



Integrative Management of Depressed Mood: Evidence and Treatment Guidelines

by James Lake, M.D.

Dr. Lake is in private practice in California, where his practice is centered on the integration of conventional biomedical therapies and evidence-based alternative therapies in adult psychiatric disorders. He is on the clinical faculty in the department of psychiatry at Stanford University. He is a member of the recently formed subcommittee of the American Psychiatric Association Committee on New Treatment Research that is investigating future treatment applications of omega-3 essential fatty acids for psychiatric disorders and chair of the APA Caucus on Alternative and Integrative Approaches in Mental Health Care.

Dr. Lake has indicated he has nothing to disclose.

More than 30 placebo-controlled trials (Linde et al., 1996; Schrader, 2000; Vorbach et al., 1997, 1994) have confirmed that St. John's wort (SJW) (*Hypericum perforatum*) is as effective as conventional antidepressants (including imipramine [Tofranil], fluoxetine [Prozac], sertraline [Zoloft] and others) for mild or moderate depressed mood. Standardized preparations of SJW 300 mg tid are as effective as conventional antidepressants for moderate depressed mood (Ernst, 1995; Kim et al., 1999; Linde et al., 2005, 1996). There are case reports of severe depression responding to higher doses of SJW (up to 1800 mg/day), but findings from controlled studies are inconsistent (Vorbach et al., 1997). A large multicenter study sponsored by the National Institutes of Health showed that SJW and sertraline were equally ineffective in the treatment of severe depressed mood and that neither treatment was more effective than placebo (Hypericum Depression Trial Study Group, 2002). The validity

duration, and lack of statistical power. In a follow-up study, the majority of nonresponders (n=95) to a standardized SJW preparation responded to conventional antidepressants with significant improvements in depressed mood (Gelenberg et al., 2004). This finding suggested that conventional antidepressants are more effective than SJW in refractory depressed mood and reopened the question of a possibly significant placebo effect for SJW. Cases of possible serotonin syndrome have been reported when SJW is combined with a selective serotonin reuptake inhibitor. Patients who are being treated with warfarin (Coumadin), protease inhibitors, theophylline, monoamine oxidase inhibitors, oral contraceptives and immunosuppressive agents should be cautioned against concurrent use of SJW, which lowers serum levels of those drugs through the induction of cytochrome P450 liver enzymes (Broughton and Denahm, 2000).

Placebo-controlled, double-blind studies and meta-analyses of controlled studies consistently show that S-adenosyl-L-methionine (SAME) 400 mg/day to 1600 mg/day has comparable or superior antidepressant efficacy compared to conventional antidepressants (Berlanga et al., 1992; Bressa, 1994; Janicak et al., 1988; Kagan et al., 1990). When combined with conventional antidepressants, SAME accelerates response, improves outcomes and may lower effective antidepressant doses (Alpert et al., 2004; Berlanga et al., 1992). There are case reports of treatment-refractory patients responding to SAME (De Vanna and Rigamonti, 1992; Rosenbaum et al., 1990). Transient arousal or agitation during titration and rare cases of hypomania have been reported in patients with bipolar disorder (BD) taking SAME.

Folate alone, in doses from 200 µg to 15 mg, has been shown to result in sustained improvement in depressed mood (Bottiglieri et al., 1990; Crellin et

Treatments of depressed mood that are not based on a specific pharmacological mechanism of action are gaining widespread acceptance because of cultural values that motivate patients to use them.

of these findings has been questioned because of concerns over serious design flaws, including the use of subtherapeutic doses of both SJW and sertraline for the target population, selective recruitment of severely depressed patients who had previously been refractory to most conventional treatments, short

al., 1993). Folate 0.5 mg/day to 1 mg/day augments the effects of conventional antidepressants (Coppen and Bailey, 2000; Papakostas et al., 2004). Folate and vitamin B₁₂ are essential cofactors for the synthesis of SAME (Fava et al., 1997) and should be recommended to patients using SAME or a

EDUCATIONAL OBJECTIVES

After reading this article, you will be familiar with:

- Evidence for uses of nonconventional and integrative approaches in the treatment of depression.
- Basic concepts about rational, safe uses of nonconventional and integrative strategies when treating depression.
- Unresolved safety issues pertaining to uses of natural products and other nonconventional treatment approaches.
- Discussion points about the evidence-based use of diverse nonconventional and integrative approaches used to treat depression.

Who will benefit from reading this article?

Psychiatrists, primary care physicians, neurologists, nurse practitioners, psychiatric nurses and other mental health care professionals. Continuing medical education credit is available for most specialties. To determine if this article meets the CE requirements for your specialty, please contact your state licensing board.

conventional antidepressant. Patients with severe depression found to have low serum folate levels are significantly less likely to respond to antidepressants and should be encouraged to take folate (Reynolds et al., 1970). Depressed patients with normal B₁₂ serum levels respond better to conventional antidepressants compared to patients who are B₁₂ deficient (Hintikka et al., 2003).

Eicosapentaenoic acid (EPA), an omega-3 fatty acid, has been shown to be effective against moderate depressed mood (Peet and Horrobin, 2002) in doses of 1 g/day, 2 g/day or 4 g/day when used alone (Su et al., 2003) or in combination with a conventional antidepressant (Nemets et al., 2002). However, another omega-3 fatty acid, docosahexaenoic acid (DHA), probably does not improve depressed mood (Marangell et al., 2003). Rare cases of hypomania have been reported in depressed patients with BD taking EPA; this population should be followed closely when taking these natural products (Kinrys, 2000; Su et al., 2000).

5-hydroxytryptophan (5-HTP) 300 mg/day is probably as effective as conventional antidepressants

(Please see Integrative Management, page 92)



Integrative Management

Continued from page 91

for moderate depressed mood (Birdsall, 1998; Byerley et al., 1987). Like SAMe, 5-HTP augments conventional antidepressants, potentially resulting in a more complete or rapid response (Mendlewicz and Youdim, 1980; van Praag et al., 1974). When combining 5-HTP with an SSRI, it is important to monitor for signs of a serotonin syndrome, though no confirmed reports of this potentially serious adverse effect have been reported in the peer-reviewed medical literature. Some cases of treatment-refractory depression improve when 5-HTP 300 mg/day to 600 mg/day is combined with a conventional antidepressant (Sargent et al., 1998). L-tryptophan 2 g augmented the antidepressant efficacy of fluoxetine 20 mg and improved sleep quality (Levitan et al., 2000). Findings of one study suggested that L-tryptophan 1 g to 2 g combined with bright-light therapy was more effective than either approach alone in seasonal depressed mood (Lam et al., 1997). L-tryptophan can cause sedation and should be dosed at bedtime. Uncommon side effects of L-tryptophan include dry mouth and blurred vision. Serious adverse effects have been reported when L-tryptophan is combined with MAOI antidepressants. No cases of eosinophilia myalgia syndrome have been reported since the early 1990s, and those cases were attributed to a single contaminated batch of one over-the-counter brand of L-tryptophan (Kilbourne et al., 1996). Patients with depression who benefit from L-tryptophan should be tried on 5-HTP, which more readily crosses the blood-brain barrier, is more efficiently converted to serotonin, and has fewer side effects than L-tryptophan.

