

APRIL 26-28, 2026

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2026

AAOHN NATIONAL CONFERENCE



ORLANDO, FLORIDA

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Beyond the Usual Suspects: Could MCAS Be Behind Your Worker's Mysterious Symptoms and Absenteeism?

60-Minute Continuing Education Session

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Guest Speaker: Nicole Zaia, PhD(c), MHA

Patient & I-O Psychology Perspective



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Disclosures

Accreditation statement: The American Association of Occupational Health Nurses, Inc. (AAOHN) is accredited as a provider of nursing continuing professional development by the American Nurses Credentialing Center's Commission on Accreditation.

Contact hours: 1.0

Successful completion: complete the evaluation form for this session.

Disclosures: None of the planners or presenters for this activity have a relevant financial relationship to disclose with ineligible companies.



Objectives

1. Define Mast Cell Activation Syndrome and describe its pathophysiology.
2. Identify occupational health presentations that should prompt MCAS evaluation.
3. Discuss strategies for clinical recognition, workplace accommodation, and employee support.
4. Outline referral pathways and collaborative care strategies for occupational health nurses and nurse practitioner

She Keeps Coming Back to Occupational Health...



35-year-old PhD laboratory researcher (vivarium exposure)

- Episodic flushing during animal handling
- Tachycardia (HR 120–140) during lab meetings
- Urgent diarrhea before grant submissions
- Brain fog during protocol drafting
- Normal cardiology, GI, endocrine workups

She says: “I don’t feel like myself.”
Supervisor documenting “variable productivity”

Functional Decline & Medical Gaslighting

- Missed internal grant deadlines
- Increased documentation errors during flares
- Delayed IRB amendments
- Supervisor questioning reliability
- Angry co-workers
 - Lazy, faking, not a team player...
- PCP: “Labs are normal.”
- Specialist: “Likely anxiety.”
- Medical gaslighting → symptom invalidation
- Credibility erosion → identity threat
- Reduced psychological safety at work

