



Utilizing Integrative Medicine and Non-Traditional Therapy to Improve Cardiovascular Outcomes

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Disclosures
None



Education Need/Practice Gap

A major practice gap exists in the role of integrative medicine in current cardiovascular treatments. Providers need to be aware of the use/types of integrative therapies for patients with cardiovascular disease.



Learning Objectives

Upon completion of this learning activity, you will be able to:

1. Understand the need to incorporate integrative medicine modalities into traditional cardiovascular treatment plans.
2. Describe how integrative medicine may help to improve underlying pathogenesis of cardiovascular disease, particularly chronic stress and inflammation.
3. Discuss several of the most popular integrative medicine approaches that have proven to be effective in cardiovascular treatment.



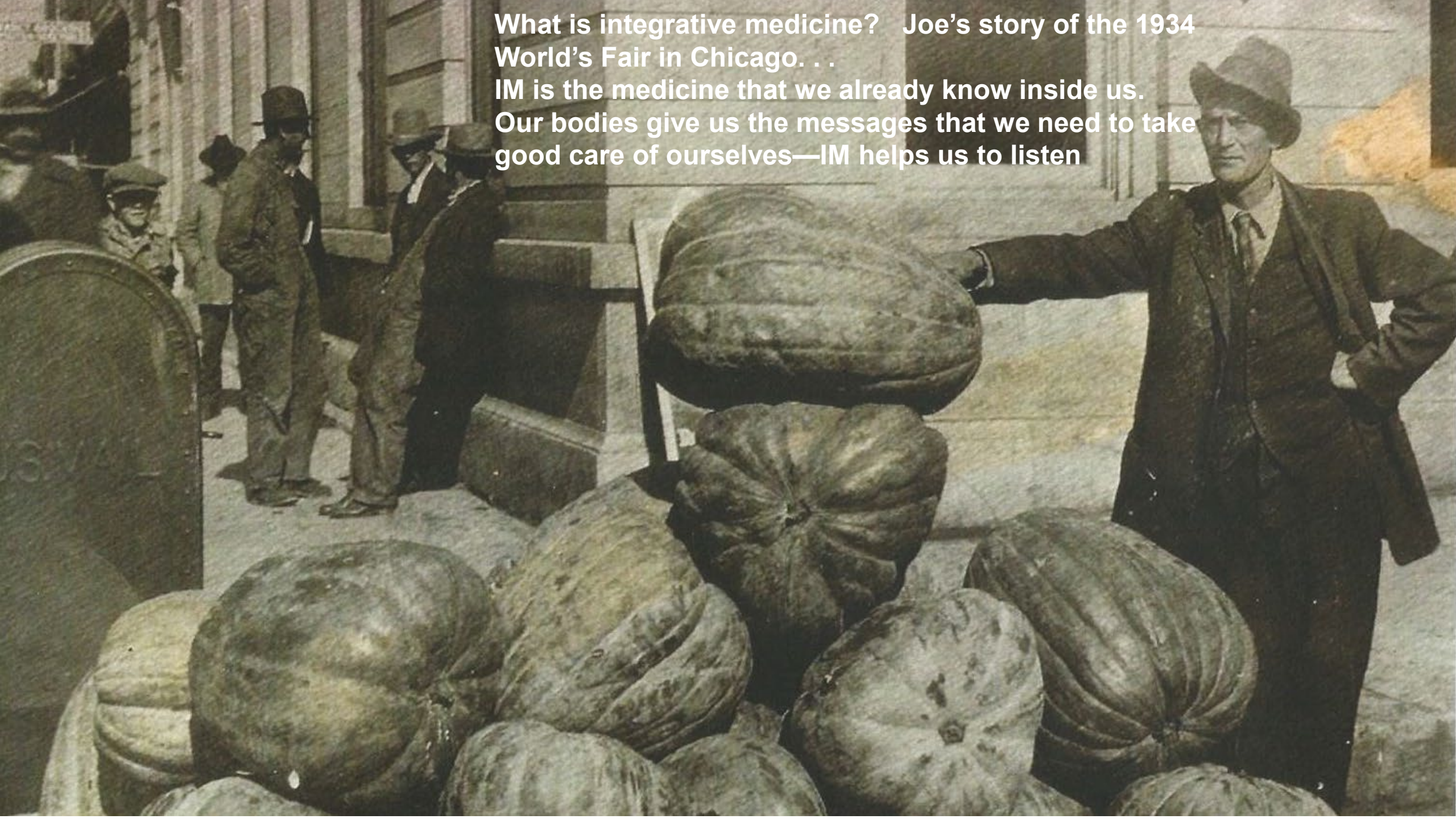
Expected Outcome

The desired change/result in practice is to incorporate integrative medical therapies into cardiovascular care to optimize the benefits to the patient.

