Learning Objectives

1. Explore the rationale for a meditation group in an Integrative/Functional Medicine practice.

2. Recognize the benefits of meditation for brain health, mood, stress management, and well-being.

3. Understand the science and philosophy underlying the positive effects of meditation. Recognize the benefits of meditation for brain health, mood, stress management, and well-being.

4. Experience different meditation practices.

5. Identify components of a successful meditation group. Experience different meditation practices.

6. Outline steps for setting up an at-home meditation practice.
WHY MEDITATION & SPIRITUALITY IN A PRIMARY CARE/GYN PRACTICE?
Life was “normal”....

I was a well-trained OB/GYN in private practice in Stamford CT
So I learned about Functional Medicine
FUNCTIONAL MEDICINE TIMELINE

Antecedents

Triggers or Triggering Events

Mediators/Perpetuators

Preconception

Prenatal

Birth

Current Concerns

Signs, Symptoms or Diseases Reported
FUNCTIONAL MEDICINE MATRIX

Retelling the Patient’s Story

Antecedents
(Predisposing Factors—Genetic/Environmental)

Triggering Events
(Activators)

Mediators/Perpetuators
(Contributors)

Physiology and Function: Organizing the Patient’s Clinical Imbalances

Assimilation
(e.g., Digestion, Absorption, Microbiota/GI, Respiration)

Defense & Repair
(e.g., Immune, Inflammation, Infection/Microbiota)

Structural Integrity
(e.g., from Subcellular Membranes to Musculoskeletal Structure)

Energy
(e.g., Energy Regulation, Mitochondrial Function)

Communication
(e.g., Endocrine, Neurotransmitters, Immune messengers)

Mental
(e.g., cognitive function, perceptual patterns)

Emotional
(e.g., emotional regulation, grief, sadness, anger, etc.)

Spiritual
(e.g., meaning & purpose, relationship with something greater)

Biotransformation & Elimination
(e.g., Toxicity, Detoxification)

Transport
(e.g., Cardiovascular, Lymphatic System)

Modifiable Personal Lifestyle Factors

Sleep & Relaxation | Exercise & Movement | Nutrition | Stress | Relationships

Name: __________________________ Date: __________ CC: __________________________

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...and Mind-Body Medicine

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Hotel & Travel

2014 Schedule (PDF)

Small Group Model
And “Spiritual Medicine”
Spirituality =

The sense of connectedness with “something higher” — an absolute, immanent, transcendent power, however named — and the conviction that meaning, value, direction, and purpose are valid aspects of the universe
Spirituality is the point of connectivity for all areas of Health
Addressing Spiritual issues with patients helps them...physically and emotionally.
Our perception of our life

Determines how much stress we are under.
- Perceived stress is more important than actual stress.
How stressed we feel we are impacts our physiology and ultimately our health.
- The stress response isn’t good for health.
  - Sympathetic nervous system dominance
  - Adrenal stress and fatigue
  - Thyroid function
  - Immune function
  - Brain function
  - CV health
  - Gut health
So I began to meditate...
Meditation

Meditation and medicine: they come from the same Sanskrit root word meaning to take the measure of and to care for.

Definition: Being in the moment.
I brought Mind-Body-Spirit Practices into my Healthcare Practice
Bringing Mind-Body-Spirit Practices into My Healthcare Practice

1. Seeing the divine in every patient encounter.
2. Asking all patients about their spirituality and stress.
3. Having a regular Meditation group
4. Having a Spiritual Explorations group
5. Teaching physicians about spirituality and health
Because Mind-Body-Spirit Medicine Is Functional Medicine
A sound mind needs a sound body
- How can we be at peace without good health?
- Or can we?

A sound body needs a sound mind
- Stress affects almost all aspects of the body

The mind can be healthy if:
- It is not clogged by greed, envy, hate, pride, worry, self-pity

The body can be healthy (most of the time) if it is properly cared for:
- Lifestyle accounts for 80% of chronic disease
- Epigenetics change gene expression
Meditation is Epigenetics!

Prostate gene expression was examined in men with low risk prostate cancer before and after an intensive 3-month lifestyle and nutritional program.

60 min of stress management included yoga, breathing, meditation, imagery and progressive relaxation.

