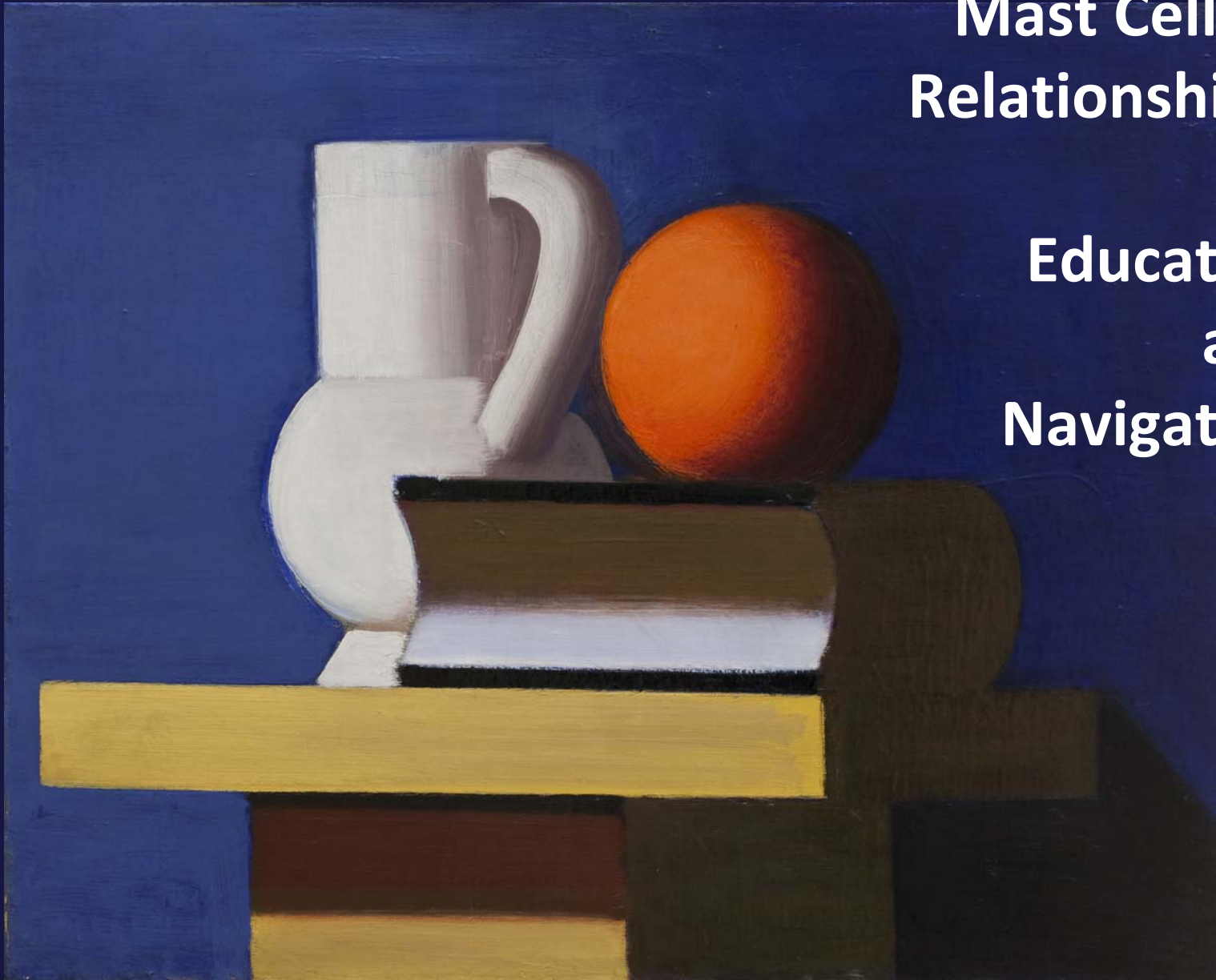


**Mast Cells &
Relationships:**

**Education
and
Navigation**



About Me:

Roselle P. O'Brien,

LMHC, REAT, REACE, ICAT, LPN

Education:

- PhD in Psychology specializing in Mast Cell Activation Issues & Disorders---Current Candidate
- MA in Clinical Mental Health Counseling
- MA in Education
- MFA in Creative Writing
- BA in Art/Fine Arts, Education
- Diploma Nursing

Licenses/Certification:

- Licensed Mental Health Counselor (LMHC)
- Licensed Clinical Mental Health Counselor (LCMHC)
- Licensed Nurse
- Licensed Educator
- Intermodal Creative Arts Therapist (ICAT)
- Intermodal Creative Arts Facilitator (ICAF)