Acetyl-L-carnitine (ALC) has been investigated in placebo-controlled, double-blind trials in severely depressed patients, elderly depressed patients and depressed demented patients (Bella et al., 1990; Tempesta et al., 1987). In divided doses of 1 g/day to 3 g/day, ALC may be beneficial in elderly depressed or depressed demented patients. In contrast to SAMe, SJW and 5-HTP, no comparison studies have been done on ALC and conventional antidepressants. Acetyl-L-carnitine may ameliorate symptoms of cognitive impairment and should be considered when depression is related to age-related cognitive decline (Bella et al., 1990; Garzya et al., 1990). Inositol 12 g/day to 20 g/day may be beneficial in both unipolar and bipolar depressed mood (Chengappa et al., 2000; Levine et al., 1995). Inositol may have synergistic effects when combined with conventional mood stabilizers (Chengappa et al., 2000). Dihydroepiandrosterone (DHEA) 90 mg/day to 450 mg/day has synergistic effects when combined with conventional antidepressants and may be an effective monotherapy for moderate depressed mood (Schmidt et al., 2005). It may be beneficial when depressed mood occurs together with anxiety, psychosis or cognitive impairment (Strous et al., 2003; Wolkowitz et al., 1997). In women with a history of estrogen receptor-positive breast cancer, DHEA should be avoided (Cogan, 2001). Dietary modifications, including restricting caffeine and refined sugar and increasing consumption of whole foods rich in B vitamins and fatty fish, may improve depressed mood or reduce the risk of becoming

depressed (Christensen, 1991; Hibbeln, 1998). **Table 1** summarizes doses of nonconventional biological treatments of depressed mood and unresolved safety considerations associated with their use.

Complementary and Alternative Nonpharmacological Treatments

Treatments of depressed mood that are not based on a specific pharmacological mechanism of action are gaining widespread acceptance because of cultural values that motivate patients to use them and anecdotal evidence supporting their efficacy and safety. In contrast to conventional and nonconventional approaches that target dysfunction in specific neurotransmitter systems associated with depressed mood, many complementary and alternative treatments probably achieve beneficial clinical results by improving feelings of well-being and enhancing mind-body health in general. Somatic, mind-body and energy-information treatments of depressed mood include exercise (Blumenthal et al., 1999),

total or partial sleep deprivation, relaxation training (Murphy et al., 1995), yoga, tai chi, and qigong, as well as treatments based on empirically validated forms of energy or information including bright-light exposure and electroencephalograph biofeedback (Brown et al., 2001; Levitt et al., 1991).

Regular exercise at least 30 minutes three times a week may be as effective as conventional antidepressants, SJW and cognitive therapy for moderate depressed mood. Case reports; randomized, controlled trials; and two meta-analyses confirm that regular exercise has beneficial effects on depressed mood (Lawlor and Hopker, 2001; Tkachuk and Martin, 1999). Increased brain levels of mood-elevating endorphins, dopamine, norepinephrine and serotonin following sustained exercise have been proposed as possible antidepressant mechanisms. The antidepressant efficacy of exercise is probably comparable to individual cognitive therapy and group therapy (Tkachuk and Martin, 1999). Exercise and conventional antidepressants may have equiv-

Table 1

Representative Nonconventional Biological Treatments of Depressed Mood

Natural Product	Comments
St. John's wort	<ul style="list-style-type: none"> • 300 mg tid of 0.3% hypericin extract • Caution against concurrent use with protease inhibitors or anticoagulants
S-adenosyl-L-methionine (SAMe)	<ul style="list-style-type: none"> • 400 mg bid to 800 mg tid alone or in combination with antidepressants • Best bioavailability if taken before meals • Caution: Monitor for agitation • Caution: Avoid in patients with bipolar disorder
5-hydroxytryptophan (5-HTP)	<ul style="list-style-type: none"> • 200 mg to 600 mg daily alone or in combination with antidepressants • Caution: Monitor for serotonin syndrome when used in combination with an SSRI • Moderately sedating and better tolerated at bedtime
Omega-3 essential fatty acids	<ul style="list-style-type: none"> • 1 g/day to 9 g/day EPA fraction most effective • Preliminary findings suggest efficacy alone or in combination with conventional antidepressants • Caution: May prolong bleeding time when taken with aspirin • Caution: Certain brands may cause hypervitaminosis A
Folate	<ul style="list-style-type: none"> • 800 µg to 5 mg • Improves mood when used alone • Improves response to conventional antidepressants • May enhance antidepressant effect of SAMe
Vitamin B ₁₂	<ul style="list-style-type: none"> • 1 mg/day • Improves mood and enhances energy when used alone • May enhance antidepressant effect of SAMe
Acetyl-L-carnitine (ALC)	<ul style="list-style-type: none"> • 500 mg/day to 2 g/day in divided doses • Note: Only studies on depressed mood in elderly or elderly demented • Note: Possibly effective in mild dementia (mechanism of action believed to involve correcting cholinergic neurotransmitter deficit in Alzheimer's disease)

EPA=eicosapentaenoic acid

Source: Lake J (2005)

CATEGORY 1

alent efficacy in individuals with moderate depression (Blumenthal et al., 1999). The findings of one study suggested that the therapeutic benefits of regular exercise are comparable to SJW for moderately depressed mood (Ernst et al., 1998). In a 16-week study, 156 patients with depression over age 50 were randomized to aerobic exercise three times a week, medications (sertraline up to 200 mg), or exercise and medications (Blumenthal et al., 1999). All groups had improved significantly by the end of the study, and there were no significant differences in response rates using standardized symptom rating scales assessing mood, self-esteem and negative thoughts. Patients taking an antidepressant only improved faster initially than the other two groups, but patients who exercised only had a lower six-month relapse rate (Babyak et al., 2000). Of patients who exercised only, 60.4% experienced complete remission versus 65.5% of patients taking sertraline and 68.8% of patients who exercised and took a conventional antidepressant (Babyak et al., 2000). Differences in these outcomes were not significant.

Patients with depression who exercise in a brightly lit (2500 lux to 4000 lux) indoor environment experience more significant improvements in mood and greater feelings of vitality compared to individuals with depression who exercise indoors in ordinary room light (400 lux to 600 lux) (Partonen et al., 1998). Women with depression who combined exercise with bright-light exposure while taking a daily vitamin regimen reported significant improvements in mood (Brown et al., 2001). It is difficult to separate beneficial effects of exercise from other lifestyle factors, and it is possible that exercise contributes to overall feelings of wellness while not having specific mood-elevating effects. The optimum duration or frequency of exercise in depressed mood has not yet been determined but probably varies with age and conditioning. A large study is ongoing to determine the amount, type and frequency of exercise that is needed for sustained improvement in depressed mood in the absence of other treatments (Dunn et al., 2002). Medically ill or physically impaired patients should always consult with their physician before starting a strenuous exercise program.

Partial sleep deprivation improves moderate depressed mood (Leibenluft et al., 1993). One night of total sleep deprivation followed by sleep phase advance often improves severe depressed mood (Riemann et al., 1999). Partial sleep deprivation combined with maintenance lithium (Eskalith, Lithobid) therapy and morning bright-light exposure may be more effective than either approach alone in bipolar depression (Colombo et al., 2000).

