

Mindfulness and Adolescent Substance Use (Marijuana)

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MY REFERENCE POINTS

- I have been a teen at least 3.5 times. One of those times I was on valium and stelazine for “anxiety”
- Dad of three kids...now adults
- Former Marijuana User
- 47 Years in the Martial Arts
- Lay-ordained in Soto Zen
- Counselor since 1980

Quick Overview

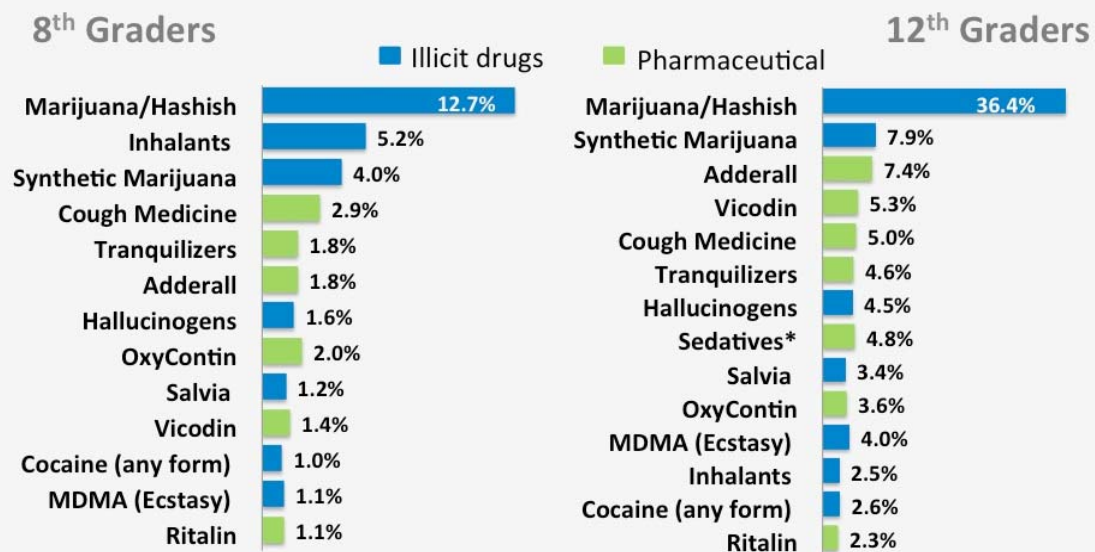
- Mindfulness definition
- Teens, Pot, and the Brain
- Mindfulness and the Brain
- How to reach Teens with a Mindful Practice
- New, but Old, Construct for your own Mindful Practice
- Q & A

Mindfulness
Return to here...and rest



Teens and Smoking Weed

Top Drugs among 8th and 12th Graders, Past Year Use



* Only 12th graders surveyed about sedatives use

Source: University of Michigan, 2013 Monitoring the Future Study

This is not your Father's Marijuana

Since 1972, the average THC content of marijuana has soared from less than 1% to 3% to 4% in the 1990's, to nearly 13% today.

(<http://www.cnn.com/2013/08/09/health/weed-potency-levels/index.html>)

How does THC affect behavior? It depends on where the CB receptors are in the brain.

Brain Structure	Regulates	THC Effect on User
Amygdala	emotions, fear, anxiety	panic/paranoia
Basal Ganglia	planning/starting a movement	slowed reaction time
Brain Stem	information between brain and spinal column	antinausea effects
Cerebellum	motor coordination, balance	impaired coordination
Hippocampus	learning new information	impaired memory
Hypothalamus	eating, sexual behavior	increased appetite
Neocortex	complex thinking, feeling, and movement	altered thinking, judgment, and sensation
Nucleus Accumbens	motivation and reward	euphoria (feeling good)
Spinal Cord	transmission of information between body and brain	altered pain sensitivity

The brain structures illustrated above all contain high numbers of CB receptors


Amygdalians
(Reactive Creatures)
VS
Corticalians
(Response-able Creatures)

