



Integrative Approaches in Peripheral Neuropathy

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- *Nothing to disclose*

Warning

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Medicine

- Definition:
 - Use of complementary therapies in conjunction with conventional medicine
- \$30 billion out-of-pocket expenses spent on CAM in 2012
- 33% to 40% of adults use CAM
- Safety and guidance
- Improved patient satisfaction scores

Integrative Holistic Medicine and Neurology

- Nutrition
 - Food as medicine
- Exercise
 - Healthy body, healthy brain
- Mind-body therapy
 - Meditation, tai chi, yoga
- Supplements
 - EVIDENCE BASED
 - Be wary of websites that review supplements

Nutrition



- Omega 3 fatty acids
 - Fish, flaxseeds, walnuts
 - Supplements: 3:2 ratio of DHA:EPA
 - 1000mg/day (excess bleed with higher doses)
- Fruits and vegetables - 5 servings/day
 - Choose brightly colored, e.g. tomatoes, berries, broccoli, avocado, and spinach
- Protein: fish, chicken, lean cuts of red meat
 - Nuts: Brazil nuts (selenium), cashews (Cu, Mg), almonds (Ca, Vit E), pistachios (lutein, B6), walnuts (Om 3FA)

Nutrition: Food as Medicine

- Gluten free
 - Brown rice, quinoa, teff, buckwheat
- Avoid EtOH
- Cut sugar, artificial sweeteners
- Reduce processed foods
- Local vs organic
 - neonicotinoids
- If you can't pronounce it, don't buy it
- Eat what you can digest
 - Kale, cauliflower, lentils, beans, chickpeas
- Reduce dairy intake



Exercise

- Aim for 150min/week for metab syndrome
- 4 rules of exercise
 - 1. Pick something you like or can tolerate
 - 2. If you feel tired or worse 2 hours after you've worked out you've done too much
 - 3. Try to do something every day
 - 4. No Pain/No Gain does not apply
- Aqua therapy
- Recumbent biking

Supplements

- Acetyl-L-Carnitine 1000mg TID
- Alpha lipoic acid: 600mg/D
- Glutamine 15gm BID
- Juiceplus® (Costco equivalent: Juice festiv®)
- Curcumin
- Omega 3 FA (seal oil) for DM PN

Sima, et al. *Diabetes care* 2005;28:89-94.
Wang, et al. *Oncologist* 2007;12:312-319.

Supplements

- Frankincense essential oil
 - Modulates TRPV1 expression
 - Reduces mechanical allodynia thermal sensitivity in mice
- Hemp cream
- Vicks vaporub
- Horse liniment cream, tiger balm
- No evidence for Chinese herbals

Medical marijuana

- CBD non psychoactive component with anti-inflammatory and antioxidant properties
- CB1 and CB2 receptors throughout CNS and PNS
- Improved pain in HIV, diabetic neuropathy, and neuropathic pain due to other causes
- Adverse psyche, cognitive effects: memory loss, suicide, mood disorders, psychosis, lower IQ and decline in school performance in children
- Not federally regulated

Andreae et al J Pain 2015;16:616-27.

Nugent et al Ann Int Med 2017;167:319-331

Marijuana

- Aerosolized THC (1%) reduced pain in DM PN with dose-related effect (p;.31,.04.<.001) but with marked cognitive impairment.
 - Crossover RCT n=16
 - 4 single dose sessions at low, med, high doses
 - Cognitive testing at 5m,30m, and q30m for 3hrs
- Smoked cannabis reduced pain in HIV PN vs placebo cigarettes in RCT
- Limitations: Inadvertent unblinding

Ellis RJ et al. Neuropsychopharmacology 2009;34(3):672-680
Abrams DI et al. Neurology 2007;68:515-21
616-27
Ellis RJ et al. Neuropsychopharmacology 2009;34(3):672-680
Abrams DI et al. Neurology 2007;68:515-21

