

## How Yoga Can Wreck Your Body

- Glenn Black, a yoga teacher who teaches about the injuries doing yoga can cause
  - o He himself had to have spinal surgery caused by many years of slow damage through the practice of yoga
- Black's main philosophy of practicing yoga is to be present and aware of simple yoga postures rather than rush through complicated ones
  - o Yoga is for people in good physical condition. Or it can be used therapeutically. It's controversial to say, but it really shouldn't be used for a general class.
- number of Americans doing yoga has risen from about 4 million in 2001 to about 20 million in 2011
  - o Black claims that this raise in number suggests that there is a large number of teachers who do not recognize when students could cause themselves harm
- Black put's the blame of students getting injuries on the teachers whose ego's are too big
- In most books or journals published about yoga, they mitigate the risk factors
- Neurology, The British Medical Journal and The Journal of the American Medical Association published decades ago the ranges of problems
- Oxford neurophysiologist, W. Ritchie Russell, published an article in The British Medical Journal arguing:
  - o some yoga postures threatened to cause strokes even in relatively young, healthy people - Reductions in blood flow to the basilar artery are known to produce a variety of strokes.
  - o Extreme motions of the head and neck could wound the vertebral arteries, producing clots, swelling and constriction, and eventually wreak havoc in the brain.
    - Healthy individuals could seriously damage their vertebral arteries by neck movements that exceed physiological tolerance
- Hospitalizations:
  - o from 13 in 2000 to 20 in 2001 to 46 in 2002.
- Bikram Yoga (hot yoga)
  - o could raise the risk of overstretching, muscle damage and torn cartilage.
- Injuries – (based on Columbia University's College of Physicians and Surgeons survey)
  - o lower back - 231
  - o shoulder - 219
  - o knee - 174
  - o neck - 110
  - o stroke – 4

## Meta-Meditation: A Skeptic Meditates on Meditation

- The author completely disagrees with meditation and provides the reasons why:
- The Hyper Problem
  - Too many articles talking about the ancient benefits of meditation that are now being confirmed by fMRI or EEG's
  - Very few skeptic articles
- The Allegiance Effect Problem
  - Researcher's investigators tend to find evidence supporting the variant they favor- confirmation bias
  - Even the highest-quality studies were interpreted in a manner that favored positive outcomes
- The Dodo Bird Problem
  - Psychologist Saul Rosenzweig coined this phrase in the 1930s to describe the fact that all psychotherapies appeared to be roughly as effective—or ineffective—as each other.
    - This essentially says that the research that says that meditation reduces multiple negative dimensions of psychological stress has no actual proof that any other behavioral therapy is any more effective than meditation
- The Placebo Effect Problem
  - People begin meditation with the mindset that it will make them feel better. This alone can increase happiness
- The Brain Scan Problem
  - All experiences cause neural changes so the brain scans don't make meditation's alleged benefits more credible
- The Niceness Problem
  - Similar to the placebo effect- if you tell yourself to be nice, that might make you nicer
    - Instead of "be nice" can use to be aggressive – warriors used to use meditation before battle to fight more effectively
- The Bad Guru Problem
  - Teachers claim who have reach "enlightenment" are often narcissistic
- The Matthieu Ricard Problem
  - Contradicting that a person needs to meditate to become compassionate and to achieve personal peace of mind when if you were truly compassionate you would be spending time actually helping people
- The Truth Problem
  - Meditators seek to find truths but everyone's "truths" are different.
- The Having No Goal Problem
  - Some meditators insist that you must not have a goal for the meditation, however not having a goal, is a goal in itself, proving that:
    - "meditation is a form of self-brainwashing"

## Let the game come to you

This is a story about a man named George Mumford whose life was changed by meditation. Once an alcoholic and heroin addict, Mumford learned the power of the mind and the difference he could make in other people's lives by teaching them his meditation practices. After rehab and much suffering, Mumford learned about meditation. After getting his Master's in counseling and psychology, Mumford began a state-funded project to teach mindfulness to more than 5,000 prison inmates. Mumford gained great success with the inmates and then began teaching mindfulness practices to famous NBA teams.

In the years that followed Mumford developed his own series of principles to guide his mindfulness practices. The first principle as he calls it "be still and know" explains the importance of being in the moment. He uses this principle with his NBA stars and encourages them to not "try to score" but to let the game happen and to be in the moment. With this openness, the scoring will come naturally. The second principle, "forget yourself, find yourself", which emphasizes the importance of accepting others and seeing them for who they are. He applies this principle to the self in that you must be true to your values as a person and that you must focus on how you are doing things rather than on what you are doing in order to achieve the greatest end result. Mumford's third principle called "Mindfulness alone isn't enough" states that mindfulness is "supported by steadiness of mind, right effort, and wisdom." He goes on to explain that doing right and living in harmony have an impact on your ability to be concentrated and mindful. Mumford's overarching principle throughout his journey is a combination of these three principles that states that a person should not force themselves to be something that they are not, but rather focus on who they want to be and allow time as well as an open mind to find the way to becoming that person.

