



KNOW YOUR HUNGER

*This successful program,
developed to curb binge eating, teaches
people to feel their hunger, trust their
taste buds, and become deeply
satisfied with the quality, rather than
quantity, of food.*

BY JEAN L. KRISTELLER, PH.D.

A big question that almost all of us face is how we can bring joy and balance back into our relationship with food and eating? We are bombarded with messages to eat more — yet we struggle with weight. We go on “automatic” — eating when food is available rather than when we are hungry, and cleaning our plates when we are already full. Our enjoyment of food has become so fraught with anxiety and ambivalence that even “comfort foods” are no longer truly comforting.

Oddly enough, as our knowledge of nutrition increases, the problem can get worse. Focusing on carbs or fats or salt tends to make us more dependent on outside knowledge, disconnecting us from internal awareness. We all know we should eat when we are hungry and stop eating when we have had enough, but we forget what those experiences feel like.

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Mindfulness meditation trains the basic capacity to be aware, to direct attention to the present moment, and to suspend automatic reactions and negative self-judgment.

In my work with binge eaters, I have found that almost every possible signal — except for the internal ones — plays a role in beginning to eat, and in stopping. To a less extreme degree, this is true for many of us. We eat when it is time to eat, when food is put in front of us, or because we need something to handle feelings of anger, anxiety, depression, or simple boredom. We also multi-task with eating. The 200-calorie bag of chips while watching TV, or finishing a meal when we're no longer really hungry, may translate into the 20 pounds that are so hard to lose, if it happens every day.

A More Mindful Approach

In the early 1980s, I began exploring how to use meditation to work with people with compulsive eating problems.

At first I used meditation primarily as a stress management tool, promoting the “relaxation response,” as Herbert Benson, M.D., has so effectively framed it. Since compulsive eating is often triggered by anxiety, anger, or depression, simply having a meditation practice proved quite valuable to binge eaters. A few years later, in Boston, I began integrating Jon Kabat-Zinn’s mindfulness meditation training. For example, behavioral programs sometime recommend pacing a meal by putting your fork down between each bite. I had found that when people tried to do that, it often had little impact because it felt mechanical and a bit silly. However, when it was used as a way of providing a few moments to be mindful of each bite and savor the experience of eating, the practice no longer felt forced. I also began to draw on principles from basic research in food intake regulation that I’d worked with while a doctoral student at Yale University.

Over the last 10 years, this work has developed

into the MB-EAT program — Mindfulness-Based Eating Awareness Training. It incorporates a number of meditative exercises with food, including hunger and satiety meditations, as well as meditations on forgiveness and connecting with our inner wisdom. We’ve now completed two studies with more than 70 people going through the program at Indiana State University and at Duke University. Our second study, funded by the Center for Complementary and Alternative Medicine at the National Institutes of Health, has shown that our nine-week program is highly effective in helping both men and women radically shift their experiences of themselves and their eating. The individuals in the MB-EAT program have gone from bingeing more than four times per week, on average, to about once a week. When they do binge, they report that the binges are much smaller and feel less out of control. The participants are also much less depressed and experience a much better sense of inner balance around eating. Our next project, also funded by NIH, will examine more closely how mindfulness meditation can promote weight loss.

The foundation of the MB-EAT program is training in mindfulness meditation. Practicing mindfulness meditation trains the basic capacity to be aware, to direct attention to the present moment, and to suspend automatic reactions and negative self-judgment. This foundation makes it easier to bring mindfulness into everyday activities like eating, and to observe how triggers (such as feeling depressed) set off urges to eat even when we are not hungry. While it is possible to work on being mindful without a regular meditation practice, it is more difficult to quiet the mind and suspend our automatic reactions.

