

COMPREHENSIVE GLOSSARY & RESOURCE LIST

I. Core Medical Concepts & Jane's Specific Challenges

- **Immune System Dysregulation:** The root issue. Immune system is "confused," attacking self (autoimmune-type response).
- **Respiratory-Digestive Coordination Failure:** The specific pattern of post-meal coughing/dyspnea. Involves vagus nerve, potential aspiration, or inflammation.
- **Post-Intervention Inflammatory Cascade:** The severe inflammatory response triggered by a recent medical treatment.
- **Critical but Stable:** Her current status, requiring intensive respiratory support (O₂ sat ~75% on high-flow).

II. Key Scientific & Physiological Mechanisms

- **The Vagus Nerve:** The master regulator connecting brain, lungs, gut, and immune system. Stimulating it calms inflammation.
 - **Cholinergic Anti-Inflammatory Pathway (CAIP):** Spleen-based, uses acetylcholine. Rebalances T-cells (Th17/Treg).
 - **Novel Vagal-Adrenal Circuit:** Lung-specific, uses adrenaline. Rapidly reduces acute lung inflammation.
- **Th17/Treg Imbalance:** A core immune pathology. Too many pro-inflammatory Th17 cells, not enough anti-inflammatory Treg cells.
- **Fractal Physiology:** Health is a complex, variable pattern (like a tree branch or healthy heartbeat). Illness is a loss of this complexity, becoming rigid and periodic.
- **Interception:** The sense of the internal state of the body (e.g., feeling the breath). A lever for conscious autonomic regulation.
- **Interpersonal Physiological Synchrony:** The measurable alignment of physiological states (heart rate, etc.) between people. Explains why calm presence is therapeutic.

III. Evidence-Based "Threshold Practices" & Interventions

A. For the Patient (Active & Passive)

- **Guided Breath Awareness:** Synchronizing attention with the breath/oxygen flow to engage the vagus nerve.
- **Environmental Rescripting:** Framing medical equipment (oxygen, monitors) as supportive allies.
- **Therapeutic Soundscapes:**
 - **40Hz Gamma Stimulation:** For brain health, reducing neuroinflammation, and glymphatic clearance.
 - *Example Resource:* [MIT Picower Institute on 40Hz](#)
 - *YouTube Search Term:* "40Hz Binaural Beats" or "40Hz Gamma Meditation"
 - **90Hz Sonic Vibration:** For systemic anti-inflammatory effect (upregulates IL-10).
 - *YouTube Search Term:* "90Hz Healing Frequency" or "90Hz Anti-inflammatory"
 - **Calming Music/Nature Sounds:** To mask ICU noise and reduce sympathetic stress.
- **Ultra-Brief Mindfulness:** Practices of 5 minutes or less, even a single conscious breath.

B. For the Environment & Family

- **Family Presence as Therapy:** Our calm, regulated presence allows Jane's nervous system to entrain to a stable rhythm.
- **Natural Light Exposure:** Critical for circadian rhythms and reducing delirium.
- **Noise Reduction & Soundscape Hygiene:** Efforts to lower overall decibel levels and create a more predictable acoustic environment.

IV. Nutritional Support Strategy

- **Anti-Inflammatory Foundation:** Emphasizes omega-3s, polyphenols; avoids processed oils/sugars.
 - *Resource:* [Harvard Healthy Eating Plate](#)
- **Small, Frequent Meals:** To reduce metabolic load and diaphragmatic pressure.
- **Targeted Elimination (e.g., Gluten-Free):** Considered to remove potential inflammatory triggers.
 - *Resource:* [Cleveland Clinic - Gluten-Free Diet](#)
- *Resource:* [NIH - Nutrition for Immune Function](#)

V. Specialist Physicians & Clinical Centers (New England)

This is the master list for future consultation.