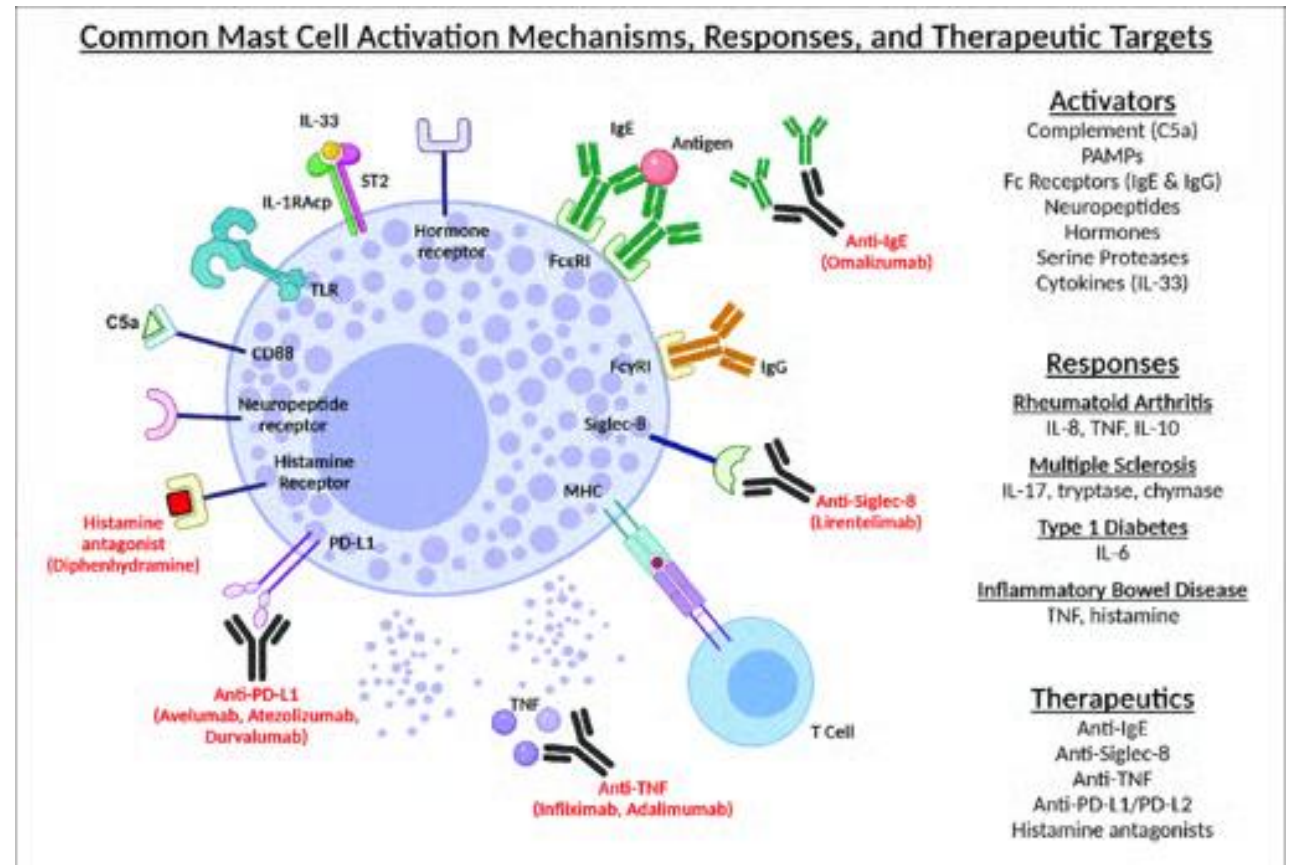


Why This Matters in Occupational Health



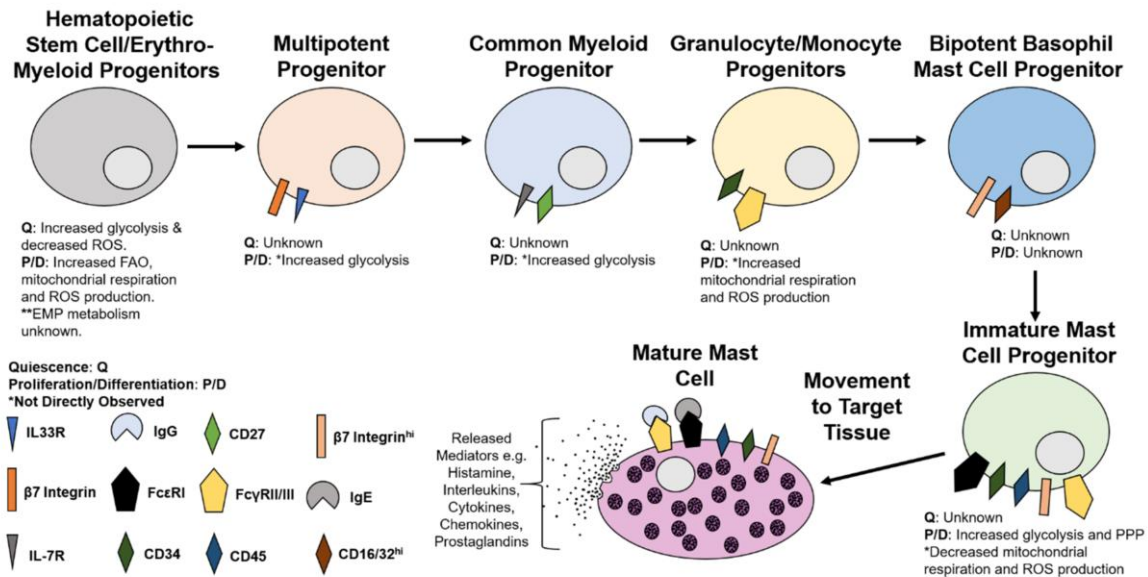
Mast Cells: Clinical Overview

- Tissue-resident immune effector cells
- Express FcεRI receptors
- Release histamine, tryptase, leukotrienes, cytokines
- Interface with autonomic nervous system
- Involved in neuroimmune signaling
- Clinical implication: systemic manifestations
- I/O implication: episodic cognitive variability



Mediator Effects Relevant to Workplace Function

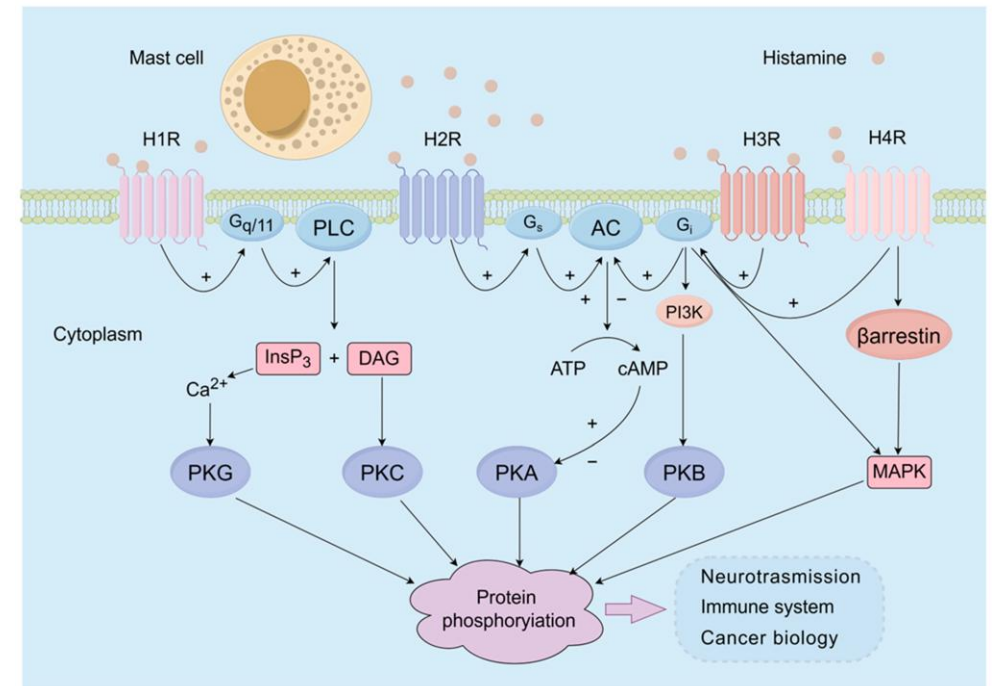
Preferred Metabolic Pathways during Mast Cell Development



- Histamine → vasodilation, flushing, tachycardia
- Leukotrienes → bronchospasm, GI hypermotility
- Cytokines → fatigue, slowed cognition
- Prostaglandin D2 → flushing
- Symptoms mimic anxiety or panic

What Goes Wrong in MCAS?

