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THEME: MIND/BODY EXERCISE

Mind/Body Exercise: What Is It?

by Jan Schroeder, Ph.D.

not equate to religion but the gaining of a deeper level of consciousness. A number of experts believe that while some participants may enjoy the physical benefits of the movements immediately, they may not reach the spiritual elements for some time. This article highlights just a few of the many types of mind/body exercise.

Pilates

Joseph Pilates, the creator of the Pilates method, began developing his exercise system in Germany in the early 1900s. After immigrating to the United States in 1926, he opened the first official Pilates Studio® in New York City. The aim of the Pilates method is to produce integrated movement of the body as a whole, working from the core to create stability, and progressing to the periphery or extremities to enhance mobility. In Pilates, the core is defined as the "powerhouse," which consists of the abdomen, buttocks, thighs and lower back. Originally embraced by the dance world, the Pilates method is now practiced by athletes and the general population.

In recent years, the Pilates method has come to the forefront of the fitness industry, in part due to a landmark court decision allowing the use of the Pilates name free of trademark restrictions. On Oct. 20, 2000, a U.S. District Court Judge ruled that Pilates, like yoga and karate, is a type of exercise, not a trademark, opening the door for Pilates-based practitioners, instructors or equipment manufacturers to legally promote the Pilates method in advertising materials. It is currently one of the fastest-growing exercise trends in health and fitness facilities. The benefits of Pilates are purported to include increased kinesthetic awareness, improved posture, stability and coordination, as well as enhanced balance, flexibility and strength. This activity can be performed on a mat or specialized equipment such as reformers.

Yoga

Yoga is a very popular activity within the fitness industry. Yoga translates as "yoke" or "union," describing the integration of mind and body. The practice of yoga is a beneficial form of relaxation therapy and it has also been found to support positive lifestyle changes that

Letter from the Editor

by Dixie Thompson, Ph.D., FACSM

Welcome to the Fall 2008 edition of the ACSM Fit Society® Page. I am pleased to be the new editor for the newsletter, and help bring you useful, informative content from ACSM experts.

This issue will delve into the area of alternative medicine and mind/body exercise. We'll discuss types of mind/body exercises you could incorporate into your fitness routine, benefits of acupuncture, Tai Chi and Qigong training for older adults, and more. Although these topics may be new to you, many people have actually been practicing them for centuries.

We hope this issue serves as a worthwhile learning experience. Thanks for your readership!

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Mind/body exercise is thriving in the fitness industry. More than 18 million Americans practice yoga and/or Tai Chi, while some 10.5 million Americans perform Pilates. Why has this format of exercise boomed? Some speculate that ever-rising stress levels from work, family and other obligations have fueled the need for a calming activity that also provides health and fitness benefits.

So what is mind/body exercise? People define this practice in many ways. For some individuals, creating a kinesthetic awareness (understanding where your body is in space during movement) is sufficient enough. However, for others, a spiritual component is important. In these formats, spirituality does

Mind-Body Exercise (continued from page 1)

may decrease coronary artery disease risk factors. There are many forms of yoga, but the most popular of the disciplines in the United States is hatha yoga, which focuses on asanas (postures) and breathing. Hatha yoga formats range from very vigorous, such as ashtanga yoga, to more gentle and meditative forms. You do not have to be extremely flexible to participate in a yoga class, and props such as blankets, straps and blocks may be used to assist you in the asanas.

Gyrokinesis® or Gyrotonic® Exercise

Gyrokinesis® and Gyrotonic® exercise was created by Juliu Horvath more than 25 years ago after injuring himself as a professional ballet dancer. In this form of exercise, fluidity of movement is paramount.

During a Gyrokinesis® session, the body is taken through seven types of spinal

movement: bending forward, extending backward, side-arching left and right, twisting left and right, and moving in a circular pattern. Sessions begin on low, padded stools, continue on the floor and close with participants standing.

Gyrotonic® exercise permits the participant to stretch and strengthen muscles, while concurrently stimulating and strengthening connective tissues in and around the joints of the body. The main difference between Gyrotonic® exercise and Gyrokinesis® is the use of equipment. Gyrotonic® exercises are performed on equipment while Gyrokinesis® exercises are not.

