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# Complementary Therapies in CHRONIC CARE™

Practical Applications of Alternative Medicine for CHF, Diabetes, and Chronic Disease

## IN THIS ISSUE



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# Only the tip of the iceberg's been explored for integrative medicine

*Looking into the crystal ball: What does the future hold for CAM?*

As little as 30 years ago, it was called alternative therapies, and it was looked upon with little more trust than voodoo. The mere idea that meditation or yoga actually might affect physiological changes in the body was absurd.

Aromatherapy was laughable. Hands-on healing, or even stranger — distance healing — was just so much hocus-pocus. Herbs were considered impotent witches' brews that had little more benefit than a handful of grass.

Today, the world's major medical centers offer complementary and alternative medicine (CAM) — or by its more current politically correct nomenclature — integrative medicine. Even the shifting names by which it's known indicates a growing public, and perhaps more importantly, professional acceptance.

The number of integrative medicine centers and departments in prestigious medical centers notwithstanding, the public has accepted and even enthusiastically embraced CAM therapies by readily paying out of pocket more than $14 billion annually. The medical profession, however, is a little slower to jump on the bandwagon.

"There is more and more of an attempt to bridge the gap

### KEY POINTS

- Complementary and alternative therapies are making large strides in gaining acceptance in the medical community.
- Experts say consumers are driving the integration of therapies once considered alternative with more conventional medical treatments.
- Physicians will lose patients if they are not ready to make the shift.
- Completely integrated medicine with a smorgasbord of services may be available as primary care medicine in the next five to 10 years.

between CAM and conventional medicine," says **James Dillard**, MD, assistant clinical professor of medicine at Columbia University College of Physicians and Surgeons in New York City.

"We're getting less giddy about this stuff," he explains. "It's sort of like we've now had three dates and decided to start a relationship."

And those who aren't willing to enter into this new relationship are likely to become the wallflowers of the medical world and eventually will become spinsters left to lonely and less-than-lucrative practices.

"It's a microcosm of world politics, and the question is: 'Can we get the warring factions to work together?'" he asks.

In Dillard's opinion, the answer has to be "yes."

"We are being dragged [into CAM] kicking and screaming by our patients. They want it, and they're going to have it. They're better informed than ever before, and we need to be responsive to them," says Dillard.

There's a day — probably not more than five years in the future — when insurers will wake up to the idea that for certain conditions, CAM may be appropriate. CAM therapies provide a simpler and less-invasive approach to many chronic problems, such as back pain, arthritis, and even heart disease, notes Dillard. "And here's the kicker for the insurers: Many CAM therapies work at a far lower cost than conventional ones," says Dillard, who is also medical director of CAM at Oxford Health Plans in Trumbull, CT.

Dillard says CAM practitioners already are beginning to find their way into mainstream medical offices, hospital and even operating rooms. In coming years, that relationship will deepen, he predicts.

Insurance and government reimbursement for complementary therapies also is likely to expand in the coming years, says Dillard. "Right now, chiropractic is included in many policies, and acupuncture and massage are becoming more accepted. I think integrated therapies are likely to become part of standard disease management models."

In fact, integrated care teams may provide primary care in the not-too-distant future, says **Steven Sinatra**, MD, a cardiologist in Westport, CT.

"Conventional medicine has become highly specialized," he says. "The training of U.S. physicians is painstaking, rigorous, and difficult. Specializing is good in one sense; you want specialists who are well-grounded and meticulously trained."

While this type of specialization may be essential for acute care, it's not working terribly well in chronic care, says Sinatra. "You become narrow-minded. I know; it's happened to me. If I had a heart attack, I would want the best board-certified cardiologist to get me through it. Then I'd want to get to an ND [doctor of naturopathy], a DO [doctor of osteopathy], or a primary care MD who is open to other modalities of healing."

> *"There are thousands of charlatans out there. There are people who have gone to a weekend workshop and call themselves iridologists or who go to a marriage encounter and hang out a shingle offering couples' counseling."*

The real work of healing and keeping patients healthy is in the preventive arena, and it is a weak spot in conventional medicine. "Our system is a great lover of Band-Aid measures, but that's not working anymore," says Sinatra. "The public now demands medical professionals to show them what to do to prevent disease and how to create their own wellness programs. That's where the future lies."