- **Most of us were trained to treat disease after it happens**
- **Integrative medicine is a tool that we can use to help treat disease along with traditional medicines and procedures**
- **BUT integrative medicine can be a key to prevention of disease also**
- **We can empower our patients' lives long before illness changes their lives**
- **Health is more than the absence of disease**
- **Most of us agree, prevention is the best intervention**



What is integrative medicine? Joe's story of the 1934
World's Fair in Chicago. . .
IM is the medicine that we already know inside us.
Our bodies give us the messages that we need to take
good care of ourselves—IM helps us to listen





UK HEALTHCARE

INTEGRATIVE MEDICINE CLINIC

SERVICES OFFERED

Acupuncture

Jin Shin Jyutsu

Massage Therapy

Narrative Medicine

Reiki

Group Classes--Yoga,
Tai Chi, Meditation

**FOOD
AS MEDICINE**

**EXERCISE
AS MEDICINE**

**MIND BODY
MEDICINE**



FOOD AS MEDICINE

- After years of study and comparison we have found that the Mediterranean Diet is hard to beat
- It is plant dominant but includes lean cuts of meat. It focuses on primarily fruits and vegetables, whole grains and healthy fats. Pay attention to legumes
- We can encourage our patients to “eat the rainbow”—esp children
- Remember to mention serving size to patients (palm-sized). Eat slower—it takes about 20mins for brain to register that we have eaten
- Encourage all to have at least one home prepared meal a day
- Eat the zip code---but when not possible frozen is fine
- Appetite is significantly affected by sleep



- Which mouse is sleeping better?
- Lean mice live longer than chubby
- Sleep—about 7-9 hrs a night, the same hours if possible.
- Poor/inadequate sleep alters hormones
- Ghrelin—a GI peptide, elevated with inadequate sleep, stimulates appetite
- Leptin—a hormone made by adipose cells that regulate energy balance by inhibiting hunger
- This leads to less efficient insulin response—and higher circulating glucose levels (increased inflammation)
- Poor sleep makes a body feel that it is under attack therefore more cortisol is called upon—more inflammation as well as fat deposition thru the mid body





EXERCISE AS MEDICINE

- Only exercise if you eat
- Rec-150min/week
- Same time of day, first hour if possible leads to more efficient insulin use. Folks who exercise in the first hour of the day are more likely to be life long exerciser.
- Get outside when possible

A person with a red backpack is walking away from the camera on a dirt path through a forest. The trees have vibrant autumn foliage in shades of yellow, orange, and green. The path is slightly muddy and leads into the distance.