Growing a Grown-up Brain

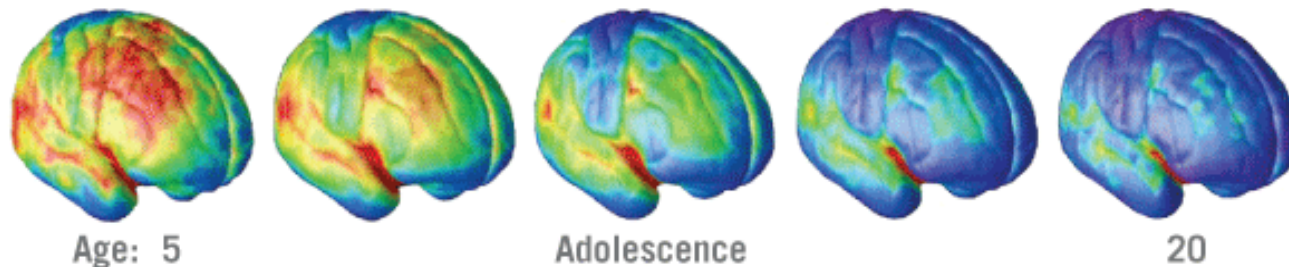
Scientists have long thought that the human brain was formed in early childhood. But by scanning children's brains with an MRI year after year, they discovered that the brain undergoes radical changes in adolescence. Excess gray matter is pruned out, making brain connections more specialized and efficient. The parts of the brain that control physical movement, vision, and the senses mature first, while the regions in the front that control higher thinking don't finish the pruning process until the early 20s.

Gray matter density

Gray matter becomes less dense as the brain matures.



More dense Less dense



Gray matter: Nerve cell bodies and fibers that make up the bulk of the brain's computing power.

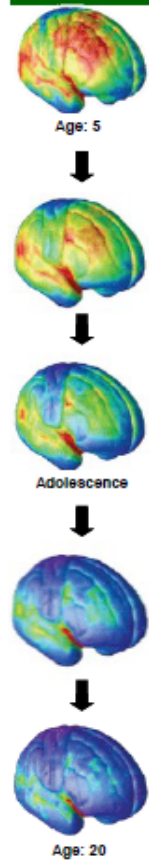
Parietal lobe: Spatial perception

Occipital lobe: Vision

Temporal lobe: Memory, hearing, language

Frontal lobe: Planning, emotional control, problem solving

Source: "Dynamic mapping of human cortical development during childhood through early adulthood," Nitin Gogtay et al., *Proceedings of the National Academy of Sciences*, May 25, 2004; California Institute of Technology



IS MARIJUANA HARMFUL TO THE DEVELOPING BRAIN? Yes.
Structural changes have been found in the brains of young marijuana users.¹

WHEN IS THE BRAIN FULLY FORMED? Scientists used to think the human brain was formed in early childhood, but discovered the brain undergoes radical changes in adolescence and will continue to grow and develop **until the age of 25.**^{1,2}

CAN MARIJUANA USE LOWER INTELLIGENCE? Yes.
In 2012, a significant study on marijuana and intelligence found that marijuana use can permanently reduce IQ by as much as eight points by age 38 among people who started using marijuana regularly before age 18.³

WHAT IS COMPARABLE TO PERMANENT IQ LOSS FROM MARIJUANA USE?
Permanent IQ loss associated with childhood lead exposure = 7.4 to 9.9 points
Permanent IQ loss associated with childhood marijuana exposure = 8 points
U.S. prevalence rates of childhood exposure to lead and marijuana are also similar.⁴

WHAT ARE THE EFFECTS OF MARIJUANA ON MENTAL HEALTH?
Associations have been found between marijuana use and mental health problems, such as depression, anxiety, suicidal thoughts among adolescents, and personality disturbances, including lack of motivation to engage in typical rewarding activities.^{5,6} Marijuana use can increase the risk of developing mental disorders by 40%.⁵

- Young people who use marijuana weekly have **double the risk of depression.**⁷
- Teens who smoke marijuana at least once a month are **three times** more likely than non-users to have suicidal thoughts.⁸
- Those who have tried marijuana by age 18 were **2.4 times** more likely to be diagnosed with schizophrenia than those who had not tried marijuana. The risk increases with the frequency of use.⁹