Dillard and Sinatra agree that CAM has areas of weakness that must be addressed to overcome conventional medicine's resistance.

## COMING IN FUTURE MONTHS

- Cancer researchers warning: Don't give up fruits and vegetables
- Stevia: The sweet solution?
- Conflicting diet recommendations: Confusion causes some dieters to give up
- New research links behavioral therapy to treating insomnia
- The scoop on tomato-based foods used to fight off environmental damage caused to lungs

"There are thousands of charlatans out there," says Sinatra. "There are people who have gone to a weekend workshop and call themselves iridologists or who go to a marriage encounter and hang out a shingle offering couples' counseling."

That's dangerous, he says, "because they offer false hope, and sometimes it works, and sometimes these ungrounded methodologies leave the patient unfulfilled and shake credibility for the [mainstream] medical community."

### *Standardization needed*

Efforts to standardize requirements, license CAM practitioners, and create a central referral system will go a long way toward creating the trust necessary to deepen the relationship between CAM and conventional medicine.

"We need better regulation of nutritional supplements and herbs. A lot of us want either self- or federal policing," says Dillard.

According to Sinatra and Dillard, as well as many MDs who've already bridged the gap in their medical practices, the future of integrated medicine seems strong — more because it is what patients demand rather than on the basis of any particular acceptance from the medical community.

More complementary training for conventional physicians also will go a long way toward bridging the alternative-conventional gap, says Dillard.

"Doctors tend to practice pretty much exactly as they were trained in residency," he explains. "And will the old dogs who gate all this stuff come around and become CAM-friendly? It ain't gonna happen."

Dillard suggests that CAM acceptance among the old guard conventional medical practitioners will come "one funeral at a time."

Sinatra suggests that a new generation of medical practitioners is far more open to complementary modalities and more likely to practice them personally and also refer patients to complementary practitioners.

In addition, Sinatra says economics may eventually be the shotgun in a marriage of complementary and conventional therapies, "because the patients want complementary therapies, and they will vote with their feet and leave a physician who isn't open to them."

"The public will force these guys into becoming more rounded and more open. The future lies in physicians changing when the public demands it. The Achilles' heel in the medical professions is our rigidity," says Sinatra, who is board-certified in five disciplines.

To be acceptable to patients of the future, he explains, existing physicians will have to take more training and spend more time keeping up with the literature in the field. An MD degree simply won't be enough for a future in the healing professions, he says. "To be good enough in the future, the concept of practitioner and healer must be integrated."

Dillard notes the same caveats that hold true for physicians also are applicable to nurses and other health care professionals. "The whole medical profession is shifting in this direction," he says.

There are strong signs that CAM has a large foot in the door. Consider these statistics compiled by Healthlobby.com:

- 80% of medical students want CAM training.
- 70% of family physicians want training in CAM.
- 69% of Americans use nonconventional medical therapies.
- 67% of HMOs offer at least one form of CAM care.
- 64% of U.S. medical schools offer courses in CAM.
- 60% of physicians have referred patients to CAM practitioners.
- 56% of Americans surveyed say their health plans should cover alternative therapies.
- 29 health insurers and HMOs already cover some CAM therapies.

### *Searching for some compassion*

There's also a dearth of compassion that concerns Sinatra, but could be addressed by the coming climactic shift in medical practice. While the doctor-as-God syndrome is fast fading in practice, "a lot more humility will come out for medical professionals when they see there's more than one way to skin a cat."

Many new specialties are likely to appear in the coming years, says Sinatra, with an aging population demanding its health care needs be addressed. "Anti-aging is cutting edge right now with the baby-boom generation entering its mid-50s. Gender-specific medicine also will become more and more important because we are already realizing that men's and women's bodies simply do not work in the same ways."

Finally, complementary therapies aren't likely to provide a cure for cancer or heart disease or

diabetes, but they may offer more comfort for patients.

Growing bodies of research show the efficacy of chromium, coenzyme $Q_{10}$ and vitamin E for patients with diabetes — and the value of antioxidants is becoming even more pronounced for patients with heart disease. **(See related story, p. 55.)**

In the coming years, cancer patients will discover herbs and supplements are increasingly useful in alleviating the effects of chemotherapy and radiation and even in providing pain relief, says Dillard.