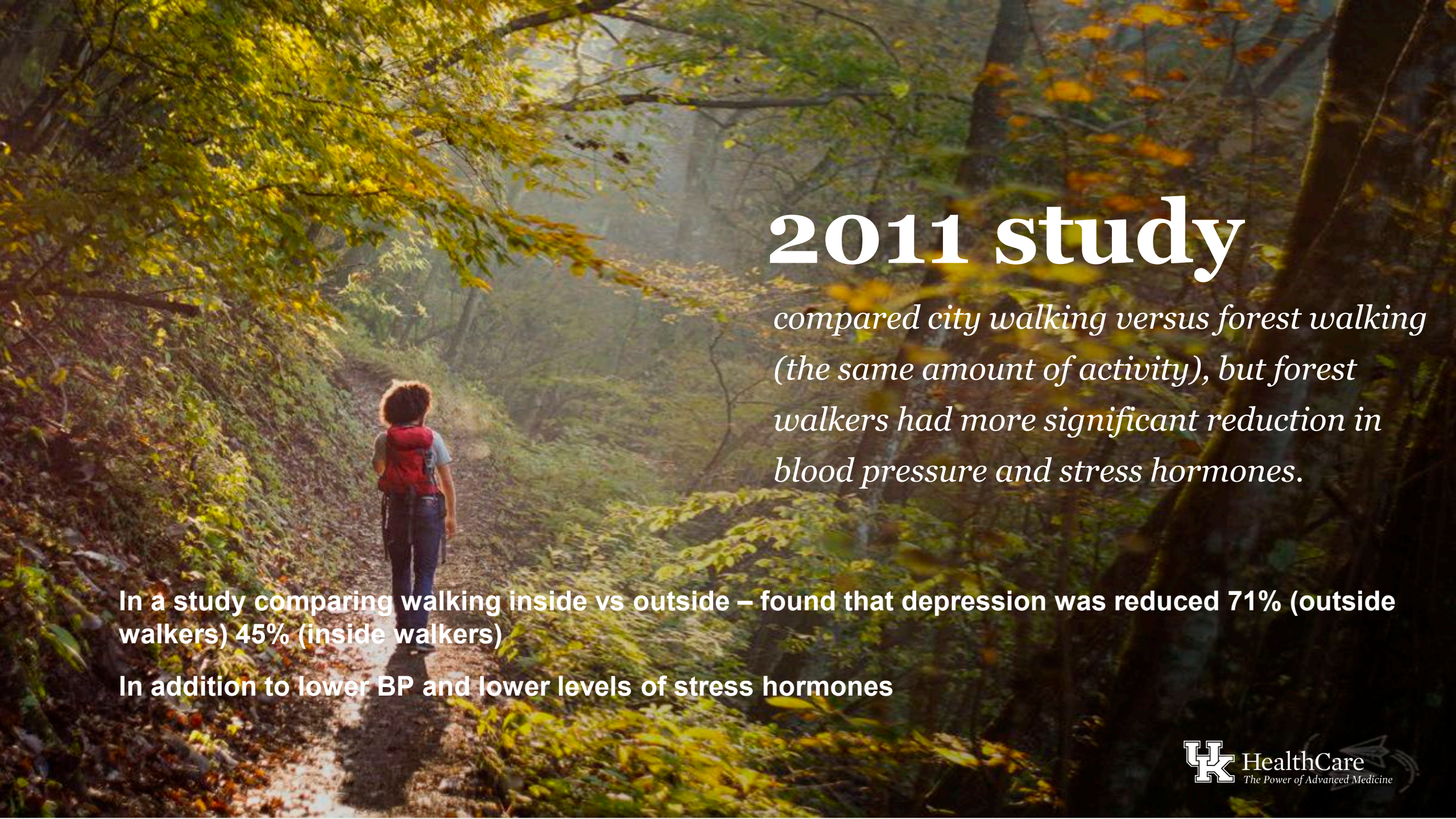
shinrin-yoku

japanese noun.

n. Translated into English as “forest bathing”.
It is the practice of taking a short, leisurely
visit to a forest for health benefits.

1990 Japanese Ministry of Agriculture, Forestry and Fisheries coined the phrase “Shinrin-Yoku” Literally means forest bathing

There is growing evidence that this practice boosts immunity, lightens mood and reduces stress

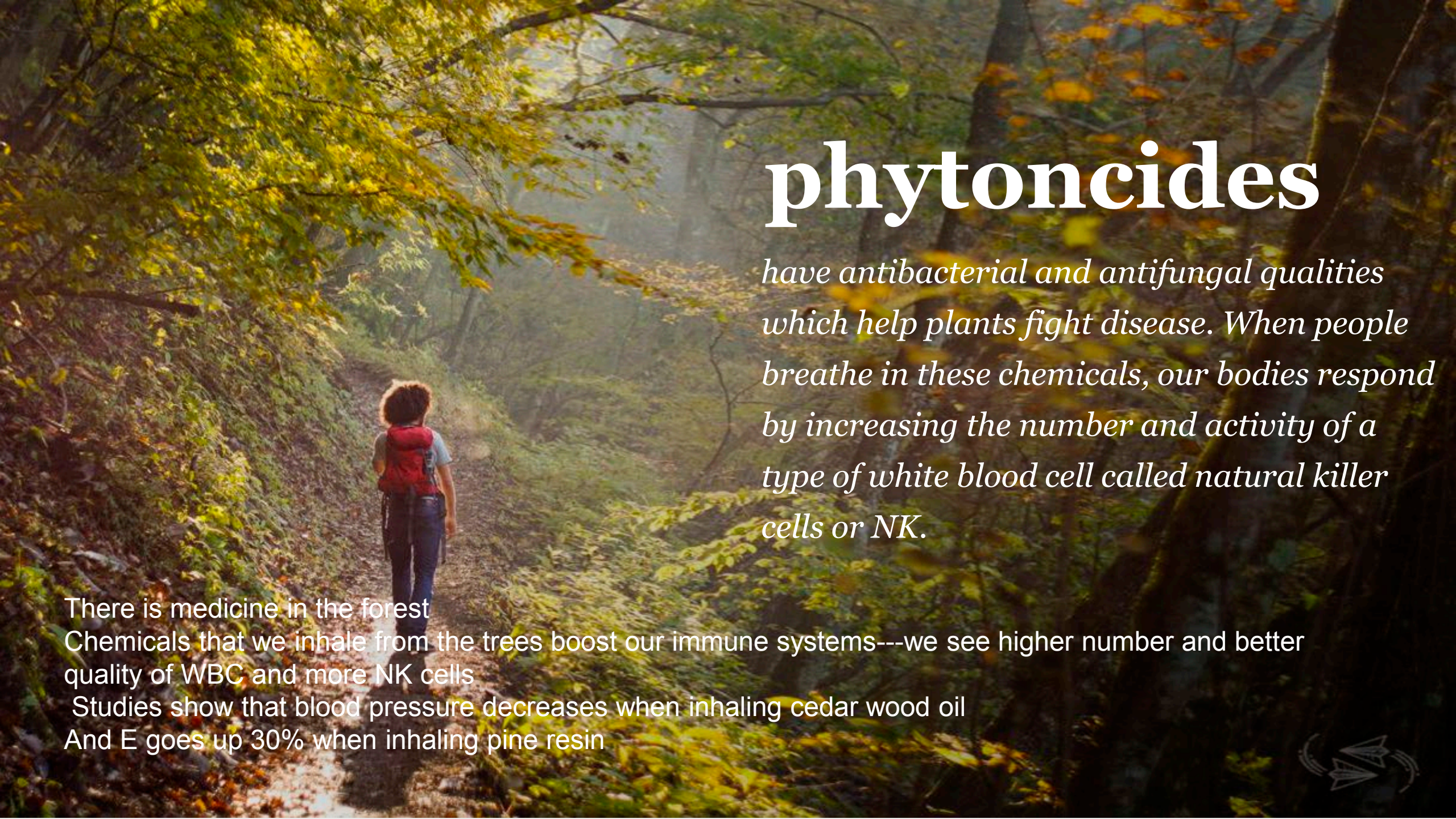
A person with a red backpack is walking away from the camera on a dirt path through a forest. The trees have green and yellow leaves, suggesting autumn. The path is narrow and leads into the distance.

