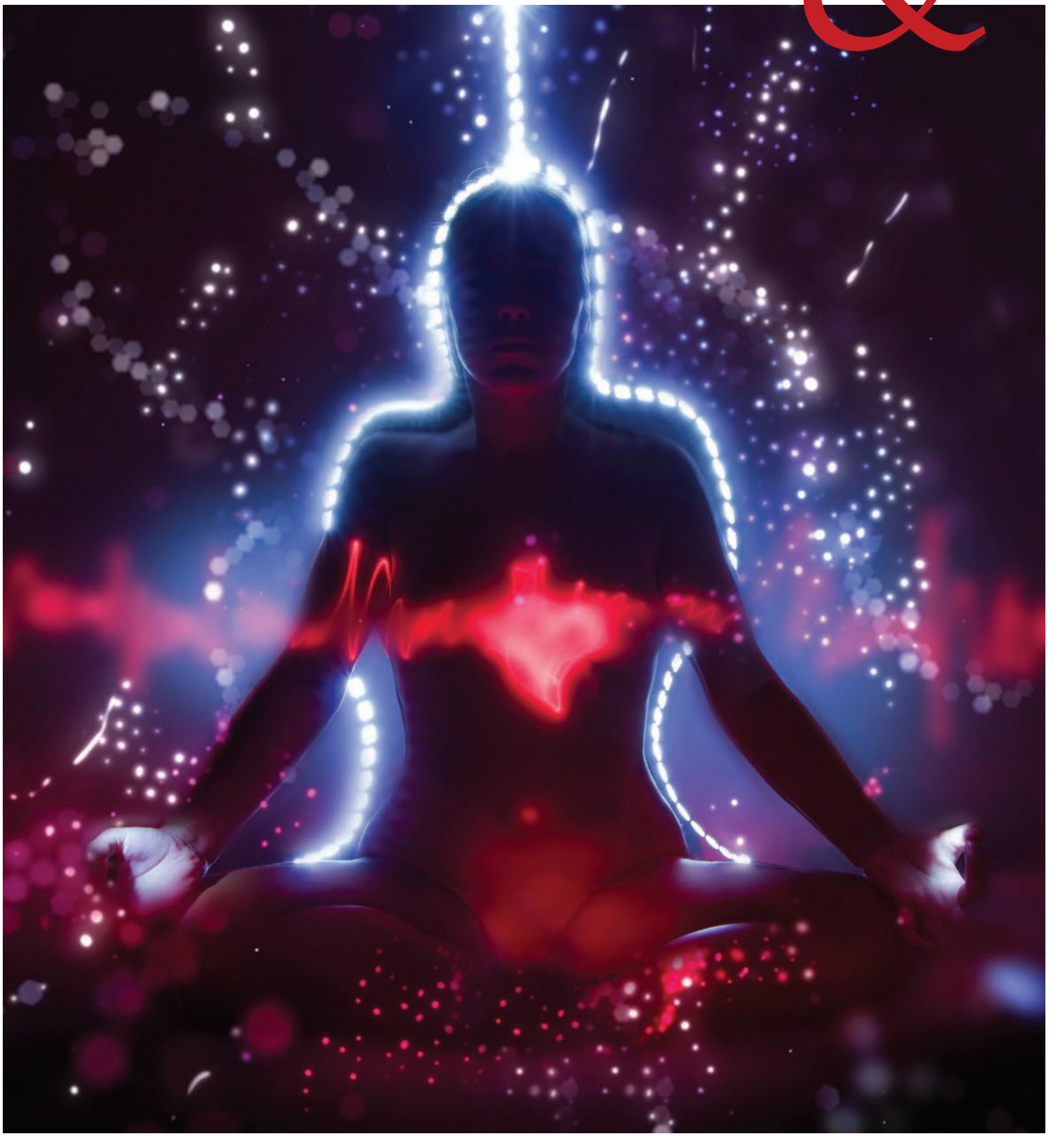
Mindfulness &



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hypertension

BP control is important for overall health and reduced mortality secondary to cardiovascular disease. Find out how teaching your patients about mindfulness can help.

