This is the mindful thinking and motivational interviewing module for the Goldring Center for Culinary Medicine series.

The focus of this module is working with patients to change their behaviors or reduce their weight in order to improve nutrition for an overall better quality of health.
Mindfulness is the practice of focusing one’s attention on the present.

This is gaining popularity in the field of mental health and eating disorders due to its emphasis on setting intention, acceptance, and non-judgment.

These ideals are common difficulties individuals struggle with, so the use and practice of this concept has been shown to improve treatment outcomes.
The origins of mindfulness began in Buddhist culture and have been prevalent in Eastern medicine for centuries.

It is believed that the emphasis on focus and awareness leads to insight regarding the Buddhist’s 3 marks of existence.

It is tradition that a full understanding of these 3 marks can bring an end to suffering.

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Dr. Jon Kabat-Zinn was the first to apply the Buddhist traditions of mindfulness to the practice of modern medicine.

His creation of the Mindfulness-Based Stress Reduction Program at the University of Massachusetts in 1979 focused on using these ancient practices to treat chronic stress.

His work emphasized that, although grounded in religious principles, the practice of mindfulness and intentional self-awareness is part of the innate human experience and can be utilized in the secular culture.

These teachings paved the way for the expansion of mindfulness and meditation to clinical medicine and, eventually, to the broader popular culture.
A number of key tenents underlie the concept of mindfulness.

An emphasis is placed on the present moment and fully experiencing all that it offers.

Practitioners are encouraged to continually examine the present experience, including both their internal thoughts and external sensations.

As a thought or feeling comes into awareness, one acknowledges its presence non-judgmentally while allowing the consciousness to drift back toward the present.

In this way, one begins to appreciate the transient nature of most sensations and learns to avoid becoming consumed by the thoughts and feelings that pass by.
Practicing mindfulness can take many forms.

Some may choose to perform traditional, dedicated meditation sessions in which they assume a posture of introspection.

The underlying principles of self-awareness, however, can also be incorporated into daily living activities.

Mindfulness can therefore be utilized as a way of living and interacting with the world.

Photo from: http://www.lifehack.org/articles/money/this-list-50-low-cost-hobbies-will-excite-you-2.html
The concept of mindfulness has been gaining popularity in its inclusion in mental health treatment.

As noted previously, the mindfulness-based stress reduction program started by Dr. Kabat-Zinn was the first of its kind.

It emphasized skills such as body awareness, breathing relaxation, and hatha yoga postures to help individuals suffering from chronic pain and stress disorders.
In 1995, Teasdale, Segal, and Williams expanded these principles to the treatment of major depressive disorder.

They theorized that teaching individuals how to detach themselves from their negative emotions and sensations would prevent the ruminative thinking patterns that often lead to relapse of depressive episodes.
Whereas cognitive behavioral therapy (CBT) places more emphasis on teaching individuals to control their thoughts and emotions, acceptance and commitment therapy (ACT) encourages individuals to become aware, accept, and embrace their thoughts and emotions without judgement.
Dialectical behavior therapy (DBT) is a model originally developed by Marsha Linehan to treat borderline personality disorder that now has more widespread utility in addiction and eating disorder treatment.

This model helps individuals by increasing their emotional and cognitive regulation by identifying triggers and then their appropriate coping skill.

DBT combines cognitive models with concepts of mindfulness, acceptance, and distress tolerance skills.
Each model focuses on educating the patient to become their own best advocate by gaining insight into their cognitive, emotional, and behavioral patterns and then helping them identify and reinforce their most effective ways of coping.
The advent of mindfulness in clinical practice has sparked numerous studies examining the utility of mindfulness-based interventions in treating common disorders.

This list highlights the wide range of pathologies, ranging from psychological to skin disorders, that have been shown to benefit from mindfulness practices.

- Chronic pain
- Stress
- Mood disorders: anxiety, major depressive disorder
- Personality disorders: borderline PD
- Post-traumatic stress disorder
- ADHD
- Psoriasis
- Speech pathologies
- Irritable bowel syndrome
- Substance abuse
- Eating disorders
Mindfulness-based treatments have been gaining increased recognition in the treatment of eating disorders.

In a meta-analysis of 21 studies, O'Reilley and colleagues looked at the effects of mindfulness-based interventions on obesity-related eating behaviors including binge eating, emotional eating, and external eating (or eating in response to external food cues such as the appearance or taste of food).

