MedMasters
MASTER THE ART OF HEALING

The Medicine of Tx Plans

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What did Dr. Baker do?

Food For Thought

Clinical practice gap or Knowledge translation gap:

This term emphasizes the process of transferring research findings into practical applications in clinical settings, highlighting the gap that exists between research knowledge and its use in real-world patient care.

Key points to remember:

This gap can occur due to various reasons, including limitations in medical school curriculum, lack of access to updated research, time constraints for clinicians to stay current, and potential barriers to adopting new practices.

Medical professionals often try to bridge this gap by attending continuing medical education courses, actively following medical literature, and participating in research endeavors.

Food For Thought

The knowledge translation gap in medicine—the time it takes for research findings to be implemented into clinical practice—typically ranges between **10 to 17 years**.

This delay highlights the challenge of integrating new evidence into routine patient care, often due to barriers like lack of awareness, resistance to change, or the complexity of healthcare systems. Efforts in continuing medical education, clinical guidelines, and policy initiatives aim to reduce this gap and improve patient outcomes.

Evidence-Based VS Scientific-Based

Evidence-Based Medicine (EBM):
Definition: EBM is the integration of the best available research evidence with clinical expertise and patient values.

Science-Based Medicine (SBM):
Definition: SBM focuses on using scientific plausibility and rigorous scientific principles to evaluate medical practices.

Key Differences:
EBM: Places more weight on empirical data (clinical trials).
SBM: Incorporates both empirical data and scientific reasoning, ensuring treatments are plausible within the context of established science.

Conclusion:
While EBM is more procedural and structured around trial data, SBM applies a broader scientific lens to ensure treatments align with established scientific principles.

Questions to Ask Yourself

- Top three reasons you have an IV room
- Top three challenges to an IV room
- What types of patients/conditions can you or do you want to treat with IV therapy?

WHAT Does An IV Room Do?

- Targets cellular function/biology
- Biological
- Regenerative and Functional Medicine approach
- Provides higher doses than lifestyle alone
- Creates more services and options for patients
- Keeps patients engaged and compliant
- Generates another revenue stream

- How many of you **BELIEVE** in the power of IV therapy to get results other medicines or services can't?
- How many of you **BELIEVE** in the synergy of a diversity of IV protocols to increase outcomes beyond what a single IV can do?
- How many of you **BELIEVE** in the synergy of multiple therapies in addition to IV therapy?
- How many of you **BELIEVE** in the body's ability to heal itself given the right building blocks and environment?
- How many of you **BELIEVE** in your team's ability to deliver great IV services?

KNOW YOUR GOALS

Safety and Efficacy

Protect the Patient | **Protect** the Provider Patient | **Protect** the Medicine.

The Number One Rule of Medicine

Do No Harm

Two Basic Premises of Medical Approval

Safety and Efficacy

What is Your Healthcare Approach

- Target the cause of aging and disease
- Give the body natural building blocks
- Rely on body’s own intelligence

Regenerative medicine: Revolutionizing modern healthcare

- **Healing vs. Management**: Regenerative medicine aims to heal and regenerate tissues, potentially offering cures, whereas conventional medicine often focuses on managing conditions and alleviating symptoms.
- **Innovation vs. Established Practices**: Regenerative medicine is at the forefront of medical innovation with emerging technologies and treatments, while conventional medicine relies on established, widely tested methods.
- **Chronic Conditions**: Regenerative medicine holds promise for chronic conditions by addressing root causes, whereas conventional medicine typically provides long-term management strategies.
- **Cost and Accessibility**: Conventional medicine is generally more accessible and covered by insurance, while regenerative treatments can be expensive and are less commonly covered.

Regenerative medicine: Revolutionizing modern healthcare

Core Principle: Utilizing the body's own repair mechanisms to heal tissues and organs.
Approaches: Stem cell therapy, tissue engineering, biomaterials and mito repair/cell communication.

- **Stem Cell Therapy**: Uses stem cells to repair or replace damaged cells and tissues.
- **Tissue Engineering**: Combines cells, engineering, and materials to create functional tissues.
- **Biomaterials**: Uses substances that interact with biological systems to repair or replace tissues.
- **Focus**: Healing and regeneration at a cellular and molecular level.
- **Treatment Goals**: Restores function and structure, potentially curing the underlying cause of diseases.