About Me: (cont'd)

Licenses/Certification (cont'd):

- Registered Expressive Arts Therapist (REAT)
- Registered Expressive Arts Consultant/Educator (REACE)
- Certified Life Coach
- Certified Health & Nutrition Life Coach
- Certified Therapeutic Arts Life Coach

Certificates:

- Eco-Health Support: Medical Professional
- Eco-Health Support: Therapist

The Eco-Health Certificate Programs are for understanding and working with people who have Mast Cell Disorders (MCD) such as Mast Cell Activation Syndrome (MCAS), Post-/Long-COVID, being sensitive to multiple chemicals, chronic fatigue, brainfog, EDS, fibromyalgia, and more.

For more information: <https://celacareonline.us>

The Work I Do:

Roselle P. O'Brien,

LMHC, REAT, REACE, ICAT, LPN

**Health & Wellness – Therapy – Life Coach
Creative Arts for Health & Healing – Supporting you!**

I am a mast cell specialist with over 13 years of experience working with and supporting individuals with MCAS and other mast cell activation related issues and disorders. Visit the website and learn more:

CELACare Eco-Health, Inc.

<https://midnightmastcells.com>



"Because you are alive,
everything is possible."

-- *Thich Nhat Hanh*

RoadMap:

- **The Mast Cell Quick Dive**
- **When Mast Cells Misbehave**
- **Mast Cells Communicate**
- **Three Levels of Relationship**
- **Navigation: Self**
- **Navigation: Mast Cell Disorder**
- **Navigation: Others**



Quick Dive: Mast Cells

What they are:

- Located in the connective tissue throughout the body
- In every organ system including the brain
- Part of the body's immune system and immune response
- Part of the body's inflammatory response
- The body's 1st responders to perceived dangers and threats --- & more

What they do:

- 1st line of defense against perceived threats
- Help protect against threats and dangers
- Regulate blood pressure
- Regulate wound healing
- Regulate most hormones in GI tract
- Directly activate pain nerve fibers; induce pain, headaches, chronic pain --- & more

Quick Dive: Mast Cells

Mast Cells are in the Body's Connective Tissue:

Connective tissue connects, supports, and helps throughout the entire body. Connective tissue:

- Supports the body's organs and structures
- Provides the framework that holds the body's parts together
- Protects the body's parts
- Plays roles in immune function
- Transports nutrients and wastes
- Stores fat
- Repairs tissue damage
- & more

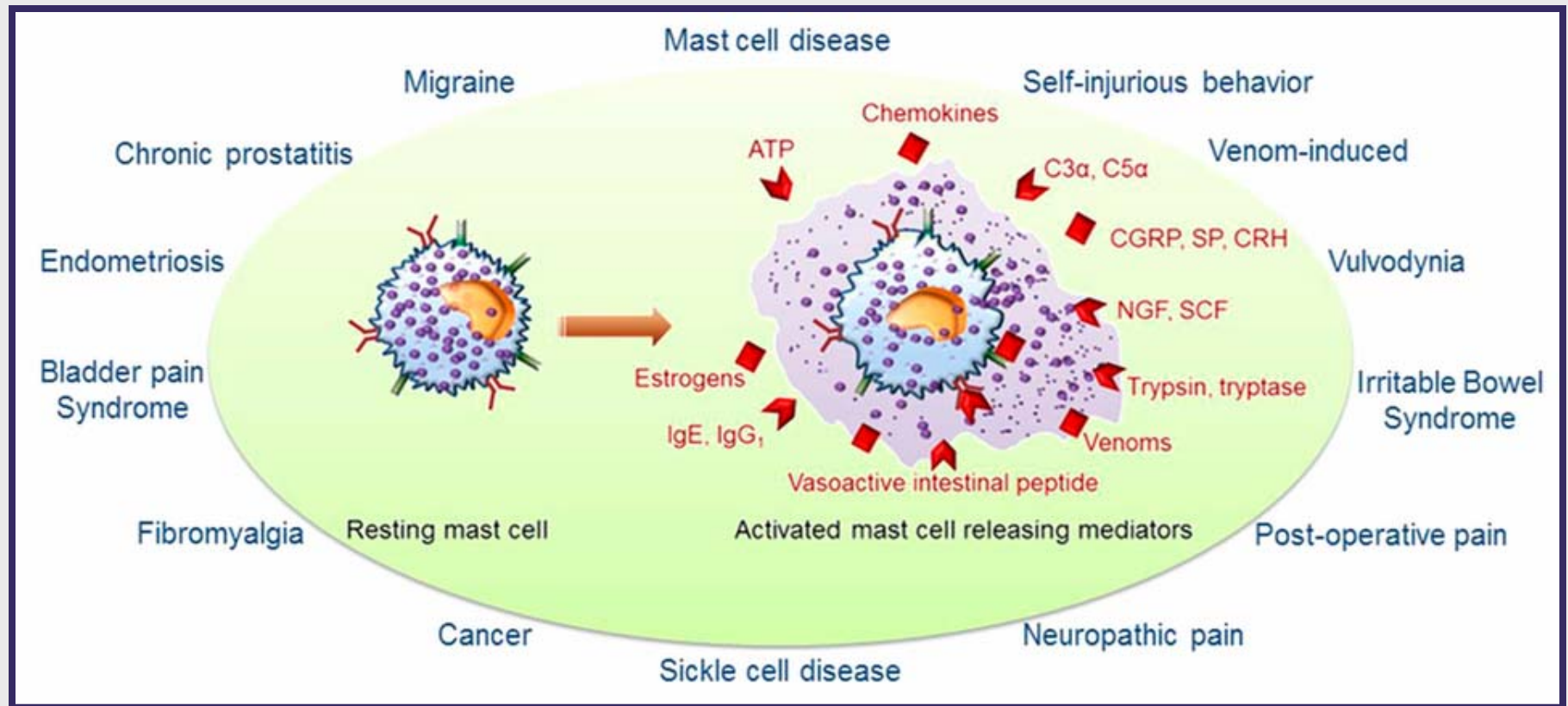
Mast cells are found in connective tissue throughout the body and virtually in every organ and every organ system.