"Integrative medicine is the wave of the future. It can do so much for our patients that only the tip of the iceberg has been explored," says Sinatra. "And I think we as medical professionals are slowly coming to understand, integrative medicine and CAM therapies can do a great deal for us, too." ■

# Where's the magic weight-loss pill?

*Experts are divided on solutions for obesity crisis*

Obesity lies at the root of numerous chronic diseases. The ever-expanding collective waistline of citizens of Western nations is frequently blamed for the epidemic proportions of Type 2 diabetes, for the burgeoning rate of heart disease, for aggravating osteoarthritis, and as a risk factor for certain types of cancers.

Sixty-three percent of American men and 55% of American women are overweight. More than 20% of all men and 27% of all women are clinically obese. These figures ring alarm bells in all manners of medical and nutritional circles.

But the truth is that only 5% of all people who lose 30 pounds or more keep it off for five years or longer.

The market is being deluged with books and weight-loss aids and plans. We're looking for the magic pill that will help pounds melt off, but is there a magic pill? Or are we likely to find one in the next five to 10 years?

The answer is almost universally "no," with a few qualifications. And are we stuck with the "same old-same old" recommendations for diet and exercise? Not necessarily.

"There are hundreds of diet recommendations out there, and only one thing we know for certain: Diet and exercise don't work," says **Daniel Mowrey**, PhD, director of American Phytotherapy Research Laboratories in Provo, UT, and author of *Herbal Tonic Therapies* (New Canaan, CT: Keats; 1993) and several other books on herbs.

"It's a lot more complicated than simply reducing calories; it's how calories are metabolized. Cutting calories and increasing exercise simply force the metabolism to start doing loops as the body attempts to maintain its weight," explains Mowrey. "Exercise and diet aren't bad, but they clearly don't get at the underlying causes of obesity."

Discovering the genetic foundations of obesity is the direction of the future, says Mowrey. "I think in the next five years or so, we will be able to discover which genes are responsible for obesity and from there find ways to correct those genetic imbalances," he explains.

For now, Mowrey recommends mild caloric restriction. "I wouldn't even call it a diet." He also suggests patients take what he thinks is the best herbal method of addressing obesity — an E-C-A (ephedra-caffeine-aspirin) combination — taken carefully and according to label directions.

"That's the only combination, in my mind, that has solid research behind it," he says. "It's a triple whammy on the body to prevent formation of new fat cells, rev up the metabolism and thermogenesis in a safe and effective manner."

The U.S. Food and Drug Administration recently issued a warning on the dangers of ephedra use. Mowrey says he thinks these side effects are caused by patients' failure to follow label instructions and perhaps taking larger quantities than recommended.

**John La Puma**, MD, director of CHEF Clinic in

### KEY POINTS

- Obesity has reached epidemic proportions in the United States, and it is having far-reaching effects in chronic disease management and prevention.
- Some experts say there is no magic pill; we must find novel ways of presenting the "diet-and-exercise" litany.
- Others look toward gene mapping as a means of finding some of the causes of obesity and addressing them, potentially pointing the way toward natural or pharmaceutical means of treating and preventing obesity.

## Obesity guidebook available

A new guidebook is now available to help health care professionals counsel overweight and obese patients.

The 78-page booklet is published by the Bethesda, MD-based National Heart, Lung and Blood Institute's (NHLBI) Obesity Education Initiative.

*The Practical Guide to the Identification, Evaluation and Treatment of Overweight and Obesity in Adults* is an abbreviated version of the NHLBI's *Clinical Guidelines on Overweight and Obesity* published three years ago.

Tools in the booklet cover these topics:

- treatment algorithm;
- suggested ways to talk to patients about dietary changes;
- reduced calorie menus that take into account ethnic diversity;
- ways to prepare food at home;
- how to select food items at a restaurant.

The guide also contains motivational forms, such as ways to record physical activity and weight so patients can track their success and be encouraged, as well as ways to monitor and modify weight-related behavior.

There are diaries for food intake and exercise, cues of satiety for patients, ways to reward successes, and information on how to set appropriate weight-loss goals based on NHLBI recommendations for a weight loss of no more than one to two pounds a week and a target of a 10% change in body weight over a six-month period.

The guide also contains a reference tool that includes several ways to assess patients' weight-related risk factors:

- body-mass index;
- waist circumference;
- comorbidities, such as diabetes and cardiovascular disease.