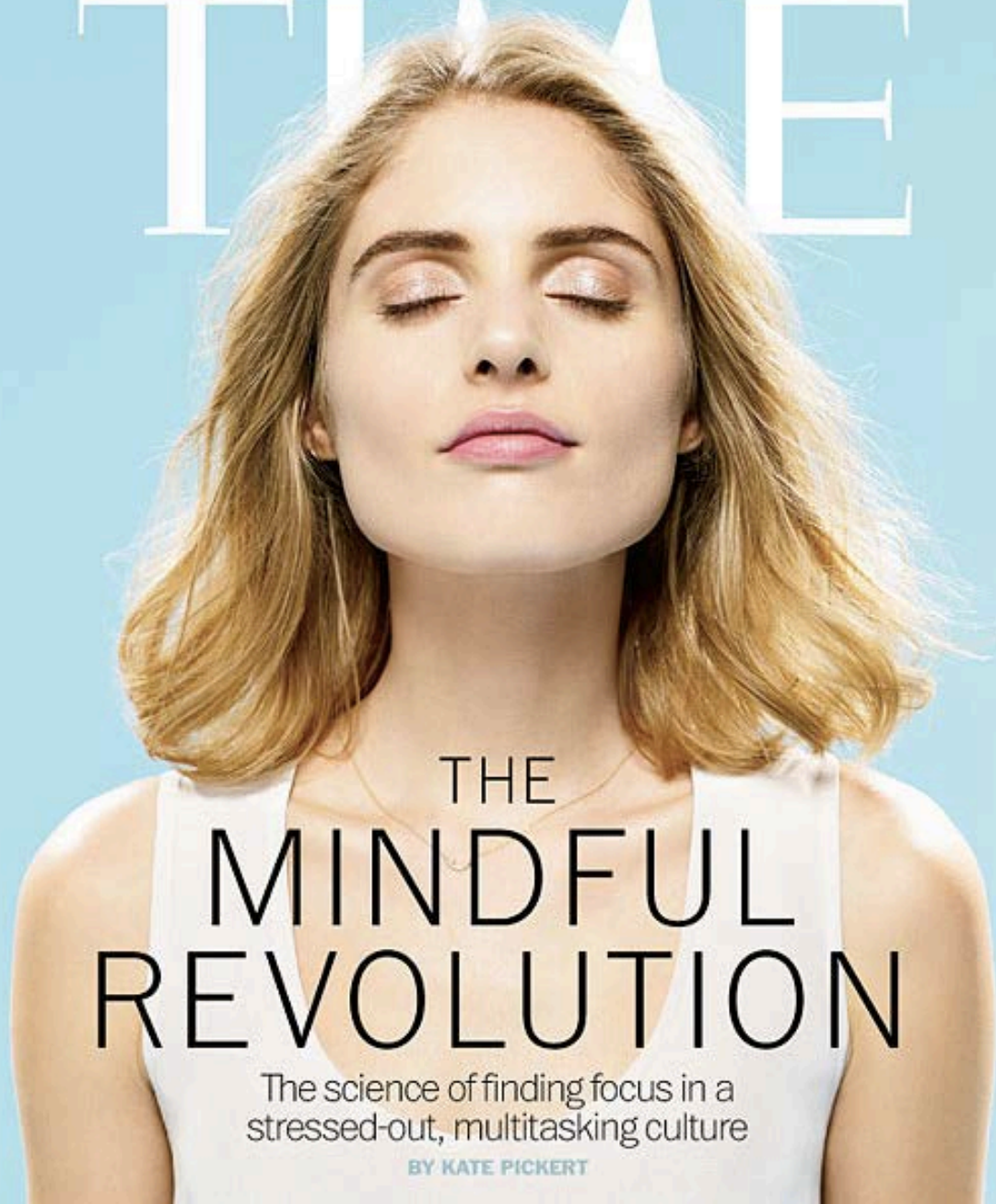
Types of Meditation

- Definition: nonjudgmental awareness of the present moment
- Concentration meditation
 - Focused attention on object, image, sensory stimuli
 - Mindful breathing is actually concentration
- Movement meditation (combination)
 - Yoga: breathing, postures
 - Tai chi: rooted in martial arts
 - Qigong: movements with release of energy



FEBRUARY 3, 2014
Fleeing Syria Photographs by James Nachtwey / Peyton Power / Steve McQueen