Benefits of this form of exercise are purported to include improved flexibility and balance as well as muscle strength, and increased overall flexibility and mobility in joints. Much more research is needed in this growing form of

exercise to document its benefits.

In closing

Mind/body exercise is an excellent way to observe gains in your fitness level as well as your mental health. You can find these types of classes at your local fitness centers, YMCAs, senior centers, etc. When trying a new mind/body class, be open to new experiences and give your mind and body a chance to enjoy the exercises.



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Q&A

By Anthony Luke, M.D., MPH

Q: My friend is receiving "cupping" treatments from his Eastern Medicine practitioner. His back looks terrible with all these red marks, but he feels it really helps his headaches and back pain. Is this treatment legitimate?

A: "Wet-Cupping" is a traditional Chinese form of treatment where a practitioner typically uses a flame to heat air in a cup then applies the cup to the skin, creating a sealed vacuum. Some practitioners go as far as making a small incision to allow some bloodletting during the procedure. By doing so, the theoretical benefits are that the body's skin reflexes are stimulated and the body's immune response is activated. The Chinese interpretation of benefits is that the Yin and Yang in the body (positive and negative forces) are balanced. Cupping has been performed for many different treatments with anecdotal success. There is little research support for this practice, with papers typically coming from smaller, less-mainstream medical journals. One recent paper suggested that with wet-cupping, headache severity for 70 headache sufferers was reduced by two-thirds, and they also suffered fewer days of headaches per month. A Chinese study showed that needling, massage and cupping were beneficial for individuals with muscular back pain. Another paper even demonstrated a decrease in individual's LDL cholesterol levels after three weeks. However, as warned by a plastic surgeon in the *Journal of Burn Care & Rehabilitation* (2007), there are potential complications, including developing blisters, blood collections (hematomas), skin infections and local burns, which makes the value of the practice of cupping questionable until more definitive research is conducted.

Q: I've practiced yoga for years and I'm 48 years old. Lately, my knees hurt with some of the poses. Why is this happening?

A: Yoga is a great form of exercise. It involves deep stretching and strengthening exercises while achieving a state of mental focus through breathing. Research has found yoga to be helpful for individuals with various medical conditions and has led to improvements in overall well-being. Specifically for the knee, studies on Iyengar yoga and strengthening exercises found them useful for patients with knee osteoarthritis (natural wear and tear of the joints that can lead to pain with age). However, yoga can aggravate knee injuries when performing some of the poses, especially when there is over-stretching or kneeling involved. The most common cause of knee pain in active individuals involves the knee-cap (patellofemoral pain). Being extremely flexible at the joints is a risk factor for kneecap problems. Kneecap pain is often exacerbated when bending the knee while weight-bearing, such as squatting or kneeling. If this is the case, one may be able to modify the pose to avoid bending the knee too much, such as keeping it from bending less than 90 degrees. Your teacher may be able to suggest alternative positions. If the knee pain is persistent for more than a

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The Essentials of Taiji (Tai Chi) and Qigong Training for Older Adults: No Pain, Lots of Gain

By Yang Yang, Ph.D.; Scott Grubisich; Matthew F. Komelski, M.A.



Among the traditional maxims of Western sports and exercise is the long-standing slogan “no pain; no gain,” suggesting we must push ourselves to the point of suffering and great discomfort to get results. However, recent research on the ancient Chinese mind/body practice of taiji (also spelled “Tai Chi”) has shown that significant benefits can be achieved through regular practice, at a pace that is best described by the adage “train, don’t strain.”

The genius of the taiji method is that it combines traditional Chinese martial arts

exercises with meditation. This combination creates a system of practice that has many health benefits, including stress reduction and improved cardiovascular and immune system function. Moreover, taiji is among the foremost exercise interventions recommended for fall prevention in seniors. The three essential practices of taiji are meditation, martial arts form and partner training, usually called push-hands. These three interrelated and interdependent elements of taiji promote holistic benefits by improving physical, mental, and spiritual well being.

Qigong

Rather than discuss the “pace” of taiji, it is more informative to describe the “state” one aspires to during practice. Taiji practitioners learn to enter a state of relaxation where the senses are heightened and unnecessary muscular tension is released. This is achieved through the seminal practice of qigong meditation. Qigong, or “energy work,” is composed of sitting, standing, lying down, and moving meditations. One traditional aphorism expresses the importance of meditation in setting the stage for future developments:

If you don’t have quiet or tranquility, you will never see the miracle of moving.