The guide is available on NHLBI's web site: www.nhlbi.nih.gov/guidelines/obesity/practgde.htm. ■

Chicago (Cooking, Healthy Eating, and Fitness) and professor of nutrition at Kendall College near Chicago, agrees that the answer to obesity probably lies somewhere in the gene map, but disagrees that an answer is soon at hand.

"I don't think there will be a magic pill. In fact, once we find out the genetic basis for obesity, it may take a bucketful of pills because the genes are far more complicated than we realized."

The answer to lifelong leanness doesn't lie in lectin or in any single gene, La Puma theorizes. "There are probably dozens, if not hundreds of genes involved."

That doesn't mean companies won't continue to market "magic pills" to address obesity, but their success will be temporary at best and expensive ones at that, La Puma says.

Here's where La Puma digresses from Mowrey: Diet and exercise can work. La Puma's CHEF clinic is bringing futuristic attitudes to an old formula.

He says obesity is increasing because cheap food is more widely available now than ever. "Most of the food we eat is calorie-rich and nutrient-poor. Plus, we are much more sedentary now than humans have ever been before, and it's harder to fit exercise and fitness into our busy everyday lives."

In addition, La Puma observes, "A surprisingly large number of obese people can't feel hunger. We need to help them re-establish the satiety mechanism. Even if that fails, we help people look at the plate and when it's empty, to know they have had enough food."

Most diets are unsuccessful because they attempt to cut out whole food groups, says La Puma, who also is author of *The Real Age Diet: Make Yourself Younger Than You Are* (New York City: Harper Collins; 2001). "Remember the first three letters of diet are D-I-E. Most people feel like they are deprived on a diet," he points out.

"In our program, no food is off-limits. We let people know that little changes make a big difference. We even recommend chocolate for the satiety provided by cocoa fat," La Puma says.

A 21-week CHEF clinic pilot study using 60 hours of culinary, shopping, eating out, mind-body, and fitness programming showed the following encouraging results:[1]

- Average body fat lost was 10% overall (controls gained 6%).
- Average weight loss was 11.4 pounds per person.
- Of the top-five subjects, the loss averaged

## CHEF Clinic SAMPLE Clinical Strategies for Weight Loss

**Surround:** If it's not in the house, it can't be eaten.

**Adapt:** Adapt professional culinary techniques.

**Model:** Modeling good behavior carries credibility.

**Plan:** People do not fail. Plans do.

**Log:** Successful patients count and record something other than pounds.

**Enjoy:** Create options that people like.

*Source:* CHEF Clinic, Chicago.

24.4 pounds per person (control group lost 2.8 pounds per person).

• Average triglyceride levels dropped 56 mg / dl (control group triglyceride increased 25 mg / dl).

• Average total cholesterol levels dropped from 197 mg / dl to 177 mg / dl (controls showed no change).

• Participants showed trends toward reduced blood sugar and blood pressure.

• An average waistline reduction was more than two inches.

Six months after the program ended, those who lost weight also continued to exercise regularly and further reduced their body fat and triglyceride levels.

### *Add mind-body therapies*

Mind-body therapies may be at the crest of a future wave of obesity control, theorizes **Robert Kushner**, MD, professor of medicine at Northwestern University and medical director of the university's Wellness Institute.

"There is a huge unexplored area of mind-body therapies, such as meditation and yoga to be applied to obesity treatments," says Kushner.

Obese patients frequently tell Kushner and his staff they lack control in their lives. "More than any other concern they express, they tell us they feel out of control of their environment, their families, careers, even their time," Kushner says.

Cognitive behavioral therapy, yoga, breathing, stress management, therapeutic massage for better self-image, and mindfulness meditation all are shown to be effective in addressing control concerns like this, and Kushner's clinic has taken it into practice and is planning a clinical study to provide qualitative measures.

"We know this works from the anecdotal evidence we have collected right here, and we're offering it already for those seeking it," says Kushner.

"No obesity researchers are looking at CAM methods of addressing the problem. I think there's a huge opportunity here," he adds.

Kushner and La Puma are not convinced that herbal or other phytotherapeutic or supplemental magic pills will emerge, although both expressed interest in 5-HTP (hydroxy-tryptophan) and its apparent ability to produce satiety by raising serotonin levels in the brain. "We need to know a lot more about this one, but it might be interesting," says Kushner.