WHAT IS THE RISK OF BECOMING ADDICTED TO MARIJUANA?
Research shows 1 in every 6 youth (and 1 in 11 adults) who try marijuana will become addicted to it.¹⁰


ARE YOUTH IN TREATMENT FOR MARIJUANA?
In the U.S., marijuana abuse or dependence is the **#1 reason** youth are in treatment, more than alcohol and any other drugs.¹¹

WHY IS IT IMPORTANT TO PREVENT MARIJUANA USE AMONG YOUTH?
Children and adolescents are at far greater risk of becoming dependent on marijuana, and dependence happens more quickly. Youth are more significantly affected as well, even before dependence starts.^{1,12}




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MARIJUANA USE & EDUCATIONAL OUTCOMES



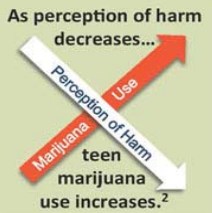
Studies show that marijuana interferes with attention, motivation, memory, and learning. Students who use marijuana regularly tend to get lower grades and are more likely to drop out of high school than those who don't use. Those who use it regularly may be functioning at a reduced intellectual level most or all of the time.

MOST MARIJUANA USE BEGINS IN ADOLESCENCE



78%
of the 2.4 million people who began using in the last year were aged 12 to 20.¹

As perception of harm decreases...

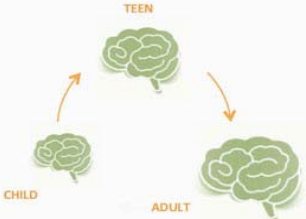


Perception of Harm teen marijuana use increases.²

EVERY DAY, 3,287 TEENS USE MARIJUANA FOR THE FIRST TIME¹







MARIJUANA MAY HURT THE DEVELOPING TEEN BRAIN

The teen brain is **still developing** and it is especially vulnerable to drug use.



IQ
Regular heavy marijuana use by teens can lead to an IQ drop of up to **8 points³**

HEAVY MARIJUANA USE BY TEENS IS LINKED TO⁴:

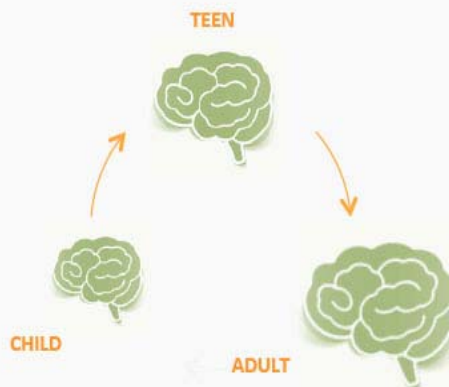
Educational Outcomes		Life Outcomes	
 lower grades and exam scores	 less likely to graduate from HS or college	 lower satisfaction with life	 more likely to be unemployed
 less likely to enroll in college		 more likely to earn a lower income	

NIH National Institute on Drug Abuse

1. NSDUH, SAMSHA, 2014; 2. MTF Survey; 3. Meier et al 2012; 4. MTF Survey; Cobb-Clark et al. 2013; Silins et al 2014; Tucker et al 2005; Homel et al, 2014; Volkow et al 2014; Fergusson and Boden 2008; Brooks et al 2013