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Affecting as many as one in three Americans, hypertension, or chronically elevated BP, is the leading modifiable risk factor for cardiovascular disease. Medications are currently the first-line treatment for hypertension; however, nonpharmacologic therapies such as mindfulness can also be helpful, especially for stress management. Research has shown a correlation between stress and increased BP. Mindfulness—the state of being aware—can reduce stress and lower BP.

In this article, we summarize the available knowledge on the efficacy of mindfulness to manage hypertension and promote overall cardiac health.

An overview of hypertension

As you know, BP measurement entails two types of pressure: systolic and diastolic. Systolic pressure occurs as blood pumps out of the heart and into the arteries. Diastolic pressure is created when the heart rests between beats. When these numbers are elevated, it can cause harm by increasing the workload of the heart and blood vessels.

BP is elevated when the systolic pressure is between 120 mm Hg and 129 mm Hg, and the diastolic is less than 80 mm Hg. Stage 1 hypertension is when the systolic pressure is between 130 mm Hg and 139 mm Hg, and the diastolic is between 80 mm Hg and 89 mm Hg. Stage 2 hypertension is when the systolic pressure is 140 mm Hg or higher and the diastolic is 90 mm Hg or higher. The patient is in a hypertensive crisis when the systolic pressure is higher than 180 mm Hg and the diastolic is higher than 120 mm Hg. A 10 mm Hg reduction in systolic BP can reduce the risk of cardiovascular mortality by 13%.

Risk factors that increase an individual's chances of developing high BP are smoking, having diabetes, being overweight or obese, having high cholesterol, being sedentary, and consuming an unhealthy diet. When individuals have hypertension, they're at greater risk for stroke, vision loss, heart failure, myocardial infarction, sexual dysfunction, and kidney disease.

The interplay between stress, anxiety, and hypertension

Research has identified that stress can cause an immediate rise in BP. In addition, stress can lead to poor lifestyle habits related to diet and exercise, which may also contribute to hypertension. Pharmacologic therapy is the most common treatment for hypertension, but medications can come with adverse reactions and may not always be effective in controlling hypertension. Medications

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can also be expensive for patients when they're prescribed multiple medications for the same disease process. The literature has shown that stress reduction can lead to improved BP control and an overall healthier lifestyle.

In the past, stress and anxiety were treated with benzodiazepines. Although these medications are effective in treating anxiety, they do pose a risk of addiction and/or dependence. Benzodiazepine overdose accounts for 31% of all fatal overdoses in the US. The newer selective serotonin reuptake inhibitors are beneficial for stress and anxiety, but have adverse reactions, such as weight gain, initially increased suicidal ideation, and erectile dysfunction. It's clear that we need alternative treatment options for stress and anxiety without the potential for addiction or adverse reactions. Consequently, researchers have started to explore mindfulness as a stress management technique.

Mindfulness

In the 1st century BCE, Buddhist cultures originated the practice of mindfulness and described it as a meditation focused on living in the moment to become aware of the interaction between oneself and one's surroundings. Through mindfulness, one can replace negative thoughts with new, positive thoughts, leading to a balanced state of wholeness. The practice of Buddhism has various path factors that affect a person's behaviors, memories, ideas, careers, views on life, interactions with others, and his or her surroundings. Refocusing one's path factors through mindfulness can help realign the body's state of being.

For example, the triad model focuses on the path factors of right view, right effort, and right mindfulness. Relating these path factors to hypertension, the desired goal is normal BP. The right view would identify what's causing suffering in the person's life and his or her motivations. The right effort would eliminate any unhelpful qualities. Right mindfulness means meditating on only the helpful qualities using healthy verbal and physical techniques free of greed, hostility, and delusion to balance oneself emotionally and mentally. Understanding these core beliefs of Buddhism will help us interpret mindfulness-based stress reduction (MBSR).

In 1979, Dr. Jon Kabat-Zinn established the MBSR program to help individuals self-manage their stress to become more adaptive. MBSR has been used in chronic disease management, showing healthy improvements in both physical and mental health. This program is a modern approach to mindfulness, with similar core beliefs as the Buddhist practices described above, yet more structured and informative in contrast to focusing on the experience.