Among the other highly touted herbal and supplemental measures against obesity, such as chromium, creatine, conjugated linoleic acid, and guarana, Kushner says there isn't enough good evidence to think those measures are beneficial in treating the obesity epidemic that affects 61% of the population.

## CHEF Clinic Research to Practice in Obesity

- ❤ Include spouses, partners, and others in the initial basic data gathering.
- ❤ Offer the program directly to participants and do not depend on referrals for enrollment.
- ❤ Do not expect obesity to be on any managed care organization's radar screen anytime soon.
- ❤ Make it fun and easy.
- ❤ Emphasize planning skills: Self-confidence and personal choice are within most people's grasp.

*Source:* CHEF Clinic, Chicago.

"Whatever we find needs to be pretty broad-based," he concludes.

The University of Pennsylvania is working along some similar lines to Northwestern, says **Bob Berkowitz**, MD, medical director of the weight and eating disorders programs in the university's department of psychiatry in Philadelphia.

Finding a solution to stress and stressful lifestyles with all the myriad problems they present is at the core of where Berkowitz says obesity treatment is moving.

"We are doing a lot of stress management, relaxation, biofeedback, and mental focus work through the clinic because we think that's where the key lies to solving this epidemic," he says.

Helping patients find better balance in their lives and including proper sleep, rest, and exercise as well as sensible eating are all key factors to unlocking a solution to obesity in the future, says Berkowitz.

*(For more information, contact:*

*• **John La Puma**, MD, Director, CHEF Clinic, Chicago. Web site: chefclinic.com.)*

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# Vitamin E may prevent diabetic complications

*Evidence of micro- and macrovascular benefits*

Vitamin E rapidly is becoming a vital link in the prevention and even possibly the reversal of microvascular and macrovascular complications in patients with diabetes.

A growing body of research shows that doses in excess of 1,000 IU daily inhibit the inflammatory response, inhibiting monocyte activity and plaque formation, and also prevent retinopathy and nephropathy.

One macrovascular study from the University of Texas (UT) Southwestern Medical Center in Dallas could be the first to show the anti-inflammatory properties of vitamin E at 1,800 IU daily doses.[1]

A second UT study shows that 1,200 IU dosages daily for people with Type 2 diabetes reduce levels of C-reactive protein (CRP), a predictor for cardiovascular disease.[2]

And the microvascular study, from Joslin Diabetes Center in Boston, suggests the oxidative effects of vitamin E improve blood flow to the eyes and kidneys with 1,200 IU daily doses.[3]

The research has potential long-term benefits for patients with diabetes, but it is not yet at the point for clinical recommendations, says **George King**, MD, Joslin's acting director of research and supervisor of the microvascular study.

In fact, says King, there is no sign anyone is prepared to study the long-term effects of high-dose vitamin E supplementation and clinical practice and its impact on the lives of patients with diabetes.

"If vitamin E was a patentable drug, this study would have been done five or 10 years ago," King says. "But since it is not patentable, no one is willing to spend the millions of dollars it would cost for a supplement that costs 25 cents a day."

King does not recommend that patients with diabetes start popping vitamin E like candy, but he says 400 IU to 800 IU daily "won't hurt, and it may help."

Doses higher than 2,000 IU can cause easy bruising and bleeding and are potentially dangerous for patients on warfarin and other thinning agents, says King.

In the first UT Southwestern study on the supplement, researchers compared patients with Type 2 diabetes with healthy controls; 25 patients

### KEY POINTS

- Increasing evidence suggests that large doses of vitamin E (in excess of 1,000 IU daily) may be beneficial to prevent microvascular and macrovascular complications in people with diabetes.
- One study shows 1,200 IU of vitamin E works as an anti-inflammatory agent, potentially reducing circulating monocytes and preventing formation of plaque on artery walls for patients with Type 2 diabetes.
- Another shows that larger dosages of vitamin E (1,800 IU daily) appear to prevent the microvascular complications retinopathy and nephropathy in patients with Type 1 diabetes.
- Researchers say long-term studies are needed.

were randomized to each of three groups and were given 1,200 IU of vitamin E daily for three months, followed by a two-month washout period.

Blood was taken from all patients at the beginning of the study, after three months, and again after the washout. The effect of vitamin E was similar in all three groups.

"This is the first study that shows that vitamin E has anti-inflammatory effects in diabetic patients," says **Sridevi Devaraj**, PhD, assistant professor of pathology at UT and lead author in the study.