They found that 18 of 21 studies examined reported mindfulness-based interventions to be effective in treating these disorders.
In a study in France, Camilleri looked at the correlation between weight status and mindfulness habits.

The study utilized the Five Facet Mindfulness Questionnaire, which scores individuals on five behaviors of mindfulness including observing, describing, acting with awareness, non-judging of the inner experience, and non-reactivity to the inner experience.

Their results found that individuals with a propensity toward mindfulness were less likely to be obese or overweight.
Utilizing a similar mindfulness scale, Loucks et al. examined the relationship between a disposition of mindfulness and blood glucose levels.

Their results found that individuals with higher mindfulness scores were more likely to have normal blood glucose levels and less likely to be classified as pre-diabetic or diabetic.

While not establishing causation, these findings highlight the link between mindful behaviors and better health outcomes.
Beyond clinical practice, the concept of mindfulness lends itself perfectly for use in the kitchen.

Through awareness and focus on the 5 senses, one can gain a more connected cooking experience. Individuals that struggle with disordered eating typically report not only a disconnection to introceptive experiences like hunger and fullness, but also to the cooking and eating experience due to their heightened anxious response.

Helping individuals achieve awareness of their meal’s ingredients, portion sizes, and nutritional considerations is the goal.
The five domains of mindful eating are addressed by recognizing:

**Disinhibition:** Inability to stop eating even when full.
Five Domains of Mindful Eating: Awareness

Disinhibition: Inability to stop eating even when full.

Awareness: Failure to notice or attend to sensations, perceptions, thoughts, and feelings.
<table>
<thead>
<tr>
<th>Domain</th>
<th>Description</th>
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<tr>
<td>Disinhibition</td>
<td>Inability to stop eating even when full.</td>
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<tr>
<td>Awareness</td>
<td>Failure to notice or attend to sensations, perceptions, thoughts, and feelings.</td>
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<tr>
<td>External Cues</td>
<td>Eating in response to environmental cues.</td>
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Emotional Responses: Eating in response to negative emotional states
Distraction: Focusing on other activities while eating
Instructing patients on using the Hunger Fullness Feelings Scale can help overcome disinhibition.

It is best to stay between 3 and 7 on the Hunger/ Fullness Scale. You never want to be too hungry or too full.
There are prompts that you can use to determine the level of mindfulness in your patient. Questions such as “Asking if you really hungry?” and “Are you ready to stop eating?” can engender discussion.

Consider other advice such as “stopping eating 2 or 3 times during a meal to ask yourself if you are still hungry or starting to feel satisfied” and “after you finish eating, check again to see how full you are.”
Awareness manifests as a failure to notice or attend to sensations, perceptions, thoughts and feelings.

Organoleptic awareness is being aware of the effects of food on the senses. Affective sensitivity is being aware of how food affects internal states.

Consider suggesting activities that lead to awareness of food being consumed.
Brian Wansink and his team at Cornell have defined many external cues in well designed trials that can help lead to improved diet through awareness of external cues.
Eating in response to negative emotional states is common and discussing these triggers with patients can help you guide them to improved diet.
Help patients separate emotional feelings from physical feelings and general stress.

When there is an urge to eat in the absence of hunger, recognize the feeling behind it:
- Sad (blue, bleak, disgusting, pessimistic, restless, worthless, etc.)
- Mad (bitter, irritable, resentful, unbalanced, etc.)
- Glad (brash, lively, vivacious, wild, etc.)
- Scared (anxious, nervous, shrinking, timid, worried, etc.)

Separate emotional feelings from physical feelings and general stress:

<table>
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<tr>
<th>Physical Feelings</th>
<th>General Stress</th>
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<tbody>
<tr>
<td>Tired</td>
<td>Burned-out</td>
</tr>
<tr>
<td>Thirsty</td>
<td>Sapped</td>
</tr>
<tr>
<td>Cold</td>
<td>Picked-on</td>
</tr>
<tr>
<td>Hot</td>
<td>Worn out</td>
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Focusing on other activities while eating is a common issue today and avoiding other pastimes while eating may help patients be more mindful.

Five Domains of Mindful Eating Address: Distraction

- Watching TV
- Working on the computer
- Playing games
- Talking on the phone
- Reading a book
Mindfulness begins by incorporating these concepts into planning and preparing meals.