Why We Super-Size

Some of the appeal of “super-sizing” meals may be hard-wired into us. In parts of the world where famines happened regularly, being able to overeat — even liking to overeat — probably had survival value. But it is also cultural. Until recently, only the wealthiest levels of society consistently had enough food available to be picky and not associate quantity with value, especially quantity of rich or densely caloric food. Sociologists have documented that in the first generation or two after a

sub-culture, or even a family, has reached a place of economic stability, individuals are much more likely to be overweight or obese because economic well-being is associated with having enough to eat. We found this pattern among many participants in our MB-EAT program. Whether in Durham, North Carolina, where we had a higher proportion of African-Americans, or in Terre Haute, Indiana, where many individuals had come from poor farming backgrounds, participants in our program often reported that either they had limited access to food as children, or that their parents had — and had passed that anxiety on to them as children. The result of this deprivation was constant messages to eat more, never waste food, and to find value in quantity rather than quality of food eaten.

Therefore, an important aspect of eating we emphasize in our program is finding satisfaction in quality, not quantity. Satisfaction is defined in many ways, from enjoying the food we eat, to feeling pleasantly full, to experiencing a joyful family or social experience around a meal. But for each person, these are very personal sources of satisfaction. One of the problems of dieting is that being “on a diet” can completely remove any sense of satisfaction from a meal. This presents a paradox. If eating is a favorite way to relax, to socialize, or to reward oneself (or all three!), then efforts at dieting are doomed in the long run. People who overeat — and therefore consider dieting — are by definition those who use food to find satisfaction. The situation sounds almost hopeless — and fuels the billion-dollar diet industry.

But there is an alternative. If satisfaction is found in the quality of food eaten, rather than in the amount eaten, one can continue to use food as a source of satisfaction, but without suffering the very real consequences of being overweight or the immediate discomforts of indigestion! However, how one does this cannot be defined by a diet or by someone else. A person can only do this for him or herself — through experience, trial and error, and self-awareness.

The MB-EAT Program: Personal Experience

Becky came into the MB-EAT program about 50 pounds overweight. A leader in the community, she dressed well and exercised regularly. Her week was

crowded with public events and business lunches, yet she said that the food at these public functions was not the problem. Instead, she said that she often felt out of control at work, and that led to secret trips to the vending machines, or multiple raids on snacks brought in by others to the office. On evenings when she was not at public events, she would follow her substantial home-cooked meals with constant grazing in front of the TV, noting that this helped her feel relaxed and was a way of rewarding herself for her high-energy days.

As she worked with the exercises in the group program, she reported several profound shifts occurring. First, the meditation practice helped her to relax and center. Then she began to notice how judgmental she was of herself and of others, how she anticipated failure and expected others to judge her harshly. She also realized that she chronically ate past a point of feeling full. If she stopped sooner, she interpreted that as being “deprived,” which she associated with childhood memories of sometimes not having enough to eat.

As she became more relaxed at work, her tendency to raid the vending machines almost entirely disappeared. And when she allowed herself to eat and enjoy treats brought in by others, she found she could stop after a single serving. She also became more mindful of her hunger and fullness, and began to adjust her meal sizes. She realized that she had continued cooking for a family of six at home, although her children had grown up. By cooking less, she reduced the amount of leftovers and her habit of raiding the refrigerator in the evening. She allowed herself a snack later if she was hungry, but she stopped eating in front of the television, realizing that she enjoyed neither the food nor the TV as much when her attention was divided.



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The participants are less depressed and experience a better sense of inner balance around eating.

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Our taste buds are chemical sensors that tire quickly. The first few bites of a food taste better than the next few bites. After a large amount, we may have very little taste experience left at all.

These changes did not happen suddenly or overnight because patterns had been in place for a long time. However, the mindfulness meditation techniques gave her tools to continue to identify patterns that were on automatic, to bring non-judgmental awareness to them, and to allow her wiser mind to look for alternatives. Over the following year, she found that she became far more able to keep her eating and her weight under a different type of control — one that felt easy, rather than like a struggle.