"This could be a further therapy to prevent vascular complications in diabetes since inflammation seems to be critical as a causative factor in diabetic vascular disease," she adds.

Devaraj found that inflammation caused by white blood cells — monocytes — was significantly reduced with a daily dosage of 1,200 IU of vitamin E, reducing plaque formation on artery walls.

The monocyte is crucial and the most readily accessible cell involved in atherogenesis. Study data showed the diabetic monocyte was more active and promoted more inflammation and more free radicals and cytokines, or messenger molecules. The diabetic monocyte also caused more adhesion to lining cells of the artery wall.

"It was very important to elucidate the pivotal roles for inflammation in diabetic vascular disease and examine how it could be modulated," says Devaraj.

The second study of 75 subjects found that high intake of the antioxidant vitamin E reduces

## ConsumerLab.com review of vitamin E supplements

*Group calls for clearer labeling*

Approximately one-fourth of all American men and more than one-third of all American women take vitamin E supplements, according to ConsumerLab.com (CL), a provider of consumer information and independent evaluations of products that affect health and nutrition.

The White Plains, NY-based company independently purchased 28 different vitamin E products — 19 claiming to contain natural vitamin E and nine claiming to contain synthetic vitamin E. One synthetic product was found to have no more than 71% of its claimed amount of vitamin E, which also was found to be in a different synthetic form than claimed. One natural product had 85% of its claimed amount of vitamin E. A third product was marked "natural" on its front label while its ingredients label listed "dl-alpha-tocopherol" — indicating synthetic vitamin E, which it was found to contain.

It is important for consumers to distinguish synthetic from natural vitamin E, says **Tod Cooperman**, MD, ConsumerLab.com's president. "Products state their vitamin E content in IUs [International Units]. However, a greater number of IUs of synthetic vitamin E is needed than natural vitamin E to achieve the same biologic activity."

Side effects, such as bleeding problems that may occur at high doses, could be caused by less synthetic vitamin E than natural vitamin E. The two types have slightly different chemical names — synthetic has the prefix "dl" while natural has a prefix "d."

Other than providing the chemical name on their ingredient labels, most synthetic products do not otherwise identify themselves as "synthetic." Natural products generally cost more than synthetic products, and most indicate that they are "natural" in their labeling or on packaging.

"Some vitamin E products just don't measure up to their claims, but of equal concern is the potential for consumer confusion regarding natural and synthetic products. People who take vitamin E really need to know the respective chemical name and appropriate dosage for the form they wish to take," says Cooperman.

The general findings are available at the web site (www.consumerlab.com). ConsumerLab.com has converted to an on-line subscription system through which health care professionals and consumers can access the complete list of "CL Quality Approved Products" and CL's "ConsumerTips" for buying and using vitamin E and similar information from recent product reviews.

Reviews are available for Asian and American ginseng, calcium, chondroitin, coenzyme $Q_{10}$, creatine, *Ginkgo biloba*, glucosamine, multivitamins/multiminerals, SAM-e, saw palmetto, and vitamin C.

Other product reviews scheduled for release this year include echinacea, St. John's wort, soy and red clover (isoflavones), valerian, MSM supplements, and protein/energy/meal-replacement bars.

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CRP levels, a predictor of cardiovascular disease.

Study participants were divided into three groups:

❒ Type 2 diabetes and heart disease;

❒ Type 2 diabetes and no heart disease;

❒ normal control.

Each person in each group was given 1,200 IU of natural vitamin E (alpha-tocopherol) daily for three months.

Researchers measured each participant's CRP levels before and after supplementation and after a two-month washout period. They found that vitamin E supplementation lowered CRP levels by 30% in all three groups. Levels of the monocyte interleukin-6, which elicits the secretion of CRP from the liver, decreased an average of 50% in all groups.

"Since this study shows that vitamin E lowers CRP significantly in both diabetics and nondiabetics, it suggests that vitamin E could be an additional therapy in our quest to reduce cardiovascular disease," says **Ishwarlal Jialal**, MD, PhD, UT professor of pathology and internal medicine and principal investigator in both studies. Jialal's earlier studies have shown that vitamin E is a potent antioxidant.