Focusing on the aroma, taste, and texture of recipes during the planning process can help manage mindful eating practices.
A useful tool before beginning the meal may be to have a “mindful moment” or meditation.

This may be used to set an intention for the meal, acknowledge without judgment any thoughts or emotions, and focus one’s attention to the food.
In order to focus attention on the meal, it is important to disengage from any distractions such as television, computers, and/or phones/tablets.
Focusing on the meal allows the individual to experience hunger and fullness more completely and also has the secondary gain of fostering connection to peers when eating in groups.

It is important to consider the pace of eating and portion sizes while maintaining a non-judgmental stance on the thoughts and emotions experienced.
As the obesity epidemic in the United States continues to grow, with now more than 2/3 of the adult population falling into the category of overweight or obese, clinicians are trying to connect the dots between over eating and addiction.

Patients with substance abuse disorders have mixed emotions about their use. While they are aware of the negative consequences of increased weight gain such as, obesity, diabetes, hypertension and cardiovascular disease, they also enjoy the positive effects they receive.

Although patients are aware that they must make a change in order to improve their quality of life, they are in a constantly conflicted state about change due to their perception of the costs and benefits of the particular behavior.

Motivational interviewing was designed to help bring these costs and benefits into perspective through elicitation rather than persuasion.
Motivational interviewing is a counseling practice that uses a patient centered approach coupled with eliciting techniques to help patients explore and resolve their ambivalences about changing behaviors that are unhealthy. It is characterized by collaborative, sense of self, and evocative style in which clinicians seek to understand the patient’s perspective, while directing them towards changing one or more behaviors.
This change in accomplished by building awareness of the discrepancy between the patient’s current and hoped-for self. The technique avoids confrontation and supports the patient’s optimism about becoming that hoped-for self.
During this process the clinician and patient focus on particular changes the patient wants to make and match the agenda with the patient’s priorities. This “Change Talk” focuses on the patient’s own reasons and rationale for the possible changes.

Clinicians build a rapid rapport with the patient and engage the patient in a warm and non-judgmental way.
Motivational interviewing builds upon the collaborative relationship established between the clinician and the patient using a basic communication style known as OARS.
O stands for open ended questions that encourage discussion and thought:

Below are examples of powerful questions that probe the patient awareness and willingness for change:

- What are you not willing to give up?
- What happens if you stay on this course?
- If you say YES to X, what do you say ‘NO’ to?
- What's working well in this situation?
- What do you want to see happen?
- What do you want to be held accountable for?
- What do you most value about yourself?
- What would your life be like if you were not ...?

A stands for affirmations produced by the clinician that promote positive feelings in the consultation.
R stands for reflections by the clinician that demonstrate the interviewer has heard and accurately understood the patient.
S stands for summaries made by the clinician that tie together the basic reflections of the patient to build momentum or interest towards making a change.

This interviewing style is used to build rapport and gain understanding of the patient’s issues while keeping the patient actively involved in their treatment and removing the traditional hierarchy of the doctor-patient relationship.
Engagement is the first step in motivational interviewing. Engaging with the patient thoughtfully can set the stage for rapid and rewarding progress. Engagement includes, setting the agenda for the conversation together, providing information to the patient in a productive manner, and eliciting the patient’s strengths rather than focusing on their weaknesses. These techniques place the patient in control of their treatment, arguing for change in the behavior they wish to address, and empower them to discover and consider the options that would help them move toward that “hoped-for” self.
Engagement includes assessing the stage of change that the patient is currently in. It is crucial that the appropriate approach is chosen for the correct stage.
Focusing is the next step in motivational interviewing for a patient who
in the preparation stage.

It is a process designed to help the patient hone in on one of the many
issues in her life that she would like to make a change in.

Once the patient has decided on an issue, helping the patient focus on
one or two specific changes she could make is more likely to lead to an
actual change rather than creating an exhaustive list of all possible
changes.
Focusing on a small step that the patient can achieve quickly helps to build motivation.

Once patients have success, they are often encouraged to tackle larger changes.
Evoking is the next step in motivational interviewing. While motivational interviewing is designed to elicit the patient’s perspectives throughout the conversation, evoking specifically targets the thoughts that move them towards change. Evoking also asks the patient to reflect on these thoughts in two ways, scaling them and why they placed the thought on that particular part of the scale?
Scaling is a number based system from 0-10. Scaling may be used to evaluate importance, confidence or readiness, with 0 being the lowest value and 10 the highest.