MBSR has standards of practice, which help guide the person down similar path factors by using measurable tools. MBSR programs are structured to meet a certain number of hours each day and a set amount of days each week during which a person will practice meditation, yoga, walking, and silence; take part in group and individual discussions; and participate in classes that teach mindfulness and the effects of stress on the body. MBSR ideally leads to self-awareness and healthy ways of coping with stress or other types of discord that individuals are experiencing.

BP by the numbers

cheat sheet

Elevated BP
Systolic pressure between 120 mm Hg and 129 mm Hg; diastolic less than 80 mm Hg

Stage 1 hypertension
Systolic pressure between 130 mm Hg and 139 mm Hg; diastolic between 80 mm Hg and 89 mm Hg

Stage 2 hypertension
Systolic pressure 140 mm Hg or higher; diastolic 90 mm Hg or higher

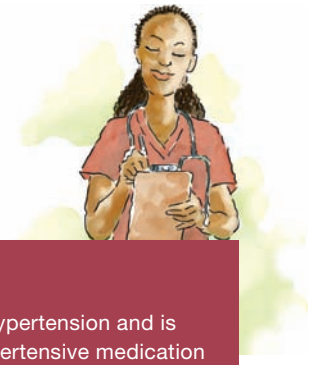
Hypertensive crisis
Systolic pressure higher than 180 mm Hg; diastolic higher than 120 mm Hg

Mindfulness can improve emotion regulation through stress reduction and can be achieved through MBSR programs. In an MBSR program, participants are taught how to psychologically reduce stress and anxiety by decreasing health risk behaviors and preventing emotional exhaustion. MBSR programs include completion of questionnaires and surveys to assist the trainer or medical provider in assessing the severity of the patient's stressors. An MBSR questionnaire focuses on the stressors that affect an individual's life, including quality and quantity of sleep, usage of drugs or alcohol, previous trauma, and current medical or physiologic diagnoses. Utilization of these tools can help the medical provider design a plan to assist the patient in areas such as self-regulation, so he or she is able to maintain stability of functioning when faced with unpleasant emotions and/or thoughts.

Benefits of mindfulness

Healthcare providers should be proactive in identifying alternative therapies for treating hypertension. Although pharmacologic interventions are typically first line, they aren't always the most effective. In fact, one study found that 59.5% of Black patients actually sustained elevated BP levels while on an antihypertensive regimen. This finding contrasts with an 8-week pilot study involving the implementation of a health promotion program utilizing mindfulness techniques. Older low-income Black participants were taught to manage their mental and physical health through meditation and social/emotional development. The findings were statistically significant for a decrease in systolic and diastolic BP levels, demonstrating the benefits of mindfulness in reducing BP.

In another study, there was a 10-point reduction in systolic BP after patients with hypertension took an 8-week MBSR course. This was also maintained at the 3-month postintervention period, demonstrating sustainability. A different study showed up to an 18-point reduction in systolic BP with an MBSR program. All randomized controlled trials looking at the impacts of MBSR on hypertension show a reduction in both systolic and diastolic BP. Thus, MBSR is an evidence-based approach to BP reduction.



consider this

Your patient who has hypertension and is currently taking antihypertensive medication tells you that she's worried because her BP is always elevated and she feels as though she can't do anything to bring it down. This is the perfect opportunity to educate her on how to utilize mindfulness. Ask her if she's willing to try simple techniques to lower her BP and stress. Find out what brings her peace and comfort and attempt to align the different mindfulness techniques to cater to her needs. For example, if she enjoys sitting outside on the porch, you can teach her to do mindful breathing. Demonstrate how to perform mindful breathing first and then have your patient demonstrate back how she'll do mindful breathing. This teach-back method helps ensure that your patient understands the concepts.