Mindfulness training is probably as effective as cognitive therapy in moderate depressed mood (Murphy et al., 1995). Of the various mind-body disciplines used to obtain relief from psychiatric symptoms, more studies have been done on yoga than any other discipline (Shannahoff-Khalsa, 2004). It has been suggested that the mechanism of action of yogic breathing might be similar to vagal nerve stimulation (VNS) in that both approaches involve modulation of the balance of parasympathetic and sympathetic autonomic tone (Brown et al., 2001). The consistent practice of yoga has been shown to improve overall quality of life, including indicators of moderately depressed mood (Janakiramaiah et al., 2000). Regular yoga practice, including special-

ized breathing techniques and postures, may be as effective as conventional antidepressants in severe depressed mood (Janakiramaiah et al., 2000). Yogic breathing achieves desirable changes through a variety of specific breathing exercises that differentially affect the brain stem and limbic system while VNS relies on a weak electrical current to achieve desirable changes in brain autonomic activity that mediate improved mood or reduced anxiety. Like yogic breathing techniques, the regular practice of various yoga postures (asanas) probably results in beneficial changes in the autonomic nervous system,

Many complementary and alternative treatments probably achieve beneficial clinical results by improving feelings of well-being and enhancing mind-body health in general.

resulting in improved cardiorespiratory performance and increased feelings of psychological well-being (Harinath et al., 2004). Many styles of yoga are probably beneficial in depressed mood. A particular style of yogic breathing called Sudarshan Kriya yoga has been extensively evaluated as a potential treatment of depressed mood and other mental or emotional symptoms (Shannahoff-Khalsa et al., 1999). In a group of hospitalized patients with severe depression, improvements associated with Sudarshan Kriya breathing practice were comparable to responses from conventional antidepressants and only slightly less robust than patients receiving electroconvulsive therapy (Janakiramaiah et al., 2000). Emerging evidence suggests that the regular practice of yoga forms that do not include specialized breathing exercises also improve depressed mood, including Hatha yoga, Omkar meditation and Iyengar yoga. Regular practitioners of Hatha yoga and Omkar meditation also had significant increases in melatonin secretion, possibly related to increased serotonin, an established benefit of meditation (Walton et al., 1995). In a small randomized, case-control study, mildly depressed practitioners of Iyengar yoga reported significant improvements in mood following semiweekly yoga practice for five weeks (Woolery et al., 2004).

The absence of double-blinding is a significant limitation of studies on yoga or any mind-body practice, as enrolled patients are necessarily aware of engaging in specific movements or breathing exercises of a particular mind-body practice. Many patients with depression have difficulty becoming motivated to start a mind-body practice and should be gently encouraged to take classes at the start of their practice and slowly transition to a daily self-directed program if they find it beneficial to their mood and general state of well-being.

Regular qigong or tai chi practice results in generally improved emotional well-being, including improved mood (Schwartzman, 1998; Tang et al., 1990; Wang, 1997). Brief psychotic episodes have been reported during qigong in histrionic or psychotic patients and individuals diagnosed with personality disorders (Lake, 2001). In fact, the *DSM-IV* describes psychotic symptoms that can occur as a consequence of erroneous qigong as a culture-bound syndrome

(qigong psychotic reaction). Combining mindfulness training or guided imagery with conventional antidepressants may be more effective than either conventional antidepressants or cognitive-behavioral therapy alone (Bernal i Cercos et al., 1995; Mason and Hargreaves, 2001; Rees, 1995).

Regular bright-light exposure (10,000 lux for 30 to 40 minutes/day) improves depressed mood and may have more rapid onset than conventional antidepressants (Golden et al., 2005; Levitt et al., 1991). Benefits of bright-light exposure are greater when depressive mood changes follow a seasonal pattern.

Bright artificial light and natural light are probably equally effective. Bright-light exposure is a safe and effective treatment of depression in pregnant women (Oren et al., 2002). Regular exposure to dim red or blue light may be as effective as bright-light exposure in seasonal depression (Wileman et al., 2001). Dim green light two hours before exposure to natural light may accelerate response to conventional antidepressants (Benedetti et al., 2003). Evening bright-light exposure may cause insomnia, and rare cases of hypomania have been reported in patients with BD (Bauer et al., 1994). Transient mild adverse effects of bright-light exposure include jitteriness, headaches and nausea. Regular daily exposure to high-density negative ions is probably an effective treatment of seasonal depressed mood (Terman and Terman, 1995). Antidepressant effects of exposure to high-density negative ions and bright light may be equivalent (Terman et al., 1998).

Attentive listening to music probably improves moderately depressed mood (Drohan, 1999). Case reports suggest that listening to binaural sounds in the beta frequency range (16 Hz to 24 Hz) may improve depressed mood (Lane et al., 1998; Milligan and Waldkoetter, 2000). Listening to music or patterned sounds may produce positive or negative emotional effects depending on culture and individual preferences (Smith and Noon, 1998). In one study, listening to tranquil music improved mood in depressed outpatients, who also experienced beneficial changes in heart rate and blood pressure (Lai, 1999). In another study, patients with cancer who participated in weekly sessions of combined music and guided imagery reported greater improvements in depressed mood and overall quality of life compared to patients in a wait-list group (Burns, 2001). Patients with cancer who received music therapy while undergoing autologous stem cell transplantation reported significantly greater improvements in both anxiety and depressed mood compared to patients who did not receive music therapy (Cassileth et al., 2003). Combined EEG-heart rate variability biofeedback training may improve some cases of depressed mood (McCraty et al., 2001).

Chinese medical treatments of depressed mood, including standard acupuncture, electro-acupuncture

(Please see Integrative Management, page 94)

Integrative Management

Continued from page 93

and computer-controlled electro-acupuncture, show promising results, however, the mechanism of action remains unclear. Detailed reviews of the evidence for Chinese medical treatments of mental and emotional symptoms are available in two textbooks (Allen et al., 1998; Flaws and Lake, 2001). The findings of a large prospective, controlled study showed equivalent antidepressant efficacy of a specific electro-acupuncture protocol and amitriptyline (Luo et al., 1998). Findings from a sham-controlled study suggested that conventional acupuncture is effective in some cases of severe depressed mood (Allen et al., 1998). Electro-acupuncture alone may be as effective as electro-acupuncture combined with amitriptyline or other conventional antidepressants (Luo et al., 1998). Computer-controlled electro-acupuncture using high frequency currents may be more effective than standard acupuncture or electro-acupuncture (Luo et al., 1995). Rare cases of HIV, hepatitis B and C, pneumothorax, and cardiac tamponade have been reported in patients treated with acupuncture (Ernst and White, 1997).

Spiritual and religious beliefs, spiritual healing approaches, and “energy medicine” are widely used to treat depressed mood in North America and Europe (Druss and Rosenheck, 2000; Kessler et al., 2001). However, limited numbers of controlled trials, small study sizes and inherent study design problems continue to obscure understandings of putative underlying mechanisms or efficacy of these approaches. Spirituality and religious beliefs are associated with reduced risk of depressed mood (Kendler et al., 2003). Regular support groups with spiritual-religious themes reduce the severity of depressed mood and increase emotional well-being (Sageman, 2004). Regular healing touch or therapeutic touch treatments may reduce the severity of depressed mood and bereavement (Robinson, 1996). **Table 2** summarizes the evidence for uses of nonpharmacological treatments of depressed mood.