A low-fat, plant-based diet

Patients reported significant reduction in psychological distress

Percentage of free PSA was significantly improved

Down-regulation of oncogenes that are normally increased in tumor tissues

We all know about epigenetics. We usually think of epigenetics as involving nutrients, like folate. But there is more.
EPIGENETIC MECHANISMS are affected by these factors and processes:

- Development (in utero, childhood)
- Environmental chemicals
- Drugs/Pharmaceuticals
- Aging
- Diet

GENE

HISTONE TAIL

DNA inaccessible, gene inactive

Histones are proteins around which DNA can wind for compaction and gene regulation.

DNA methylation
Methyl group (an epigenetic factor found in some dietary sources) can tag DNA and activate or repress genes.

CHROMATIN

CHROMOSOME

METHYL GROUP

DNA accessible, gene active

Histone modification
The binding of epigenetic factors to histone “tails” alters the extent to which DNA is wrapped around histones and the availability of genes in the DNA to be activated.

HEALTH ENDPOINTS
- Cancer
- Autoimmune disease
- Mental disorders
- Diabetes
And these epigenetic factors also determine how we think, feel and act!
Epigenetics: That which determines gene expression. Non-genetic (micro and macroenvironmental) factors that determine whether a gene is expressed fully, partially or not at all.

Psychoneuroimmunology (also called psychoneuroimmunoendocrinology): The scientific field dedicated to understanding and connecting the complex networks of the brain, human behavior, immunity and endocrinology.

Epigenetic modifications shape behavior, modulate our stress response, and alter immune function.

Stress is an epigenetic modification. Meditation and prayer are epigenetic modifications. Right thought, right mind, right action are epigenetic modifications.
Who We Are (Our Parts)

- Body/Brain
- Mind/Psychology
- Meaning/Values
- Transpersonal/Spiritual

Materiality

Consciousness (Awareness)

Non-conceptual awareness
So I began to transform...
from this...
...to this...
...to this...
AUTHENTICITY

How do we bring OUR inner transformation into OUR clinical practices?
It starts with our own practice
And moves to...
Talking to patients about – and encouraging - Change and Transformation
Patients believe that emotional and spiritual care is an area in greatest need of improvement.

The Re-Spiritualization of Medicine

In 1998, the Association of American Medical Colleges required every graduating student to be able to take a spiritual history, and to demonstrate an appreciation of the role of spirituality in delivering compassionate care.

If food is Medicine.......
...then MEDITATION is Medicine for the Spirit...
...and the Mind... and the Body...
Because Mind, Body, and Spirit are ONE
WITH GRATITUDE TO MY TEACHERS
The Science of Meditation

Monique Class MS, APRN B.C
Meditation

He who understands other is wise
He who understands himself enlightened.

Lao-Tzo
Fingers Pointing at The Moon
Types of Meditation

Many kinds: Vigyana, Bhairava, Tantra; 112 kinds

The basic categories:

1. Concentrative – Mantra, prayers, visualization
2. Awareness – Vipassana, Mindfulness
3. Loving Kindness – Appreciation
4. Expressive – Dance, Chanting, Whirling, Fast Breathing, Chi Gong, Yoga, Appreciation
Meditation Benefits for Brain Health
Meditation

1. Increases Brain-Derived Neurotrophic Factor.

BDNF is a key protein involved in brain plasticity.

2. Stimulates the Left Prefrontal cortex

3. Facilitates Neurogenesis & Neuroplasticity
Transcending the Reptilian Brain

Reptilian Brain
- Survival/flight or fight

Limbic System (mid-brain)
- Most dominant in mammals
- “Five F’s”

Prefrontal cortex
- Higher function
- Joy, Creativity, Innovation, Love Connection, Service, Key to enlightenment!

Mind of the Meditator

Contemplative practices that extend back thousands of years show a multitude of benefits for both body and mind.

By Mathieu Ricard, Antoine Lutz and Richard J. Davidson
“Mindfulness practice increases gray matter in the Brain”

The results of this longitudinal study suggest that participating in MBSR is associated with changes in gray matter concentration in brain regions involved in learning and memory processes, emotional regulation, self-referential processing and perspective taking.