- Lower mast cell activation threshold
- Non-clonal dysregulated activation
- mTORC1 pathway involvement (emerging evidence)
- Exaggerated response to stress, temperature, chemicals
- Neuroinflammatory amplification



Epidemiology and Overlap

Likely Underrecognized

Likely underrecognized

Female predominance
(~70–80% in specialty cohorts)

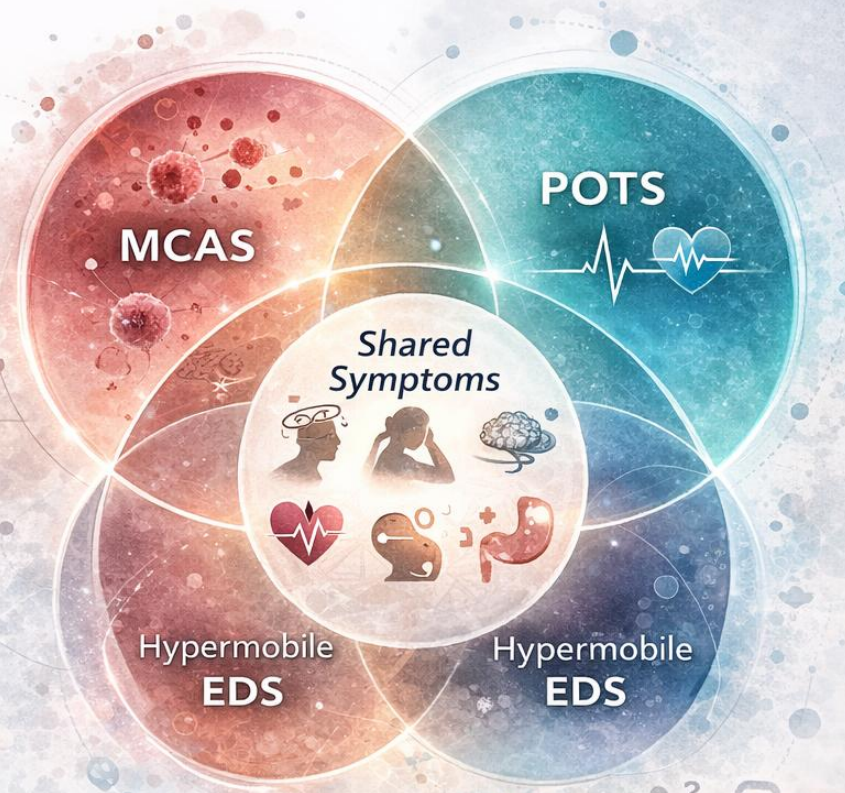
Often overlaps with **POTS**

Frequently seen with
→ **Hypermobile EDS**

Onset often **early adulthood**
20–40

Gender bias contributes
→ **delayed diagnosis**

Gender bias contributes to
→ **delayed diagnosis**



Diagnostic Framework



Recurrent episodic symptoms involving ≥ 2 organ systems

1

Objective mediator elevation when obtainable

2

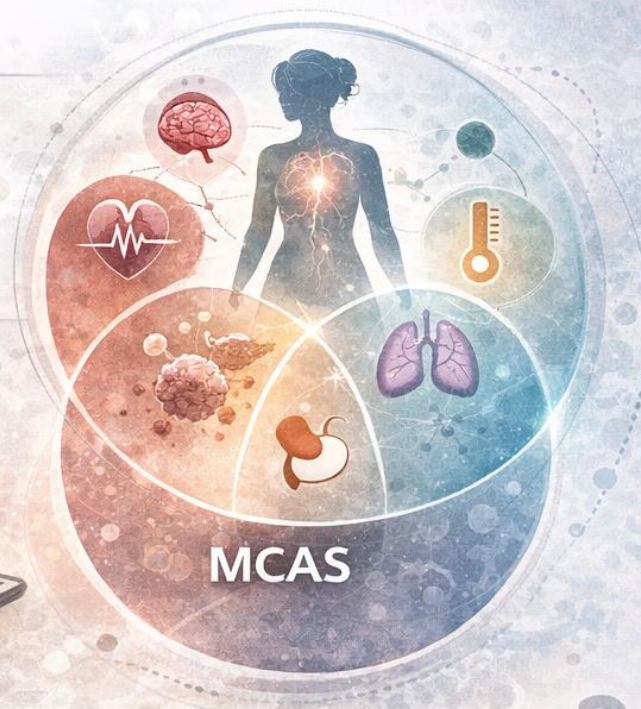
Objective mediator elevation when obtainable