- **Mass General Hospital (MGH)**
 - **Dr. Zachary J. Wallace (Rheumatology/Immunology):** Autoimmune aspects of post-viral syndromes. Key researcher.
 - **Dr. Ingrid V. Bassett (Infectious Disease):** Co-PI of Harvard's long COVID RECOVER program. Defines and characterizes syndromes.
 - **Dr. Zeina Chemali (Neurology):** Neurocognitive complications in the McCance Brain Health COVID clinic.
- **Brigham and Women's Hospital (BWH)**
 - **Dr. David M. Systrom (Pulmonary/Critical Care):** World expert on unexplained exercise intolerance, dyspnea, and ME/CFS. Runs advanced CPET testing.
 - **Dr. Peter Novak (Neurology - Autonomic Disorders):** Specialist in dysautonomia, POTS, and small-fiber neuropathy. Running a trial on efgartigimod for long COVID POTS.
 - **Dr. Jeffrey A. Sparks (Rheumatology):** Focus on inflammation and autoimmunity in post-COVID conditions.
- **Beth Israel Deaconess Medical Center (BIDMC)**
 - **Dr. Jason H. Maley (Pulmonary/Critical Care):** Director of BIDMC's COVID-19 Survivorship Program. Holistic, multidisciplinary care.
- **Boston Medical Center (BMC)**
 - **Dr. Jai G. Marathe (Infectious Disease):** Leads the ReCOVer Long COVID Clinic. Focus on equitable care for diverse populations.
 - **Dr. Nahid Bhadelia (Infectious Disease - Research/Policy):** Influential researcher and policy advisor on long COVID (limited patient care).
- **Tufts Medical Center**
 - **Dr. Michael R. Jordan (Infectious Disease):** Director of Tufts' COVID-19 Biorepository. Site PI for RECOVER. Research-focused.

- **Dartmouth-Hitchcock Medical Center (Lebanon, NH)**
 - **Dr. Jeffrey Parsonnet (Infectious Disease):** Founder/director of the Post-Acute COVID Syndrome (PACS) clinic. Rural care model, very validating.
- **South Shore Hospital (Weymouth, MA)**
 - **Dr. Todd Ellerin (Infectious Disease):** Chief of ID. Validation-oriented, recognizes long COVID as real and educates the community.
- **Integrative/Functional Medicine**
 - **Dr. Mark Hyman (Private Practice, Lenox, MA):** Focus on mitochondrial and metabolic dysfunction in post-viral syndromes. Root-cause, holistic approach.
 - *Resource:* [Dr. Hyman on Long COVID & Mitochondria](#)
- **Complex Chronic Disease (Lyme/Parallels)**
 - **Dr. Steven Phillips (Private Practice, Greenwich, CT):** Draws parallels between chronic Lyme and post-COVID syndromes. Investigates persistent infection as a root cause. (Note: Experimental approaches).

VI. Foundational Research & Reliable Information Portals

- **National Institutes of Health (NIH):** The primary source for biomedical research.
 - *Specific Resource:* [PubMed](#) - Database for searching medical literature.
 - *Specific Resource:* [NIH National Center for Complementary and Integrative Health \(NCCIH\)](#)
- **Harvard Health Publishing:** Reliable, patient-friendly explanations of complex topics.
- **Mayo Clinic:** Trusted resource for disease information and management.
- **American Thoracic Society:** Leading authority on respiratory diseases.
- **American Lung Association:** Advocacy and education on lung health.
- **Society of Critical Care Medicine:** Source for ICU guidelines, including family-centered care.
 - *Specific Resource:* [SCCM Family-Centered Care Guidelines](#)
- **ClinicalTrials.gov:** Database to search for ongoing clinical studies.

VII. Full Source Documents

- **Appendix and Summary PDF:** [LINK TO YOUR GOOGLE DRIVE FILE]
- **Leading New England Physicians PDF:** [LINK TO YOUR GOOGLE DRIVE FILE]
- **Researching Threshold Practices PDF:** [LINK TO YOUR GOOGLE DRIVE FILE]