## Mind of the Meditator

- Dalai Lama built a bridge between Buddhism and science which led to the creation of the Mind-Life Institute- dedicated to contemplative science which studied the brain activity of top meditators.
- Meditation may be effective in treating depression, chronic pain and in cultivating a sense of overall well-being
- Neuroplasticity: brain function and the alteration of its physical structure
- Meditation: cultivation of basic human qualities (stable and clear mind, emotional balance, caring mindfulness, important to stabilize the mind)
- **Three different types of meditation**
  - **Focused-attention meditation:** focus is achieved when the individual focuses on in and out breathing, aims to tame and center the mind in the present moment. There are 4 different phases in the cognitive cycle.
    - Mind wandering: the default-mode network remains engaged when thoughts begin to stray
    - Distraction awareness: salience network is aware of the distraction, the scientist then had the volunteer press a button to notify the scientist when they became aware of the drifting mind

- Reorientation of awareness: parts of the brain in charge of disengaging attention are activated and refocus the brain on the rhythm of inhalation/ exhalation
- Sustaining focus: the dorsolateral prefrontal cortex remains active if the individual is focused on breathing for a while
- **Advanced meditators appear to acquire a level of skill that enables them to achieve a focused state of mind with much less effort. This is comparable to the ability of musicians and athletes when they obtain flow in their performances.**
- **Mindfulness:** the observing of sights, sounds and other sensations which can be occurring within the body or outside of the body. Works to create a less emotionally reactive awareness to emotions
  - the experiment tested attentional blink and research proved that mindfulness practice could cultivate a non-reactive form of sensory awareness which could result in a reduced attentional blink.
  - Mindfulness has proven to be useful in coping with pain, anxiety, depression and better control/ buffer of physiological responses.
- **Compassion and loving kindness:** develop a feeling of benevolence for other humans which ignite unique parts of the brain as well
  - Practicing a form of mindset which allows for empathy but doesn't cause emotional burnout.
- Long-term Buddhist practitioners were able to control and sustain a particular electroencephalography pattern- high amplitude gamma-band oscillations and phase symmetry.
- Meditation has been seen to bring about changes in cognitive and emotional processes as well ascertain brain areas
  - Different amount of gray matter in meditation-aging adult vs regular-aging adults
  - Decreased volume of amygdala which is involved in fear processing
  - One day of intensive mindful practice in experienced meditators turned down the activity of inflammation-related genes and altered enzyme functioning
  - Might show signs of slowing the aging process

### **The Higher Life: A mindfulness guru for the tech set**

- **THRIVE:** the relentless pursuit of success (money and power) has left people feeling burnt out, stress-related illnesses and relationship problems. A third concept was added and this was a combination of well-being, wonder and giving
- Judging yourself is what keep type-A women from thriving
- Many companies are adapting mindfulness: Target, General Motors, Dana-Farber Cancer institute etc...
- Chade-Meng Tan: google engineer who helped create "search Inside yourself" which is a mindfulness based emotional intelligence course taken by thousands of their employees

- Digital therapy: apps are being created by the iPhone and other companies which are promising to relieve some of the mental afflictions (stress and distraction) that come along with all this increased technology use.
- Puddicombe: spoke about the benefits of meditations –better sleep, lower BP, attention- all this was connected to more room in your mind.
- Meditation of today focuses more on the Buddhist practices: the emphasis is placed on bodily sensations and your breath. If done frequently it can create an attentive, nonjudgmental mindset that can then be applied to anything.
- Buddhists didn't think enlightenment was something laypeople could achieve but they did meditate along with donating to the monastery hoping that will help them get reincarnated as more spiritual beings.
- M.B.S.R: Mindfulness Based Stress Reduction was an 8-week program developed by Kabat-Zinn (M.I.T molecular biology) to help people in the medical field.
- We learn about Puddicombe's past- what lead to him becoming this mindful awareness leader- after several misfortunes he decided to become a Buddhist monk and joined Buddhist monasteries for 10 years till he found that he was no longer searching for something.
- Mindfulness and meditation are only two of the eight life-style choices that Buddha instructed his followers to practice! Buddhists believe that it's absurd for people to only follow a portion of the practice.