Mast cells play a crucial role in immune responses and inflammation.

Mast cells in connective tissue contain numerous granules that store a variety of bioactive molecules—mediators—including histamine, heparin, proteases, cytokines that are essential for the cell's function in immune responses and inflammation.

Quick Dive: Mast Cells

A partial list of mast cell activation related issues and disorders includes:



Mas Anupam Aich, Lawrence B. Afrin, Kalpna Gupta
Int. J. Mol. Sci. 2015, 16(12), 29069-29092;
<https://doi.org/10.3390/ijms161226151>

Quick Dive: Mediators

Mast Cell Mediators:

Histamine:

- Skin symptoms - hives, flushing, angioedema, itching
- Respiratory – cough, wheezing
- GI – diarrhea, gastritis
- Pain – headache
- Acts as neurotransmitter

Leukotrienes:

- Respiratory – shortness of breath, airway inflammation

Prostaglandins:

- Skin – flushing
- Cardiovascular – hypotension or hypertension
- Pain – bone pain, cramping
- Cognitive – brainfog

See <https://pmc.ncbi.nlm.nih.gov/articles/PMC10567897/>

Quick Dive: Mediators

Mast Cell Mediators: (cont'd)

Interleukins:

- Regulates the immune system
- Fatigue
- Weight loss
- Enlarged lymph nodes

Serotonin:

- Direct activation of pain nerve fibers

Acetylcholinesterase:

- Muscle weakness

Corticotropin Releasing Hormone:

- Mediates autonomic, behavioral, and neuroendocrine responses to stress

See <https://pmc.ncbi.nlm.nih.gov/articles/PMC10567897/>

Quick Dive: Mediators

Mast Cell Mediators: (cont'd)

Galanin and GMA Prepropetide:

Mast cell mediators can activate the sensory neurons (called nociceptors) that send information about pain to our brain and make us aware of it, leading to pain perception as in, for example, fibromyalgia, migraines, and Complex Regional Pain Syndrome.

VGF Nerve Growth Factor Inducible:

- Chronic pain
- Has influence on neuroplasticity (the brain's ability to change and grow as a result of experience) associated with learning, memory, depression and chronic pain

Tryptase:

- Skin lesions
- Osteoporosis

And Hundreds More

See <https://pmc.ncbi.nlm.nih.gov/articles/PMC10567897/>

When Mast Cells Misbehave



Quick Dive: Mastocytosis

Mastocytosis is:

- A rare condition in which there are too many mast cells or the mast cells are irregularly shaped.
- Two forms: cutaneous and systemic
- Cutaneous mastocytosis is when there is an excessive number of mast cells that is confined to the skin.
- Systemic mastocytosis is when an organ that is not the skin is affected by excessive mast cell infiltration. People who have systemic mastocytosis often have cutaneous mastocytosis, as well.

