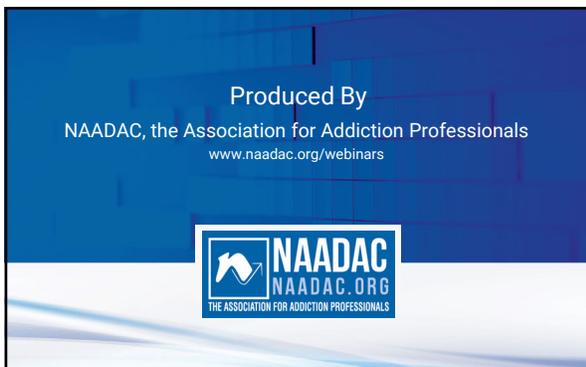


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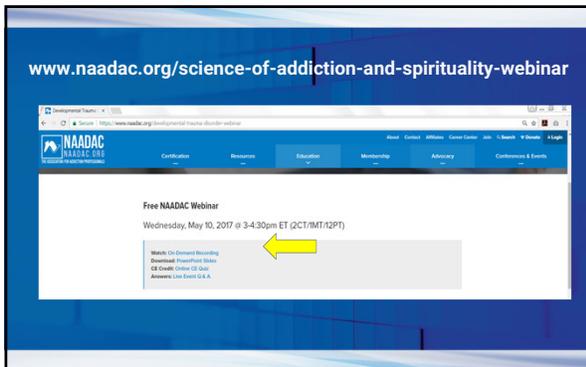
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5



6

Using GoToWebinar – (Live Participants Only)

- Control Panel
- Asking Questions
- Audio (phone preferred)
- Polling Questions



Change in Coming: New Regulations in 2012 for Diagnosis Codes and Claims Submission
Insurance C 6/13/12-1/14
GoToWebinar

7

Webinar Presenter



Kimberley L. Berlin, LCSW, CSAC, MAC, SAP
202-491-8687
kberlin@compassionatebeginnings.org

Compassionate Beginnings, LLC
www.compassionatebeginnings.org

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Webinar Learning Objectives

- 1 Gain basic knowledge of how neuroscience research supports spiritual approaches to addiction treatment.
- 2 Understand how "spirituality" is defined and can be applied to secular persons in recovery.
- 3 Learn basic spiritual techniques that can improve the quality and duration of recovery.



9

Polling Question #1

How many participating today are familiar with the "Neuroscience of Spirituality"?



- A. Not familiar at all
- B. Somewhat familiar
- C. Very familiar

10

Introduction

"All problems are psychological, but all solutions are spiritual." Thomas Hora, MD

Treatment for addiction is a person-centered event. Only an individual can engage in recovery. A team of supporters can be there to guide, help, facilitate or sponsor, but it is the individual who has to go through the actual journey.

Treatment for use disorders and engagement in recovery is not for the faint hearted. It is one of the most courageous acts a human can engage in because it is, in and of itself, a monumental turning around of ones entire being – body, mind *and* spirit.

Science is now proving what spirituality has been speaking to, all along.



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Neuroscience of Addiction

In the past twenty-five years technology has advanced to such a degree that we can now:

- See the effects of alcohol and drugs on the brain with fMRI and SPECT scans;
- Break down genome sequences to determine genetic influences for addiction;
- Or intercept neuronal activity through advanced chemistry.



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Neuroscience of Addiction

Amen, Daniel. (2005). *Unchain Your Brain*. Mind Works Press.

"Psychiatry is the only field of medicine that does not look at the organ it is trying to diagnose, treat or heal."

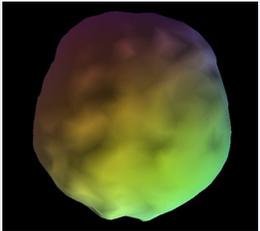
SPECT scans, 65,000 Brain Scan Data Bank;
Addiction revealed in scans and breakthrough understanding of effects of alcohol and drugs on the brain;

Four Circles Approach: Biological, Psychological, Social, Spiritual



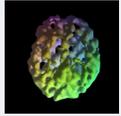
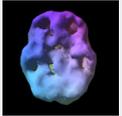
13

Normal Brain



14

Effects of Substances on the Brain

	
HEROIN Long Term Use	MARIJUANA 18 years old 3 years of use



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Neuroscience of Addiction

Limbic System	=	Fight, Flight, Freeze
Cortex	=	The outer layer of the cerebrum (the <i>cerebral cortex</i>), composed of folded gray matter and playing an important role in consciousness.
Amygdala	=	A roughly almond-shaped mass of gray matter inside each cerebral hemisphere, involved with the experiencing of emotions.
Hippocampus	=	Center of memory and autonomic nervous system
Prefrontal Cortex	=	Front of brain associated with executive decision-making
Serotonin	=	Neurotransmitter regulating mood, behavior, sleep, pleasure
Dopamine	=	Neurotransmitter regulating movement, attention, learning, and emotional responses
Cortisol	=	Hormone responsible for anti-stress functions, immune functions, etc.



