evidence-confidence table

Confidence tiers are exploratory, working, and supported. None of these statements constitute diagnostic claims.

CLAIM	TIER	NOTES
Anaerobic ecology is depleted	working	Stool markers consistent; mechanism plausible; not direct ecology measurement.
Recurrence pattern is non-incidental	supported	Reproducible across multiple cohorts in our consultation series.
Bile-acid signalling is implicated	exploratory	Indirect signals only; would require targeted metabolite testing.
Autonomic involvement is a primary driver	exploratory	Timeline-suggestive; formal workup not present.

Questions for the medical team

- Is targeted bile-acid metabolite testing reasonable in this case?
- Has formal autonomic workup (e.g., tilt protocol) been considered?
- Are there interactions between current empirical antimicrobials and the working ecology hypothesis?
- What clinician-level boundaries should frame any nutrition or timing experiments?

SUGGESTED CLINICIAN DISCUSSION AREAS

- Sequencing of next diagnostic step rather than next intervention.
- Whether observed dietary modulation changes the working hypothesis.
- Whether autonomic signs warrant a referral pathway.

Scope limitations

- This is not a diagnosis. The Biomelogic role is interpretive and educational.
- Single-timepoint lab data limits causal inference.
- Self-reported timelines are subject to recall variance.
- Mechanistic hypotheses are working models, not validated clinical pathways.
- All conclusions must be reviewed and integrated by your licensed clinical team.