Scaling helps build momentum towards internal reflection and change through facilitating “change talk” rather than closed answer replies.

As an example: “On a scale of 0-10, how important is it to you to quit smoking, and what aspects of your life help to give it that numerical value?”
Planning is the last process in the motivational interviewing conversation.

It is a problem solving exercise in which the patient considers how to make a change, how to deal with the associated challenges and how to measure success.
The process of planning includes exploring specific barriers to and facilitators of change.

The clinician begins the planning process by summarizing the conversation to date, which includes the mention of past success. Including past success can help motivate the patient to have future success.

The clinician evokes commitment using a 0-10 scale to assess the patient’s confidence level in making the specific change.

In order to affirm this confidence, the clinician reflects on the patient’s reasons for being confident using short summaries and supports the patient’s autonomy and plan for change.
The efficacy of motivational interviewing has been explored by many authors.

In 2011 M.J Armstrong and colleagues from the University of Calgary and the Canadian Institute for Health Information published a meta-analysis of 11 studies conducted to investigate whether or not motivational interviewing increased weight loss compared to other conventional methods.

Their pool included 801 participants who underwent motivational interviewing alone or coupled with the control groups method for weight reduction, and 651 comparator participants who acted as the control group. All of the participants were either overweight or obese.
The results from the study concluded that motivational interviewing by itself or coupled with other weight loss techniques increased total weight loss by 0.51 standard deviations or 1.47kg, amounting to a medium sized effect by Cohen’s Criteria.

A medium sized Cohen Effect tells us that the number needed to treat (NNT) to increase weight loss using motivational interviewing is between 4.1-6.0. In other words if we treated 100 patients using motivational interviewing to increase weight loss 16.6-24.4 of those patients would see the additional benefit.

Compare this with the use of antihypertensives to prevent stroke that has an NNT of 169 and it can be determined that motivational interviewing is a useful tool for increasing weight loss.
Armstrong and colleagues also concluded that targeting weight loss as the primary outcome resulted in significantly more weight loss compared to trials that targeted multiple behavior changes such as physical activity and diet. The authors concluded that prioritizing the greatest patient need, weight loss, tended to help keep the patient focused on the desired outcome rather than being over saturated with multiple behavioral changes to focus on.

The meta analysis also demonstrated that the maximum amount of weight loss occurred in the study that was conducted over the longest period of time, suggesting that increasing the time taken to overcome the inertia of behavior change using motivational interviewing may be beneficial. This claim was substantiated by the American Heart Association and the American Academy of Cardiology that concluded behavioral interventions to promote lifestyle changes see best results with 14 sessions within the first 6 months.
In 2015 Barns and Ivezaj from Yale University’s department of psychiatry performed a meta-analysis of 24 studies comparing motivational interviewing (MI) alone, to MI incorporated into primary care visits (PCP), and time of treatment.

The 24 studies included a total number of 7448 participants between the ages of 40-60, of which most were overweight or obese.
When comparing all 24 studies, half reported a significant increase in weight loss between the MI group compared to the control group, while half reported no significant difference.

Comparing studies that incorporated MI into PCP visits, versus MI interviewing as a stand alone visit with a clinician, they concluded that MI as a stand alone visit demonstrated a significant increase in weight loss versus MI incorporated into regular PCP visits.

Comparing treatments that resulted in a reported 5% total body weight loss or more, treatment time less that or equal to 6 months showed no significant difference between treatment time that lasted longer than 6 months in duration.
Motivational Interviewing has shown promise as a technique to help patients deal with substance abuse disorder.

As overeating and obesity are beginning to fall under this classification of disease, exploration of MI as a tool to help modify behaviors that lead to these tendencies is of great value. Meta-analysis of the most current studies conducted have shown that MI is as effective and in most cases more effective than other weight loss techniques used alone.

Several studies have shown that MI coupled with group BWLP provides the most weight loss to its participants.

The exact amount of time needed to see successful results is still under debate, but at least 6 months of treatment appears necessary to provide the greatest amount of success.

Overall, the future looks bright for MI as an accessible, low cost technique available to all clinicians in the fight against obesity and poor nutrition habits.
This concludes the presentation on mindfulness and motivational interviewing.

Thank you for your attention.

You can find the PowerPoint, Study Guide and quiz online.