

# Clinical Roundup

## Selected Treatment Options for Anxiety

### Comprehensive Lifestyle Intervention

At the Center for Lifestyle Medicine of the Cleveland Clinic's Wellness Institute, I and my colleagues use a comprehensive lifestyle intervention for participants with multiple chronic diseases, including anxiety. Our lifestyle prescription includes mind-body approaches consisting of therapeutic restorative Hatha yoga practice and behavioral health coaching, along with cooking, nutrition, and physical activity.

The program, called Lifestyle 180,<sup>®</sup> consists of 72 hours of a group-based intervention over a 1-year period.<sup>1</sup> While not formally designed for treatment of generalized anxiety disorders, each therapeutic lifestyle modality addresses key aspects of anxiety: chronic psychologic stress; poor diet; and physical inactivity.

Patients learn and practice breathing techniques, meditation, and mindfulness practices, and perform simple yoga poses to elicit the relaxation response, the physiologic opposite of the fight-or-flight response. This may enable participants to become more aware of their feelings and thoughts, to recognize old thought patterns that no longer serve them, and release those unhelpful ways of thinking and believing, and thus, reduce psychologic distress and reduce symptoms of chronic stress and anxiety.<sup>2-4</sup>

Through education and hands-on practice, patients learn how to cook and eat a low-fat, whole-foods (100% whole grain) Mediterranean diet to increase intake of plant-derived antioxidant and anti-inflammatory compounds, and to enhance insulin sensitivity, thus potentially also reducing psychologic distress and anxiety.<sup>5,6</sup> Engagement in physical activities—both aerobic and strength training—may also induce improvements in anxiety-related outcomes.<sup>7</sup>

In a study, participants who implemented these self-care behaviors had clinically and statistically significant improvements in biometric and laboratory outcomes in spite of decreased usage of medications.<sup>1</sup> Although state- and/or trait-anxiety status was not formally evaluated, participants reported significantly better mood, and improved perceived stress and

overall quality of life.<sup>8</sup> In addition, participants, who among other chronic conditions, also have generalized anxiety disorder, used less prescription medications for anxiety (manuscript in preparation).

### References

1. Ricanati EH, Golubić M, Yang D, et al. Mitigating preventable chronic disease: Progress report of the Cleveland Clinic's Lifestyle 180 program. *Nutr Metab (Lond)* 2011;8:83.
2. Staufienbiel SM, Penninx BW, Spijker AT, et al. Hair cortisol, stress exposure, and mental health in humans: A systematic review. *Psychoneuroendocrinology* 2013;38:1220–1235.
3. Leuner B, Shors TJ. Stress, anxiety, and dendritic spines: What are the connections? *Neuroscience* 2013;251:108–119.
4. Li AW, Goldsmith CA. The effects of yoga on anxiety and stress. *Altern Med Rev* 2012;17:21–35.
5. Gautam M, Agrawal M, Gautam M, et al. Role of antioxidants in generalized anxiety disorder and depression. *Indian J Psychiatry* 2012;54:244–247.
6. Salim S, Chugh G, Asghar M. Inflammation in anxiety. *Adv Protein Chem Struct Biol* 2012;88:1–25.
7. Zschucke E, Gaudlitz K, Ströhle A. Exercise and physical activity in mental disorders: Clinical and experimental evidence. *J Prev Med Public Health* 2013;46(suppl1):S12–S21.
8. Gendy G, Ehrman PJ, Doyle J, et al. Participation in Lifestyle 180<sup>®</sup> program improves mood and quality of life of patients at high risk of cardiovascular disease [abstr P22]. American Heart Association EPI/NPAM Conference, Atlanta, GA, March 22–25, 2011.

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### Yoga

Anxiety disorders are a major worldwide health problem that affect a large number of individuals every year.<sup>1</sup> In the U.S. National Comorbidity Survey Replication, the lifetime prevalence of anxiety disorders was 28.8%.<sup>1</sup> Recent studies also suggest that chronic anxiety disorder may increase the rate of cardiovascular-related mortality.<sup>2</sup>

*All comments, opinions, and recommendations in the Clinical Roundup are those of the authors and do not constitute those of the Journal, its Publisher, or its editorial staff.*

Yoga, a form of holistic mind–body medicine, that includes the use of physical postures (*āsanas*), breathing practices (*prāṇāyāmas*), meditations, relaxation techniques, and lifestyle changes based on ancient yogic philosophy, is simple, cost-effective and easy to practice.<sup>3</sup> Yoga reduces stress and anxiety by improving autonomic functions via triggering neurohormonal mechanisms that suppress sympathetic activity through downregulation of the hypothalamic–pituitary–adrenal axis.<sup>4</sup>