16

Negativity Bias

Negative experiences create a vicious cycle of pessimism, over-reaction and an inclination to negativity.

Negativity Bias:

- The brain is primed for avoidance of unpleasant, negative experiences;
- It actually creates a background of anxiety and fosters an increase in negativity;
- Creates anger, sorrow, depression, guilt, shame.
- Negativity Bias will highlight past losses and failures;
- Trauma is the #1 negativity bias

Hanson, Rick. (2009). *The Practical Neuroscience of Buddha's Brain*. Oakland, CA: New Harbinger Publications, Inc.



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Negativity Bias

Negativity Bias Impacts the Sympathetic Nervous System (SNS):

- A. Fight, Flight, or Freeze
- B. "Tune In, Turn On and Drop Out"

Remedy for reducing the bias:

1. Activate the Parasympathetic (PNS)
2. Foster positive experiences
3. Internalize the Positive
4. Generate compassion and kindness
5. Engage in focused attention, open awareness, rapture and joy



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Polling Question #2
How many here today engage clients in "spiritual practices" as part of a program of recovery?
A. Yes
B. No
C. Sometimes



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“
*Penetrative insight joined with calm
abiding utterly eradicates afflicted states.*
Shantideva, 685 AD
”

20

Spirituality and Spirituality Defined

"All problems are psychological, but all solutions are spiritual."
Thomas Hora, M.D.

Spirituality is a broad concept with room for many perspectives.

In general, sense of connection to something bigger than our smaller version of ourselves, and it typically involves a search for meaning in life. As such, it is a *universal human experience*—something that touches us all.

It is a moving beyond the self to a greater knowing.



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Spirituality and Spirituality Defined

1. Subjective experience of a sacred dimension;
2. Deepest values and meanings by which people live;
3. Often in a context separate from organized religious institutions;
4. Quest for an ultimate or sacred meaning;
5. Often in a context separate from organized religious institutions.

"Spiritual but not Religious"



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Spiritus Contra Spiritum

In 1961, Bill Wilson and Carl Jung exchanged letters discussing the formation of Alcoholics Anonymous almost 30 years prior.

Jung wrote that the craving for alcohol, at the lowest level, was a

"spiritual thirst of our being for wholeness."

He explained:

"You see, "alcohol" in Latin is Spiritus, and you use the same word for the highest religious experience as well as the most depraving poison. The helpful formula therefore is:

Spiritus Contra Spiritum



23

The Neuroscience of Spirituality

Newburg, A., Waldman, M.R. (2016.) *The New Science of Transformation: How Enlightenment Changes Your Brain.* Avery: Random House. New York.

Parietal lobe increased activity during spiritual practices.
Reduced activity in the Anterior Cingulate Cortex

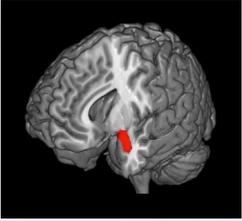
Bearegard, M, O'Leary, D. (2007). *The Spiritual Brain: A Neuroscientist's Case for the Existence of the Soul.* Harper Collins. New York

Left brain stem increased activity.
Temporal Lobe increased activity.



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The Spiritual Brain



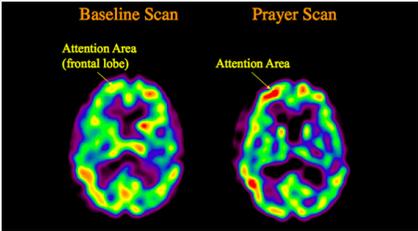
Mindfulness practice and expertise is associated with a decreased volume of grey matter in the amygdala (red), a key stress-responding region.