3

Clinical improvement with targeted therapy



No single definitive test exists



The Tryptase Nuance

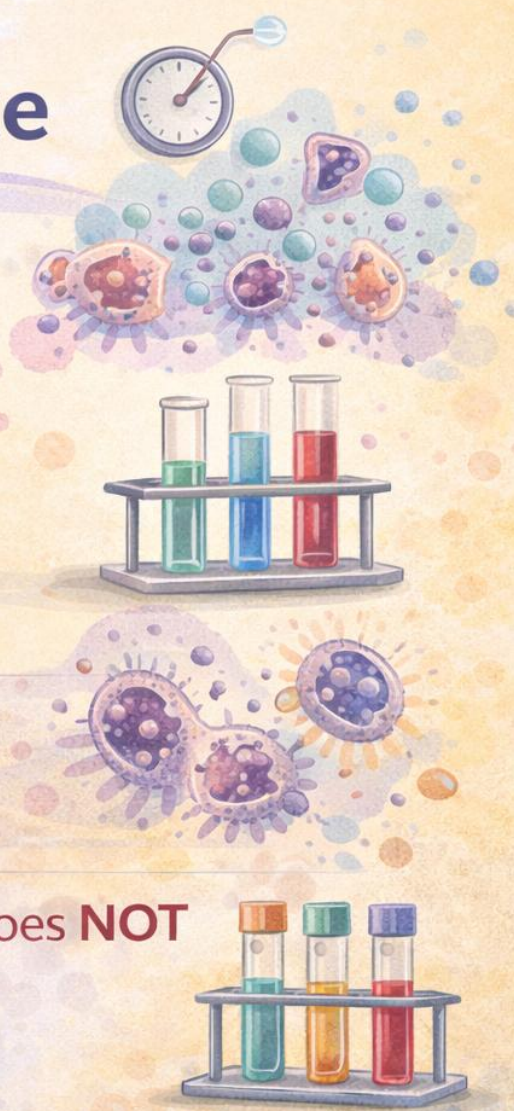


✓ Baseline tryptase often normal

↗ “20% + 2 ng/mL” increase rule during flare

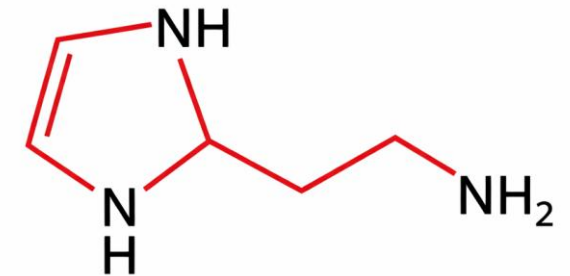
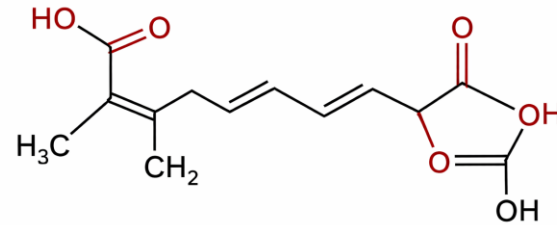
🕒 Draw within 1–4 hours

✗ Tryptase-negative does **NOT** exclude **MCAS**



Additional Diagnostic Testing

- Urinary N-methylhistamine
- Prostaglandin D2 metabolites
- Plasma histamine (limited reliability)
- Labs must align with flare timing
- Clinical diagnosis often required



Prescribing: H1 Antihistamines



Cetirizine 10–20 mg daily (may divide BID)



Fexofenadine 180 mg daily



Loratadine 10 mg daily

- Higher dosing under specialist guidance

OH Consideration:



Sedation risk



Reaction time in safety-sensitive roles



Prescribing: H2 Antihistamines



Famotidine 20–40 mg daily
(may divide BID)



Dual H1/H2 blockade
improves flushing & GI symptoms

- Renal dosing adjustment

OH Consideration:



Prescribing: Cromolyn Sodium



- ✓ 100–200 mg PO QID
- ✓ Mast cell stabilizer (prevents degranulation)
- ✓ Particularly effective in GI phenotype
- ✓ Slow titration recommended



Prescribing: Leukotriene Modifiers



- Montelukast 10 mg nightly
- Blocks **cysteinyl leukotriene** receptors
- ⚠️ FDA boxed warning:
neuropsychiatric effects
- Monitor **mood & sleep** changes

I/O:

avoid mislabeling medication effects as
“personality change”

Prescribing: Biologic Therapy (Specialist-Directed)

Omalizumab q2–4 weeks

- ✓ Consider in refractory MCAS
- ✓ Monitor for injection reactions



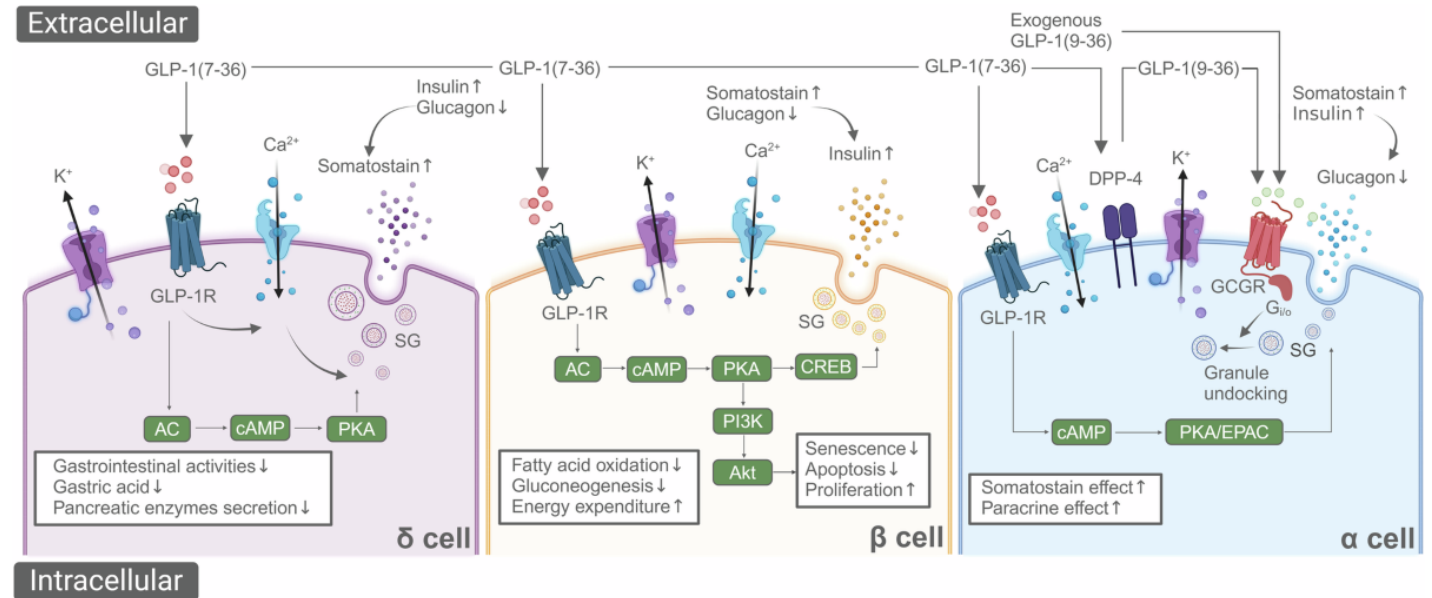
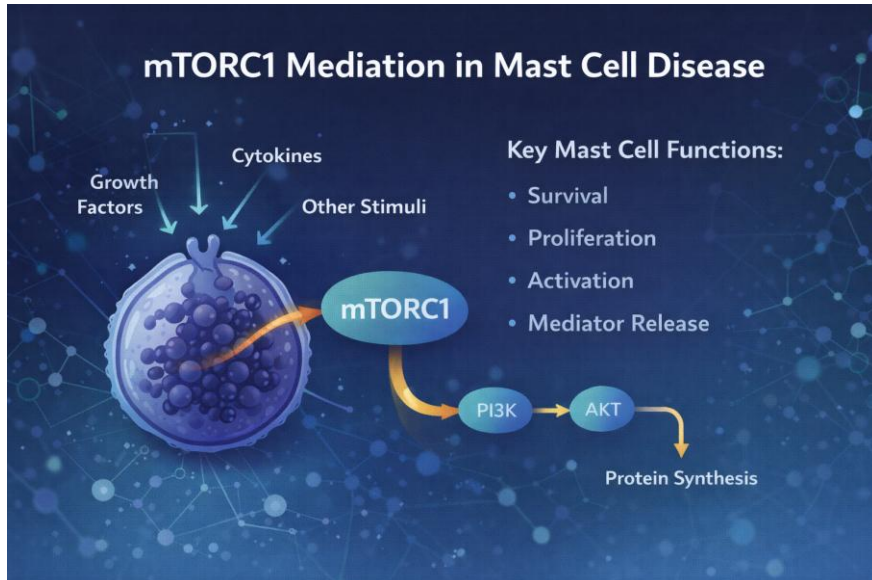
OH role:

- ✓ Recognize refractory cases
- ✓ Coordinate referral - Rheumatology



Prescribing: Emerging & Investigational Therapies

- mTORC1 modulation research
- GLP-1 receptor agonist exploratory discussions
- Ongoing biologic investigations
- Specialist-only prescribing



Prescribing: DAO & Histamine Regulation

DAO = Diamine Oxidase

- ✓ Degrades dietary histamine
- ✓ Low DAO may worsen symptoms
- ✓ Adjunctive therapy only
- ✓ Taken prior to high-histamine meals



Prescribing: Nutraceuticals & Diet

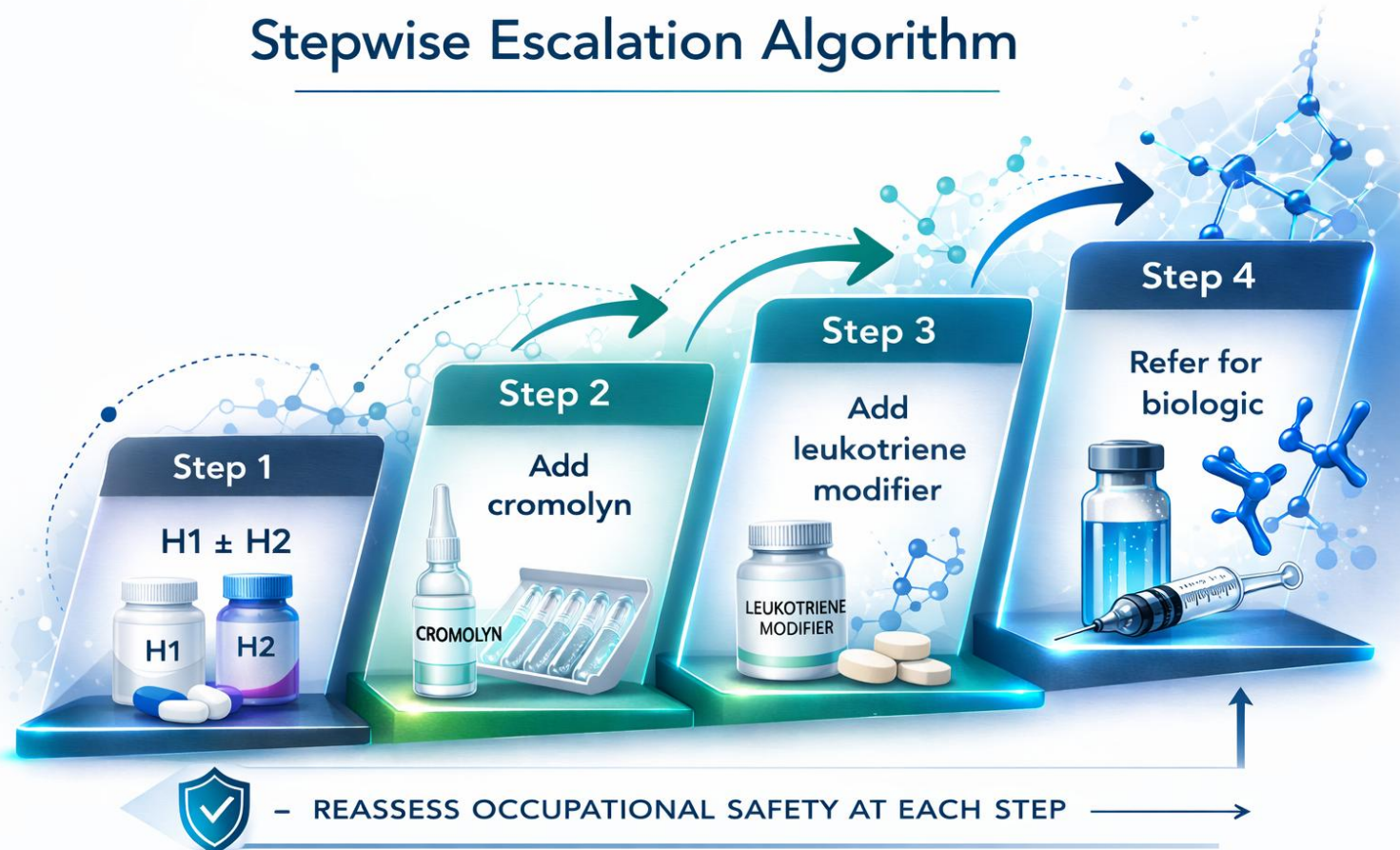
Potential Supportive Therapies

- ✓ Quercetin (mast cell stabilizing)
- ✓ Vitamin C (supports histamine metabolism)
- ✓ Low-histamine diet
- ✓ Limited high-quality RCT data