Blood tests administered before the vitamin E therapy began also showed that diabetic patients, especially those with vascular complications, have increased levels of CRP and interleukin-6. Studies have shown that individuals with and without heart disease and stroke complications are more prone to subsequent heart attacks and stroke if CRP levels are 2 mg/liter or greater.

The Joslin study, published in 1999, looked at 36 patients with Type 1 diabetes and without signs of microvascular complications plus a control group of nine healthy people. They were randomized to 1,800 IU of vitamin E daily or placebo for four months.

Before the vitamin E was taken, the baseline blood flow in the retinas of patients with diabetes was 17.3% lower than in the nondiabetic subjects. After four months of 1,800 IU per day of vitamin E, on average, the retinal blood flow of the patients with diabetes returned to 88% of normal. Blood sugar control was unchanged during the study.

"After vitamin E treatment, the blood flow in those patients with diabetes was significantly increased and kidney function appears to be improved as well. The treatment was most beneficial in those cases where blood sugar control was the poorest and the retinal and kidney abnormalities were greatest," says King, who is director of the vascular cell biology section at Joslin and a professor of medicine at Harvard Medical School.

Vitamin E is a low-cost, readily obtainable nutritional supplement with the potential to enhance or even replace more expensive prescription drugs. Vitamin E is found in many common foods, including vegetable oils (soybean, corn, cottonseed, and safflower) and products made from these oils (such as margarine), wheat germ, nuts, and green leafy vegetables.

The recommended daily intake of vitamin E is 60 IU. However, it is very difficult to obtain this amount through normal dietary intake, and nearly impossible to get the high-dose amounts needed to address the micro- and macrovascular benefits that arise in patients with diabetes, says King.

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# Physiologically measuring the benefits of Reiki

*Surprising changes induced by hands-on practice*

In what is surely one of the first inklings of how Reiki and other hands-on healing modalities affect the human body, researchers have documented changes in blood pressure, levels of salivary IgA (immunoglobulin A), and cortisol and galvanic skin responses during Reiki healing sessions.[1]

"We had anecdotal information about how Reiki can induce relaxation and relieve pain and perhaps more, so we decided to devise a means

## KEY POINTS

- Eastern hands-on healing modality has been shown to be effective in inducing relaxation and pain relief.
- University of Texas study documents physiological changes that take place during healing Reiki treatments, including lowering salivary IgA and cortisol and reducing blood pressure.
- Reiki is becoming increasingly popular among nurses.
- While Reiki is recommended for all manners of chronic diseases, emotional and mental problems, and trauma, there's been little scientific investigation.

of physiological measurements of the effects," says **Joan Engebretson**, PhD, associate professor of nursing at the University of Texas Houston (UT Houston) Health Science Center, where the research took place.

Reiki uses touch to bring harmony and balance to the body, mind, and spirit. It originated among Tibetan Buddhists almost 3,000 years ago and was reintroduced in Japan by Mikao Usui in the mid-19th century. It enjoyed an increase in popularity in the United States in the 1930s.

The word Reiki (RAY-kee) is composed of two characters:

• **Rei** — spirit, air, essence, or creation and source of life;

• **Ki** — power or energy that brings it into form.

### A theory of universal energy

Reiki is based on a belief that all life is intertwined in a universal energy. In order to experience a state of health, an organism needs a balanced and sustained flow of energy from this universal source, so illness is a result of disruptions of energy, which can be restored by correcting imbalances and blockages.

Reiki training is passed as a largely oral tradition that involves attunements during which a trainee's chakras or life energy channels are opened. Of the three levels of Reiki training, practitioners may perform healing sessions with the first- and second-degree levels, and second degrees may perform distance healings. Third degrees can train other practitioners and provide attunements.

"Reiki is an open channel for universal energy," says Engebretson. The patient draws energy through the healer as it is needed. The healer is simply becoming a channel for the energy and is not consciously addressing a specific need, so the healer is a conduit and is not depleted during a healing session."

Engebretson and her colleague, Diane Wardell, PhD, also an associate professor of nursing at UT Houston, wanted to measure the stress response because it is physiologically notable through elevated blood pressure, lowering of peripheral skin temperature, and increased galvanic skin response.

It also includes neuroendocrine responses such as elevation of cortisol, and the immune system is involved with a lower level of IgA, so "a relaxation response, for the most part, includes a reversal of those markers," says Engebretson.