Implications for practice

Many of our patients are from low-income households and may be underinsured or uninsured. Mindfulness is a cost-effective treatment option, especially if combined with other resources such as prescription programs that offer free or discounted medications to patients. The multisystem benefits of mindfulness can reduce BP and help patients live an overall healthier life. Nurses and other healthcare providers can implement mindfulness techniques whenever they think it will benefit their patients. Examples of mindfulness practices include meditation, mindful breathing, yoga,

Mindfulness can be used with current antihypertensive agents to help lower BP and increase overall health; some of the core techniques of mindfulness, such as mindful breathing, can be taught to patients during their visit.

and individual or group discussions or classes (see *Mindfulness-based intervention examples*).

Meditation reduces stressors by allotting several minutes of the day for uninterrupted time to focus the mind on a particular object or thought. Brief periods of meditation in a quiet place allow for fewer distractions and for the individual to truly focus on breathing.

Some of the core techniques of mindfulness, such as mindful breathing, can be taught to patients during their visit. Mindful breathing starts with a focus on inhalation and expiration. Teach your patients to be in a comfortable position such as sitting or lying down, slowly inhale through the nostrils, hold the breath for 2 to 3 seconds, and then exhale slowly through the mouth. When done for a few minutes daily, this practice can decrease stress and anxiety.

Yoga combines breathing techniques, meditation, and exercise to improve health and happiness. If patients are already practicing yoga, you may want to see if other mindfulness activities can be incorporated into their lives. There are free courses available through multiple websites to train healthcare professionals on MBSR. Participating in a train-the-trainer course can help you learn ways to teach patients how to better manage stress. Another option is weekly mindfulness-based cognitive therapy, during which the patient is taught the basic principles of mindfulness.

It's important to assess and treat every patient differently to determine what method of MBSR will be most beneficial. Mindfulness can be used with current antihypertensive agents to help lower BP and increase overall health. BP can be routinely checked and logged to monitor the effects of mindfulness-based interventions with or without medication.

Mindfulness-based intervention examples

- Meditation, including walking meditation and object meditation
- Mindful breathing
- Silence (A quiet place or an atmosphere free of noise allows the patient to focus and concentrate without any distractions for optimal meditation.)
- Yoga
- Group or individual discussions
- Awareness exercises (A heightened focus on the body and actions sharpens concentration and helps patients become more self-aware to better understand their actions and themselves—a goal of meditation.)
- Worry surfing (This meditation technique focuses on a worry and how it connects and manifests in the body. Patents can observe and accept the worry while riding the "wave" of experience and emotions that comes with it.)

A healthier and happier life

Cardiovascular disease, including hypertension, can lead to increased risk of morbidity and mortality, and stress and anxiety play a role in increased BP. Current research supports that cost-effective nonpharmacologic methods such as

on the web

Mindfulness

A Life of Productivity: https://alifeofproductivity.com/meditation-guide

American Holistic Nurses Association: www.ahna.org/Home/Resources/Holistic-Mental-Health

Developing Good Habits: www.developgoodhabits.com/best-mindfulness-apps

Do You Yoga: www.doyouyoga.com/10-ways-to-bring-mindfulness-to-your-yoga-practice

Headspace: www.headspace.com/meditation-101/what-is-meditation

Hindawi: www.hindawi.com/journals/ecam

Mayo Clinic: www.mayoclinic.org/healthy-lifestyle/consumer-health/in-depth/mindfulness-exercises/art-20046356

Mindful.org: www.mindful.org/meditation/mindfulness-getting-started

Psychology Today: www.psychologytoday.com/us/therapy-types/mindfulness-based-cognitive-therapy

Hypertension

American College of Cardiology: www.acc.org/~/media/Non-Clinical/Files-PDFs-Excel-MS-Word-etc/Guidelines/2017/ Guidelines_Made_Simple_2017_HBP.pdf

American Family Physician: www.aafp.org/afp/topicModules/viewTopicModule.htm?topicModuleId=12

American Heart Association: www.heart.org/en/health-topics/high-blood-pressure/high-blood-pressure-toolkit-resources

JAMA Network: https://sites.jamanetwork.com/jnc8/#2017

mindfulness can be used to reduce stress and decrease BP. MBSR programs have been shown to improve the physical and mental health of individuals with chronic disease. The use of these programs and mindfulness techniques with primary care patients can help lower BP and increase overall health and quality of life. ■

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Mindfulness and hypertension

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