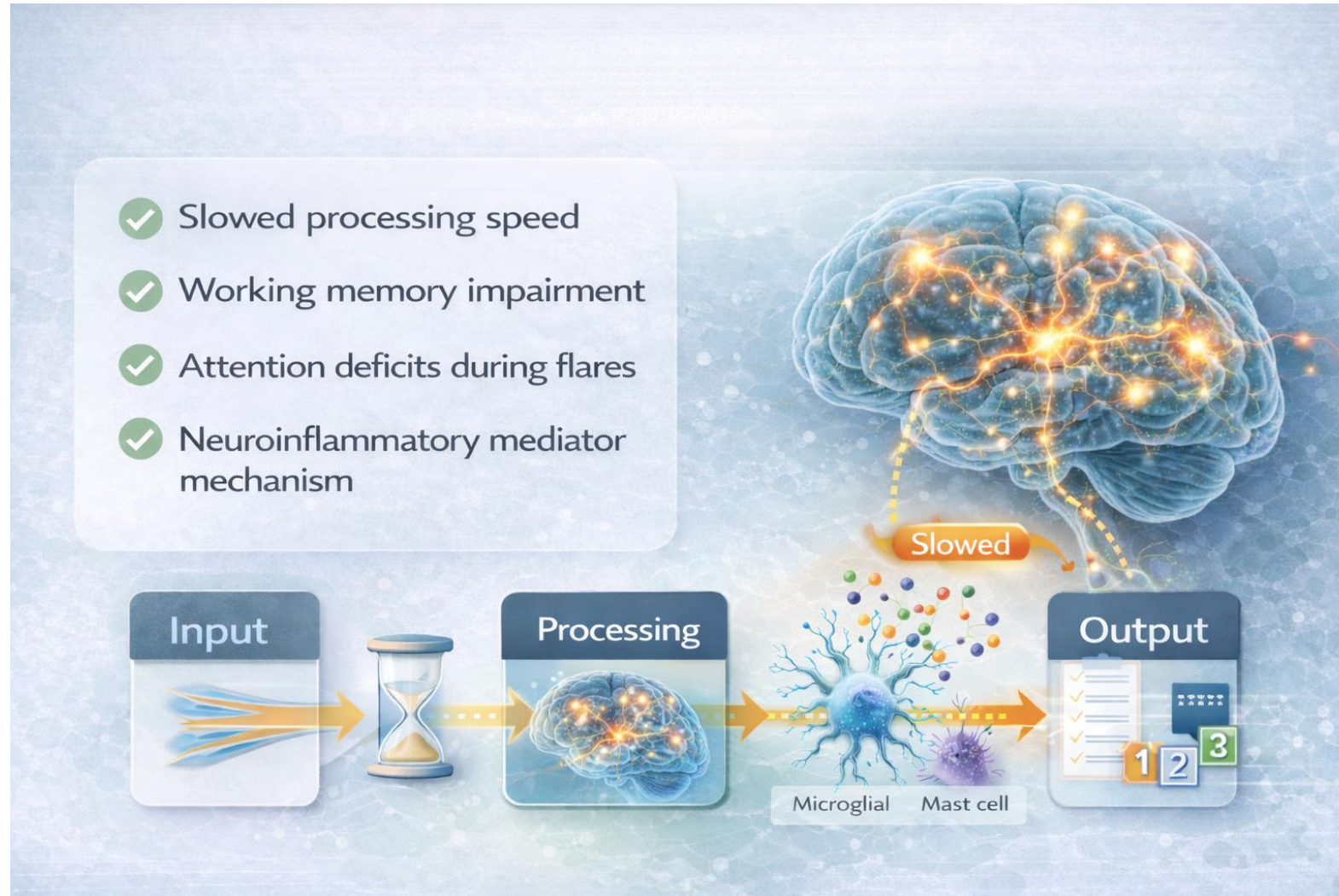


Prescribing: Nutraceuticals & Diet

Stepwise Escalation Algorithm



Brain Fog & Executive Dysfunction



Medical Gaslighting

The illustration depicts a doctor in a white coat and stethoscope, holding a clipboard, speaking to a seated woman. Two speech bubbles from the doctor contain the phrases "It's probably just anxiety" and "Your symptoms don't seem that bad". To the left, a list of four consequences is shown in a rounded rectangle, each preceded by a green checkmark. Below this list, a diagram shows a stethoscope icon with an arrow pointing to a brain icon with a question mark, with labels "Delayed Diagnosis" and "Secondary Anxiety" below the respective icons.