"Our study was small, and there wasn't enough funding to permit a control group — but we think we found some valuable information, and we think there is more out there to discover," says Engebretson.

### No subjects in study had experienced Reiki

The UT study included 23 healthy subjects, 18 female and five male, between the ages of 29 and 55. Fifteen subjects had previously experienced some form of complementary therapy. None had previously experienced Reiki.

Anxiety was measured using the State-Trait Anxiety Inventory, which is widely used in stress-related research. Blood pressures and skin conductance were monitored. Cortisol and secretory IgA were monitored through radioimmunoassay of saliva.

Each subject received a 30-minute Reiki treatment, fully clothed, while lying on a massage table. A Reiki master provided light hands-on contact for 15 minutes in the areas of the eyes and another 15 minutes over the abdomen.

They found during the treatment session, anxiety was reduced, systolic blood pressure decreased by 6.6 points, sin temperature increases, and electromyograph readings decreased during the treatment.

"Our small sample size may have skewed results against Reiki, in a way, since most patients had a rather dramatic decrease in blood pressure, but two had an increase," says Engebretson.

"When you look at it, this all makes a lot of sense, since Reiki is meant to balance energies. For example, if a person has low blood pressure, Reiki treatments may raise it, and if a person has high blood pressure, Reiki may lower it. It gives

us new challenges and new ways to look at data," she says.

Engebretson recalls an interesting experiment in which she was a participant as a Reiki student and PhD candidate.

## Beneficial biological intervention

"We were asked to send distant energy to specific people who had requested healing. When it began, I got the strangest feeling that the subject was not receiving the energy that was being sent. It was only after the treatment had ended I was told that the patient I was working on had died," she adds.

Engebretson is planning another study on pain relief with Reiki.

Not only do many nurses employ Reiki and other energetic healing techniques for their patients' benefit, an increasing number of physicians are finding them useful as well, says **Daniel J. Benor,** MD, a psychiatrist who practices in Atlantic City and Midford, NJ.

"Reiki is a biological intervention that can be used for both physical and emotional healing," says Benor, author of the soon-to-be published *Healing Research Volume 1: The International Center for Reiki Training* (Southfield, MI: Vision Publications; 2001).

Benor has used Reiki for numerous types of patients, even those suffering depression as a




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result of chronic diseases, particularly back pain.

The process is not always pleasant, says Benor. "In a practical sense, what can happen on an emotional level is like lancing a boil, something buried deep in the unconscious, and Reiki and other forms of energetic healing act like a hot compress, irresistibly drawing the infection to the surface. When you lance a boil, it can be pretty painful. It releases emotion, but it eases the discomfort," he explains.

### *'Whatever happens — happens'*

Benor, who uses Reiki regularly in his work, says it is not really possible to target what problem will be addressed during a treatment. "Whatever happens — happens. You invite an energy — a higher power or love — and you hand it to the patient to do with as the patient needs it."

Of course, he says, no one really knows how Reiki works, but Benor has a theory: "Matter and energy are two sides of the same thing. The physical body could be viewed as energy much like a table or a chair could be viewed as energy. Newtonian medicine is slow to recognize theories like this. Just think of quantum physics, which was considered way out there a few years ago," Benor says.

Benor says he has also seen positive results for patients with arthritis, migraines, chronic fatigue syndrome, and multiple-allergy syndrome.

Reiki is an energetic modality with a strong spiritual component, he explains. "People involved in healing often have a strong sense of spiritual awareness as they are doing the healing. However, Reiki and other types of hands-on healing are not connected to faith as a requirement."

The International Center for Reiki Training describes Reiki as "The God-consciousness Rei that guides the life force called Ki in the practice we call Reiki. Therefore, Reiki can be defined as spiritually guided life force energy."

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• ***The International Center for Reiki Training** web site: reiki.org.]*

### *Reference*

1. Wardell DW, Engebretson J. Biological correlates of Reiki touch on healing. *J Adv Nurs* 2001; 33: 439-445. ■



## CE objectives

After reading *Complementary Therapies in Chronic Care,* the health care professional will be able to:

1. Identify management, clinical, educational, and financial advantages of complementary therapies for chronic care.

2. Describe how those therapies affect chronic patients and the providers who care for them.

3. Describe practical ways to incorporate complementary therapies into chronic disease management based on independent recommendations from clinicians at individual institutions. ■