Integrative Mental Health Care—Basic Considerations

Integrative medicine strives to find a balance between the “rigor” of empirical research and the “relevance” of personal information through the use of both quantitative and qualitative information during treatment planning. Treatment planning takes into account conventional and nonconventional approaches that have been tried previously and the strength of evidence for treatments that have not been tried in the context of patient preferences and realistic constraints on cost and availability. The optimum treatment plan is the ideal combination of treatments addressing the identified causes of a symptom pattern. The choice of conventional versus nonconventional approaches depends on many factors, including symptom severity, previous successful treatment strategies, concerns over adverse effects or interactions, patient preferences, and the availability of qualified conventional or alternative medical practitioners. There will sometimes be a discrepancy between the “optimum” integrative treatment plan and a realistic plan that takes these factors into account. The practitioner should encourage the patient to initially use treatments for which there is compelling evidence for the principal symptom(s) being addressed. For

Table 2
Representative Somatic, Mind-Body and Energy-Information Treatments of Depressed Mood

Treatment	Comments
Exercise	<ul style="list-style-type: none"> Regular exercise may be as effective as conventional antidepressants, St. John's wort and cognitive-behavioral therapy for moderate depressed mood Caution: Medically ill patients should consult their physician before starting a rigorous exercise program
Sleep deprivation	<ul style="list-style-type: none"> Partial sleep deprivation effective in moderate depressed mood One night of total sleep deprivation improves severe depressed mood Partial sleep deprivation combined with lithium therapy and morning bright-light exposure may be more effective than either approach alone in bipolar depression
Mindfulness training	<ul style="list-style-type: none"> Regular mindfulness training is probably as effective as cognitive therapy in moderate depressed mood Combining mindfulness training or guided imagery with conventional antidepressants may be more effective than either conventional antidepressants or cognitive-behavioral therapy alone
Yoga, qigong and tai chi	<ul style="list-style-type: none"> Regular yoga practice may be as effective as conventional antidepressants in severe depressed mood The consistent practice of yoga, qigong or tai chi improves overall quality of life and is beneficial in moderately depressed mood Caution: Brief psychotic episodes reported during qigong in histrionic, psychotic or borderline patients
Light	<ul style="list-style-type: none"> Regular bright-light exposure (10,000 lux for 30 to 40 minutes/day) improves depressed mood and may have more rapid onset than conventional antidepressants Bright artificial light and natural light are probably equally effective Bright-light exposure is a safe and effective treatment of depression in pregnant women Regular exposure to dim red or blue light may be as effective as bright-light exposure in seasonal depression Dim green light two hours before exposure to natural light may accelerate response to conventional antidepressants Caution: Evening bright-light exposure may cause insomnia, and rare cases of hypomania have been reported in patients with bipolar disorder
High-density negative ions	<ul style="list-style-type: none"> Regular daily exposure to high-density negative ions is probably an effective treatment of seasonal depressed mood Regular exposure to high-density negative ions and bright light may have equivalent antidepressant efficacy
Music and sound	<ul style="list-style-type: none"> Attentive listening to music probably improves moderately depressed mood Combining music with guided imagery is more beneficial than either approach alone Listening to binaural sounds in the beta frequency range (16 Hz to 24 Hz) may improve depressed mood Note: Listening to music or patterned sounds may produce positive or negative emotional effects depending on culture and individual preferences
Biofeedback	<ul style="list-style-type: none"> Combined EEG-heart rate variability biofeedback training may be beneficial in some cases of depressed mood
Acupuncture	<ul style="list-style-type: none"> Equivalent antidepressant efficacy of a specific electro-acupuncture protocol and amitriptyline Conventional acupuncture may be effective in some cases of severe depressed mood Electro-acupuncture alone may be as effective as electro-acupuncture combined with amitriptyline or other conventional antidepressants Computer-controlled electro-acupuncture using high frequency currents may be more effective than standard acupuncture or electro-acupuncture Caution: Rare cases of HIV, hepatitis B and C, pneumothorax, and cardiac tamponade have been reported in patients treated with acupuncture
Spirituality and religion	<ul style="list-style-type: none"> Spirituality and religious beliefs are associated with reduced risk of depressed mood Regular support groups with spiritual-religious themes reduce the severity of depressed mood and increase emotional well-being
Healing touch/therapeutic touch	<ul style="list-style-type: none"> Regular healing touch or therapeutic touch treatments may reduce the severity of depressed mood and bereavement

Source: Lake J (2005)

CATEGORY 1

example, aerobic exercise and improved sleep hygiene should be recommended if a patient with moderate depression is reluctant to take supplements or is not interested in trying a mind-body practice. It is important that at the outset the practitioner and patient agree on criteria for assessing beneficial changes and a time frame in which improvement can be reasonably expected.

In managing any complaint, the integrative management of mental health problems always begins with a thorough history, including documentation of the severity and course of symptoms; identification of comorbid psychiatric or medical problems; and a review of biological, psychological and cultural factors associated with the patient's complaint. Different strategies are appropriate when managing moderate versus severe mental and emotional symptoms. When severely symptomatic patients are initially seen by a conventionally trained physician, it is only appropriate to refer them to an alternative medical practitioner after it has been established that patients are not suicidal, homicidal or grossly psychotic, and informed consent has been obtained for referral to a qualified local practitioner of the recommended modality.

Many nonconventional treatment modalities of depressed mood have been validated by consistent positive results from controlled, double-blind studies, and, in some cases, systematic reviews or meta-analyses. As discussed in this article, combining conventional antidepressants with certain nonconventional treatments accelerates the rate of treatment response or improves outcomes overall. Examples of empirically validated nonconventional biological treatments of depressed mood include SJW, SAME, 5-HTP, folic acid, EPA, and, to a lesser extent, ALC and DHEA. Advantages of augmenting a synthetic antidepressant with one of these natural products include equivalent response rates at reduced antidepressant doses, improved tolerance and compliance, and faster response rates. Patients with depression taking SAME or EPA should be monitored for signs of hypomania. When combining 5-HTP with an SSRI, the clinician should monitor for signs of a serotonin syndrome. Although fewer studies have been done on ALC than other natural products used to treat depressed mood and no studies have compared ALC with synthetic antidepressants, results to date are promising.

Research on many nonconventional treatments is at an earlier stage. Nonconventional treatments of depressed mood for which there is provisional evidence include EEG biofeedback, specific acupuncture protocols and some mind-body techniques. Preliminary findings suggest that conventional acupuncture and electro-acupuncture are beneficial in some cases of depressed mood, though the mechanism of action underlying putative beneficial effects is unclear.

The following two sections incorporate the basic concepts discussed above into specific integrative treatment approaches for moderate and severe depressed mood.