There is mounting evidence that yoga reduces anxiety symptoms. A systematic review of the effects of yoga on anxiety identified five trials on patients with clinically diagnosed anxiety disorders.<sup>5</sup> The results were consistently positive, including substantial improvement demonstrated in one trial of participants with obsessive–compulsive disorder<sup>6</sup> and in another trial on anxiety levels of patients with various chronic diseases, including hypertension and coronary heart disease.<sup>3</sup>

A study on cyclic meditation in healthy male volunteers showed a reduction in state-anxiety, as assessed by Spielberger's inventory.<sup>7</sup> In another study on women with anxiety disorder ( $N = 65$ ), the patients were divided into two groups: (1) yoga ( $n = 34$ ) and (2) a wait-list control ( $n = 31$ ). The yoga group received the intervention for 90 minutes, twice per week, for 2 months. There was a significant decrease in state- and trait-anxiety in the yoga group, compared to the control group.<sup>8</sup> Yogic relaxation (*Yoga Nidra*) is also a successful therapy for managing both recent and long-standing psychologic disturbances, especially high anxiety levels.<sup>9</sup>

Several yogic practices (performed daily for 60 minutes, for 3 months) may be useful for helping patients manage their anxiety disorders. The practices are as follows:

- (1) Breathing techniques<sup>3,10</sup> (*Prāṇāyāma*, total ~ 20-minute session)—Hands in and out breathing (10 rounds in 2 minutes); hand stretch breathing (10 rounds in 2 minutes); tiger breathing (10 rounds in 2 minutes); forceful exhalation (*Kapālabhāti*; 20 breaths per minute in 1 minute); alternate nostril breathing (*Nādisuddhi*; for 5 minutes); left nostril breathing (*Chandra Anuloma Viloma*; 27 rounds in 5 minutes, 4 times per day); humming bee breath (*Bhramari*; for 2 minutes); and abdominal breathing in lying-down position for 2 minutes
- (2) Physical postures<sup>3,10</sup> (*Āsanas*; 1 minute each, total ~ 15-minute session)—to be performed as follows:
  - A. Standing *āsanas*—*Surya Namaskāra* (Sun Salutation) in slow mode with maintenance of each posture for 10 breaths; hand-to-foot pose (*Pādabastāsana*); and half-waist-rotation pose (*Ardha Kati Chakrāsana*; 1 minute each side)
  - B. Sitting *āsanas*—half-spinal-twist pose (*Ardhamatsyendrasana*); twisted pose (*Vakrāsana*); hare pose (*Shashānk-āsana*); and back-stretching pose (*Paschimottānāsana*)
  - C. Prone *āsanas*—crocodile pose (*Makarāsana*) and cobra pose (*Bhujangāsana*)
  - D. Supine *āsanas*—shoulder stand pose (*Sarvāṅgāsana*); plough pose (*Halāsana*); knees-to-ear pose (*Karnapī-dāsana*); wind relieving pose (*Pawanmuktāsana*); and bridge pose (*Setubandhāsana*)
- (3) Meditations—Kundalini Yoga,<sup>5</sup> *Om* Meditation,<sup>10</sup> and cyclic meditation<sup>7</sup> for 15 minutes, once per day
- (4) Guided relaxation (*Savāsana*)<sup>7</sup> and *Yoga Nidra*<sup>9</sup> for 10 minutes at the end of *āsanas* and *prāṇāyāmas*.