“Meditation Enhances Cognition and Brain Plasticity”

Meditation may affect multiple pathways that could play a role in brain aging and mental fitness. It reduces cortisol secretion and elevates BDNF. It also lowers oxidative stress.

Meditation and Telomeres
Intensive Mental training, immune cell telomerase activity, and psychological mediators

“This is the first study to link meditation and positive psychological change with telomerase activity.”

MBSR training resulted in a significantly smaller post-stress inflammatory response (TNF alpha & IL-8 flaire response) compared to the control (HEP).

A comparison of mindfulness-based stress reduction and an active control in modulation of neurogenic inflammation

Melissa R. Rosenkranz, Anthony G. L. Shaw

Overview of Meditation Research and Science:

Creates many changes that include:

- Changes in brain wave activity (in left frontal cortex, limbic system and hypothalamus, among other areas).
- Increased parasympathetic activity and increase in heart rate variability.
- Changes in neurotransmitter levels, including increased serotonin, beta-endorphin, melatonin, and acetylcholine; decreased norepinephrine, and cortisol.
- Increase in gamma wave synchrony in long term meditators during meditation.
- Increases in cortical thickness and grey matter volume and right hippocampal volume, in long-term meditators.

Meditation Uplifts our lives
Breath

“Controlling the breath, is a prerequisite to controlling the mind and the body.”

- Swami Rama
Breathing Basics

Exhalation

Lung

Ribs

Diaphragm

Inhalation
The Vagus nerve — “web-master” — the seamless connector uniting mind and body

Resting state for humans is generally a **parasympathetic-dominant state**.

This parasympathetic-dominant state via vagal nerve innervation works as a ‘brake.’

The ‘vagal brake’ allows for a **tempered response** to stress and a buffered ‘fight or flight’ response—**sympathetic dominance**.

Vagal tone and the down regulation of cortisol by feedback loops lead to restoration of balance after stress.
Physiology of Breathing

Controlled by both Autonomic & Voluntary Nervous Systems

Conscious & Unconscious Control
- Happens automatically while we sleep or think about other things.
- We can consciously control the way we breathe.

How we breathe is both:

*Response* to our emotional state
- Rapid, shallow breathing is a response to stress

*Determinant* of our emotional state
- Slow, deep breaths induce relaxation
Shallow vs. Deep Breathing

Sympathetic/Stress response includes rapid shallow breathing to increase oxygen supply to heart, brain, large muscles. This can cause a decrease in $\text{CO}_2$ and induce anxiety and panic.

Deep belly diaphragmatic breathing is slow and has a calming effect through stimulation of the vagus nerve, which runs through the diaphragm. As blood flow is greatest at lung bases, deep breathing increases oxygenation WITHOUT decreasing $\text{CO}_2$ and cannot cause panic.
Breathing and the Heart

Diaphragmatic Breathing Lowers BP:

Induces the relaxation response, the parasympathetic state, and decreased BP due to feelings of relaxation as well as vagal stimulation.

Benson. The Relaxation Response, Avon Books

Diaphragmatic Breathing improves oxygenation in patients with CHF:

Effect of breathing rate on oxygen saturation and exercise performance in chronic heart failure

“Interpretation: Slowing respiratory rate (6/min) reduces dyspnea and improves both resting pulmonary gas exchange and exercise performance in patients with CHF.”

Bernardi et al., The Lancet 351;9112:1308 2 May 1998
Relaxation Response

Diaphragmatic Breathing Lowers BP:
Induces the relaxation response, the parasympathetic state, and decreased BP due to feelings of relaxation as well as vagal stimulation.
The relaxation response is powerful in its ability to regulate multiple body systems.

“Relaxation response (RR) practice enhanced expression of genes associated with energy metabolism, mitochondrial function, insulin secretion and telomere maintenance, and reduced expression of genes linked to inflammatory response and stress-related pathways.”
How To “Belly Breathe”

While lying down or sitting comfortably, place your feet slightly apart. Place one hand on your abdomen near your navel.

Inhale through your nose and exhale through your mouth.

Concentrate on your breathing. Your hand should rise on each in-breath and fall with the out-breath.

Gently exhale most of the air in your lungs.