Integrative Management of Moderate Depressed Mood

A patient complaining of depressed mood should be considered as a candidate for nonconventional or integrative treatment strategies only after underlying medical causes have been excluded by a

psychiatrist or primary care physician. Issues of efficacy and safety should be discussed during the initial consultation. In order to ensure good care, all patients for whom nonconventional treatments constitute a reasonable option should be referred to a qualified practitioner after informed consent for the referral is obtained and documented. It is reasonable and ethical to refer a patient with moderate depression to a Chinese medical practitioner (Flaws and Lake, 2001). However a patient with severe depression should not be referred to a Chinese medical practitioner in view of limited research findings that fail to substantiate the benefits of acupuncture for severe depressed mood.

The question of combining many approaches in an integrative treatment plan, versus successive

single treatments, should be addressed in the initial consultation. If patients elect to try only one or a few approaches, they should be encouraged to explore therapies for which there is compelling evidence of both efficacy and safety. Other conventional or nonconventional therapies can be tried subsequently if mood symptoms do not improve following an agreed-upon period of time. It is important at the outset that the clinician and patient agree on subjective criteria for monitoring changes in mood, and a time frame in which improvement is reasonably expected in response to the selected integrative treatment plan. Combining self-directed approaches including improved nutrition, lifestyle changes, supplements and mind-body practices may improve moderate depressed mood as effectively as conventional medications, while avoiding issues of adverse medication effects and poor compliance.

If patients with moderate depression elect to start an antidepressant after considering reasonable conventional and nonconventional treatment options, they should be referred to a psychiatrist or primary care physician to review the risks and benefits of different medications. In cases where moderate depressed mood worsens or is unimproved following one month of consistent self-directed lifestyle changes and appropriate mind-body treatments (if any), patients should be encouraged to consider biological treatment choices, including conventional antidepressants and natural products that are known to be effective in depressed mood. If medicinal herbals or other natural products are being considered, patients should be referred to a qualified naturopathic physician or skilled herbalist with an established reputation for treating mental health problems.

To minimize the risk of an unfavorable outcome or noncompliance, it is important to obtain a thorough history of treatment responses and side-effect issues associated with previous conventional and nonconventional biological treatments. This information will help the psychiatrist or primary care physician formulate an effective integrative treat-

ment plan. This integrative strategy may permit a reduction in the dose of the conventional antidepressant with a commensurate reduction in the risk of adverse effects and improved compliance.

Integrative Management of Severe Depressed Mood

In contrast to moderate depressed mood, it is always prudent to include a conventional antidepressant when developing an integrative treatment plan addressing severe depressed mood. Patients should be encouraged to consistently follow self-directed changes in nutrition, exercise and stress management; certain supplements; and possibly also a mind-body practice that is congruent with their beliefs. The initial consultation should always include

Many nonconventional treatment modalities of depressed mood have been validated by consistent positive results from controlled double-blind studies.

a thorough medical history and any appropriate laboratory tests (e.g., thyroid studies, electrolytes and complete blood count) to rule out contributing medical problems. A thorough history will generally establish or exclude a history of mood swings, psychotic symptoms or an evolving neurologic disorder. Appropriate referrals to medical specialists should be made if laboratory studies are found to be abnormal. Patients with severe depression should always be asked about suicidal thoughts and plans and referred immediately to the nearest emergency department with appropriate precautions if there is a reasonable risk of suicide.

Assuming that primary medical causes of severe depressed mood have been excluded, weekly follow-up appointments should be scheduled after the patient has started the recommended treatment plan. When underlying medical problems and comorbid psychiatric symptoms have been ruled out, the use of certain nonconventional treatments can reasonably be considered in combination with a conventional antidepressant. If patients request a nonconventional treatment or a referral to a nonconventional medical practitioner, they should be encouraged to consider only approaches that have demonstrated efficacy against severe depressed mood. It is important for the psychiatrist who is managing the patient's care to obtain informed consent before referring to or exchanging information with other conventional or nonconventional practitioners and to clearly document reasons for the referral in the patient's chart. The integrative treatment plan should be reviewed on a continuous basis and modified as needed until an effective and cost-effective strategy is identified and the patient maintains good compliance with treatment recommendations.

In cases where severe depressed mood has failed to respond to the recommended treatment after a period of time when it is reasonable to expect improvement, or when symptoms worsen, it is appropriate to carefully review and clarify both the

(Please see Integrative Management, page 96)

Integrative Management

Continued from page 95

medical and psychiatric differential diagnoses. This process may result in referrals to a neurologist or other medical specialists to rule out a confounding or possibly undiagnosed medical disorder that may be interfering with treatment response, including hypothyroidism, other endocrinological disorders, degenerative neurological disorders or cancer. As in the management of moderate depressed mood, it is important to invite the patient with severe depression to participate in all treatment decisions in order to improve the therapist-patient alliance, enhance patient autonomy and increase compliance with recommendations.