Scientific journals have recently recognized meditation as having a protective influence against age-related cognitive declines, and it is also associated with improvements in executive brain function. In the taiji tradition, meditation has long been considered to improve clarity and decision making, and is among the reasons that taiji masters are considered to grow more formidable with age. Other types of qigong include standing meditation, which teaches structural awareness and relaxation, and lying-down qigong, which restoratively relaxes the core musculature. These practices work synergistically with moving qigong and taiji form to promote flexibility and dynamic balance by improving the quality of the mind/body relationship.

Taiji Form

With a quiet, awakened mind and a relaxed aware body, the martial choreography of taiji simply becomes an extension of the work begun in qigong training. Taiji forms for beginners are typically executed slowly with knees slightly bent. Care should be taken not to overexert or bend the knees to an uncomfortable degree. There are a number of orthodox styles of taiji, each with its own patterns of choreography, yet the basic principles of taiji – natural breathing, attention

to efficient posture and an awareness of the interplay between force and relaxation – can be found in all styles of taiji. While advanced choreographies can seem intimidating to onlookers, the simple, fundamental practices introduced to beginners are enough to yield profoundly beneficial results.

Taiji Push-Hands

The third essential practice of taiji is a kind of partner training known as push-hands. This practice involves students cooperatively testing and honing each others’ balance skills. This practice plays an important role in fall prevention by improving balance recovery and stability limits, but since this practice requires students to make contact, a margin of danger exists if students have not cultivated skill through qigong and form training. It is not recommended that push-hands be taught too soon or practiced without guidance.

Finding a Teacher/School

Unlike the latest DVD installments of some training methods, taiji is best learned with a qualified experienced teacher – not only for safety’s sake, but to avoid wasting time on practices that do not work. As one traditional saying reminds us:

One word from a knowledgeable teacher will save 10 years of hard practice.

The best way to make sure you are learning efficiently is to find a qualified teacher who is knowledgeable in the three essential practices mentioned above. Aside from regularly scheduled practices, students should also discuss their individual practice routines with their teachers, seeking advice about what to practice between classes. While time with a teacher is essential to prevent or correct mistakes, time practicing on one’s own is often where the greatest gains are made. This is reflected in the saying:

The teacher will lead you to the door, but it is up to the student to improve.

Likewise, it is up to individuals to decide whether or not taiji is right for them. Taiji provides the opportunity to engage in a practice that is mentally stimulating and physically vigorous, yet controlled so as not to induce strain, or overuse injuries. Along with the welcomed mantra “no pain and lots of gain,” taiji offers a long list of benefits that support healthy, happy, and independent living throughout the life cycle.

Acupuncture and the Athlete

By Whitfield Reaves, Licensed Acupuncturist



Acupuncture has been practiced for centuries. The early stories of acupuncture chronicle Chinese martial artists who used needles to relieve their pain after being injured. Warriors and soldiers have historically received acupuncture to improve their stamina and endurance. And in the modern era, many athletes in professional sports and the Olympics extol the virtues of being treated by their acupuncturist.

Acupuncture is a 2,000-year-old practice that has survived like no other traditional medicine into the 21st century. Its widespread acceptance comes in part because it really works — on a case-by-case basis, that is. Equally important is that acupuncture can be explained and understood using our modern knowledge of the human body.

The mechanisms of how and why acupuncture works are profound, but also varied. For instance, some points are located at trigger points in the muscles. These often painful areas get relief when they are massaged, or in acupuncture's case, needled. Some of the important points are at

motor points, which is where the nerve innervates the muscle. Acupuncture points can also be found at other significant anatomical sites, like the nerve-rich areas of tendons and their attachment to the bones.

These sites would point to the effectiveness of acupuncture being mediated through the nervous and musculoskeletal system. Yet other points have been shown to increase white blood cells to help the immune system, and some enhance neurotransmitters that give many patients a post treatment “high.” Or, there is the most easy-to-understand effect of an acupuncture treatment: when you are experiencing an inflammation of a tendon or a slight strain of a muscle, the acupuncturist may insert a needle at or near the site of injury. The stimulation increases micro-circulation in the area, thus increasing the blood to the tissues that are injured. This may assist in the healing of the problem — sometimes noticeably faster!