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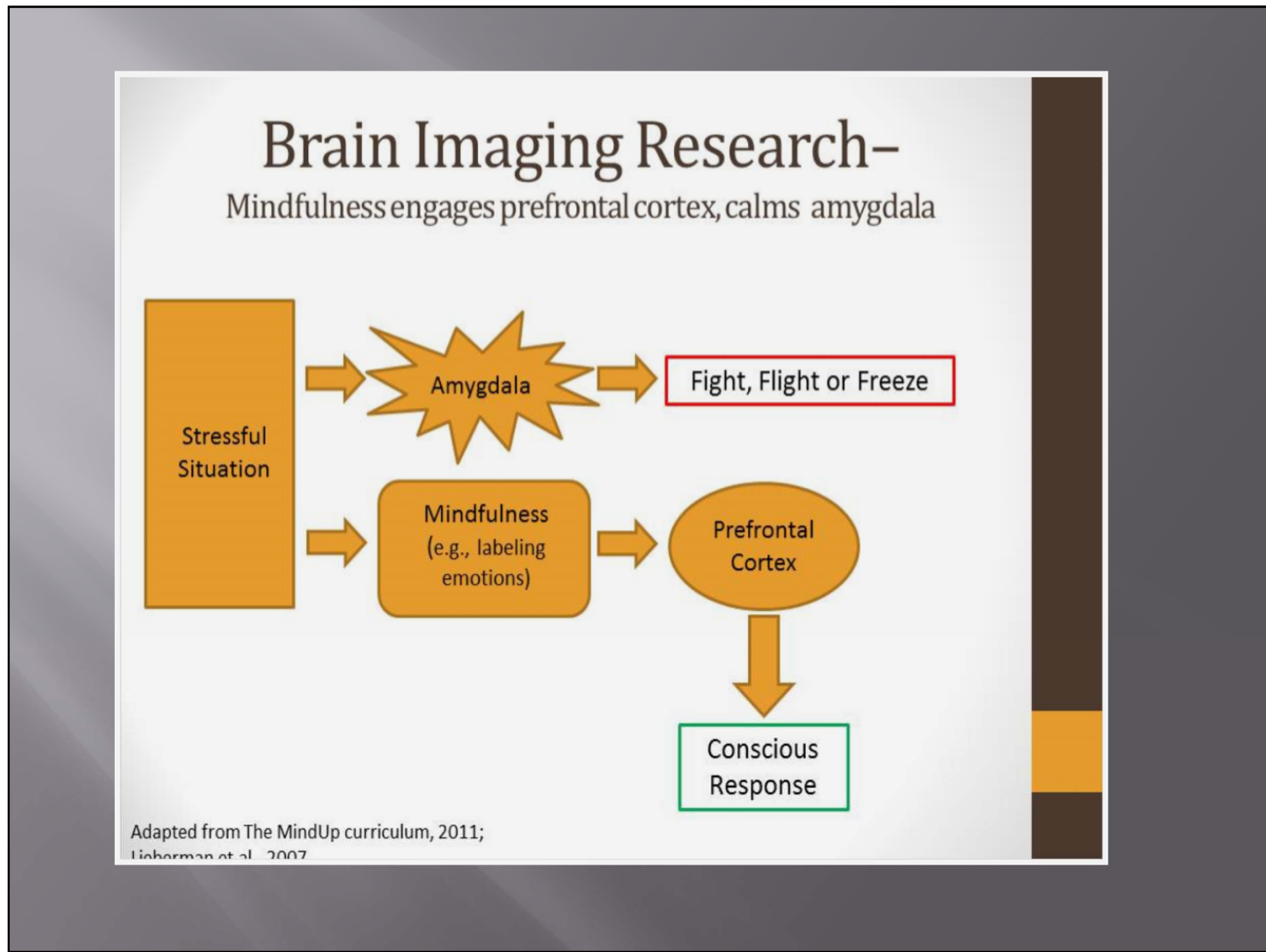
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Pot smoking in teens disrupts neuroplasticity for healthy cortical growth

(<http://ncbi.nlm.nih.gov/pubmed/2438456>)

Mindfulness improves neuroplasticity

<http://www.theemotionmachine.com/mindfulness-and-neuroplasticity>



Mindfulness helps children develop:

Increased stimulation in the prefrontal cortex.

Better focus and concentration.

Compassion.

Increased sense of calm.

An understanding of how their brain works.

The Result:

Increased self-awareness.
Skillful response to difficult emotions.
Increased empathy & understanding
of others.
Natural conflict resolution skills.
Happier, healthier kids who are ready
to learn.

Very Important Information:

Mindfulness is associated with a
lot of positive benefits
BUT
does not create them.

Mindfulness simply allows
the brain to be itself.

By its nature, it is peaceful,
attentive, and compassionate.

The brain 'left alone'
is healthy and calm.

Over-reactivity inflames
the brain.

Like gardening
all we do is till, plant, water,
and weed...then stuff grows!

We don't control the
growth...that is nature,
naturing.