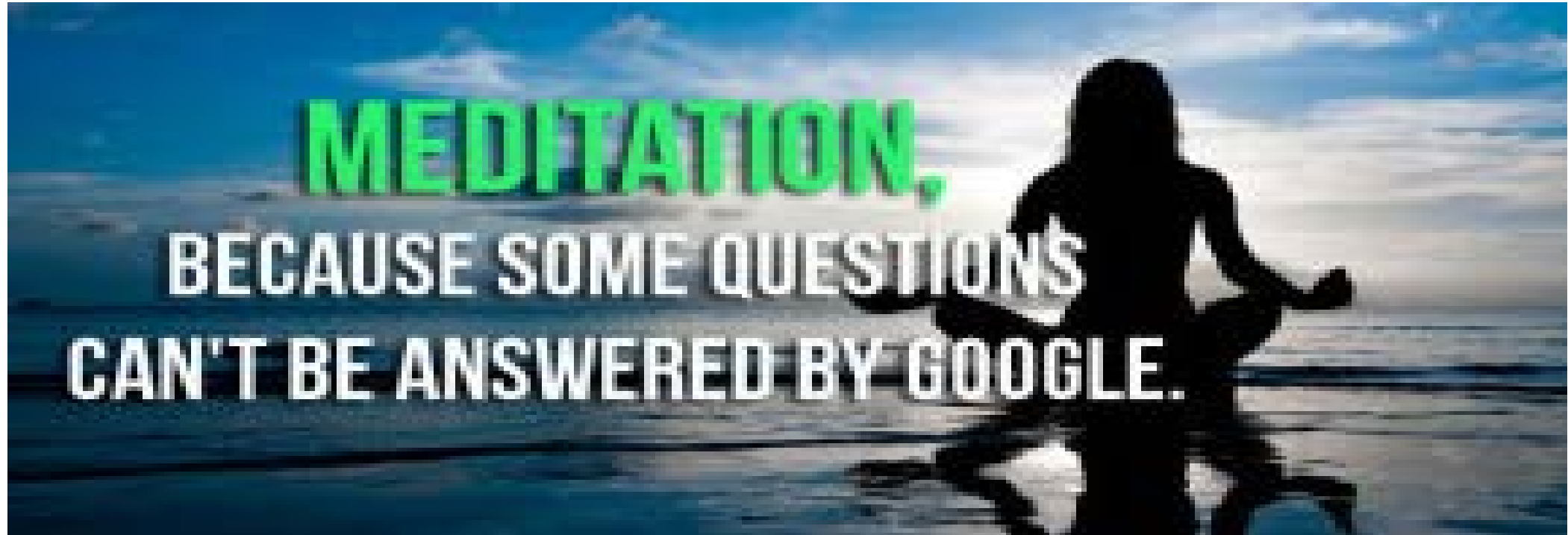
TIME



THE
MINDFUL
REVOLUTION

The science of finding focus in a stressed-out, multitasking culture

BY KATE PICKERT



MEDITATION,

**BECAUSE SOME QUESTIONS
CAN'T BE ANSWERED BY GOOGLE.**

Mindfulness-based interventions (MBI)

- Mindfulness-based stress reduction (MBSR)
 - 8 week program that combines yoga postures (movement meditation), body awareness, breathing techniques
 - Frequently used in clinical studies (MBCT)
- Mindfulness-based cognitive therapy
 - Emphasis on cognitive techniques
 - Best for recurrent depression

Meditation for Painful Neuropathy

- MBSR – 1 RCT
 - Reduced pain intensity and improved QOL in painful DM neuropathy
- Mindfulness meditation (CD guided) – 1 NRCT
 - No benefit for diabetic PN compared to controls
- Tai chi (1 NCT, 1 NRCT)
 - Improved balance, pain, glucose control in DM PN compared to usual care

Ahn S, etal 2012;18:1172-8.

Richerson etal. Diab tech therap 2007;9:276-86.