The Experience of Hunger

Hunger is a complex experience. Physical experiences of hunger often get mixed up with other eating triggers, simply because eating has become associated with them. Like one of Pavlov's dogs, we start to salivate when the dinner bell rings, even if we've only eaten a couple of hours earlier. Another common source of confusion is simply the "I want it" syndrome. The food is there, it looks appealing, and this pull is interpreted as hunger. Being able to say to yourself, "I'm not

hungry now, but I'll have it later when I am," can be a much more powerful way of resisting this pull, rather than simply saying "I mustn't, I mustn't, I mustn't," which tends to set up a sense of deprivation and inner conflict.

We also often fail to discriminate among degrees of hunger. How hungry do you want to feel before you eat? What level of hunger is distracting? Some individuals are more sensitive to fluctuations in blood sugar levels, others less so. Some people prefer to eat smaller amounts more frequently and others can tolerate higher levels of hunger.

Our hunger awareness meditation exercise (see sidebar Meditation One) is used in our program before every meal and snack for one week. One part of the exercise is learning to identify degrees of hunger. But the most important part is tun-

ing in to how you know you are at that level of hunger. What are the cues you use? Everyone will use somewhat different signals — feeling empty, stomach churning or growling, feeling light-headed, etc. — but these will tend to reoccur for each person. What levels of hunger feel tolerable? What levels create physical problems, or create a sense of emotional deprivation? Some individuals in our program realize that they are terrified of feeling hungry because of childhood deprivation, and this had made it difficult to cut back on calories enough to lose the weight that they desperately want to lose.

Knowing When to Stop Physically

Most people are familiar with the idea that it takes 20 minutes for blood sugar to respond to eating, and that this rise in blood sugar is what tells us we've had enough. Unfortunately, it's possible to eat a very large amount of food in 20 minutes, especially when stress-eating — or simply eating on automatic at the local fast food place. The burger, fries, and soda are gone, and only afterward do we recognize that we feel physically uncomfortable and a bit lethargic, signs of overeating. Although overriding this 20 minute signal is more likely to happen with high-fat or high-sweet fast foods, it can also happen when eating "healthy" food, such as a large plate of rice and veggies or a nice restaurant meal. The subtler signals of satiety are available (see sidebar Meditation 2), but are easy to miss if we are not paying attention. It is easy to focus only on the taste of food or on our multi-tasking — reading, watching TV, or social conversation.

Trusting Your Taste Buds

The third type of signal that we often ignore is a subtle change in how much we are enjoying the taste of the foods as we eat, a signal called "taste specific satiety" (TSS). The basic research on TSS uses small vials of increasingly sweet sugar syrup and explores how people's preferences for levels of sweetness change with increasing hunger or fullness. The longer it's been since the last meal, the more concentrated the sugar solution people will say tastes "best." Translated into real life, this means that a rich piece of chocolate cake will taste better and we will enjoy eating more of it if we are very hungry than if we are full. And a very sweet

food may taste cloying if we aren't hungry, even though the next day it might taste wonderful.

Another very important aspect of TSS is how our taste buds adapt while we are eating. Basically, our taste buds are chemical sensors that get tired quite quickly. Unless we are very hungry, the first few bites of a food will taste better than the next few bites; after a larger amount, we may actually have very little taste experience left. What we are experiencing at that point may be the memory traces of those first bites. We also find that people will keep on eating in order to get back the intense flavor from the first few bites, something that's impossible to do.

Retraining awareness of these signals is possible through the use of mindfulness approaches and can happen quite quickly. One of the most powerful parts of the MB-EAT program is working with paying attention to the effects of different kinds of food in the mouth. Meditation 3 describes an exercise to try for yourself. We incorporate this awareness into all of our eating exercises. By the fourth week, when everyone goes to a buffet as a homework assignment, one of the surprises is that being aware of taste satisfaction is one of the more powerful and helpful means to control overeating, while still enjoying the buffet. By paying attention first to which foods were "calling" them — and then attending to both how much they were actually enjoying the food, and the point it stopped being as enjoyable, group participants found that they could eat much smaller amounts, leave food on their plates, and yet return for seconds if they still truly wanted more.