References

- Allen JJB, Schnyer RN, Hitt SK (1998), The efficacy of acupuncture in the treatment of major depression in women. *Psychological Science* 9(5):397-401.
- Alpert JE, Papakostas GI, Worthington JJ 3rd et al. (2004), Oral S-adenosyl methionine (SAMe) for antidepressant augmentation: an open-label trial. Scientific and Clinical Report Session 24, No. 72. Presented at the 157 Annual Meeting of the American Psychiatric Association. New York; May 1-6.
- Babyak M, Blumenthal JA, Herman S et al. (2000), Exercise treatment for major depression: maintenance of therapeutic benefit at 10 months. *Psychosom Med* 62(5):633-638.
- Bauer MS, Kurtz JW, Rubin LB, Marcus JG (1994), Mood and behavioral effects of four-week light treatment in winter depressives and controls. *J Psychiatr Res* 28(2):135-145.
- Bella R, Biondi R, Raffaele R, Pennisi G (1990), Effect of acetyl-L-carnitine on geriatric patients suffering from dysthymic disorders. *Int J Clin Pharmacol Res* 10(6):355-360.
- Benedetti F, Colombo C, Pontiggia A et al. (2003), Morning light treatment hastens the antidepressant effect of citalopram: a placebo-controlled trial. *J Clin Psychiatry* 64(6):648-653.
- Berlanga C, Ortega-Soto HA, Ontiveros M, Senties H (1992), Efficacy of S-adenosyl-L-methionine in speeding the onset of action of imipramine. *Psychiatry Res* 44(3):257-262.
- Bernal i Cercos A, Fuste i Vallverdu R, Urbieta Solana R, Montesinos Molina I (1995), [Relaxation therapy in patients with anxiety and somatoform disorders in primary care.] *Aten Primaria* 15(8):499-504.
- Birdsall TC (1998), 5-Hydroxytryptophan: a clinically-effective serotonin precursor. *Altern Med Rev* 3(4):271-280.
- Blumenthal JA, Babyak MA, Moore KA et al. (1999), Effects of exercise training on older patients with major depression. *Arch Intern Med* 159(19):2349-2356.
- Bottiglieri T, Hyland K, Laundry M et al. (1990), Enhancement of recovery from psychiatric illness by methylfolate. *Lancet* 336(8730):1579-1580 [letter].
- Bressa GM (1994), S-adenosyl-L-methionine (SAMe) as antidepressant: meta-analysis of clinical studies. *Acta Neurol Scand Suppl* 154:7-14.
- Broughton A, Denahm A (2000), Hypericum and drug interactions. *The European Journal of Herbal Medicine* 5(2):19-25.
- Brown MA, Goldstein-Shirley J, Robinson J, Casey S (2001), The effects of a multi-modal intervention trial of light, exercise, and vitamins on women's mood. *Women Health* 34(3):93-112.
- Burns DS (2001), The effect of the bonny method of guided imagery and music on the mood and life quality of cancer patients. *J Music Ther* 38(1):51-65.
- Byerley WF, Judd LL, Reimherr FW, Grosser BI (1987), 5-Hydroxytryptophan: a review of its antidepressant efficacy and adverse effects. *J Clin Psychopharmacol* 7(3):127-137.
- Cassileth BR, Vickers AJ, Magill LA (2003), Music therapy for mood disturbance during hospitalization for autologous stem cell transplantation: a randomized controlled trial. *Cancer* 98(12):2723-2729.
- Chengappa KN, Levine J, Gershon S et al. (2000), Inositol as an add-on treatment for bipolar depression. *Bipolar Disord* 2(1):47-55.
- Christensen L (1991), The roles of caffeine and sugar in depression. *Nutr Rep* 9:3.
- Cogan E (2001), [DHEA: orthodox or alternative medicine?] *Rev Med Brux* 22(4):A381-A386.
- Colombo C, Lucca A, Benedetti F et al. (2000), Total sleep deprivation combined with lithium and light therapy in the treatment of bipolar depression: replication of main effects and interaction. *Psychiatry Res* 95(1):43-53.
- Coppen A, Bailey J (2000), Enhancement of the antidepressant action of fluoxetine by folic acid: a randomized, placebo controlled trial. *J Affect Disord* 60(2):121-130.
- Crellin R, Bottiglieri T, Reynolds EH (1993), Foliates and psychiatric disorders. Clinical potential. *Drugs* 45(5):623-636.
- De Vanna M, Rigamonti R (1992), Oral S-adenosyl-L-methionine in depression. *Current Therapeutic Research* 52(3):478-485.
- Drohan M (1999), From myth to reality: how music changes matter. *Alternative Health Practitioner* 5(1):25-33.
- Druss BG, Rosenheck RA (2000), Use of practitioner-based complementary therapies by persons reporting mental conditions in the United States. *Arch Gen Psychiatry* 57(7):708-714.
- Dunn AL, Trivedi MH, Kampert JB et al. (2002), The DOSE study: a clinical trial to examine efficacy and dose response of exercise as treatment for depression. *Control Clin Trials* 23(5):584-603.
- Ernst E (1995), St. John's wort, an anti-depressant? A systematic, criteria-based review. *Phytomedicine* 2(1):67-71.
- Ernst E, Rand JI, Stevinson C (1998), Complementary therapies for depression: an overview. *Arch Gen Psychiatry* 55(11):1026-1032.
- Ernst E, White A (1997), Life-threatening adverse reactions after acupuncture? A systematic review. *Pain* 71(2):123-126 [see comment].
- Fava M, Borus JS, Alpert JE et al. (1997), Folate, vitamin B12, and homocysteine in major depressive disorder. *Am J Psychiatry* 154(3):426-428.
- Flaws B, Lake J (2001), Chinese Medical Psychiatry: A Textbook and Clinical Manual: Including Indications for Referral to Western Medical Services. Boulder, Colo.: Blue Poppy Press.
- Garza G, Corallo D, Fiore A et al. (1990), Evaluation of the effects of L-acetylcarnitine on senile patients suffering from depression. *Drugs Exp Clin Res* 16(2):101-106.
- Gelenberg AJ, Shelton RC, Crits-Christoph P et al. (2004), The effectiveness of St. John's Wort in major depressive disorder: a naturalistic phase 2 follow-up in which nonresponders were provided alternate medication. *J Clin Psychiatry* 65(8):1114-1119.
- Golden RN, Gaynes BN, Ekstrom RD et al. (2005), The efficacy of light therapy in the treatment of mood disorders: a review and meta-analysis of the evidence. *Am J Psychiatry* 162(4):656-662.
- Harinath K, Malhotra AS, Pal K et al. (2004), Effects of Hatha yoga and Omkar meditation on cardiorespiratory performance, psychologic profile, and melatonin secretion. *J Altern Complement Med* 10(2):261-268.
- Hibbeln JR (1998), Fish consumption and major depression. *Lancet* 351(9110):1213 [letter; see comments].
- Hintikka J, Tolmunen T, Tanskanen A, Viinamaki H (2003), High vitamin B12 level and good treatment outcome may be associated in major depressive disorder. *BMC Psychiatry* 3(1):17.
- Hypericum Depression Trial Study Group (2002), Effect of Hypericum perforatum (St John's wort) in major depressive disorder: a randomized controlled trial. *JAMA* 287(14):1807-1814 [see comments].
- Janakiramaiah N, Gangadhar BN, Naga Venkatesha Murphy PJ et al. (2000), Antidepressant efficacy of Sudarshan Kriya Yoga (SKY) in melancholia: a randomized comparison with electroconvulsive therapy (ECT) and imipramine. *J Affect Disord* 57(1-3):255-259.
- Janicak PG, Lipinski J, Davis JM et al. (1988), S-adenosylmethionine in depression. A literature review and preliminary report. *Ala J Med Sci* 25(3):306-313.
- Kagan BL, Sultzer DL, Rosenlicht N, Gerner RH (1990), Oral S-adenosylmethionine in depression: a randomized, double-blind, placebo-controlled trial. *Am J Psychiatry* 147(5):591-595.
- Kendler KS, Liu XQ, Gardner CO et al. (2003), Dimensions of religiosity and their relationship of lifetime psychiatric and substance use disorders. *Am J Psychiatry* 160(3):496-503.
- Kessler RC, Soukup J, Davis RB et al. (2001), The use of complementary and alternative therapies to treat anxiety and depression in the United States. *Am J Psychiatry* 158(2):289-294.