Quick Dive: Mastocytosis

Mastocytosis has several sub-categories:

- **Indolent** – a gradual building up of mast cells in body organs and tissue
- **Smoldering** – a significant increase of mast cells in the body's organs and tissues, particularly in bone marrow, liver, and spleen
- **Aggressive** – rare and advanced form of systemic mastocytosis. Involves abnormal build-up of mast cells in body organs and tissues
- & More

See: <https://allergyasthmanetwork.org/mast-cell-diseases/mastocytosis/> and
<https://rarediseases.org/rare-diseases/mastocytosis/>

Quick Dive: Non-Mastocytosis

Non-mastocytosis mast cell activation issues and disorders are *not* rare.

They include a vast array of health issues and conditions:

Eczema	Alzheimer's Disease
Urticaria (hives)	Parkinson's Disease
Arthritis	Huntington's Disease
Inflammation	Ehlers-Danlos Syndrome
Asthma	POTS
Migraines	Autism Spectrum Disorder
Fibromyalgia	Mast Cell Activation Spectrum Disorders
Depression	Long COVID
Anxiety	Sensitivities to multiple chemicals
Chronic fatigue	Neuralgia
Irritable bowel	Brainfog
Acid reflux	High cholesterol independent of diet
Interstitial cystitis	Cardiovascular diseases
Multiple sclerosis	& More

See: <https://mastcellmaster.com/publications.php>

Quick Dive: Non-Mastocytosis

Mast Cell Activation Syndrome (MCAS):

MCAS is a non-mastocytosis mast cell activation disorder. It is also known as Mast Cell Activation Disorder (MCAD) and Idiopathic Mast Cell Activation Disorder.

In MCAS, a person's mast cells are normal in number but are over-reacting and not functioning correctly, typically for unknown reasons.

The reactions a person may experience can range from mild to severe and life-threatening anaphylaxis.

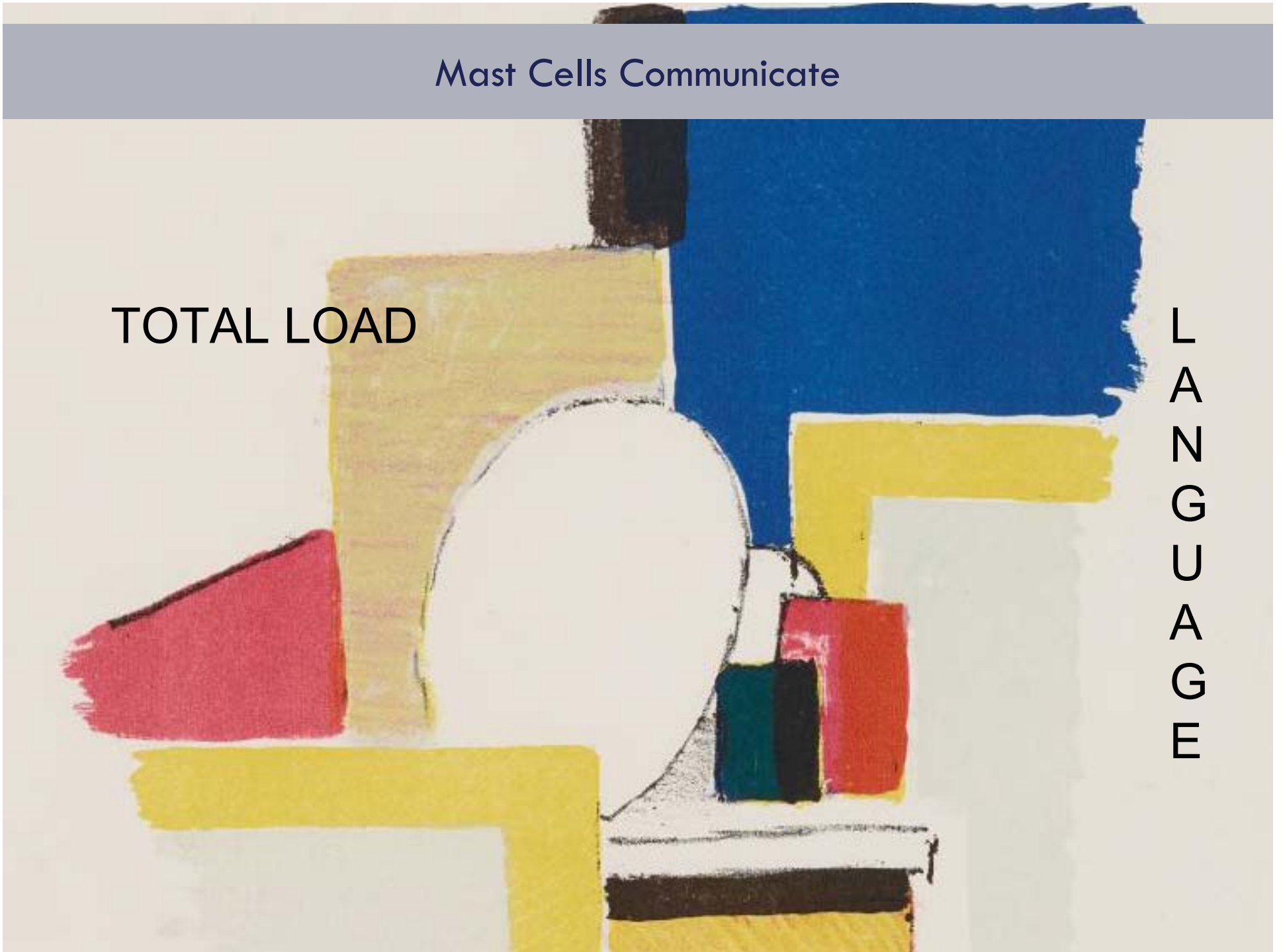
MCAS can be responsible for chronic symptoms in multiple organ systems that can't be attributed to another cause.