Inhale while slowly counting to 4. As you inhale, slightly extend your abdomen, causing it to rise about 1 inch. Make sure that you are not moving your chest or shoulders.

Pause for 2 seconds, then slowly exhale to a count of 4. As you exhale, your abdomen should flatten.
4-7-8- Breathing
Re-pattering The Nervous System

Lying down or sitting up...

Exhale fully through the mouth.

Put your tongue on the soft tissue behind your upper front teeth.

Inhale through the nose for a count of 4.

Hold your breath for a count of 7.

Exhale through the mouth for a count of 8 (keeping your tongue on the soft tissue of the upper front teeth).

Do this for 4 cycles.

Consistency is extremely important, for maximum benefit practice this 2 x daily for 6 weeks.
MEDITATION IS OUR NATURAL STATE
We have heard many benefits of Meditation for health and well-being

But ultimately...
WE MEDITATE TO UPLIFT OUR LIVES
Meditation = Turning Within
Awareness

Meditation

Posture

Awareness

Breath

Meditation
POSTURE

Gently settle into a posture that will support your meditation.

If you’re sitting on the floor, you might need some props to help you sit still.

Or sit on a chair, or with your back against a wall.

Some people find it helpful to do some light stretching before meditation.
BREATHE

“When the breath wanders, the mind is unsteady, but when the breath is still, so is the mind still.” Hatha Yoga Pradipika

The breath is a great state-changer. Focusing on your breath can lead you into meditation quickly and naturally.
MEDITATION CULTIVATES Awareness
Awareness =
The Key to Behavior Change
Meditation

*Meditation* and *Medicine*

come from the same Sanskrit root word meaning to take the measure of and to care for.

Meditation = Turning within Being in the moment.
WHAT YOU THINK, YOU BECOME
- Upanishads
We are what we think. All that we are arises with our thought.

THE BUDDHA
You are wherever your thoughts are. So make sure your thoughts are where YOU want to be.

Rebbe Nachman of Bratslav
IF YOU DISAGREE, THEN...

DON’T THINK OF A MONKEY!
...and speaking of monkeys...
The Monkey and the Mantra

[MONKEY MANTRA STORY]

[CAN WE FLY IN:
The monkey = The Mind
The rope = The Mantra]
The Power of Mantra

MANTRA =
A VIBRATIONAL WORD OR PHRASE
THAT TRANSPORTS US WITHIN
TO OUR OWN INNER BEING
The Power of Mantra

Hospital workers completed a mantra intervention program.
They found statistically significant improvements stress, anxiety and spiritual well-being.

The Power of Mantra

Mantra Meditation –

SOHAM- a Sanskrit mantra, has been shown to activate a region of the prefrontal cortex associated with emotion, attention, and working memory.

Mantra Meditation
So ham “I Am That”

Inhale and exhale through your nose

Become aware of the rhythm of your breathing without trying to control it

On the inhalation begin to focus on the word ‘SO”

On the exhalation begin to focus on the Word “HAM”

If your mind wanders gently bring it back to the mantra So ham
BREATHING

Breathing in, I calm body and mind. Breathing out, I smile.
Dwelling in the present moment I know this is the only moment.

—Thich Nhat Hanh
Mindfulness Meditation

Cultivating Awareness by:

- Paying attention
- On purpose
- In the present moment
- Non-judgmentally
MINDFULNESS

One classical goal of meditation is to still the mind. While your thoughts may arise naturally, don’t chase after them—and don’t judge them.

Let them come and go like waves on the ocean or clouds in the sky.

It can be helpful to focus the mind on your breath or a word, phrase, prayer, or image.

Remember: Don’t grade your meditation. If you sit with the intention to meditate, you’re meditating—not matter how active your mind.
Compassion/Loving Kindness MEDITATION
Outline steps for setting up a home meditation practice

SETTING UP A HOME MEDITATION PRACTICE

Key elements:

Time
Space
Mind
Body
Breath
TIME

When?

Find a time to meditate that works for you—meaning without distractions. Some people like to meditate when they get up in the morning, others when they come home from work, or before bed.

If possible, meditate around the same time every day.

How often?

As with any other practice, consistency helps build your meditation “muscles.”

Meditate every day—even for a few minutes at first.