- Kilbourne EM, Philen RM, Kamb ML, Falk H (1996), Tryptophan produced by Showa Denko and epidemic eosinophilia-myalgia syndrome. *J Rheumatol* 46(suppl):81-88; discussion 89-91.
- Kim HL, Streltzer J, Goebert D (1999), St. John's wort for depression: a meta-analysis of well-defined clinical trials. *J Nerv Ment Dis* 187(9):532-538.
- Kinrys G (2000), Hypomania associated with omega3 fatty acids. *Arch Gen Psychiatry* 57(7):715-716 [letter].
- Lai YM (1999), Effects of music listening on depressed women in Taiwan. *Issues Ment Health Nurs* 20(3):229-246.
- Lake J (2001), Qigong. In: *Handbook of Complementary and Alternative Therapies in Mental Health*, Shannon S, ed. San Diego: Academic Press.
- Lam RW, Levitan RD, Tam EM et al. (1997), L-tryptophan augmentation of light therapy in patients with seasonal affective disorder. *Can J Psychiatry* 42(3):303-306.
- Lane JD, Kasian SJ, Owens JE, Marsh GR (1998), Binaural auditory beats affect vigilance performance and mood. *Physiol Behav* 63(2):249-252.
- Lawlor DA, Hopker SW (2001), The effectiveness of exercise as an intervention in the management of depression: systematic review and meta-regression analysis of randomised controlled trials. *BMJ* 322(7289):763-767.
- Leibenluft E, Moul DE, Schwartz PJ et al. (1993), A clinical trial of sleep deprivation in combination with antidepressant medication. *Psychiatry Res* 46(3):213-227.
- Levine J, Barak Y, Gonzalves M et al. (1995), Double-blind, controlled trial of inositol treatment of depression. *Am J Psychiatry* 152(5):792-794.
- Levitan RD, Shen JH, Jindal R et al. (2000), Preliminary randomized double-blind placebo-controlled trial of tryptophan combined with fluoxetine to treat major depressive disorder: antidepressant and hypnotic effects. *J Psychiatry Neurosci* 25(4):337-346.
- Levitt AJ, Joffe RT, Kennedy SH (1991), Bright light augmentation in antidepressant nonresponders. *J Clin Psychiatry* 52(8):336-337.
- Linde K, Mulrow CD, Berner M, Egger M (2005), St John's wort for depression. *Cochrane Database Syst Rev* (2):CD000448.
- Linde K, Ramirez G, Mulrow CD et al. (1996), St. John's wort for depression—an overview and meta-analysis of randomised clinical trials. *BMJ* 313(7052):253-258 [see comments].
- Luo H, Jia Y, Zhao X, Tang TC et al. (1995), Advances in clinical research on common mental disorders with computer controlled electro-acupuncture treatment. In: *Neurochemistry in Clinical Applications*, Tang L, Tang S, eds. New York: Plenum Press, pp109-122.
- Luo H, Meng F, Jia Y, Zhao X (1998), Clinical research on the therapeutic effect of electro-acupuncture treatment in patients with depression. *Psychiatry Clin Neurosci* 52(suppl):S338-S340.
- Marangell LB, Martinez JM, Zboyan HA et al. (2003), A double-blind, placebo-controlled study of the omega-3 fatty acid docosahexaenoic acid in the treatment of major depression. *Am J Psychiatry* 160(5):996-998.
- Mason O, Hargreaves I (2001), A qualitative study of mindfulness-based cognitive therapy for depression. *Br J Med Psychol* 74(pt 2):197-212.
- McCarty R, Atkinson M, Tomasino D (2001), Science of the Heart: Exploring the Role of the Heart in Human Performance. Publication 01-001. Boulder Creek, Calif.: HeartMath Research Center, Institute of HeartMath.
- Mendlewicz J, Youdim MB (1980), Antidepressant potentiation of 5-hydroxytryptophan by L-deprenil in affective illness. *J Affect Disord* 2(2):137-146.
- Milligan J, Waldkoetter R (2000), Use of hemi-sync audiotapes to reduce levels of depression for alcohol-dependent patients. *Hemi-Sync Journal* 18:1; i-iii.
- Murphy GE, Carney RM, Knesevich MA et al. (1995), Cognitive behavior therapy, relaxation training, and tricyclic antidepressant medication in the treatment of depression. *Psychol Rep* 77(2):403-420.
- Nemets B, Stahl Z, Belmaker RH (2002), Addition of omega-3 fatty acid to maintenance medication treatment for recurrent unipolar depressive disorder. *Am J Psychiatry* 159(3):477-479.
- Oren DA, Wisner KL, Spinelli M et al. (2002), An open trial of morning light therapy for treatment of antepartum depression. *Am J Psychiatry* 159(4):666-669.
- Papakostas GI, Petersen T, Mischoulon D et al. (2004), Serum folate, vitamin B12, and homocysteine in major depressive disorder, Part 1: predictors of clinical response in fluoxetine-resistant depression. *J Clin Psychiatry* 65(8):1090-1095.
- Partonen T, Leppamaki S, Hurme J, Lonnqvist J (1998), Randomized trial of physical exercise alone or combined with bright light on mood and health-related quality of life. *Psychol Med* 28(6):1359-1364.
- Peet M, Horrobin DF (2002), A dose-ranging study of the effects of ethyl-eicosapentaenoate in patients with ongoing depression despite apparently adequate treatment with standard drugs. *Arch Gen Psychiatry* 59(10):913-919.
- Rees BL (1995), Effect of relaxation with guided imagery on anxiety, depression, and self-esteem in primiparas. *J Holist Nurs* 13(3):255-267.
- Reynolds EH, Preece JM, Bailey J, Coppen A (1970), Folate deficiency in depressive illness. *Br J Psychiatry* 117(538):287-292.
- Riemann D, Konig A, Hohagen F et al. (1999), How to preserve the antidepressant effect of sleep deprivation: a comparison of sleep phase advance and sleep phase delay. *Eur Arch Psychiatry Clin Neurosci* 249(5):231-237.
- Robinson LS (1996), The effects of therapeutic touch on the grief experience. University of Alabama at Birmingham. Dissertation Abstracts International 56(11):6039.
- Rosenbaum JF, Fava M, Falk WE et al. (1990), The antidepressant potential of oral S-adenosyl-L-methionine. *Acta Psychiatr Scand* 81(5):432-436.
- Sageman S (2004), Breaking through the despair: spiritually oriented group therapy as a means of healing women with severe mental illness. *J Am Acad Psychoanal Dyn Psychiatry* 32(1):125-141.
- Sargent PA, Williamson DJ, Cowen PJ (1998), Brain 5-HT neurotransmission during paroxetine treatment. *Br J Psychiatry* 172:49-52 [see comment].
- Schmidt PJ, Daly RC, Bloch M et al. (2005), Dehydroepiandrosterone monotherapy in midlife-onset major and minor depression. *Arch Gen Psychiatry* 62(2):154-162.
- Schrader E (2000), Equivalence of St. John's wort extract (Ze 117) and fluoxetine: a randomized, controlled study in mild-moderate depression. *Int Clin Psychopharmacol* 15(2):61-68.
- Schwartzman L (1998), Tai chi and Parkinson's disease. Presented at the 2nd World Congress Qigong.
- Shannahoff-Khalsa D (2004), An introduction to Kundalini yoga meditation techniques that are specific for the treatment of psychiatric disorders. *J Altern Complement Med* 10(1):91-101.
- Shannahoff-Khalsa DS, Ray LE, Levine S et al. (1999), Randomized controlled trial of yogic meditation techniques for patients with obsessive-compulsive disorder. *CNS Spectr* 4:34-47.
- Smith JL, Noon J (1998), Objective measurement of mood change induced by contemporary music. *J Psychiatr Ment Health Nurs* 5(5):403-408.
- Strous RD, Maayan R, Lapidus R et al. (2003), Dehydroepiandrosterone augmentation in the management of negative, depressive, and anxiety symptoms in schizophrenia. *Arch Gen Psychiatry* 60(2):133-141.
- Su KP, Huang SY, Chiu CC, Shen WW (2003), Omega-3 fatty acids in major depressive disorder. A preliminary double-blind, placebo-controlled trial. [Published erratum *Eur Neuropsychopharmacol* 2004;14(2):173.] *Eur Neuropsychopharmacol* 13(4):267-271.
- Su KP, Shen WW, Huang SY (2000), Are omega3 fatty acids beneficial in depression but not mania? *Arch Gen Psychiatry* 57(7):716 [letter].