People frequently receive diagnoses for a number of idiopathic conditions prior to correct Mast Cell Disorder, unspecified diagnosis, which allows for normal tryptase levels, or Mast Cell Activation Syndrome (MCAS) aka Mast Cell Activation Disorder (MCAD).

Mast Cells Communicate

TOTAL LOAD

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Language & the Brain

What is language?

The brain learns and remembers in order to communicate successfully. At the foundation of communicating are: understanding and meaning-making.

Language is a multifaceted tool. It is used to communicate, to make meaning, and to understand – everything.

We train our brains—plasticity—in what our experiences mean, about our emotional landscape, how to understand the sensory input regarding our external environment, and to assign, understand, and make-meaning regarding all aspects of our internal world of health, wellness, illness, and change.

Language relies on memory for the storage and retrieval of vocabulary, grammar, and syntax. Memory benefits from language as a tool for organizing and recalling information.

Mast Cells Communicate

Mast cells are sensitive to what's going on outside and inside the body.

Mast cells are present in the tissues exposed to the outside world.

Mast cells are present in the meninges that cover the brain and in the central part of the brain, especially the hypothalamus that regulates homeostasis and the amygdala that regulates behavior.

Mast cells communicate with the hypothalamus. The hypothalamus communicates with the pituitary (that makes all the hormones) via a small bridge called the median eminence. The median eminence is a small stalk but the number of mast cells that it has per unit of volume is more than what we have on our skin.

See Dr. Theoharides: <https://www.youtube.com/watch?v=u1pxvAzXh7M>

Language & the Brain

We teach our brains what meaning to make of our experiences.

We teach our brains how to respond and react.

We communicate with our body at the cellular level.

All cells in the body communicate.

Mast cells communicate.



The Language of the Mast Cell Universe

Vocabulary:

Mast cells	H1 receptor blocker	Pain
Mediator	H2 receptor blocker	Sore
Trigger	First generation	Ache
Reaction	Cromolyn sodium	Numb
Storm	Prednisone	Tingling
Flare	Montelukast	Food intolerance
Tolerance	Benadryl	Dizzy/Vertigo
Histamine	Hydroxyzine	Heart skipping beats
Prostaglandins	Pepcid	Chest pressure
Receptor	Claritin	Exhaustion
Receptor blocker	Epinephrin self-injector	Chronic fatigue
Stabilizer	Ketotifen	Hair loss
H1	Cetirizine	Delayed reactions
H2	Aspirin	Swelling
Anaphylaxis	Fexofenadine	Muscle weakness
Dysautonomia	Compound	Brainfog

New Language: Environmental Medicine

Environmental medicine focuses on the illnesses people experience through their interactions with the environment and their exposures to chemicals or substances that are found in the environment.

According to EHINZ, environmental health involves areas of human health, including quality of life, that can be determined or affected by physical and non-physical factors in our world and inside our bodies.

Environmental health is about the relationship we have with, and the interactions between, the environment and our health. It's not just the outdoors, chemicals, or toxic exposures. It involves COVID-19, long-COVID, stress, hormones, aspects of modern lifestyles, noise pollution, infectious diseases, viruses, and more. It includes what we build, the materials we use, what we eat, what we wear, what we drive, our life and lifestyle choices.