- ✓ Symptom minimization
- ✓ Attribution to anxiety
- ✓ Delayed diagnosis
- ✓ Secondary anxiety from invalidation

It's probably just anxiety

Your symptoms don't seem that bad

Delayed Diagnosis

Secondary Anxiety

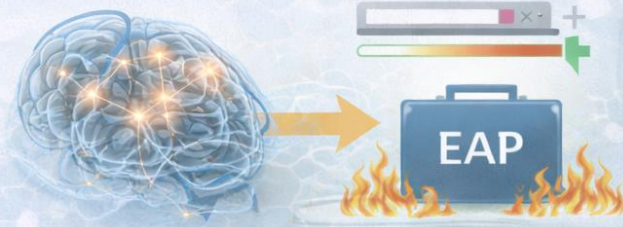
Psychological Safety in the Workplace

- ✓ Invisible illness stigma
- ✓ Fear reduces disclosure
- ✓ Labeling as “lazy” or “unreliable”
- ✓ Leadership modeling improves outcomes



Mental Health Support

- ✓ Validate physiologic basis first
- ✓ Stress reduction as amplifier control
- ✓ EAP as adjunct, not primary explanation
- ✓ Prevent burnout escalation



ADA and Functional Framing

- ✓ Document functional limitations, not diagnosis
- ✓ Normalize episodic variability
- ✓ Environmental trigger mitigation
- ✓ Flexible scheduling when appropriate

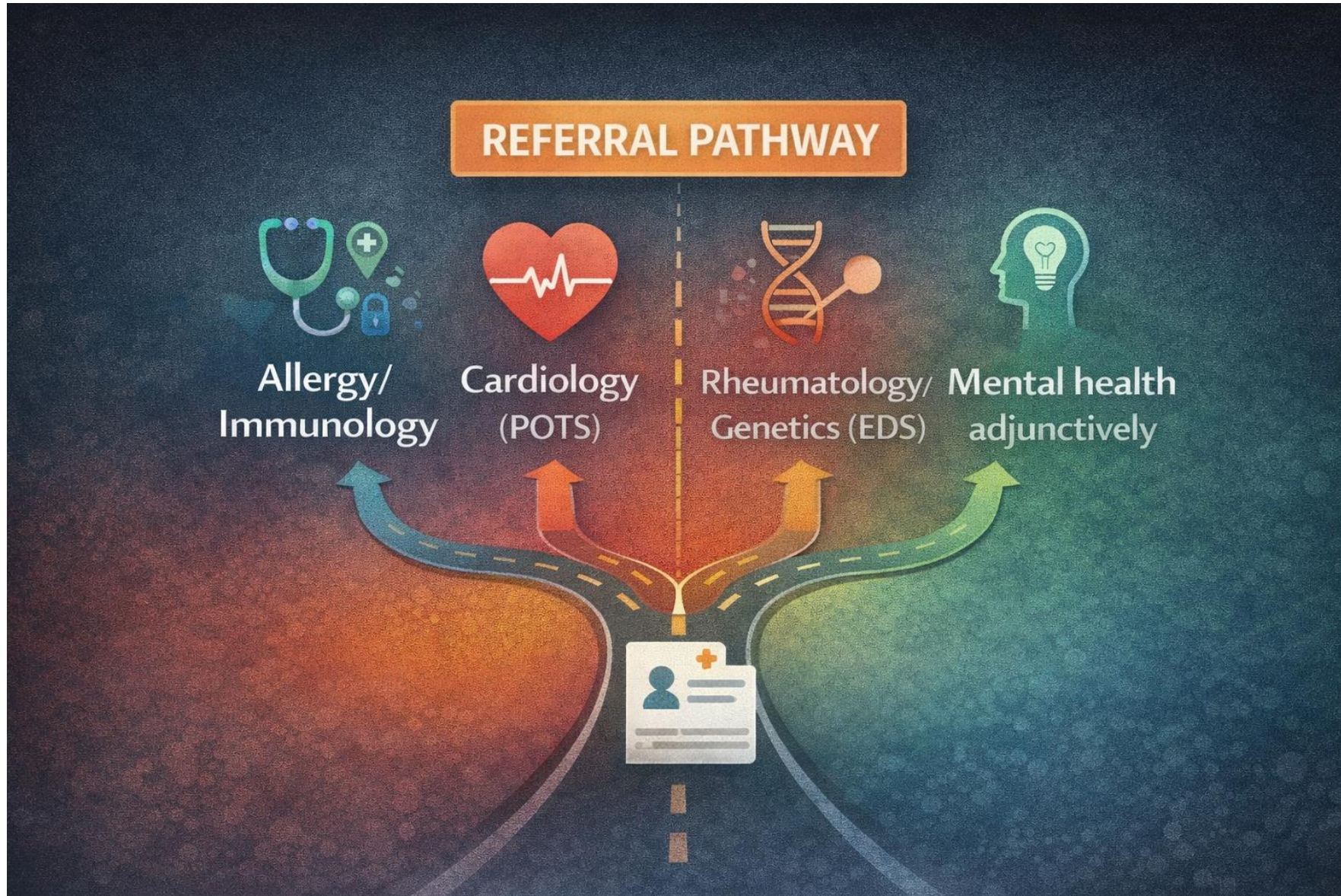


Return-to-Work Strategy

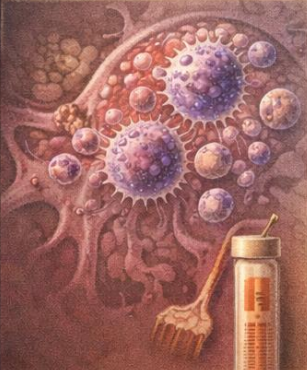

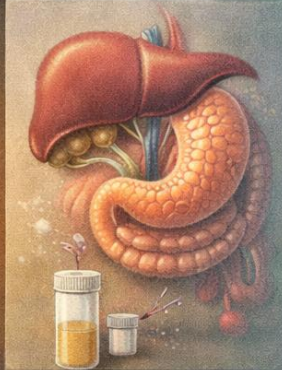
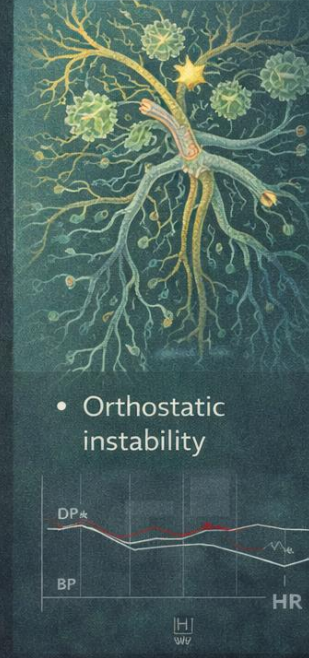