CATEGORY 1

Tang C, Lu Z, Wang J et al. (1990), Effects of QiGong and Taijiquan on reversal of aging process and some psychological functions. Presented at the 3rd National Academy Conference on Qigong Science.

Tempesta E, Casella L, Pirrongelli C et al. (1987), L-acetylcarnitine in depressed elderly subjects. A cross-over study vs placebo. *Drugs Exp Clin Res* 13(7):417-423.

Terman M, Terman JS (1995), Treatment of seasonal affective disorder with a high-output negative ionizer. *J Altern Complement Med* 1(1):87-92.

Terman M, Terman JS, Ross DC (1998), A controlled trial of timed bright light and negative air ionization for treatment of winter depression. *Arch Gen Psychiatry* 55(10):875-882.

Tkachuk GA, Martin GL (1999), Exercise therapy for patients with

psychiatric disorders: research and clinical implications. *Prof Psychol Res Pra* 30(3):275-282.

van Praag HM, van den Burg W, Bos ER, Dols LC (1974), 5-hydroxytryptophan in combination with clomipramine in "therapy-resistant" depressions. *Psychopharmacologia* 38(3):267-269.

Vorbach EU, Arnoldt KH, Hubner WD (1997), Efficacy and tolerability of St. John's wort extract LI 160 versus imipramine in patients with severe depressive episodes according to ICD-10. *Pharmacopsychiatry* 30(suppl 2):81-85.

Vorbach EU, Hubner WD, Arnoldt KH (1994), Effectiveness and tolerance of the hypericum extract LI 160 in comparison with imipramine: randomized double-blind study with 135 outpatients. *J Geriatr Psychiatry Neurol* 7(suppl 1):S19-S23.

Walton KG, Pugh ND, Gelderloos P, Macrae P (1995), Stress reduc-

tion and preventing hypertension: preliminary support for a psychoneuroendocrine mechanism. *J Altern Complement Med* 1(3):263-283.

Wang J (1997), Psychological effects of Qigong. Presented at the 1st World Conference Acad Exch Med.

Wileman SM, Eagles JM, Andrew JE et al. (2001), Light therapy for seasonal affective disorder in primary care: randomised controlled trial. *Br J Psychiatry* 178:311-316 [see comment].

Wolkowitz OM, Reus VI, Roberts E et al. (1997), Dehydroepiandrosterone (DHEA) treatment of depression. *Biol Psychiatry* 41(3):311-318.

Woolery A, Myers H, Sternlieb B, Zeltzer L (2004), A yoga intervention for young adults with elevated symptoms of depression. *Altern Ther Health Med* 10(2):60-63. □

In order to receive category 1 credit, posttests and activity evaluations must be completed online at <www.psychiatrictimes.com/cme.html> effective January 2006.

To earn category 1 credit, read the article "Integrative Management of Depressed Mood: Evidence and Treatment Guidelines." Complete and return the activity evaluation to CME LLC. To receive certificates immediately, please complete the activity evaluation online at www.psychiatrictimes.com/cme.html. If submitting the activity evaluation by mail, certificates will only be issued upon request. To ensure proper credit, please type or print all information legibly. Keep your own record of this activity. Please take the posttest below.

CME LLC is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

CME LLC designates this educational activity for a maximum of 1.5 category 1 credits toward the AMA Physician's Recognition Award. Each physician should claim only those credits actually spent on the educational activity.

Category 1 Posttest

CME LLC encourages you to take this posttest for your professional enrichment. The correct answers are listed below on the left.

Circle correct choice(s):

- When compared to conventional antidepressants, SAME is
 - only marginally effective and of limited usefulness due to unresolved safety issues.
 - a commonly prescribed antidepressant in many European countries.
 - more effective but not widely used because it induces mania in a large percentage of depressed patients.
 - probably equally effective and associated with few relatively mild side effects.
 - i, ii and iii
 - ii and iv
 - i and iii
 - iv only
- Advantages of integrative strategies include:
 - Augmentation of conventional antidepressants
 - Accelerated response rates
 - Lower doses of conventional drugs and reduced incidence of adverse effects
 - All of the above
- St. John's wort should be avoided in patients who are taking all but which of the following conventional medications concurrently?
 - Protease inhibitors
 - Warfarin
 - MAOIs
 - Ibuprofen
- Which of the following statements about SAME in the treatment of depression is untrue?
 - SAME is effective against depression in doses from 800 mg/day to 1600 mg/day in divided doses.
 - Some cases of depression that are refractory to conventional antidepressants have reportedly responded to SAME.
 - Combining SAME with most conventional antidepressants is unsafe, may cause a hypertensive crisis and should be strictly avoided.
 - The antidepressant efficacy of SAME is augmented when it is taken in combination with folate.
- All but which of the following statements is true of ALC?
 - ALC augments conventional antidepressants but is not beneficial against depressed mood when used alone.
 - To date, no studies have directly compared ALC with conventional antidepressants.
 - Because of its cognitive enhancing effects, ALC is a reasonable choice in depressed patients with dementia.
 - Typical doses of ALC for depressed individuals with dementia range from 1 g/day to 3 g/day in divided doses.

CME LLC is approved by the California Board of Registered Nursing, Provider No. CEP12748, and designates this educational activity for 1.5 contact hours for nurses. The American Nurses Credentialing Center (ANCC) accepts AMA category 1 credit toward recertification requirements.

The American Academy of Physician Assistants (AAPA) accepts AMA category 1 credit from organizations accredited by the ACCME.

CME LLC is registered with CE Broker as an approved provider of continuing medical education for physicians, nurses and physician assistants in the State of Florida.

- When recommending exercise to a patient with depression, all but which of the following statements is correct?
 - Regular exercise is probably as effective as cognitive therapy, conventional antidepressants and St. John's Wort for individuals with moderate depression.
 - The antidepressant mechanism of exercise is probably related to decreased levels of dopamine and endorphins.
 - Antidepressant benefits require longer to take place compared to conventional treatments.
 - The same duration and intensity of exercise under bright light is probably more effective than exercise alone.

Activity Evaluation

- The article met the stated objectives. Agree Disagree
- The author presented the material in a coherent, understandable manner. Agree Disagree
- I found this article to be fair, balanced and objective. Agree Disagree
- This material will assist me in applying practical new skills and/or knowledge to enhance patient care. Agree Disagree

What was the single most important idea you gained from this article?

What idea was presented that you would like more information about?

This learning module may be used for category 1 credit through Oct. 31, 2006.

I would like more information on integrative management of depressed mood.

I verify that I have read the entire article "Integrative Management of Depressed Mood: Evidence and Treatment Guidelines," and I have completed the posttest. I hereby claim ____ category 1 credits.

Signature _____

Name: _____ Degree: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: (_____) _____

Specialty: _____

Yes, CME LLC is hereby authorized to send me, by fax or e-mail, promotional and informational materials about CME's products and services.

I do not wish to receive promotional materials by fax or e-mail.

Signature: _____

\$15 check payable to CME LLC is enclosed.

Integrative Management of Depressed Mood: Evidence and Treatment Guidelines

Until January 2006, you may complete this form and mail to:

CME LLC/Item Code: A05001131 • P.O. Box 57072 • Irvine, CA 92619-9912

After this time, please go to www.psychiatrictimes.com/cme.html to request credit online.