One of the basic theories of environmental medicine is the concept of **“total load.”**

See <https://www.ehinz.ac.nz/indicators/overview/what-is-environmental-health/>
See <https://midnightmastcells.com/environment-health-you/>

New Language: Total Load



Environmental Medicine & Total Load

“The total load concept postulates that multiple and chronic environmental exposures in a susceptible individual contribute to a breakdown of that person’s homeostatic mechanisms... Multiple factors coexist, usually over a prolonged period of time, in bringing about the disease process. Individual susceptibility to environmental agents occurs for a variety of reasons including genetic predispositions, gender, nutritional status, level of exposures to offending substances, infectious processes, and emotional and physical stress.”

--- The American Academy of Environmental Medicine (AAEM)

See <https://www.aaemonline.org/>

Total Load: Physical & Emotional

The concept of total load in mast cell activation related issues and disorders means that a person's body can tolerate only so much exposure to toxins and their triggers before it becomes saturated and reaches its limit: before the person experiences reactions. These total load reactions are often heightened and/or intensified---a reaction "storm."

Total load is a conceptual framework and refers to the overall burden of exposures to triggers (and the mediators that are released when the mast cells are sensitized, activated, and degranulate) coupled with each person's genetic make-up.

Total load is a cumulative effect.

Total Load: Physical & Emotional

The basic premise of the total load theory is that the human body has a limited capacity to handle stressors. A single stressor (or exposure to trigger) might not be enough to cause noticeable reactions, but the cumulative effect of many stressors and many exposures to triggers over weeks, months, and years can push the body beyond its ability to adapt, resulting in reactions and chronic symptoms.

The combination of these factors results in “flares” of reactivity affecting multiple organ systems. It’s a cumulative effect and can include triggers such as stress (physical and emotional) and ongoing stress, foods, skin contacts, temperatures both hot and cold, emotions both positive and negative, chemicals and substances, medical and dental procedures, and all of each person’s individual triggers.

The exact triggers, the weight of the burden to the body systems, the intensity of reactions, the length of time it takes for a person to experience a “flare” or a “storm” of reactions are unique to each person. However, the concept of total load and its impact on the body is one that is shared by all people with mast cell activation related issues and disorders.

See <https://documentinghope.com/total-load-theory/>



Where is this
train ride going?

Three Levels of Relationship



Relationship

There are three essential relationships that we live with every day:

- Our relationship with our self
- Our relationship with our mast cell disorder (and associated health issues)
- Our relationship with others



Relationship: Self

- Running dialogue
- Negative self-talk
- Criticisms
- Highlight mistakes
- Demanding
- Often exacting
- Society's expectations
- Familial expectations
- Expectations of health & wellness
- Expectations of illness
- Our understanding of expectations
- Weight of emotions

Relationship: Self

Weight of Emotions:

- Disappointment
- Fear
- Frustration
- Anxiety
- Anger
- Depression
- Trauma
- Uncertainty, mistrust
- Exhaustion
- Burnout
- Misplaced feelings of joy

Relationship: Mast Cell Activation Disorder

- Running dialogue
- Negative self-talk
- Criticisms
- Highlight mistakes
- Demanding
- Often exacting
- Society's expectations
- Familial expectations
- Expectations of health & wellness
- Expectations of illness
- Our understand of expectations
- Weight of emotions

Relationship: Mast Cell Activation Disorder

Weight of Emotions:

- Sadness
- Fear
- Loneliness
- Anxiety
- Anger
- Grief & loss
- Trauma
- Uncertainty
- Abandonment
- Mistrust
- Completely altered understanding of self, of having dreams, of tomorrow

Relationship: Others

- Running dialogue
- Negative self-talk
- Criticisms (self & others)
- Highlight mistakes
- Silence ourselves
- Often say yes but want to say no
- Society & family expectations
- Expectations of being a good friend
- Expectations of being a good partner
- Expectations of being a good person
- Our understanding of expectations
- Weight of emotions

Relationship: Others

Weight of Emotions:

- Frustration
- Anger
- Resentment
- Loneliness
- Grief & loss
- Anchorless
- Not being heard
- Not being seen
- Not being understood
- Unsupported
- Devalued

Navigating: Self



Navigating: Self

Changing our Thoughts:

- 3-Column list to change negative self-talk to positive
- What color do I give this moment?