(Image courtesy of Adrienne Taren)



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The Spiritual Brain



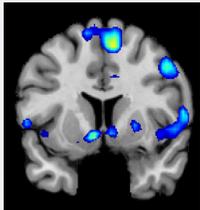
Baseline Scan Prayer Scan

Attention Area (frontal lobe) Attention Area



26

The Spiritual Brain



Regions of brain activated during a spiritual experience, particularly, reward center:

Nucleus Accumbens

Research conducted by:
Beauregard and O'Leary



27

Biofeedback and Neurofeedback

BETA WAVES (14 TO 40 HZ) are associated with normal waking consciousness. This is the mode that gets us through our daily round of tasks. But it is also the mode that can create stress, particularly toward the faster end of the frequency range. Through meditation however, it is possible to combat stress by slowing down the brain waves.

ALPHA WAVES (7.5 TO 12.5 HZ) are generated in states of deep relaxation, including light meditation. This frequency range has been called the gateway to the subconscious mind and the voice of intuition.

THETA WAVES (4 TO 7.5 HZ) represent a deeper state of relaxation and meditation. They are also associated with light sleep and the dream state. Brain energy in the Theta range is sometimes linked with visualization and creativity.

DELTA WAVES (0.5 TO 4 HZ) are the realm of very deep, dreamless sleep and forms of meditation where the consciousness is completely withdrawn from sensory experience. Deep healing and regeneration occur in the Delta state.

GAMMA WAVES (ABOVE 40 HZ) are a more recent discovery. While meditation is generally associated with lower-frequency wave patterns such as Alpha and Theta, a study by Davidson, Lutz and Ricard found that longtime practitioners of Buddhist meditation were able to generate and sustain high-frequency Gamma-wave brain states. Meditation on love and compassion, which is central to Buddhist practice, was particularly linked to brain activity in the Gamma range. Gamma-wave activity is also associated with distraction-free learning and cognition.



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Polling Question #3

Do you as a treatment provider engage in daily spiritual practices including expanding your knowledge base, trainings, retreats, etc?



- A. Yes
- B. No
- C. Sometimes

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Meditation

Source of meditation and spiritual instruction are the *Veda's* created in India approximately 2,000 BCE.

Upanishads are one of several texts in *Veda's* directing practitioner to spiritual practice.

Spiritual, life-affirming hymns meant for incantation; reveals an intimate, almost mystical bond between worshipper and environment – sense of awe and kinship with the spirit that dwells in all things.

Science of consciousness, attention, and the knowing Self.

Within Self is the Supreme.



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Meditation

Types of Meditation:

- Transcendental Meditation (TM)
- Zen: Suzuki Roshi
- Vipassana: Insight Meditation
- Lojong: Tibetan Mind Training
- Kundalini: Yogi Bhajan & Sikh
- Metta: Loving Kindness
- Mantra: Sound and Chanting
- Trataka: Steady Gazing
- Kriya: Breath & Meditation
- Nada: Sound meditation

Common elements include:

- 1) Attention
- 2) Focus
- 3) Awareness
- 4) "Holding"
- 5) Attending
- 6) Insight



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Breath Techniques

Evidence based research on breath as primary technique for activating the parasympathetic nervous system.

- 1) Reduces the sympathetic "fight-flight" response
- 2) Reduces the production of cortisol - stress hormone
- 3) Reduces blood pressure
- 4) Increases dopamine production – calming hormone
- 5) Increases oxygen to brain and body cells
- 6) Increases secretion of anti-aging hormones (Telomere Effect)
- 7) Improves Cardiovascular system
- 8) Affects noradrenaline (focus, attention)



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Basic Breath Techniques

<p>Dirga Breath Three part bellows breath</p> <p>Breath Strokes (through the nose) Inhale / Hold / Exhale 4/ 3 / 6 6/ 4 / 8 12/ 8 / 12</p> <p>Sipping Breath – Sip through a straw Exhale through the nose</p>	<p>"Blowing a kiss" exhale</p> <p>Nadi Sodhana (Alternate Nostril) Left/Right Right only Left only</p> <p>Ujjaya Breath - Fog the mirror Used predominantly in yoga</p> <p>Agni Pranayama (Breath of Fire)</p>
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Mantra and Sanskrit Effect

Mantra is the use of sound to affect consciousness:
man means mind and
trang means wave or projection.

Mantras are used during meditation to help clear the mind and focus on the present moment.

Mantras are also vocalized in song – otherwise known as “Bhakti Yoga” – or devotional practice.