2011 study

compared city walking versus forest walking (the same amount of activity), but forest walkers had more significant reduction in blood pressure and stress hormones.

In a study comparing walking inside vs outside – found that depression was reduced 71% (outside walkers) 45% (inside walkers)

In addition to lower BP and lower levels of stress hormones

A person with a red backpack is walking away from the camera on a dirt path through a forest. The trees have yellow and green leaves, suggesting autumn. The path leads into the distance, and the forest is dense with trees and foliage.

phytoncides

have antibacterial and antifungal qualities which help plants fight disease. When people breathe in these chemicals, our bodies respond by increasing the number and activity of a type of white blood cell called natural killer cells or NK.

There is medicine in the forest

Chemicals that we inhale from the trees boost our immune systems---we see higher number and better quality of WBC and more NK cells

Studies show that blood pressure decreases when inhaling cedar wood oil

And E goes up 30% when inhaling pine resin





**MIND BODY
MEDICINE**



Mind Body offerings at
UKHC Integrated Medicine Clinic

TAI CHI
CHI GONG
MEDITATION
YOGA
BREATH WORK
GUIDED IMAGERY
REIKI
JIN SHIN JYUTSU
ACUPUNCTURE

- Mind body medicine uses the natural connection between mind and body to improve physical functioning, reduce stress and promote health.
- Focusing on this connection affects behavior—promotes positive changes.
- Many of our common ailments are preventable—or at least improved if we could reduce inflammation.
- MB practices increase the parasympathic activity which decrease BP, HR, and RR—along with lowering levels of cortisol, adrenalin, cytokines as well as improving the activity of the immune system
- Over 40m Americans use MB medicine.
 - 6.5 m were advised by MD to use this modality.
 - So for about every 30 people using yoga/meditation 1 was referred by doctor.
 - Most of these pts have multiple medical problems (last resort).
- Begin earlier—we can have a bigger impact if we start before we use up all the conventional methods
- MB Medicine should become part of the fabric of our care



YOGA

- Originated in India over 4000 years ago.
- Sanskrit word YUG—yoke.
- Joining of human nature and universal force.
- It is a form of exercise and breathwork combined with meditation.
- The combination of stretching, holding postures, breath control, and concentration are designed to promote physical, mental, emotional, and spiritual well being.



YOGA Improves CV Health

Studies show us that yoga improves CV health by:

- Lowering BP
- Decreased psychological stress
- Decreased arrhythmia burden
- Improved metabolic syndrome
- Decreased procoagulant and oxidative stress changes
- Improved lipids profiles
- Better rates of tobacco cessation
- More successful cardiac rehab goals
- Increased exercise capacity
- Better quality of life in CHF patients



Clin Res Cardiol(2014)103:675-680



YOGA my heart study - JACC

Regular yoga practice showed significant decrease in symptomatic and asymptomatic a-fib burden.

- Regular yoga practice showed significant decrease in symptomatic and asymptomatic a-fib burden
- Study involved patients 18-80 yo, using event monitors and self reporting
- Pts were their own control over a 3-month trial of no intervention.
- During the study 60 min yoga sessions 2x a week with 10' breathwork, 10' warm up, 30' poses, 10' relaxation
- Teaching patients breathwork is a small but significant intervention
- Chair yoga is a viable option

SECONDARY OUTCOMES

- *Improved physical function*
- *Better general health and vitality*
- *More social interaction*
- *Improved BP and HR*



- Yoga and other MB modalities help control extreme fluctuations in autonomic tone, esp increased sympathetic tone which often preceeds paf.
- Decreased symp tone leads to decreased systemic inflammation, less oxidative stress and lower levels of endothelial dysfunction.
- All of these factors promote substrate changes that help sustain arrhythmias

HYPERTENSION

- Many trials show modest but consistent decrease in BP –Syst 3-11pts and Diast 2-5.5 pts.
- This recent (March2019) NIH supported meta-analysis showed that when the intervention included meditation and breathing techniques a reduction of 6-11 mmHg was seen.
- This reduction was seen with 60 min yoga practice 3-5x a week.
- This rivals antihypertensives' reductions.
- It is estimated that a 3mm reduction in SBP reduces stroke mortality by 8% and CVD by 5%



METABOLIC SYNDROME AND AODM

- **Reg yoga practice is shown to improve insulin resistance, BMI, waist circ, A1c.**
- **In diabetics both hyper and hypoglycemia were better controlled.**
- **Weight is managed better 2-13% decrease in body wt**

Diabetes Res Clin Pract19:69-74

A person is shown from the waist down, rolling up a teal yoga mat on a light-colored wooden floor. The person is wearing dark leggings and is barefoot. Their hands are visible, pressing down on the mat as they roll it. In the background, a window with multiple panes allows bright sunlight to stream in, creating a warm, golden glow. The text "LIPID HEALTH" is overlaid in the center of the image.