How long?

A great goal is 20-30 minutes a day, though once you’ve been meditating a while, you may want to meditate even longer.
THE TRUTH IS...

IT DOESN’T MATTER!

JUST DO A PRACTICE EVERY DAY, WHenever IT WORKS FOR YOU.
SPACE

Find a “sacred spot” in your home where you can meditate quietly without distractions.

If you can dedicate a space in your home just for meditation, great! But many of us cannot. So your sacred spot might be set apart by sitting on a blanket or a mat.

It doesn’t matter whether you sit on a chair or on the floor.

Set up the space so it is conducive to meditation.

You may want to set up an altar, or sacred space, by lighting a candle and putting some favorite objects like a seashell or a crystal or flowers.

Some people like to meditate to quiet music while others don’t. Experiment and discover what works for you.
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BODY

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Or sit on a chair, or with your back against a wall.

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BREATH

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Components of a successful meditation group

OUR FORMAT

(adapted from Mind-Body Skills Groups – Center for Mind-Body Medicine)

**Opening meditation:** This brief meditation will recap a specific meditation technique taught more fully the previous week and is designed to prepare the group for that evening’s session.

**Check-in:** To help participants set up and maintain their regular practice of meditation and mind-body techniques.

**Teaching:** Introducing a specific meditation practice, including the science and philosophy underlying its benefits.

**Practice:** Our skilled and experienced meditation teachers lead participants through specific practices and discussion over the course of each 90-minute session (which participants will practice at home during the following week).

**Sharing/Questions:** Participants share their experience of the meditation they just practiced and will have their questions answered.

**Closing meditation.**
OPERATING PRINCIPLES

AUTHENTICITY

- Teach what you practice
- Practice what you teach
- YOUR meditation practice is the foundation of the group
- Answer questions from within.
- If you don’t know the answer, say I don’t know.

PRESENTNESS

- Check-ins are for sharing Meditation experiences and questions.
- Provide another venue (such as spiritual coaching if participants need extra support).

GENEROSITY

- We offer a free group from time to time. Everyone is welcome.
- We offer a sliding scale.
Experience different meditation practices

- BREATHING
- MANTRA
- MINDFULNESS
- IMAGERY
- COMPASSION/LOVINGKINDNESS
- CONTEMPLATIVE MEDITATION
SELECTED LIST OF PRACTICES

1. MEDITATION ON THE BREATH
2. MINDFULNESS
3. MANTRA MEDITATION
4. CHANTING (OM)
5. IMAGERY
   - SPECIAL PLACE
   - WISE GUIDE
   - SACRED FIRE
   - GOLDEN LIGHT
6. CONTEMPLATIVE/SELF-INQUIRY
7. CHAKRA JOURNEY
BREATHING

Breathing in, I calm body and mind. Breathing out, I smile.
Dwelling in the present moment I know this is the only moment.

—Thich Nhat Hanh
IMAGERY
Imagery

“Imagination is more important than knowledge.”

Albert Einstein
“Imagery is a window to your inner world.”

Martin L. Rossman, MD
Imagery

Hypothesis Based On Research

• In the absence of competing stimuli your body does not know the difference between a real or imagined scenario.

• The more senses you engage in an imagery experience, the more intense the physiological response.

RIO OLYMPICS

My athletes who are preparing for Rio like to schedule their visualization training into their physical training because they understand how powerful this tool can be towards obtaining their Olympic goals.

Dr. Kristin Keim

Sport Psychologist for the Us Olympic Team
Outline steps for setting up a home meditation practice

SETTING UP A HOME MEDITATION PRACTICE

Key elements:

Time
Space
Mind
Body
Breath
TIME

When?

Find a time to meditate that works for you—meaning without distractions. Some people like to meditate when they get up in the morning, others when they come home from work, or before bed.

If possible, meditate around the same time every day.

How often?

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Some people like to meditate to quiet music while others don’t. Experiment and discover what works for you.
Gandhi

Keep your thoughts positive because your thoughts become your words.

Keep your words positive because your words become your behavior.

Keep your behavior positive because your behavior becomes your habits.

Keep your habits positive because your habits become your values.

Keep your values positive, because your values become your destiny.

-Gandhi