Acupuncture offers the athlete and the active person many ways to complement their training program. In Chinese philosophy, yin and yang are the two polar yet complimentary opposites, much like the positive and negative aspects of an electric charge. For the athlete, yin would be rest and recovery while yang relates to competing and performing. You could also liken the training period to yin and competition and “game day” to yang. Acupuncture can be incorporated for both of these components of the athletic experience.

Nobody would argue that physical training is the most effective way to enhance athletic performance. The use of regular acupuncture treatments during this period can be beneficial in various ways. One obvious example would be treating acupuncture points at the various sites of the muscles and tendons to prevent injuries that cause a decrease in the training schedule. This is much like the modalities of massage and physical therapy. Also, if you accept that some points may affect the immune system, keeping the body healthy may be an equal goal to increasing fitness. If you are running a marathon, losing a week or so to an injury or lingering viral symptoms may be the difference between a personal best and another average performance.

The case for acupuncture treatment to actually enhance performance is intriguing. While very little has been actually researched on the subject, I personally have many years of experience, dating back to the 1984 L.A. Olympics, with the use of pre-performance needling. One technique is to directly treat the muscles of the upper and lower extremities — like flipping a switch to get them temporarily stronger and quicker. Given that many of these points have such specific anatomical sites, it is at least reasonable to think this could occur. Another procedure is called

“auricular” acupuncture. This type of treatment is done in the ear, which is a “micro-system” for the rest of the body. It might sound strange, but there are hospitals and other governmental organizations that use auricular treatments for drug and alcohol addiction. Small sterile acupuncture “tacks” are retained in the ear while the athlete competes, and may be just enough to give that extra push during a race.

There are virtually no side-effects to acupuncture, and the treatment is not banned by the U.S. Olympic Committee. You can find an acupuncturist at www.nccaom.org, the site of the organization that oversees the certification of acupuncture and oriental medicine practitioners in the United States. On your first visit, acupuncturists usually assess your health needs on an individual basis. That is one advantage of Chinese medicine — it always looks at the patient as a whole, examining at all the factors in one's life that contribute or detract from a healthy lifestyle.

For treatment related to performance, you might need to give your practitioner a bit of help. Here are some point names you might want to suggest:

1. Runners and lower-extremity athletes
St 36 + Bl 58
2. Throwers, swimmers and upper-extremity athletes
St 36 + LI 11
or St 36 + LI 10
3. Auricular (ear) points
For the cardiovascular system Lung 1, Lung 2
For balance and coordination Point 0

It is crucial to acknowledge that these points don't work for everyone. You should try them first during training, and see how you feel. You certainly don't want to prepare for a big race only to find that, for some reason, the needles do not agree with you. The body points, listed above in nos. 1 and 2, should be inserted for 10 to 15 minutes immediately before performing. The best technique for the auricular points is to use retainer “tacks,” which you take out immediately after the race.

Finding an acupuncturist to treat you during your training, and to assist with performance no matter what your level is, can be a wonderful experience. Not everyone gets results, and it may take time to find the right combination of points that works best for any individual. But when you get them right and can feel a difference, it makes that long run, grueling swim, or rigorous game all the more enjoyable.

Lessons in Health from a Tree in Distress

By Marla Richmond, M.S.



I have always been intrigued by the way tree branches flirt and flutter their leaves in a warm summer breeze. As a child, I made a game of guessing each species' unique leafless shape against pale winter skies. However, until the day I met Jennifer Hitchcock, certified arborist, I had never contemplated the outcome of a tree in distress.

One afternoon, while riding my bike through a lovely wooded neighborhood, I noticed a young woman standing on a patch of grass in the front yard of a newly constructed home. As she gazed into the treetops and jotted down notes, I assumed she was designing a landscape – that is, until I parked my bike, walked up to join her, and then zoomed in to the crease of concern on her brow. Jennifer Hitchcock was well acquainted with the signs of decline of a tree in distress.

She explained what she saw while she pointed. “The Red Oak by the front door on the east side of this property is suffering crown dieback from the top of the terminal. Dieback of this form is an indicator of the tree succumbing to high levels of stress, from

which it will unlikely recover. Dieback from the terminal can be a symptom of root defects. A compromised root system can predispose the tree to windthrow or root crown failure during windstorms. This tree is considered to be in poor condition and health.”