## References

1. Kessler RC, Merikangas KR, Wang PS. Prevalence, comorbidity and service utilization for mood disorders in the United States at the beginning of the twenty-first century. *Annu Rev Clin Psychol* 2007;3:137–158.
2. Horwath E, Weissman MM. Anxiety disorders: Epidemiology. In: Sadock BJ, Sadock VA, eds. *Kaplan & Sadock's Comprehensive Textbook of Psychiatry*, 7th ed. Philadelphia: Lippincott Williams & Wilkins, 2000: 500–522.
3. Gupta N, Khara S, Vempati RP, et al. Effect of yoga based lifestyle intervention on state and trait anxiety. *Indian J Physiol Pharmacol* 2006;50:41–47.
4. Sengupta P. Health impacts of yoga and pranayama: A state-of-the-art review. *Int J Prev Med* 2012;3:444–458.
5. Kirkwood G, Rampes H, Tuffrey V, et al. Yoga for anxiety: A systematic review of the research evidence. *Br J Sports Med* 2005;39:884–891.
6. Shannahoff-Khalsa DS, Ray LE, Levine S, et al. Randomized controlled trial of yogic meditation techniques for patients with obsessive–compulsive disorder. *CNS Spectr* 1999;4:34–47.
7. Subramanya P, Telles S. Effect of two yoga-based relaxation techniques on memory scores and state anxiety. *Biopsychosoc Med* 2009;3:8.
8. Javnbakht M, Hejazi Kenari R, Ghasemi M. Effects of yoga on depression and anxiety of women. *Complement Ther Clin Pract* 2009;15:102–104.
9. Girodo M. Yoga meditation and flooding in the treatment of anxiety neurosis. *J Behav Ther Exp Psychiatry* 1974;5:157–160.
10. Nagarathna R, Nagendra HR. Yoga module for anxiety. In: Nagendra HR, ed. *Yoga for Anxiety and Depression*, 1st Ed. Bangalore: Swami Vivekananda Yoga Prakashan, 2001:33–86.

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## Iyengar Yoga

Anxiety is a debilitating condition that affects more than 16% of the world's population at some point in time.<sup>1</sup> Yoga has been shown to reduce symptoms of anxiety, with 19 of 27 published research studies that examined the effect of yoga on anxiety demonstrating significant reductions in subjective measures of anxiety.<sup>2</sup>

Yoga is believed to relieve anxiety by turning off the hypothalamic–pituitary–adrenal (HPA) axis and the sympathetic nervous system responses to stress.<sup>3</sup> In a randomized controlled trial, 12 weeks of Iyengar yoga was superior to walk-

ing for improving mood, decreasing anxiety, and increasing brain levels of  $\gamma$ -aminobutyric acid,<sup>4</sup> a neurotransmitter that decreases HPA-axis activation and acts as an antianxiety agent, much like a natural form of Xanax® (alprazolam).

From a yogic perspective, a strong nervous system is vital for developing emotional and mental stability, and breath is integral in this development. Slow, relaxed breathing is linked directly to calming the mind and maintaining equanimity, and a healthy diaphragm is essential for a gentle, effortless breath.<sup>5</sup> Forward bends done with the head resting on a bolster or block are calming to the nervous system and help relieve immediate symptoms of anxiety. Supported backbends help increase lung expansion and tone the diaphragm, which are important for developing control of the breath.

An asana and pranayama sequence helps the diaphragm to become toned and elastic, calms the breath, and stimulates blood flow to the cells of the body, thereby strengthening the nervous system and reducing anxiety. The sequence is as follows: *Tadāsana*; *Urdhva Hastāsana* in *Tadāsana*; *Uttanāsana* (head supported); *Prasarita Padottanāsana* (head supported); *Adho Mukha Svanāsana* (head supported); *Uttitha Trikonāsana*; *Ardha Chandrāsana*; *Dvipada Viparita Dandāsana* on a chair (head supported); supported *Ustrāsana*; *Virāsana*; *Adho Mukha Virāsana*; *Janu Sirsāsana* (with a bolster supporting the torso and head); supported *Paschimottanāsana*; *Upavistha Konāsana* (sitting upright); *Baddha Konāsana* (sitting upright); *Supta Baddha Konāsana* (supported); *Supta Virāsana* (supported); supported *Setu Bandha Sarvangāsana*; *Viparita Karani*; and *Savāsana* (head and chest supported on a bolster or folded blankets).

Also included are *prāṇāyāmas* as taught in *Light on Prāṇāyāma: Prāṇāyāma Dipika*.<sup>5</sup> These are: *Ujjayi* II and IV and *Viloma* II; and *Savāsana* again (flat on ground with weight on the legs).

## References

1. Somers JM, Goldner EM, Waraich P, Hsu L. Prevalence and incidence studies of anxiety disorders: A systematic review of the literature. *Can J Psychiatry* 2006;51:100–113.
2. Sharma M, Haider T. Yoga as an alternative and complementary therapy for patients suffering from anxiety: A systematic review. *Evid Based Complement Alternat Med* 2013;18:15–22.
3. Ross A, Thomas S. The health benefits of yoga and exercise: A review of comparison studies. *J Altern Complement Med* 2010;16:3–12.
4. Streeter CC, Theodore HW, Owen L, et al. Effects of yoga versus walking on mood, anxiety, and brain GABA levels: A randomized controlled MRS study. *J Altern Complement Med* 2010;16:1145–1152.
5. Iyengar BKS. *Light on Prāṇāyāma: Prāṇāyāma Dipika*. London: Unwin Paperbacks, 1983.