Include Creative Arts:

- Music
- Poetry
- Literature
- Drawing
- Take pictures
- Color
- Write

Include Holistic Health Thinking:

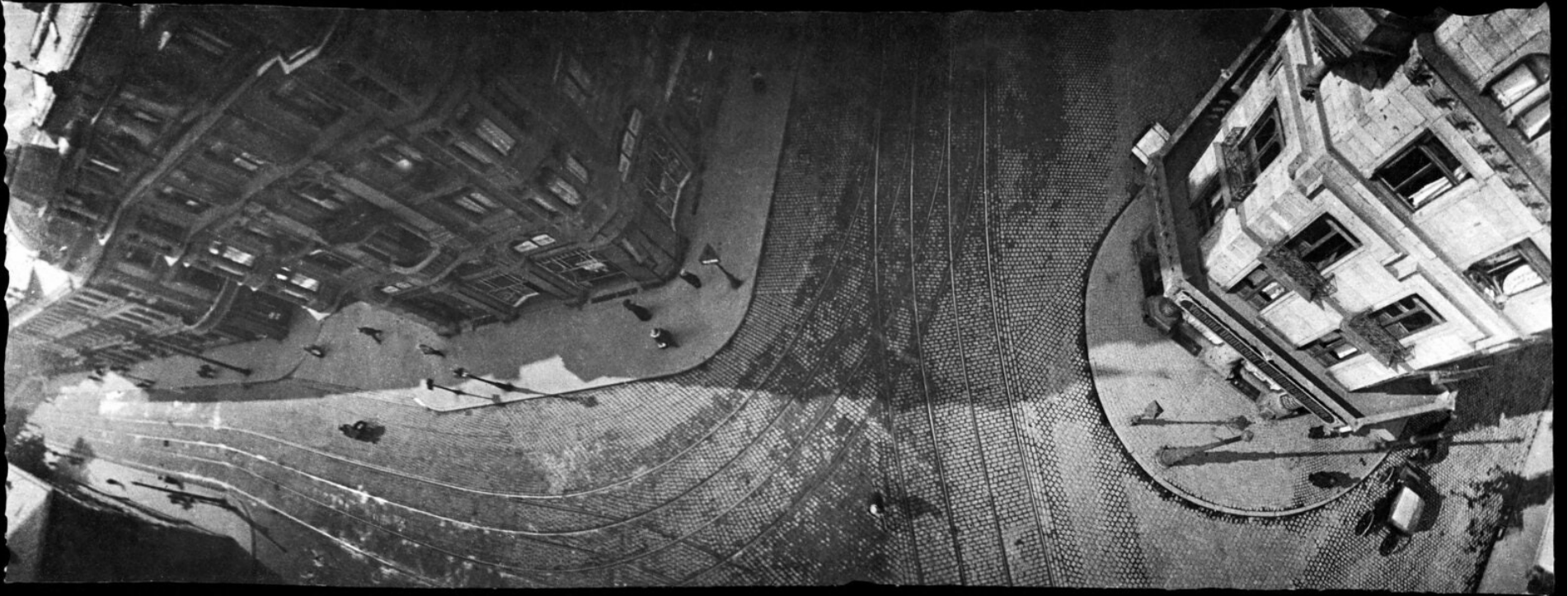
- There are no compartments. What happens in one area of self affects all areas of self
- 5 areas of holistic health - physical, emotional, cognitive, social, spiritual
- Take care of you in all 5 areas

Designate a notebook then, every morning when you wake up, first thing, grab the notebook and write down 2 things you like about yourself. At night, last thing you do before you shut your eyes to sleep, in the same notebook write down 1 more thing you like about yourself.

No repeats.

Do this every day.

Navigating: Mast Cell Disorder



Navigating: Mast Cell Disorder

Safe Haven:

Create a safe haven at home. A space that is yours alone. A safe space to retreat to. Remove all triggers from the space. Keep others out.

Food journal:

- To help track tolerances and intolerances
- What you can eat when
- Support in creating a mast cell informed eating plan

Avoidance

Medications:

Know what does and doesn't work for you. Understand that it's usually not just one med but multiple meds, in different ways, at different times that may be your individual protocol.

Food as medicine

Communicating with our mast cells:

- Retrain brain, retrain mast cells
- Exercise (as tolerated)
- Vagus nerve aware breathing
- Circadian rhythm aware strategies

Learn your reactions: keep a reactions journal. Listen to your body!

Tools for the toolbox

Navigating: Others



Navigating: Others

Education: Self & Others

- Your health needs and the many ways things *must* be to support your health
- About mast cell activation and mast cell activation related issues and disorders
- About safe havens and why you need one
- About reactions & triggers (in general and yours specifically)
- That you most of all understand what a challenging world the mast cell universe is and the demands it puts upon you--body, heart, mind, and soul--to navigate
- The unpredictability of life when you have a mast cell disorder. Health status changes sometimes moment to moment which can up-end the best laid plans with others
- The ways you must safe-guard yourself (things you have to know; all that must be in place to support your health, not incur reactions, manage their intensity)

Residuals:

- What this is all about
- How it impacts being with and around others
- How it impacts sharing living space

State of the union address/conversation

Practicals & Chemicals: what you can and can't tolerate. Create a binder (or pdf's.) Include emergency protocols. Share with others! Share with everyone!