Unexpectedly troubled by her prognosis, I rode home slowly and sadly, but determined to learn more about stressed-out trees. I was soon able to translate some of the “tree talk” into lay terms. Apparently, the Red Oak’s branch tips were no longer growing or bearing leaves. Problems that occur at the top of a tree are frequently telltale signs of problems underground, perhaps a weakening root system. Since a tree’s root system is what anchors it to the ground, a sudden and strong gust of wind during a storm could potentially uproot an ailing tree and knock it over – onto a roof, a car, another tree, or a person.

Had the tree been protected by a strong and sturdy physical barrier (as simple as a fence) during the home construction, it might not have become a potential hazard. And, even though Ms. Hitchcock recommended that it be removed (by experts who would preserve the safety and health of the remaining plant life and trees), I made a childish wish that the Red Oak would recover.

Word Scramble: Parts and Perils of Trees

A tree’s natural environment is enough for it to contend with during the course of its daily life without our adding to its stress mix.

Unscramble the seven words using the clues provided.

1. bkra
2. orpse
3. psstythoonhsei
4. psa
5. eahls
6. rcown
7. otor

Clues:

1. Think twice before carving your initials, as once this protective outer layer is damaged, it becomes susceptible to invasion by insects and disease
2. From top to bottom, all of a tree’s parts are covered with these so it can breathe
3. Food-making process that subsides with the dwindling daylight of autumn and the approaching winter
4. A tree’s life blood that also makes great syrup

5. This dog-restraining item often chokes a tree’s trunk
6. Many of us have climbed up into this “regal” tree part, composed of branches and leaves
7. A water- and nutrient-slurping system that lies directly beneath our picnic blankets; also seems to be a place for a portable WC during building construction
8. Use the boldfaced letters to spell out the word that solves the riddle below. Consider the message in that riddle and your own lifestyle. Are you thriving or declining?

Riddle:

What trees need more of from humans, our cells need more of to thrive, and the title of the 1967 signature song of a legendary female R&B singer:

A Tree Has No Choices, But You Do

A tree must prevail in its wars with the wind, deal with the doubt in a drought, frost, or flood. A tree must change with seasons, lean toward light, and expand its roots in search of (breathing) space and richer soil. When faced with multiple threats, a tree has no choice but to stand up to them or decline and fail.

A few weeks after my visit with Jennifer Hitchcock, I rode back to the property to see how the Red Oak was doing and discovered it was gone. In its place was a pile of soil. I was unexpectedly grief-stricken. Like a child, I imagined that the tree left a note, some lesson in health, and it said, “Protect your wellness with a strong and sturdy lifestyle. Never compromise yourself or your cells. Eat and sleep well; avoid droughts. Take and make ‘breathing’ time and space when you need it (and even if you think you don’t). Move and shake your limbs and dance whenever you get the chance. Flow with, rather than resist, the winds of change in life. Flutter your leaves and laugh often!”

Clue answers:

1. Bark
2. Pores
3. Photosynthesis
4. Sap
5. Lash
6. Crown
7. Root

Riddle answer: RESPECT

Nutrition News from ACSM

By Nancy Clark, R.D., FACSM



For cutting-edge sports nutrition information, the 55th Annual Meeting of the American College of Sports Medicine was the place to be! More than 5,000 exercise scientists, sports dietitians, physicians and coaches gathered in Indianapolis in late May to share their latest research. Below are some of the sports nutrition highlights. (For other highlights, see www.acsm.org.)

- Eating an energy bar just 15 minutes before you exercise is as effective as eating it an hour before. Grabbing fuel as you rush to your workout is a convenient idea that works.
- Natural sports snacks, like a granola bar or banana, offer a variety of sugars, but engineered foods might offer just one type of sugar. Because different sugars use different transporters to get into muscle cells, eating a variety of sugars enhances energy availability. In a 62-mile (100 km) time trial, cyclists who consumed two sugars (glucose + fructose) completed the course in 204 minutes; those who had just glucose took 16 additional minutes. The bottom line: eat a variety of foods with a variety of sugars during endurance exercise, such as sports drinks, tea with honey, gummy bears...
- Salty pre-exercise foods such as chicken noodle soup can make you thirsty and encourage you to drink more. This can reduce the risk of becoming dehydrated during hot weather.
- When exhausted cyclists were given a choice of recovery drinks, they all enjoyed — and tolerated well — chocolate and vanilla

milks, more so than water, sports drinks or watery chocolate drinks. Chocolate milk is familiar, readily available, and tastes good!