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## Short-Term Yoga-Based Lifestyle Intervention

Anxiety, altered personality, and stress, can be associated with chronic conditions such as diabetes, heart diseases, and psychiatric disorders, and result in a poor quality of life. A short-term yoga-based lifestyle intervention to treat anxiety and stress is used in such cases at the Integral Health Clinic, where I work. The Clinic offers a pretested and well-structured intervention that consists of an integrated 10-day program comprised of a set of simple *āsanas* (physical postures), *prāṇāyāmas* (breathing exercises), and/or meditation for ~ 1 hour each day.<sup>1–4</sup> This is followed by lectures/group discussions regarding disease-specific lifestyle measures, efforts to minimize or eliminate substance abuse, and basics of calming techniques. There is a special focus on coping with stress and anxiety.

I and my colleagues have shown the efficacy of this intervention for treating anxiety in a recent study.<sup>1</sup> The study, which included 90 subjects, demonstrated a significant reduction in state- and trait-anxiety (State and Trait Inventory-Y 1 and 2) scores at day 10 versus baseline ( $72.5 \pm 14.7$  versus  $66.7 \pm 13.0$ , respectively;  $P < 0.001$ ). In addition, positive subjective well-being (SUBI) scores (factors 1–6) improved significantly ( $P < 0.01$ ) at day 10 versus baseline. Similarly, personality (neuroticism, extraversion, openness to experience, five-factor, personality inventory–revised [NEO-FF PI–R]) scores improved significantly ( $P < 0.001$ ) at day 10 versus day 1.

In another study, including 86 patients, I and my colleagues showed that mean level of serum cortisol decreased from baseline to day 10 ( $149.95 \pm 46.07$  versus  $129.07 \pm 33.30$  ng/mL, respectively;  $P = 0.001$ ) while  $\beta$ -endorphins increased from baseline to day 10 ( $3.53 \pm 0.88$ ,  $4.06 \pm 0.79$  ng/mL;  $P = 0.024$ ) following the intervention.<sup>2</sup> In another study we conducted, there was also a significant reduction in oxidative stress following the intervention.<sup>4</sup>

Overall, the cumulative data show that this brief, yet comprehensive, yoga-based lifestyle intervention is efficacious for reducing anxiety and stress, and the benefit is evident as early as 10 days.

## References

1. Yadav RK, Magan D, Mehta M, et al. A short-term, comprehensive, yoga-based lifestyle intervention is efficacious in reducing anxiety, improving subjective well-being and personality. *Int J Yoga* 2012;5:134–139.
2. Yadav RK, Magan D, Mehta N, et al. Efficacy of a short-term yoga-based lifestyle intervention in reducing stress and inflammation: Preliminary results. *J Altern Complement Med* 2012;18:662–667.
3. Sarvottam K, Magan D, Yadav RK, et al. Adiponectin, interleukin-6, and cardiovascular disease risk factors are modified by a short-term yoga-based lifestyle intervention in overweight and obese men. *J Altern Complement Med* 2013;19:397–402.
4. Yadav RK, Ray RB, Vempati R, Bijlani RL. Effect of a comprehensive yoga-based lifestyle modification program on lipid peroxidation. *Indian J Physiol Pharmacol* 2005;49:358–362.

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## Body Psychotherapy

Body psychotherapy (BPT) is an established form of psychotherapy,<sup>1–3</sup> and has demonstrated good efficacy for treating various clinical syndromes.<sup>4</sup> While body therapies aim to reduce stress levels associated with heightened anxiety through aerobic exercises or relaxation techniques, BPT engages patients in relational embodied psychotherapy to address the complexity of the underlying psychologic processes involved in anxiety.

Initially, in BPT, therapeutic engagement is facilitated through exploration of body experiences and movement/breathing patterns. Particular attention is paid to bodily equivalents of anxiety, such as muscular tension, increased heart rate, and hyperventilation.

BPT in anxiety relates to the common denominator of hyperarousal, while exploring a range of alternative expressive behaviors relevant to the neuropsychologic axis fear–flight–fight–withdrawal/learned helplessness. Based upon psychodynamic roots in BPT, this includes careful clarification of traumatic memory backgrounds and personal deficits as trigger factors for patients' fear. BPT is based on the observation that root causes have been dissociated, separating subjective feelings from physiologic reactions.

Patients are guided toward improved reality testing through grounding movements, helping each patient to establish a firm “stand” in the world. This enables an individual to relate to anxiety-provoking thoughts/experiences from a position of self-awareness, thus, being able to tolerate and endure anxiety without being “overtaken” by it.