You can't make corn grow
by pulling on it



Mindfulness does not work
or not not work.

When you try too hard for a
result, you are pulling on the
corn....
you are being Getful,
not Mindful.

Amydalian Alchemy

Turning a reactive creature
into a response-able one

a Corticalian

How to Work with Teens and Mindfulness



Basic Premise to Begin Mindfulness:

You have developed a
therapeutic alliance with the
teen.

How to Get a “Buy-in” from Teens

- ▣ Model Mindfulness
- ▣ WIIFM
- ▣ Brain Education
- ▣ Mind Education
- ▣ There’s an app for that

- ▣ (adapted from leftbrainbuddha.com)

Model Mindfulness

- ▣ Have your own personal practice
- ▣ Discuss this from your own life's experiences, as this adds credibility to your teaching.
- ▣ Teens need to see your ability to be response-able, and not reactive.
- ▣ Teens can pick out a phony quite easily.

WIIFM

- ▣ Teens are tuned into “What’s In It For Me”
- ▣ Meet them where they are at.
- ▣ Show them the research on how Mindfulness will help them with test grades, relationships, stress, anxiety, and overall feeling good.

Brain Education

- ▣ Teach them about the brain
- ▣ Go through the various regions effected by stress, drugs, joy.
- ▣ Explain neuroplasticity, and how it is important for their brain's health.
- ▣ Explain how marijuana disrupts brain health, lowers IQ, etc.

Mind Education

- ▣ Teach teens the nature of Mind (which is different from the Brain)
- ▣ Validate the wandering mind, with its wild thoughts of worry, fear, anxiety, as normal given the circumstances, and...
- ▣ How to work with these thoughts without getting caught up in them.
- ▣ Mind like Teflon (not Tacky Glue)

There's an app for that

- Insighttimer.com
- Stopbreathethink.org
- Smiling Mind (i-tunes)
- Take a Break (i-tunes)

Mindful Lessons

- Reactivity 'feeds the problem'. It does not get rid of it.
- Observe, acknowledge and accept feelings, thoughts, bodily sensations without necessarily expressing them or acting on them.
- Pay attention to the details of reality in the present moment and bring attention to whatever you are doing when the mind wanders.
- Distinguish between what is controllable (your behavior) and what is not controllable (just about everything else).
- Co-exist with uncomfortable feelings, and still take appropriate action based on the needs of the situation.
- Examine your behavior in relation to others, and assess the impact of your behavior on others.

Your Mindful Practice



To re-iterate, if you really want to help Teens stay clean, or stop using marijuana, using mindfulness, it is imperative, as a therapist, that you have a mindful practice.

Without your own personal
mindful practice,
teaching others is like
teaching someone how to
swim, and you have never
been in the water.

And now for something
completely different
...well almost

New, but Old, Construct of Mindfulness



SHIHAN ESSENCE
Ethics. Mutual Respect.

"If the mind is wrong, the sword is also wrong. To study the sword, you must study the mind."

Toranosuke Shimada / Samurai - Legendary Master Swordsman

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If you wish to study the Mind, Study the Sword

Iaido: Way of Presence in the Moment.