The goal of all three meditations is the gradual development of inner knowledge, creating the "wise" mind, becoming aware of one's own patterns. This takes much longer than the six weeks, and may in fact never stop as one finds oneself in different situations, different states of health, or with different goals around eating. It is important to be accepting and gentle with yourself. While you may be surprised at how fast awareness can grow, it is also easy to fall back into mindless patterns, particularly under stress. If possible, it is better to begin these exercises during relatively low stress periods and gain confidence in your ability to use them. Then continue to use and develop them during increasingly stressful or "high risk" situations.

After a while, you may find that mindful awareness of hunger becomes automatic. Like the Zen of martial arts, the simpler elements of your relationship with food will become balanced and more fluid, leaving room to become aware of the nuances of higher-level challenges.

Mindful Eating and Dieting

One of the goals of the MB-EAT program is to help individuals change their relationship to their own "problem" foods so that they can be eaten mindfully as part of a long-term eating program. This is clearly impossible to do if having even a small portion of a favorite food such as ice cream, cake, or pizza is prohibited by their diet plan, which is why our program doesn't work with some diets. But many of our group participants, after completing our program, feel that they can then successfully use programs such as Weight Watchers or follow their own program.

We encourage them to combine "inner wisdom" with "outer wisdom." Outer wisdom is using the knowledge that nutritional science has provided us: information about what a healthy balanced diet entails, knowledge of calories, and awareness of one's own metabolism and energy output (i.e., exercise!). Strikingly, many of them say that when they become wiser about how their bodies and senses are experiencing food, their choices also gradually become wiser in terms of "outside" rules. They start eating smaller and smaller amounts of high-fat or high-sweet snack foods, and start eating more fruits or vegetables. They find that they prefer well-seasoned vegetables to French fries. Or that balancing a smaller steak with a salad and larger potato is what they prefer, rather than eating the potato or salad because they "should." One of the men in our program, Chuck, did most of his bingeing at all-you-can eat pizza bars or breakfast restaurants. He noted that toward



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When we become wiser about how our bodies and senses are experiencing food, our choices also gradually become wiser.

the end of the MB-EAT program, he surprised a friend who was taking him out to breakfast. Rather than ordering the three-egg, sausage AND bacon, grits AND pancakes version, he did a brief meditation, checked how hungry he was, and, ordered two eggs, decided he really wanted bacon, not sausage, and ordered toast instead of pancakes. He felt in control but still enjoyed the meal. He had found he could connect with his “wiser” self, and then use his knowledge of food and nutrition more wisely too.

Near the end of the program, we do a meditation on connecting with inner wisdom. The meditation encourages a process of getting in touch with the “wise self,” both in general and in relation to food and eating. This is a very powerful experience for some individuals. We encourage people to share whether there is any connection,

for them, with a sense of spirituality. Almost always someone mentions that the meditation practice evoked feelings similar to praying — and that they had not seen their experience with food as something to which they could bring this type of experience. But out of this discussion usually comes a sense of being able to relate to how they eat in a more balanced and healthy way, which feels like growth, instead of simply following a new set of rules. The participants in our program realize they have come to feel more in control around food, more in control around themselves, and are putting their battles with food and weight into a healthier perspective — one that is supporting making wiser choices with fewer struggles. Two months does not completely remove the struggle, but it does create a foundation for further work in the future. ❖

Play This Mind Game with Fruit & Nuts

Recently I was running a workshop on the MB-EAT program for therapists experienced in mindfulness meditation. We started with a mindfulness eating practice that focused on making choices by passing around a bowl filled with a gourmet mix of dried fruit and nuts. The instructions were simple. You can do this yourself.

- Place an assortment of dried fruits and nuts in a bowl.
- Mindfully consider your choices and then pick three different pieces.
- Mindfully observe how you made this choice.
- Observe any other thoughts, feelings, or other types of reactions.
- Choose one of the three pieces to eat mindfully.
- Observe how you made this choice.
- Eat this piece slowly and mindfully.
- Choose a second piece.
- How did you make this choice?
- Was it affected by your experience of the first piece? Observe any self-judgment?
- Eat mindfully.
- Continue with the third piece, if you wish.