BPT facilitates shifting of (holding, inward bound) breathing/movement patterns, suggesting a range of expressive body movements (supportive, releasing, directive, etc.) and rhythmic integration. Interventions include direct body contact (self-soothing/protection/shielding) as well as exercises to help a patient to confront a perceived threat/aggression/danger in self-defense.

The BPT process enables a patient to reevaluate reality on a complex conceptual and organismic level, while helping to relieve the anxiety syndrome that was bound in negative self-evaluations and disempowerment. Hereby, emphasis is given to “normalize” anxiety symptoms as a necessary, natural, and functional part of organismic functioning to encounter the threat of (inter)personal damage.

## References

1. Heller MC. *Body Psychotherapy: History, Concepts, Methods*. New York & London: W.W. Norton & Company, 2012.
2. Marlock G, Weiss H, eds. *Handbook of Body Psychotherapy* [in German]. Stuttgart: Schattauer, 2006.
3. European Association for Body Psychotherapy. Home Page. Online document at: [www.eabp.org](http://www.eabp.org) Accessed October 17, 2013.
4. Röhrich F. Body oriented psychotherapy—the state of the art in empirical research and evidence based practice: A clinical perspective. *Body, Movement Dance Psychother* 2009;4:135–156.

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## Traditional Chinese Medicine Psychology Therapies

Traditional Chinese Medicine (TCM) psychology is a discipline based on traditional Chinese culture and TCM theories that are used to study the patterns of psychologic activities while drawing relevant knowledge from modern science, especially modern clinical psychology and psychiatry, to guide clinical practice.<sup>1</sup> Among the techniques of TCM psychology for treating anxiety, the moving-to-emptiness technique (MET) is most representative.

MET combines *qigong* and modern psychology together, mainly using concrete thinking as a way to reduce emotions or solving problems.\* Visualization and *qigong* meditation are two key elements of MET. In the beginning, the therapist will guide the patient to imagine the problem as a concrete symbol with his or her full scope of imagination. Then the symbol will be put into a “container,” which is imagined for it specially, and the container will be moved to different distances repeatedly. During this process, the symbol will gradually change and may even disappear. The patient's anxiety will thus be reduced.

MET consists of the following nine major steps:

- (1) To receive relaxation training
- (2) To confirm the problem that needs to be resolved
- (3) To imagine the symbol of the problem
- (4) To imagine the container where the symbol will be placed
- (5) To draw the symbol and the container

\*Wu X. The Key Points for Operation and Analysis for Theory of Moving to Emptiness Technique [dissertation submitted for doctorate degree]. Beijing: Beijing University of Chinese Medicine, 2013.

- (6) To relax again as was achieved in the training
- (7) To place the symbol into the container
- (8) To move the container with the symbol inside to different distances repeatedly
- (9) To open the container and evaluate the effectiveness of the therapy.

## Reference

1. Chun Z, Shui L, eds. *Low Resistance Thought Induction Psychotherapy*. Beijing: People's Medical Publishing House, 2012.

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## Transcendental Meditation™

My clinical experience with the Transcendental Meditation (TM) technique began with inmates at a prison. TM significantly reduced the inmates' spontaneous skin-resistance responses, a physiologic correlate of anxiety<sup>1,2</sup>—a result that has been replicated many times.<sup>3</sup>

However, the majority of people to whom I have taught TM were earthquake victims in Armenia who had survived the devastating earthquake of 1989 that killed more than 30,000 people. Thousands were homeless, everyone had relatives and friends who were killed, and/or participated in digging people out of the rubble. Needless to say, virtually the whole nation suffered from post-traumatic stress disorder symptoms, including elevated anxiety.

After a team of 14 practitioners, myself included, taught 30 physicians TM at the Yerevan State Medical University, we offered TM to the general public, and thousands came to ask for it. This was because word-of-mouth had spread quickly that TM truly provided quick and lasting relief from anxiety and grief. We were able to deliver TM to ~ 20,000 people over 6 months. We taught the standard 4-day course, for 1.5 hours per day, and, after that, the patients were self-sufficient. The results were amazing, with tears rolling down people's faces during the very first meditation, a shell-shocked person speaking for the first time in months, and a woman frozen with fear who could now leave her room and go outside.

Three meta-analyses have now shown TM to be effective for reducing trait anxiety.<sup>4-6</sup> For health care practitioners who would like to offer TM to their patients with anxiety symptoms, these clinicians can simply engage a qualified TM teacher or become TM teachers themselves.