LIPID HEALTH

Indian Heart J 65(2);127-131

A person is shown from the waist down, rolling up a blue yoga mat on a light-colored wooden floor. The person is wearing dark leggings and is barefoot. The background is a bright, out-of-focus window with sunlight streaming in, creating a warm, golden glow. The text "LESS PROCOAGULANT CHANGE AND OXIDATIVE STRESS" is overlaid on the left side of the image.

LESS PROCOAGULANT CHANGE AND OXIDATIVE STRESS

J Altern Complement Med 2007;13(10);1085-1090

SMOKING CESSATION



Smokers who practice mindfulness, meditation, and yoga were more successful at cessation because of fewer cravings and stronger self control.

Proc Natl Acad Sci USA 2013;110(34);13971-13975

CARDIAC REHABILITATION

- We know that exercise has an effect on mortality.
- We know that psychosocial interactions have an effect on quality of life.
- Yoga could be a useful framework for an economical cardiac rehab program.
- Better fitness, well being, improved sleep and decreased sympathetic tone



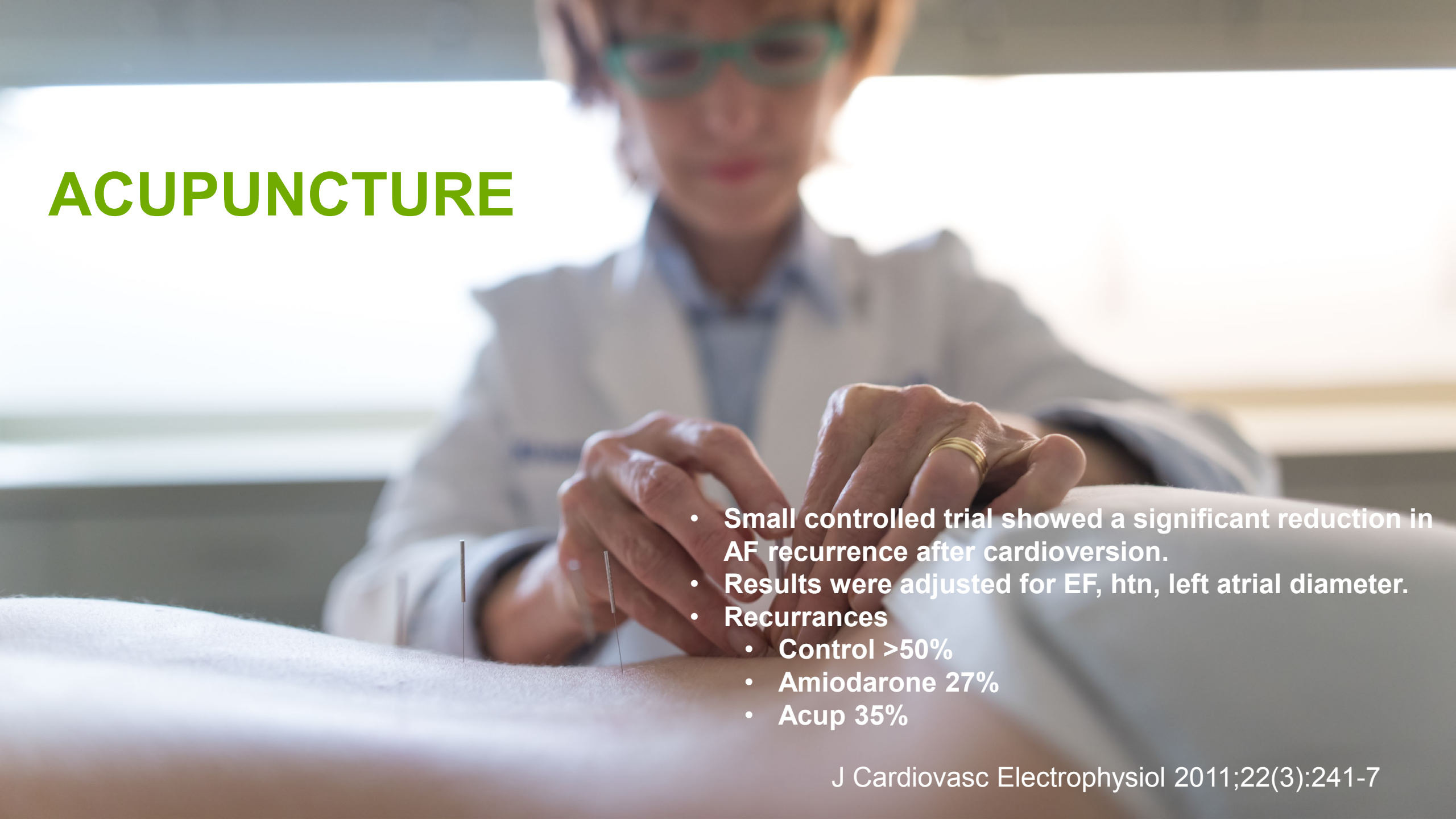
A close-up photograph of a person's hands and forearms in a Tai Chi pose. The person is wearing a maroon long-sleeved shirt. Their right arm is extended upwards and slightly to the right, with the hand open and fingers spread. Their left arm is extended downwards and to the left, also with the hand open and fingers spread. The background is a soft, out-of-focus natural setting with green and brown tones.