Katana = Imagination
Wakazashi = Emotions
Tanto = Faith

Satsujinken
life taking sword

Katsujinken
life giving sword

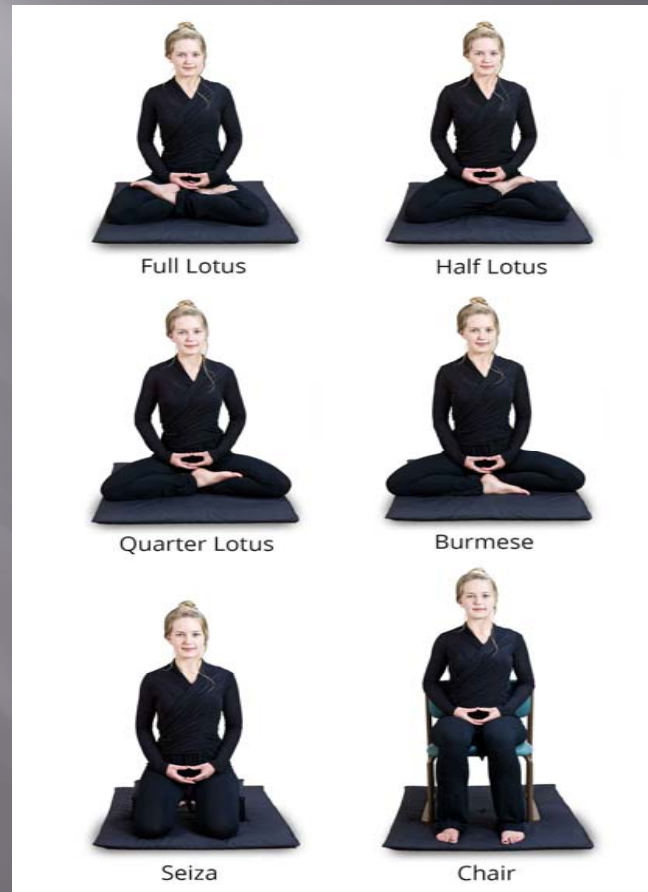
Kata...Form or Behavior

Zazen or Sitting Zen
swords are sheathed
mind at rest (mindfulness)

Budo: Way of War...To put away
the sword (To cease the struggle)



Mind-Swords at Rest



Tips for Personal Practice Mind-Swords at Rest

- Focus on Hara. When mind wanders, return to Hara. Repeat.
- 5 minutes per day/5 days/week is better than 60 minutes on a Saturday morning.
- Work your way to at least 20-30 minutes/day at least 5 days/week.
- Join a group to attend at least twice a month.
- Make it a ritual. Create an altar or sacred space in your home.
- Think of this as brushing the teeth of your brain...you want to do this at least daily.
- Find a mentor, or teacher.
- Read

CBT and Mindfulness is Swordsmanship in Action



Mindful Cognitive Reframe (mental kata)

“Hi, (discomfort), come
watch me, (now purpose);
Thank you, as I rest.

Iaido Way of Drawing the Sword (Way of Presence of the Moment)



Iaido as a Cognitive Reframe



- ▣ Hi discomfort
- ▣ Come watch me now
purpose
- ▣ Thank you
- ▣ As I rest

Mind-Sword Iaido Construct

Draw = Acknowledgement of the issue

Cut = Engagement and Returning to now

Cleaning = Let Go/Thankfulness/Gratitude

Sheathing = Rest

Daily Mindfulness



Getful or Mindful?

Getfulness is want, and, according to Buddhist teaching, the root of suffering.

Mindfulness is just being here.

If you are trying to “get”
anything from your Mindful
practice, you are not practicing
Mindfulness.

So, if there is nothing to get,
why do it?

To let your light shine!

Basic premise of Mindful
practice is that your true nature
is already calm, balanced,
peaceful.

You don't need to "go get it"

It is already here...you just to
don't see it yet.

Practice is necessary to make
your inherent “buddha-
nature” a lived, concrete
reality, moment by moment.

It never ends.

Jijuyu Samadhi

Ji = self

Ju = receive

yu = use

Samadhi = oneness

Receiving your life and
simultaneously the whole
universe.

Jijuyu Samadhi

Is simply to enjoy one's own
inherent nature, without
question of means and ends.

Practice Mindfulness quietly,
with no expectation...no
getting.

So, whether you are sitting,
standing, eating, washing dishes,
take time to “be here” –
learn how to use your mind-
swords,
and bask in the moment of
quietude, peace, and eternity
that is
you.

Guided Imagery as a Mindful Practice

- Is the “Life-Giving” Sword
- Works well with children and teens
- Guided imagery requires mindful attention to breath and the imagery...and to explore.
- I use it to help people show them the power of mind/thoughts upon their body as it gives a fairly quick kinesthetic feedback. Lice.
- Guided imagery has been a part of many cultures from Chinese, European, Pacific Islanders to Indigenous North American Nations.

When Zen Master, Shunryu Suzuki, was asked by a psychiatrist what he knew of mind, he replied, “I know nothing of mind, I just teach my students how to listen to the birds when they sing.”

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