## References

1. Orme-Johnson DW, Moore RM. First prison study using the Transcendental Meditation program: La Tuna Federal Penitentiary. *J Offender Rehabil* 2003;36:89-96.
2. Orme-Johnson DW, Kiehlbauch J, Moore R, Bristol J. Personality and autonomic changes in prisoners practicing the Transcendental Meditation technique. In: Orme-Johnson DW, Farrow JT, eds. *Scientific Research on the Transcendental Meditation Technique: Collected Papers*. Livingston Manor, NY: Maharishi European Research University Press, 1977.
3. Dillbeck MC, Orme-Johnson DW. Physiological differences between Transcendental Meditation and rest. *Am Psychol* 1987;42:879-881.
4. Eppley K, Abrams AI, Shear J. Differential effects of relaxation techniques on trait anxiety: A meta-analysis. *J Clin Psychol* 1989;45:957-974.
5. Orme-Johnson DW, Barnes VA. Effects of the Transcendental Meditation technique on trait anxiety: A meta-analysis of randomized controlled trials. *J Altern Complement Med* 2013;October 9:e-pub ahead of print.
6. Sedlmeier P, Eberth J, Schwarz M, et al. The psychological effects of meditation: A meta-analysis. *Psychol Bull* 2012;138:1139-1171.

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## Acupuncture I

In the department I work in, acupuncture has been used to treat patients with anxiety disorders. *Shenmen* (HT 7), *Sanyinjiao* (SP 6), *Neiguan* (PC 6) are commonly used acupuncture points and, in some cases, depending on the patient's state, several acupoints may be added. In patients with the first onset of anxiety disorders, acupuncture is given over a course of 12 weeks, 2 or 3 times per week, which is considered to be one course of treatment.

In the case of recurrent or long-lasting anxiety, the treatment period can be extended. During acupuncture treatment, stainless-steel disposable acupuncture needles with a diameter of 0.25 mm and a length of 40 mm are inserted into acupoints at a depth of 5-15 mm and the needles remain in each acupoint for 25 minutes. A previous clinical study showed that the scores of state-anxiety index and typical-anxiety index were significantly decreased, compared with before the treatment ( $P < 0.01$ ).<sup>1</sup>

Moreover, acupuncture treatment is used in patients with anxiety accompanied by other diseases.<sup>2-4</sup> Most patients who have cancer experience anxiety and use of acupuncture for anxiety is increased in these patients. They need the most effective treatment for anxiety.

For example, in one study of patients with liver cancer, acupuncture treatment was performed three times per week for 4 weeks, mainly on 9 acupuncture points: PC 6, *Gongsun* (SP 4), HT 7, *Hegu* (LI 4-both sides), *Taichong* (LR 3-both sides), *Sishencong* (EX-HN 1), and *Baibui* (GV 20).<sup>4</sup> After acupuncture treatment, the National Cancer Center score for anxiety was significantly decreased in all of the patients without caus-

ing deterioration of their liver function. This study suggests that acupuncture treatment may be beneficial for patients with liver cancer to reduce anxiety.

## References

1. Hai RH, Chen XZ, Geng JH. Electroacupuncture treatment of 26 patients with extensive anxiety disorder. *J Acupuncture Tuna Sci* 2003;1:30–32.
2. Jung D-J, Lee J-H. The clinical trial for the significant effects of acupuncture on decreasing anxiety symptom of *Hwa-Byung* in a single institute—single-arm with *Hwa-Byung*, open label [sic]. *J Oriental Neuropsychiatry* 2012;23:49–58.
3. Chae Y, Yeom M, Han JH, et al. Effect of acupuncture on anxiety-like behavior during nicotine withdrawal and relevant mechanisms. *Neurosci Lett* 2008;430:98–102.
4. Lee CH, Kim BS, Kim JS, et al. The effects of acupuncture on the insomnia, anxiety and depression of liver cancer patients: Pilot study. *J Korean Oriental Med* 2012;33:34–46.