WHAT Causes Disease?

According to the Institute for Functional Medicine

- **Poor diet and nutrition**: Inadequate or imbalanced nutrition affecting overall health.
- **Chronic stress**: Leading to hormonal imbalances and inflammation.
- **Toxins and environmental factors**: Exposure to chemicals and pollutants impacting cellular function.
- **Infections**: Chronic or hidden infections can undermine immunity.
- **Genetic predisposition**: Inherited genetic factors influencing susceptibility to diseases.
- **Impaired detoxification**: The body's inability to properly eliminate waste products.

WHAT Causes Aging?

- Poor lifestyle: stress, toxins, poor sleep, poor nutrition, little movement
- Imbalance between oxidative stress and antioxidant resources
- Senescence:
  - Primary: Epigenetic dysregulation, DNA damage, telomere erosion, mito-dysfunction,
  - Secondary: nutrient signaling dysf, stem cell exhaustion, chronic inflammation,
- Immune system dysregulation
- Protein folding

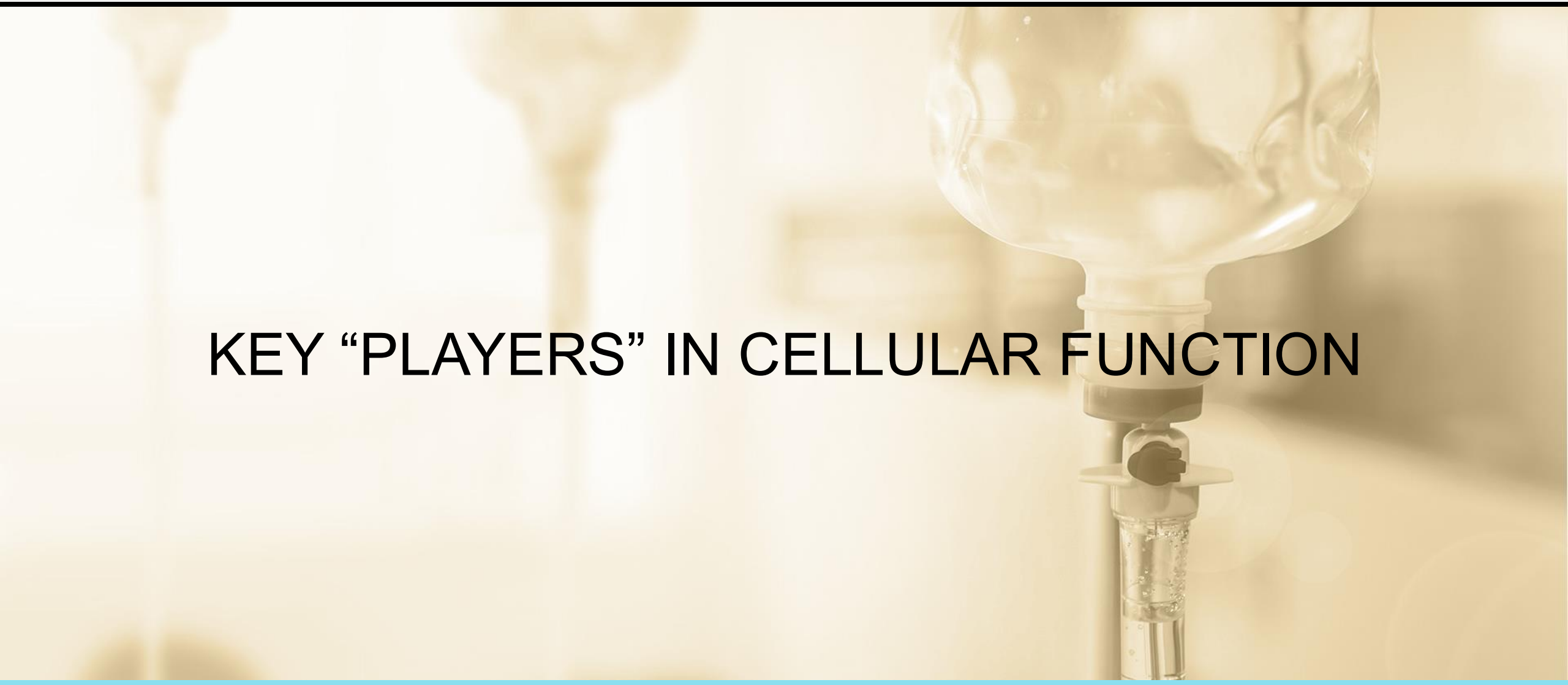
STUDY LINKS

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5748990/?utm_source=newsletter&utm_medium=email&utm_campaign=how_fasting_can_clear_out_old_damaged_cells_and_prevent_needless_ageing&utm_term=2023-09-08

https://www.ncbi.nlm.nih.gov/books/NBK10041/#:~:text=Oxidative%20damage,reactive%20oxygen%20species%20(ROS)

Secret #1: Using the Power Tools

IV Therapy is systemic, cellular treatment with higher doses and absorption than oral medicine.



KEY “PLAYERS” IN CELLULAR FUNCTION

Most of a clinician's outcomes can come from simple, modest essentials for the human body.

- higher doses
- higher absorption
- higher quality
- systemic
- biological
- quicker results
- can be less expensive considering above
- Evidence-based
- growing in "popularity"
- preventative and pro-active

Cellular and Systems Regen: Vitamins and Minerals

Vitamins and minerals play crucial roles in cellular regulation and communication. Here are some key micronutrients and their functions:

Vitamins

Vitamin D: Regulates gene expression, calcium signaling, and immune responses. MDPI