TAI CHI

In patients with chronic CHF, TC produced significant improvement in 6 min walking distance, higher EF, lower BNP, and better quality of life.

Am J of Phys Med and Rehab 96(10):706-716, Oct 2017

ACUPUNCTURE



- Small controlled trial showed a significant reduction in AF recurrence after cardioversion.
- Results were adjusted for EF, htn, left atrial diameter.
- Recurrences
 - Control >50%
 - Amiodarone 27%
 - Acup 35%

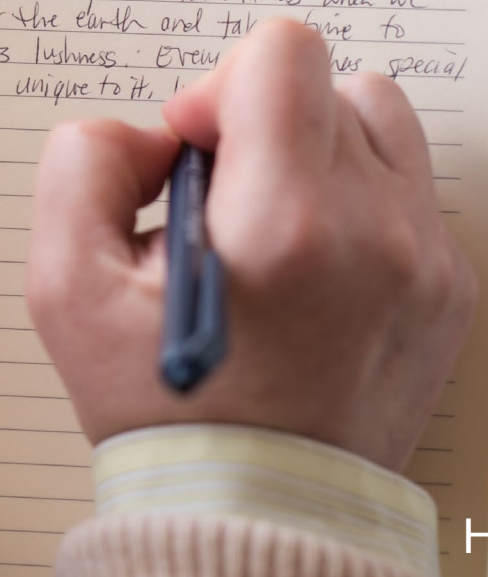
REIKE *healing touch*

- Both reike and massage are shown to improve pain, anxiety/depression, fatigue and overall well being in hospitalized patients
- In this 5-year study, reike showed higher scores of improved fatigue and anxiety than massage
- Patients who respond to this show lower BP, HR, RR, better sleep, less pain, less anxiety, and lower use of meds
- Also useful—imagery, positive affirmation, music



NARRATIVE MEDICINE

- Patients' stories can be a starting point for rediscovering identity during treatment.
- Serious illness challenges our expected biographies.
- Offering NM to patients with advanced cardiac disease help them come to terms with their illness, find new meaning in their treatment and begin a new story in light of changing circumstances of their health.
- The narrative process helps to bolster patient resiliency and quality of life.
- The impact of illness on each patient's identity is better understood in light of each patient's life story.

A close-up photograph of a person's hand holding a dark blue pen, writing in a lined notebook. The notebook is open, and the right page shows handwritten text in cursive. The background is blurred, showing a wooden table and a blue book.

Today's sunny skies and greenery reminds me the cycle of seasons continues regardless. A great example of faithfulness when we care for the earth and take time to notice its lushness. Every place has special offerings unique to it.