Every mantra produces a unique sound and vibration that, when recited, is able to stimulate various areas of the brain, bringing about positive results that include relaxation, clarity, and natural healing.



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Mantra and Sanskrit Effect

Hartzell, J. (2018). *A Neuroscientist Explores the “Sanskrit Effect”*. Scientific American: <https://blogs.scientificamerican.com/observations/a-neuroscientist-explores-the-sanskrit-effect/>

1. Over 10 percent more grey matter across both cerebral hemispheres, and substantial increases in cortical thickness.
2. Correlate with enhanced cognitive function.
3. Most prominent was the effect on the hippocampus, where we record new information and set it to memory



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Basic Mantra Techniques

“Om” as the most basic sound and mantra technique

“So-Hum” used in meditation and during breathing exercises
 “So” on the inhale
 “Hum” on the exhale

“Sa-Ta-Na-Ma” – thumb to forefinger, middle and ring finger, and pinkie
 Activates neural senses through the finger pads
 Activates the hippocampus, increases limbic activity (memory, calm, intensity of experience) Newburg & Waldman, (2016)



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Conclusion

There are many paths to recovery – the treatment field can recognize that introducing a comprehensive approach using evidence-based spiritual practices will enhance the journey of healing.

Treatment specialists who are well-versed in the knowledge and techniques, can support client recovery engaging a "spiritual brain" approach.

Guiding clients to a spiritual path through these practices deepens a purpose-driven life, connection, and personal insight.



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Polling Question #4

Given what you have learned today, how likely are you to explore spiritual approaches as a part of a recovery model?



- A. Very Likely
- B. Somewhat Likely
- C. Not at all likely

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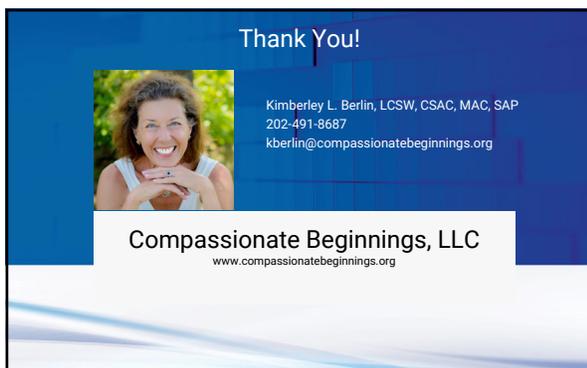
Thank you!

With gratitude and thanks for attending this webinar today, and for all that each and every one of you do for this field.

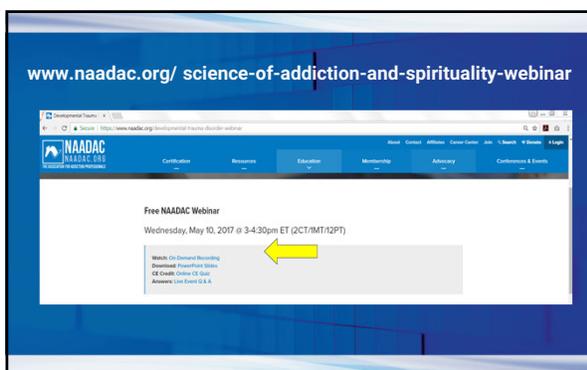
I am more than happy to answer questions you may have; please feel free to email me at: kberlin@compassionatebeginnings.org



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Upcoming Webinars and Events

<p>July 16th, 2019</p> <p>DEADLINE: 2020 Call for Webinar Proposals https://www.naadac.org/call-for-webinars-presentations</p>	<p>August 21st, 2019</p> <p>Strength-Based Mind-Body Practice: Building Internal Resources by Alyssa Weiss-Quinter, PhD, LMFT</p>
<p>July 24th, 2019</p> <p>Rise in Recovery: The Science of Addiction and Spirituality of Healing by Kimberly L. Berlin, LCSW, CSAC, MAC, SAP, CCTP</p>	<p>August 28th, 2019</p> <p>Intersection of Race, Culture, Chronic Disease and Chronic Pain by Sherra White, PhD, LPC, LCAS, CRC, CCS, BC-TMH</p>

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Thank you for joining!

NAADAC
44 Canal Center Plaza, Suite 301
Alexandria, VA 22314
phone: 703.741.7886 / 800.548.0497
fax: 703.741.7886 / 800.377.1136
naadac@naadac.org
www.naadac.org

 NAADACorg
 Naadac
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