Vitamin A (Retinoids): Involved in gene transcription, cellular differentiation, and immune function. Cambridge University Press
Vitamin E: Acts as an antioxidant, protecting cell membranes from oxidative stress, and supports cell signaling pathways. PubMed Central
Vitamin C: Supports collagen synthesis, antioxidant defense, and is involved in cellular signaling and immune regulation. PubMed Central
Vitamin K: Critical for calcium regulation and blood clotting; also influences cellular signaling pathways. PubMed Central
B Vitamins (B1, B2, B3, B6, B9, B12): Involved in energy production, DNA synthesis and repair, neurotransmitter function, and methylation pathways that regulate gene expression. PubMed Central

Minerals

Calcium: Essential for cellular signaling, muscle contractions, neurotransmitter release, and regulation of cell life cycles (growth and apoptosis). PubMed Central
Magnesium: Regulates enzymatic activity, influences ion channels, and is critical in DNA repair, energy production, and cell proliferation. PubMed Central
Zinc: Plays a role in DNA synthesis, immune function, and cell division. Important for enzymatic reactions and cellular communication. MDPI

Cellular and Systems Regen: Vitamins and Minerals

Iron: Facilitates oxygen transport, electron transport in mitochondria, and is essential for enzyme function in cellular respiration. PubMed Central
Potassium: Critical for maintaining cellular membrane potential and regulating nerve impulses and muscle contractions. PubMed Central
Selenium: Functions as an antioxidant, reducing oxidative stress and regulating redox signaling and immune responses. MDPI
Sodium: Maintains fluid balance, nerve signal transmission, and regulates cellular communication by controlling membrane potential. PubMed Central
Phosphorus: A component of ATP, DNA, and cell membranes, essential for energy transfer and cellular signaling. PubMed Central
Copper: Facilitates electron transport, iron metabolism, and neurotransmitter synthesis, supporting cellular respiration and antioxidant defense. PubMed Central

These micronutrients collectively ensure that cells can effectively communicate, regulate growth, respond to external stimuli, and maintain homeostasis.