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## Acupuncture II

Anxiety is a protective reaction that may turn into a dysfunction when it becomes chronic or when it interferes with quality of life.<sup>1,2</sup> Anxiety disorders include generalized anxiety disorder, panic disorder, social phobia, obsessive–compulsive disorder, and post-traumatic stress disorder. Anxiety may also appear as a comorbid condition in other psychiatric conditions, such as depression.<sup>2,3</sup> All of these conditions are highly prevalent in the general population,<sup>4–6</sup> and have well-defined conventional treatments, which include drugs (antidepressants and benzodiazepines<sup>2,3</sup>) and nonpharmacologic measures, such as cognitive–behavioral psychotherapy.<sup>2,3</sup>

Acupuncture is accepted by modern researchers as an effective modality for controlling manifestations of anxiety.<sup>7,8</sup> Nevertheless, the diagnostic approach of Traditional Chinese Medicine (TCM) has some important differences that must be recognized to ensure an adequate choice of acupoints to be stimulated.<sup>7</sup>

The TCM diagnosis relies on an exact description of each symptom by the patient, including somatic complaints. There are some points that are typically used, such as *Yintang* (EX-HN 3). Another option is to use five needles inserted on the transition between the forehead and the scalp; this approach has the capacity of *calming the mind* in any situation. Other points of the meridian's pathway (*Jing Luo*) have a similar role, but are chosen according to TCM diagnostic techniques, that correlate with each particular manifestation to a specific internal organ (its *Zang-Fu* component). For instance, somatic manifestations, such as palpitations, refer the practitioner to the Heart or Peri-

cardium meridian points, while fear may refer the practitioner to Kidney meridian points, or breathlessness and sweating may refer the practitioner to the Lung Meridian points.

Acupuncture may be used either alone or in association with modern conventional treatment.<sup>4,7</sup> When used in combination, the results of the treatment may be observed earlier, and lower doses of drugs may be prescribed, offering the patient the possible advantage of fewer side-effects.

## References

1. Bernik M, Corregiari F. Panic disorder and agoraphobia [in Portuguese]. In: Miguel EC, Gentil V, Gattaz WF, eds. *Clinical Psychiatry* [in Portuguese]. São Paulo: Manole, 2011:757–770.
2. Caetano SC, Kleinman A, Viana BM, et al. Humour disturbances on life cycle [in Portuguese]. In: Miguel EC, Gentil V, Gattaz WF, eds. *Clinical Psychiatry* [in Portuguese]. São Paulo: Manole, 2011:732–756.
3. Versiani M. Anxiety Disorder: Diagnosis and Treatment. Brazilian Psychiatry Association Guidelines Project from Brazilian Medical Association and Federal Board of Medicine [in Portuguese]. January 24, 2008. Online document at: [www.projetodiretrizes.org.br/projeto\\_diretrizes/099.pdf](http://www.projetodiretrizes.org.br/projeto_diretrizes/099.pdf) Accessed October 17, 2013.
4. Van Ameringen M. Comorbid Anxiety and Depression: Epidemiology, Clinical Manifestations, and Diagnosis. Online document at: [www.uptodate.com/contents/comorbid-anxiety-and-depression-epidemiology-clinical-manifestations-and-diagnosis?detectedLanguage=en&source=search\\_result&translation=anxiety&search=anxiety&selectedTitle=2~150&provider=noProvider](http://www.uptodate.com/contents/comorbid-anxiety-and-depression-epidemiology-clinical-manifestations-and-diagnosis?detectedLanguage=en&source=search_result&translation=anxiety&search=anxiety&selectedTitle=2~150&provider=noProvider) Accessed October 17, 2013.
5. MacPherson H, Sinclair-Lian N, Thomas K. Patients seeking care from acupuncture practitioners in the UK: A national survey. *Complement Ther Med* 2006;14:20–30.
6. Simon GE, Cherkov DC, Sherman KJ, et al. Mental health visits to complementary and alternative medicine providers. *Gen Hosp Psychiatry* 2004; 26:171–177.
7. Zhou XF, Li Y, Zhu H, et al. Impacts of acupuncture at twelve meridians acupoints on brain waves of patients with general anxiety disorder [in Chinese]. *Zhongguo Zhen Jiu* 2013;33:395–398.
8. Lu DP, Lu GP. A comparison of the clinical effectiveness of various acupuncture points in reducing anxiety to facilitate hypnotic induction. *Int J Clin Exp Hypn* 2013;61:271–281.

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## Acupuncture and Hypnosis

Every year 18.1% of the U.S. population will experience anxiety that is severe enough to make an impact on day-to-day activities and that is difficult to control.<sup>1</sup> Anxiety disorders include generalized anxiety disorder, panic disorder, and post-traumatic stress disorder, in addition to other recognized clinical manifestations of the anxiety state. For the past 3 years, in my daily clinical practice, I have been using a combination

therapy of clinical hypnosis and auricular acupuncture called “hypno-acupuncture” to help treat anxiety.