MEDITATION

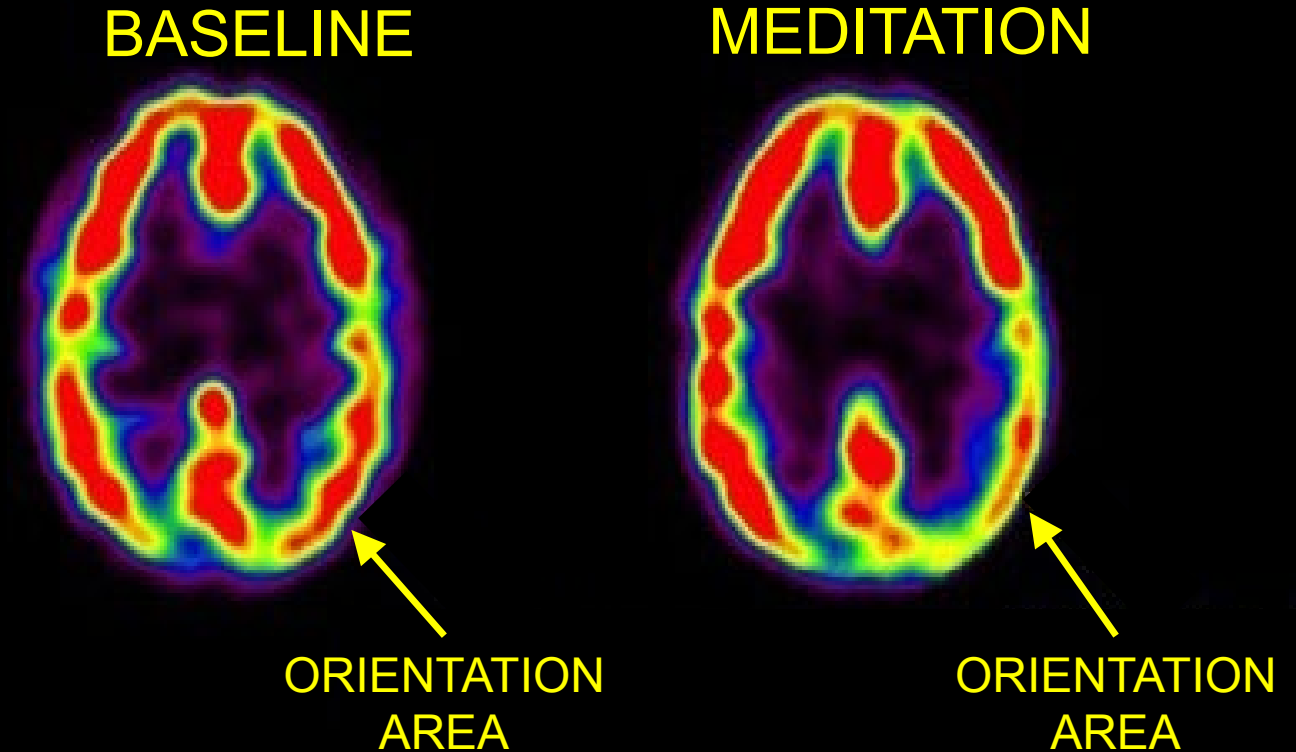
Paying attention, on purpose, without judgement

- It's simple, but it's not easy
- Meditation helps us to build increased self awareness, better stress control and pain control, improved concentration, focus and attention, slower aging, and stronger CV and immune systems
- Meditation has been shown to be beneficial in addiction treatment and in tobacco cessation
- Studies clearly show us that telomeres are more stable with meditation delaying senescence/aging of the cell, less chance for something to go wrong during cell division



NEUROPLASTICITY

- Meditators have more grey matter (25/65 yo study) and quieter DMN, default mode network
- Some feel that we are in DMN about 50% of the time—not present with what we are doing—this is generally a more anxious mode and less happy state.
- Meditation helps keep us in the present moment.
- Multi-tasking vs Switch tasking
- Some of our learned behavior is damaging—we can't unlearn but we can override the original pathway with a new pathway



MEDITATION

*The effects of meditation are long lasting
Is good for the heart*

- This study was a meta-synthesis of the literature that showed significant reduction in CV risk factors and rates of CV morbidity and mortality.
- In this statement from AHA we find that meditation has a long standing effect on the brain.
- This provides biologic plausibility for beneficial effects on basal state and on CV risk

MEDITATION

Meditation and CHF

- Elderly, optimally treated CHF pts (diuretic, ACE-I, spironolactone, carvedilol) practiced guided meditation 30' bid x 12 wks with a weekly meeting.
- Controls had weekly meeting only
- Findings—lowered NE, improved QoL, improved CP exercise testing
- 2nd study—weekly nurse visits for meditation x 12 wks
- Found pts had improved CHF sx's, less depression, and higher QoL scores



MEDITATION

Phone Applications

Improved Mood

Reduced Stress

Better attention, awareness
and acceptance



This study showed that meditation via phone app use improved mood, reduced stress, participants reported better attention, awareness, and acceptance

1440

- Significant changes in the brain begin after we accumulate 100 mins of meditation
- We start to see new neuronal pathways
- If we meditate 10 mins a day, we still have 1430 mins left

- We can't have healthy patients w/o a healthy planet
- We know that there are ways in which we live that are having an unhealthy effect on our planet—this has an unhealthy effect on our health.
- We must speak, we must remind our patients that every little bit helps.
- Remind patients to reuse, recycle.
- Last year our country used 100 billion plastic bags—they leave toxins in the soil and water as they degrade—not to mention the disaster they create in the ocean
- Pay attention to fossil fuel use
- When the Olympics were in Atlanta, there was no traffic into downtown Atlanta for 2 weeks—ER admissions for asthma attacks were cut by one third
- It's the little things that count—turn off the water while you brush your teeth
- If we all do a little, it will add up to make a difference
- Health professionals have a voice, a platform
- Caring for the earth is part of our service to others—it's part of taking care of our patients