Texeira Hol nurs pract 2010;24:277-83

Nathan etal. Clin Diab 2017;35:294-304

Nathan etal. Clin Diab 2017;35:294-304

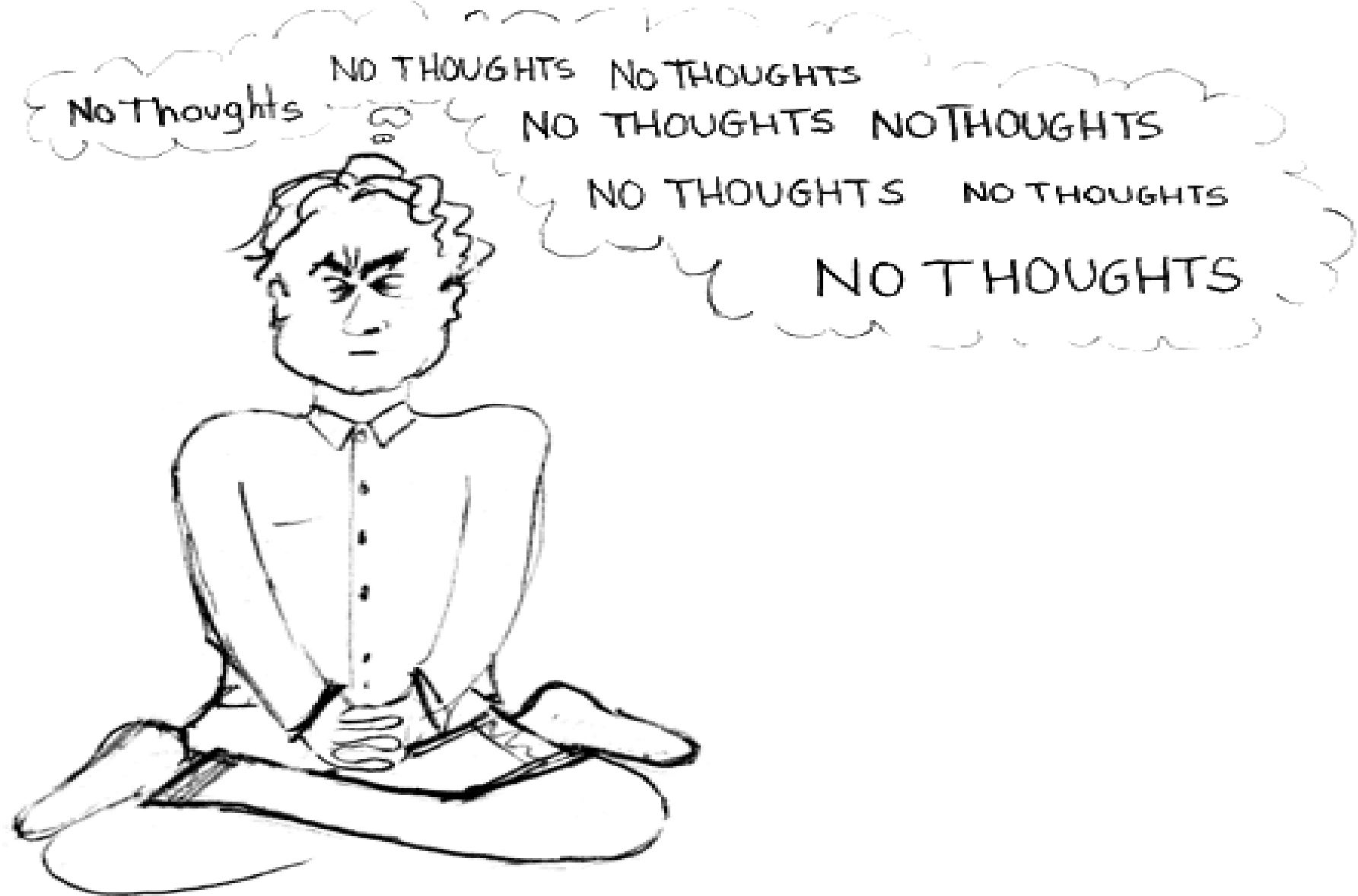
Meditation on the Effects of Fatigue and Pain in Neuropathy and Multiple Sclerosis

- 22 patients (10 with MS, 12 with PN)
- SF-36, VAS Pain Scale for both arms, Neuropathy impairment scale for PN, Fatigue scale for MS
- 8 weeks of meditation led by a Buddhist monk and the PI
- Weekly 2 hr sessions of Tai Chi with Qi Gong, Sitting, Walking meditation

Tavee J, et al Neurology 2010;74(S2):A160

Results at two months

- Improved scores on SF-36 for both groups:
 - overall summed physical health scores ($p=0.014$ PN, $p=0.011$ MS)
 - overall summed mental health scores ($p=.02$ for all patients combined)
 - physical role ($p=.0174$), bodily pain ($p=.0309$), and vitality ($p=.0051$) in MS patients
- Improved fatigue in MS patients, with regards to the cognitive and psychosocial components of the MFIS ($p=.0368$, $p=.0319$)
- Significant reduction in pain on the VAS ($p=.0436$) for PN patients compared to controls



HOW NOT TO MEDITATE

Patient resources

- Community classes
 - YMCA, gyms/health clubs, wellness centers
- Books/CDs: Jack Kornfield, John Kabat-Zinn
- Meditation retreats:
 - www.dhamma.org (multi-locations, free)
 - www.dharma.org (Barre MA, sliding scale fees)
 - www.spiritrock.org (northern CA, \$\$)

Everyday Mindfulness

- Sitting practice with breathing techniques
- Mindfulness in the car
 - 5 deep breaths
- Mindfulness with eating
- Mindfulness with walking
 - Walk quickly with no distractions
- Mindfulness at your desk
 - Look out the window or at the ceiling
 - Shift in the gaze=shift in your thoughts

Resources

- Community classes
 - Gyms/health clubs, wellness centers
- Books/CDs: Jack Kornfield, John Kabat-Zinn
- MBSR courses (local universities, webinars)
 - <https://www.umassmed.edu/cfm/mindfulness-based-programs/mbsr-courses/>
- Meditation retreats:
 - www.dhamma.org (multi-locations, free)
 - www.dharma.org (Barre MA, sliding scale fees)
 - www.spiritrock.org (northern CA, \$\$)

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