Auricular acupuncture involves stimulation of points on the ears by penetrating the skin with needles that are then manipulated manually or by electrical stimulation. This kind of acupuncture has been used widely to treat opiate and cocaine addiction,<sup>2</sup> and has also been shown to be effective for treating anxiety.<sup>3</sup> In a randomized controlled trial, 55 adult volunteers were randomized to specific ear acupuncture points versus sham acupuncture points for 48 hours, to assess the efficacy of acupuncture for reducing anxiety.<sup>3</sup> Patients who were given the verum auricular acupuncture were significantly less anxious, compared to those who were given needling on placebo points.

Hypnosis induces a trance-like state, with a heightened focus and concentration and increased susceptibility to hypnotic suggestion. Hypnosis is frequently used to treat pain disorders and insomnia, and as a component of psychoanalysis. This modality has also proven useful for patients with anxiety disorders. In a pediatric clinical trial that included 27 children undergoing bone-marrow aspiration and 22 children undergoing lumbar puncture, hypnosis was found to significantly reduce anxiety and pain in both groups.<sup>4</sup>

Hypno-acupuncture is a novel approach that involves insertion of 2 auricular acupuncture needles into the *Shenmen* and “relaxation” points in each ear (which were shown in a clinical trial to reduce anxiety)<sup>3</sup> for 10 minutes. This is then followed by a classical hypnosis session that includes induction, deepening, hypnotic suggestions for anxiety reduction, and trance termination, while the acupuncture needles are still in place. I find this approach to be very effective for treating anxiety states, especially panic disorder, and I perform the sessions weekly for 4–6 weeks. At the Center for Integrative Medicine and Wellness and the Department of Medicine at Stamford Hospital, I and my colleagues are currently working on a pilot clinical trial to assess the effectiveness of this new technique.

## References

1. Kessler RC, Chiu WT, Demler O, et al. Prevalence, severity, and comorbidity of 12-month *DSM-IV* disorders in the National Comorbidity Survey Replication. *Arch of Gen Psychiatry* 2005;62:617–627.
2. Avants SK, Margolin A, Holford TR, Kosten TR. A randomized controlled trial of auricular acupuncture for cocaine dependence. *Arch Intern Med* 2000;160:2305–2312.
3. Wang SM, Kain ZN. Auricular acupuncture: A potential treatment for anxiety. *Anesth Analg* 2001;92:548–553.
4. Olmsted RW, Zelter M, Lebaron S. Hypnosis and non-hypnotic techniques for reduction of pain and anxiety during painful procedures in children and adolescents with cancer. *J Pediatr* 1982;101:1032–1035.

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## Acupuncture for Preoperative Anxiety

Preoperative anxiety is a challenging condition for anesthesiologists. Although several pharmacologic drugs can be used to treat preoperative anxiety, these drugs may have adverse effects such as hypotension, depressed ventilation, drowsiness, dizziness, psychomotor impairment, and paradoxical disinhibition, including aggressive behavior.<sup>1</sup>

In my daily practice at the institution I work at, reducing anxiety is an important task, because anxiety may increase anesthetic and analgesic requirements and may decrease patient comfort. Some anesthesiology departments, such as the one I work in, have busy schedules with many surgical patients per day. Occasionally, departments cannot use anxiolytic premedications because of a lack of personnel and a high turnover, which makes monitoring patients difficult.

Use of an ear press needle acupuncture on the *Yintang* point (EX-HN 3) for 20 minutes is an effective way to treat preoperative anxiety.<sup>2</sup> This method is a valuable alternative to pharmacologic anxiolysis. The method is easy to learn and does not take much time to apply. The effect begins in seconds and reaches a peak level in several minutes. In highly anxious patients, the GV 20 point can also be needled.<sup>3</sup> In conclusion, needling the *Yintang* point is an effective and safe way to treat preoperative anxiety. ■

## References

1. Longo LP, Johnson B. Addiction: Part I. Benzodiazepines—side effects, abuse risk and alternatives. *Am Fam Phys* 2000;61:2121–2128.
2. Acar HV, Cuvaz O, Ceyhan A, Dikmen B. Acupuncture on *Yintang* point decreases preoperative anxiety. *J Altern Complement Med* 2013;19:420–424.
3. Rosted P, Bundgaard M, Gordon S, Pedersen AM. Acupuncture in the management of anxiety related to dental treatment: A case series. *Acupunct Med* 2010;28:3–5.

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*For this interactive feature column, Clinical Roundup, a new question is posed and then answered by experts in the field. In the next issue the Clinical Roundup will focus on how you treat depression in your practice.*

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