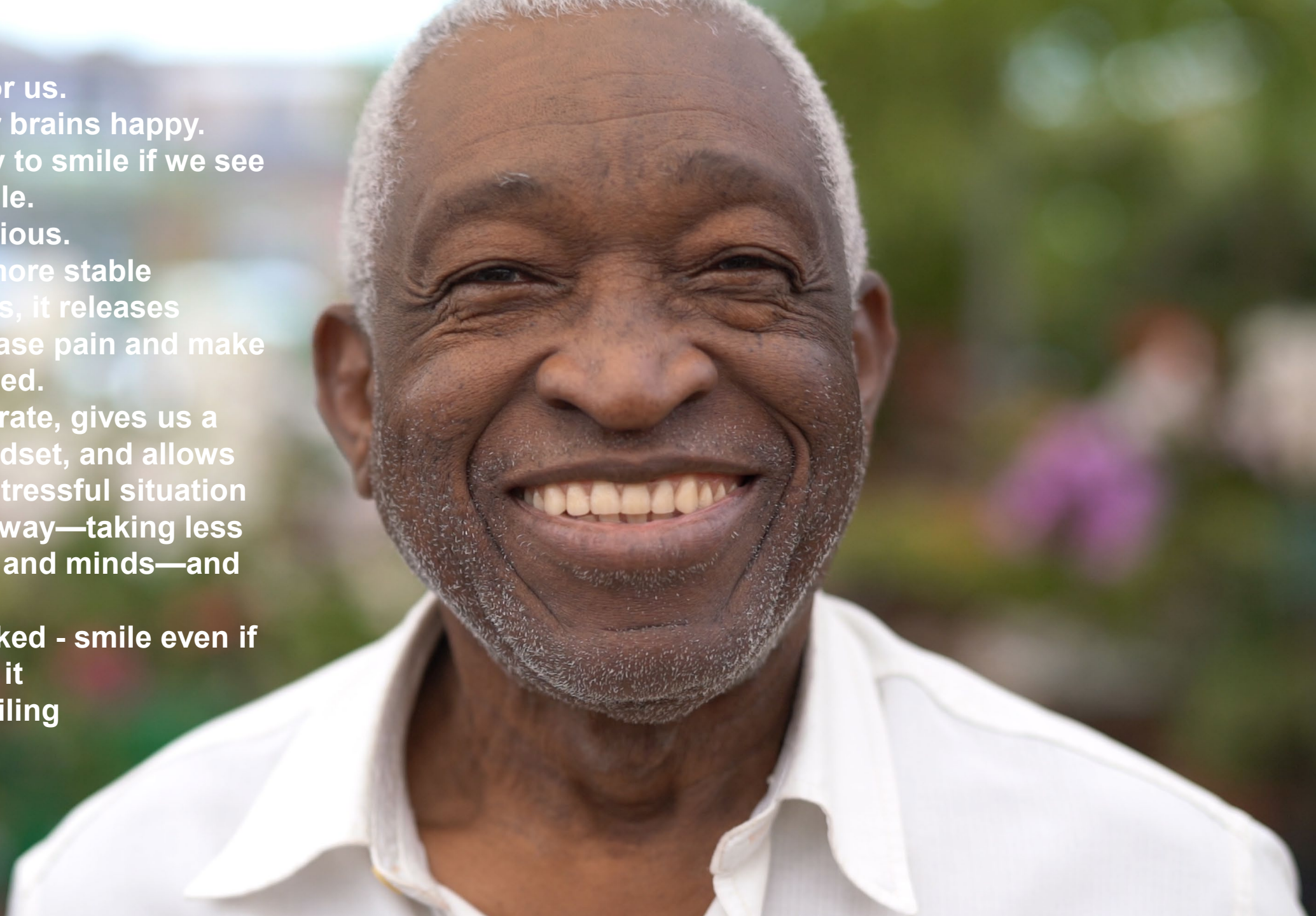


- Start early
- Encourage patients to teach their families healthy habits
- Shopping, cooking, exercise, yoga, meditation can be family sports
- Today's children are the first generation who may not live to be older and healthier than their parents



- Many studies now show us that gratitude is an important key to wellbeing
- We need to help patients consciously practice gratitude
- Ask pts to write down 3 things each day for which they are thankful.
- This stimulates the hypothalamus, which regulates stress and the ventral tegmental zone which regulates the brain's reward system by producing feelings of pleasure.
- Positive feelings beget positive feelings.
- Gratitude focused patients show increased wellbeing, more emotional stability, and more positive interpersonal relationships.
- This results in higher rates of optimism, life satisfaction and generosity

- Smiling is good for us.
- Smiling keeps our brains happy.
- We are more likely to smile if we see someone else smile.
- Smiles are contagious.
- Smiling leads to more stable neuronal pathways, it releases endorphins that ease pain and make us feel less stressed.
- This lowers heart rate, gives us a more positive mindset, and allows us to deal with a stressful situation in a more healthy way—taking less toll on our bodies and minds—and hearts!
- Brains can be tricked - smile even if you don't feel like it
- Write an rx for smiling



2015 Super Bowl Dodge charger commercial

<https://www.dropbox.com/sh/b845fjkziqhipcp/AABa1YEoymw1nHO1PCsxTVQya?dl=0&preview=Official+2015+Dodge+Super+Bowl+Commercial+%C2%A6+Wisdom+%C2%A6+.mp4>