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What was surprising is how these therapists responded. One woman, who was not overweight, noted how judgmental she was about her choices — that half a pecan was fattening, that a raisin was a better choice, even though she didn't like them, and that the large dried date was not an option because it would be really indulgent. She laughed and said that she hadn't realized how caught up she still was in a “dieting” mentality. Another woman was surprised how angry she got when the person who had the bowl before her — her husband — took the last dried apricot, which she had been eyeing. She realized that if it had been a stranger, she would still have been disappointed, but not angry. They both laughed and she said that she realized she often felt angry at him for taking food from the refrigerator that she had been thinking of eating.

Three Meditations for Joyful Eating

Many of us overeat because we've forgotten how to listen to our bodies and truly enjoy what we put into our mouths. These simple yet profound meditations can dramatically improve our experiences with food.

1 The Experience of Hunger

Shortly before a meal or snack, stop, focus your attention on slowing your breath for about a minute, and let yourself relax as much as possible. When your mind is pulled to other feelings or thoughts (as it will be), gently return it to your breath. Then let your attention and awareness refocus fully on your body and as much as possible on your experiences of hunger. What are they? On a scale of 1-7, with 7 being as hungry as possible, and 1 being not at all hungry, what number is your hunger? How do you know?

Now mindfully consider how you want to use this awareness. Do you still want to eat? If so, about how much? What type of food would bring the greatest satisfaction? Are there any parts of the meal that will be challenging to eating the amount you want? Think about how you will handle these foods — and still enjoy your meal. As you begin eating, stop every few moments and reassess your experience of hunger. Is it increasing? Decreasing? Again, how do you know?

2 The Experience of Enough

As you are eating a meal or large snack, become aware of feelings in your stomach. It helps to stop eating completely for a few moments, to watch your breath and relax. First bring your attention mindfully to how the signals from your stomach that indicate hunger shift and then disappear. Then as you continue to eat, focus your awareness as much as possible on your experiences of your stomach becoming full. What are they? On a scale of 1-7, with 7 being as full as possible, and 1 being not at all full, what number is your experience of fullness at different points in the meal? How do you know? Now mindfully consider how you want to use this awareness. Do you want to eat more? If so, about how much? Is there anything that you need to do to help yourself eat only that much more? Think about how you will best do this — and still enjoy your meal. As you continue eating, stop every few moments and reassess your experience of fullness. What number is it? Again, how do you know? What level of fullness on your scale of 1-7 is “just right” for this meal or snack? Also, watch the thoughts that arise about stopping eating at each point. Are they judgmental? Accepting? Parental? Indulging?



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3 Cultivating Taste

Choose a time when you are moderately hungry — if you are too hungry, this may override the process. Choose a food that you like and that is fairly intense in flavor (later you can apply this to different foods in a full meal). We use a variety of foods in our program including cheese, crackers, and chocolate cake. It should be a food that you can easily eat small bites of, and you should have available more than you think you would want to eat — or at least a full serving. With the food prepared and in front of you, close your eyes, takes several slow focused breathes, rate your hunger level (as in Side Bar One) and then, opening your eyes, pick up a piece of the food. Place it in your mouth and chew it slowly. Appreciate and savor it as much as possible, experiencing all the enjoyment and pleasure from it that you can before swallowing. Then take another piece and do the same. Notice first if your hunger level changes at all (it may not — or may increase or decrease!). Then chew slowly again, savoring the flavor and texture, and noting the level of satisfaction you're experiencing. Particularly note any changes in flavor and satisfaction. Continue to eat small pieces slowly and mindfully. It generally takes three to six bites before you will notice a decrease in flavor and satisfaction, depending on the food and how hungry you are. As you become more aware of this process, you may even notice that the food stops tasting good at all — and that continuing to eat becomes somewhat unpleasant. This may not happen with all foods or all of the time. Also watch the thoughts that are occurring. Does this shift in experience feel upsetting in any way? Powerful? While all food does not have to be eaten this way, begin experimenting with using it with different types of food, in different situations.

—J. L. K.