Cellular and Systems Regen: Immune Balance

Top five receptors for immune balance

1. **T Cell Receptor (TCR):** Found on the surface of T cells, TCRs are essential for adaptive immunity. They recognize specific antigens presented by antigen-presenting cells (APCs), such as dendritic cells and macrophages. This recognition triggers T cell activation, leading to various immune responses, including:
    1. Direct killing of infected cells (cytotoxic T cells)
    2. Activation of other immune cells (helper T cells)
    3. Regulation of immune responses
2. **B Cell Receptor (BCR):** Located on the surface of B cells, BCRs are responsible for recognizing and binding to antigens. This binding initiates B cell activation, leading to:
    1. Differentiation into plasma cells, which produce antibodies
    2. Production of memory B cells for long-term immunity

Cellular and Systems Regen: Immune Balance

Top five receptors for immune balance

3. **Toll-Like Receptors (TLRs):** These are pattern recognition receptors (PRRs) found on various immune cells, including macrophages, dendritic cells, and B cells. TLRs recognize pathogen-associated molecular patterns (PAMPs), which are molecules commonly found on pathogens like bacteria, viruses, and fungi. TLR activation triggers innate immune responses, such as:
    1. Production of cytokines and chemokines, which promote inflammation and recruit other immune cells
    2. Activation of antigen presentation, linking innate and adaptive immunity
4. **Major Histocompatibility Complex (MHC) Molecules:** While not receptors themselves, MHC molecules are crucial for antigen presentation to T cells. There are two main classes:
    1. MHC Class I: Present on all nucleated cells, presenting intracellular antigens to cytotoxic T cells (CD8+).
    2. MHC Class II: Present on APCs, presenting extracellular antigens to helper T cells (CD4+). Without proper MHC function, T cells cannot effectively recognize and respond to antigens.

Cellular and Systems Regen: Immune Balance

Top five receptors for immune balance

5. **Cytokine Receptors:** Cytokines are signaling molecules that play a vital role in regulating immune responses.Cytokine receptors on immune cells bind to specific cytokines, triggering intracellular signaling pathways that influence:
    1. Cell growth and differentiation
    2. Inflammation and immune cell activation
    3. Communication between different immune cell types

Some key examples include:

- Interleukin receptors (IL-1R, IL-2R, etc.)
- Interferon receptors (IFNαR, IFNγR)
- Tumor necrosis factor receptors (TNFR)

Cellular and Systems Regen: Oxygen and Light

What does Ozone/UV Combo do?

- Germicidal
- Rheological - flow properties of blood
- Immune modulating
- Analgesic effects
- Supports detox systems/organs
- Oxygenation effects
- Inflammation reduction
- Redox balancing
- Optimization of pro- and anti-oxidant systems
- Vasodilation - improved circulation
- Increased cellular efficiency
- Mitochondrial repair
- ATP increase
- Tissue Repair
- Debris scavenger

What conditions improve with O3UV?

- Cellular respiration and autophagy
- Cardiovascular disorders
- Circulatory disease
- Systemic chronic and acute infections (viral, bacterial, fungal)
- Autoimmune disease
- Mitochondrial disfunction
- O2 Utilization
- Tissue repair
- Digestive/Kidney/Internal
- Mental disorders via microcirculation
- Pulmonary conditions
- OB/GYN
- Pain of all kinds
- Chronic and acute inflammation (localized or systemic)

Cellular and Systems Regen: methylene blue

Benefits of Methylene blue

1. **ETC:** Bypasses 1-3 to create ATP with less energy
2. **Donates and Receives Electrons:**
3. **Neuroprotective:** Alzheimer's, Parkinson's and mood disorders
4. **Acts as antioxidant:** Protects against cell damage
5. **Antimicrobial Agents:** UTI's
6. **Cognitive:** Memory, depression, anxiety
7. **Phytoexcitation:** Generates more energy when introduced to light

nuBioAge

Cellular and Systems Regen : Glutathione

Benefits of Glutathione

1. Possibly most potent antioxidant
2. Directly reducing free radicals and protecting cells from damage
3. Also participates in the recycling of other antioxidants like Vit C and E
4. Supports Phase II detoxification by aiding in conjugation of harmful molecules for excretion
5. “Crucial player in maintaining healthy skin AND overall well-being”

Cellular and Systems Regen : NAD+

Benefits of NAD+

1. Supports energy metabolism by converting food into ATP.
2. Aids in DNA repair and cellular maintenance.
3. Regulates gene expression.
4. Maintains mitochondrial function and cellular health.
5. Facilitates antioxidant defense mechanisms.
6. Plays a role in aging processes and age-related diseases.
7. Boosting NAD+ levels may offer therapeutic potential for aging and metabolic disorders.