- How long do elite soccer players need to recover from a game? In one study, they needed five days for sprinting ability to return to pre-game level. That's four days longer than most athletes allow...
- How many calories does a triathlete burn during the Hawaii Ironman competition? Using labeled water, researchers determined a 173 lb (78.6 kg) man burned 9,290 calories. Body water turnover was about four gallons (16.5 L), and weight dropped 7.5 percent. Muscle glycogen dropped by 68 percent.
- Have you ever wondered how long it takes for the water you drink to end up as sweat? The answer: only 10 minutes (in trained cyclists). Ingested fluid moves rapidly, so don't hesitate to keep drinking even toward the end of an event.
- Should an endurance athlete choose a sports drink with protein during exercise? The research is confusing due to different protocols (time trials vs. endurance tests). Plus, in most research studies, the subjects are given nothing to eat before the exercise tests — an unlikely situation for most endurance athletes. Hence, we need more “real-life” research. Until then, plan to eat carbs with a little protein pre-exercise — i.e., cereal with milk, a cup of yogurt — so the protein will be available, if needed. During exercise, choose a sports drink that tastes good, so you'll want to consume enough.
- Some endurance athletes do perform better with protein during exercise. For example, when given carbs or carbs plus protein during an endurance exercise test, those who were “high responders” to the protein performed about 10 percent better in the time trial at the end of the endurance test, as compared to the “low responders.” This is just one example of how each athlete has his or her individual response to different fuels during exercise. The best bet: Experiment during training to learn what sports drinks/foods settles best, tastes good and works well for you personally!
- A Norwegian study of elite endurance athletes showed that 73 percent took vitamin supplements. Little did they realize their diet provided the recommended nutrient intake without the pills. The vitamin intake of the pill takers was very high: 135 percent to 391 percent of recommended levels. Two exceptions were Vitamin D (low in 22 percent of the athletes, perhaps due to the fact they live in Norway and have less sunshine) and iron (low in 10 percent of the women). The researchers remind us that high vitamin intakes can have toxic effects and may be detrimental to health over time. The best bet is to eat your

vitamins via healthy foods.

- The “freshman 15” gained in the first year of college may be an exaggeration. Among a group of 40 female college freshman, half gained and half lost weight (~4 to 5 pounds) Excess calories from specialty coffees and soda contributed to the weight gain. Watch out for liquid calories!
- If kids are going to play video games, they might as well play active ones, such as Wii Boxing, Wii Tennis or Dance Dance Revolution. These burn two to three times the calories of traditional hand-held games.
- Women who exercise experience an increase in the hormones that stimulate appetite; men have less of a response. This means women tend to get hungry after exercise and have a harder time with weight reduction than do men. Science finally validates what women have known all along!
- If you have “healthy genes,” you still need to exercise to be able to gain access to the potential good health you inherited. There's no slouching when it comes to prolonging life!

Q&A (continued from page 2)

couple of weeks despite changing one's activities or the pain is worsening, it may be time to let your physician take a look.

Q: I don't believe in alternative medicines. Why do people believe in these treatments?

A: The lack of scientific evidence is one of the great controversial issues regarding alternative medicines. However, it is important to know that many Western medicine treatments also lack strong evidence. Although you do not believe in alternative medicines as some people do, you are actually in the minority. The National Health Interview Survey conducted in 2002 demonstrated that 62 percent of adults used some form of complementary and alternative medicine (CAM) within the past 12 months. Prayer was identified as the most commonly used CAM therapy in that study (43 percent of respondents). The trend in medical schools is that education on CAM is necessary. In a recent survey, more than 90 percent of medical students felt that Western medicine can benefit from ideas found in alternative medicine and 85 percent felt it was necessary to understand these therapies to practice medicine in the future. Hopefully, as Western medicine and alternative medicines learn from each other, this will lead to further research into the effectiveness of these therapies for patients. On one hand, there are different possible ways that may be beneficial for treating illness. However, it is important that health professionals seek out evidence to practice the most effective and cost-saving treatments for our patients.