Cost of Presenteeism





Differential Diagnoses

Systemic mastocytosis	Carcinoid syndrome	Pheochromocytoma	Autoimmune dysautonomia
			
<ul style="list-style-type: none">• Persistent elevated baseline tryptase• KIT D816V mutation	<ul style="list-style-type: none">• Elevated urine 5-HIAA• Right-sided heart disease	<ul style="list-style-type: none">• Elevated urine 5-HIAA• Right-sided heart disease	<ul style="list-style-type: none">• Orthostatic instability

Case Revisited



Recognize multisystem pattern

- Initiate H1/H2 therapy
- Educate supervisor
- Refer appropriately
- Restore psychological safety

Clinical Red Flags

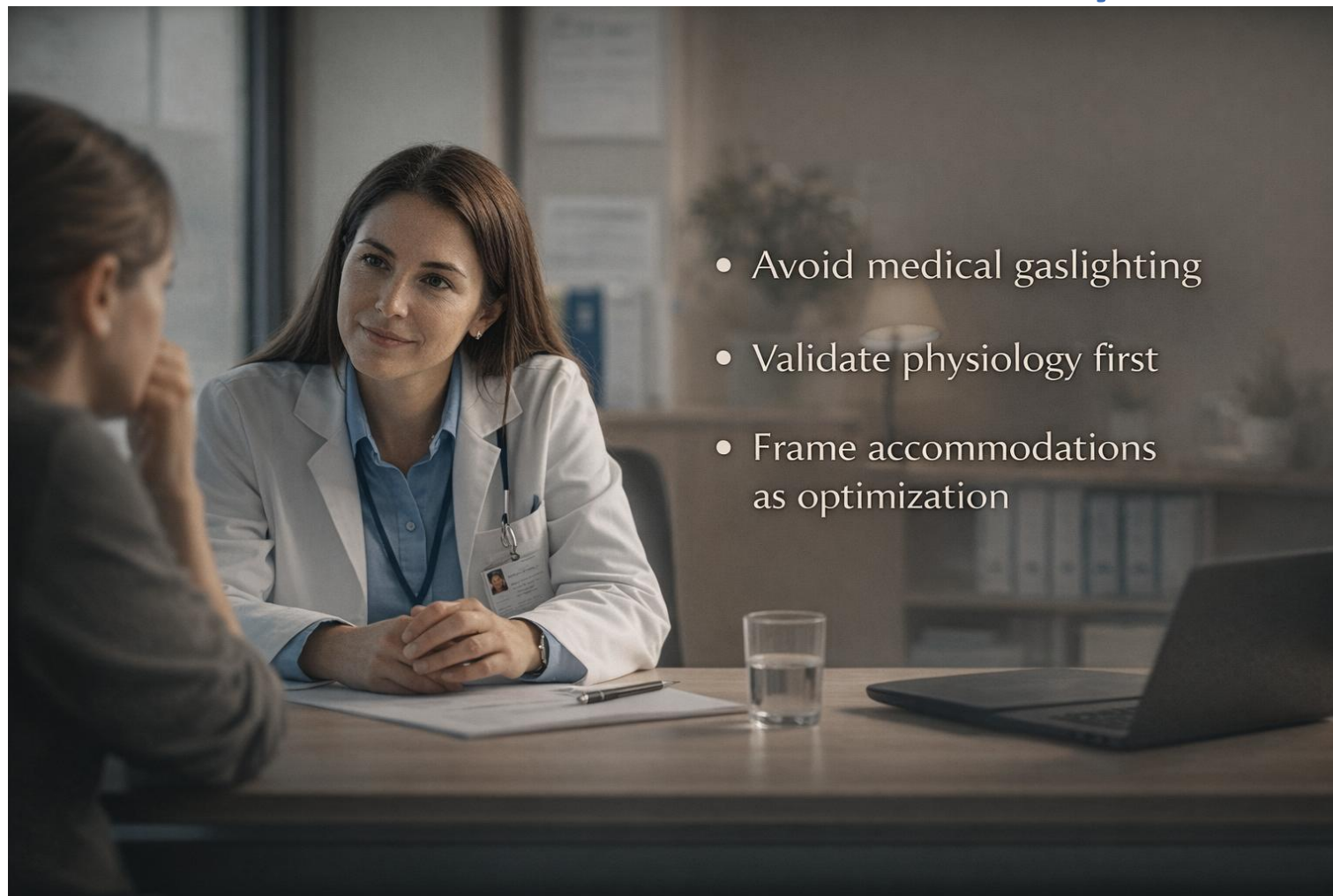
The image consists of three vertical panels, each featuring a red flag icon at the top. The first panel shows a man's face with a red flag above it, a vial of epinephrine, and a diagram of the respiratory system. The second panel shows a worker in a yellow safety vest and hard hat falling backward with a wrench, with a red flag above him. The third panel shows a vial of tryptase and a large, colorful illustration of various viruses and bacteria, with a red flag above them.

- Recurrent anaphylaxis
- Syncope in safety-sensitive roles
- Elevated baseline tryptase

Clinical Takeaways



Mental Health Takeaways



- Avoid medical gaslighting
- Validate physiology first
- Frame accommodations as optimization

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