Cellular and Systems Regen : POLYMVA

Benefits of PolyMVA

1. Amplifies ETC brining more O2 to metabolic cascade
2. Donates electrons
3. Synthsises Complex 1-4
4. Causes conversion of NAD in cell
5. Unique redox mechanism
6. Jumpstarts your cell battery

Regenerative: Peptides

Functions of Peptides

1. **Hormones:** Peptides act as hormones, which are chemical messengers that regulate physiological processes.
2. **Neurotransmitters:** Peptides function as neurotransmitters or neuromodulators, influencing brain function and behavior.
3. **Enzyme Inhibitors:** Peptides can inhibit the activity of enzymes, thereby regulating metabolic pathways.
4. **Antimicrobial Agents:** Some peptides have antimicrobial properties, serving as part of the immune system's defense against infections.
5. **Structural Components:** Peptides contribute to the structure of cells and tissues.
6. **Signaling Molecules:** Peptides can act as signaling molecules, binding to receptors on cell surfaces and triggering specific biological responses.

nuBioAge

Reverse the aging process: Platelet Rich Plasma

Autologous Treatment:

- Since PRP is derived from the patient's own blood, it is considered an autologous treatment. This reduces the risk of immune reactions or transmission of diseases, making it a safe and biocompatible option for patients.

Mechanisms of Action:

- PRP promotes healing through several mechanisms:
- **Enhanced Cellular Recruitment:** PRP attracts various cell types to the injury site, including stem cells, fibroblasts, and endothelial cells, which are essential for tissue repair and regeneration.
- **Angiogenesis:** The growth factors in PRP stimulate the formation of new blood vessels, improving blood supply to the damaged tissue and facilitating healing.
- **Collagen Synthesis:** PRP promotes the production of collagen, a key structural protein in tissues, aiding in the restoration of tissue integrity and strength.
- **Anti-inflammatory Effects:** PRP can modulate inflammation, reducing pain and swelling, and promoting a more conducive environment for healing.

Reverse the aging process: human cellular tissue products

Allogeneic: Derived from a donor, which can be another person or a cadaver

Mechanisms of Action:

- **Cell Replacement:** Direct replacement of damaged or diseased cells.
- **Paracrine Effects:** Release of growth factors and cytokines that stimulate the body's own healing processes.
- **Scaffolding:** Providing a structural framework for new tissue growth and integration.
- **Immune Modulation:** Modulating the immune response to promote healing and reduce inflammation.

Fundamental Regenerative Therapies For IV Room

- Fundamental Nutrition as Catalyst, Co-Factors and Phase I Detox: **Vitamins, Minerals and POLYMVA**
- Circulation, antimicrobial, redox, cellular respiration: **OZONE/UBI**
- Antioxidant, Phase II Detox: **GLUTATHIONE**
- Krebs Cycle, ETC, Anti-Viral, Neuro-/Cardio-Protective: **METHYLENE BLUE**
- Cellular Communication, Stress Reduction: **PROCAINE**
- Mitochondrial and Cell Function: **NAD+**

Treatment Plans / Standard of care

- Detox/Chemical Tox/4 Rs/ROS
- Building/Nx Deficiencies
- Hormonal imbalance/metabolic dysregulation
- Infection
- Mito dysregulation/inflammation

- Glutathione
- Ozone
- Procaine
- PolyMVA
- Methylene Blue
- Peptides
- BHRT
- Biologics

Treatment Plans / Standard of Care

- Body
- System
- Organ
- Tissue
- Cell
- Mito
- ETC

- Glutathione
- Ozone
- Procaine
- PolyMVA
- Methylene Blue
- Peptides
- BHRT
- Biologics

Address microbiome, internal terrain, cellular efficiency, and mitochondrial health

Comprehensive Treatment Plans

IV NUTRITION		O3UV IV		OTHER
	+		+