Self-Compassion Meditation

Loving Kindness Self-Compassion Meditation

Begin by finding a comfortable and upright position. See if you can find a posture that portrays both dignity and strength, but let go of striving or tightness.

Focus on the feeling of each breath you breathe, noticing if you're caught up in thoughts or emotions with a sense of kindness and patience.

Loving kindness practice typically focuses on phrases that remind us of our best intentions. We're not forcing ourselves to feel anything in particular or striving to change what we feel. So bring to mind a person, a child, or even an animal or a pet for whom you have unambiguous feelings. Picturing this other person or being, shift your awareness to a series of phrases that capture your wish that this person be free of suffering. That this person live a life of ease. Those phrases are often summarized as: may you feel happy, may you feel healthy, may you feel safe, and may you live your life with ease.

There may be nothing you can actually do to change that person or being's experience right now, but with an open heart, continue wishing them well: may you be happy, may you be healthy, may you feel safe, may you live your life with ease.

Now shift your awareness to yourself, recognize how much stress you're under, how much you may feel out of your control right now, and also how much criticism we have for ourselves. Quite often, we may judge ourselves differently than the people we most care for. And see if you can bring the same care you did for the other child or being, or pet, or whoever came to mind for yourself right now---you deserve the same:

Self-Compassion Meditation

Loving Kindness Self-Compassion Meditation (cont'd)

may I feel happy, may I feel healthy, may I feel safe, may I live my life with ease.

Not wishing yourself better than anyone else in your life, but also not wishing yourself less. And if it feels like that's easy right now, continuing on with wishes for yourself.

And then, if you like, instead bring to mind a good friend. Again, they could be anywhere in the world. There may be nothing literally you can do for them right now. But you can offer them the same wishes you just wished for yourself, wherever you are: may you be happy, may you feel healthy, may you feel safe, may you live your life with ease.

You can move your awareness next to someone we often refer to as a stranger or a neutral person. Somebody who works in your neighborhood or across town, or someone you might see once in a while. Bring that person, that being, to mind, and see if you can offer them the same wishes you did for a friend. Recognizing, whoever this person is, they have their own struggles. They have their own fears, their own need for safety, for food, for ease. So picturing the stranger, offer them the same well-wishes: may you be happy, may you be healthy, may you feel safe, and may you live your life with ease.

Self-Compassion Meditation

Loving Kindness Self-Compassion Meditation (cont'd)

Now bring to mind a difficult person. It's not the *most difficult* person that comes to mind for you, but someone challenging---you may not see eye to eye. Noting those wishes you had just now for someone you hardly know at all, see if you can wish the same for this challenging person. It doesn't mean condoning anything they've done. It doesn't mean you won't take proactive action to take care of what needs to get taken care of in the world. But as you do, recognize that all beings need to and have the drive to be free from suffering: may you be happy, may you be healthy, may you feel safe, may you live your life with ease.

Often, for this part of the practice, it may be easier to include yourself at the same time: may we both be happy, may we both be healthy, may we both feel safe, may we both live our lives with ease.

If ever this part of the practice becomes overwhelming or too stressful, it's okay to come back to the breath or wishes for yourself.

For the last two minutes, expand your awareness out to all beings everywhere – to ourselves, to our friends and family, to strangers, to difficult people: may all beings everywhere be happy, may all beings everywhere be healthy, may all beings everywhere feel safe, may all beings everywhere live their lives with ease.

When you're ready, you can open your eyes if they've been closed. Take a moment and then, with a sense of intention, choose when to get up and continue on with the rest of your day.

A decorative illustration on a dark blue background. It features a yellow bird with black spots, a red mandala-like flower, a blue flower, and several yellow and blue flowers with black spots. Green leaves are scattered around the flowers.

Faith
Strength
Patience
Hope

References:

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MEMORY, LANGUAGE, COMMUNICATION:

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Artwork & Artist:

Vilhelm Lundstrom

slides 1, 6, 18, 29, 38, 40, 42, 48

Library of Congress Public Domain

slides 5, 21, 24, 30, 37, 41

Julius Gustav Neubronner – patented an invention for homing pigeons to wear enabling the pigeons to take photographs while in flight. Aerial photographs were taken by the pigeons. Slides 13 and 39

Richard Mortensen – slide 28

