Slide 1 – Title Slide

Harold Edward Bays, MD: Hello and welcome to the CME-certified program, “Fighting the Uphill Battle: Current Evidence in Obesity Management.” This program is supported by an educational grant from Novo Nordisk and is provided by Boston University School of Medicine and Rockpointe.

Slide 2 – Program Faculty

My name is Harold Edward Bays, MD and I’m a Medical Director and President of the Louisville Metabolic and Atherosclerosis Research Center located in Louisville, Kentucky.

It is with great pleasure that I’ve had the opportunity to help develop the content of this program with my colleague and co-presenter, Donna H. Ryan, MD, who is professor emerita of the Pennington Biomedical Research Center in New Orleans, Louisiana.

Slide 3 – Disclosures

On the next slide, you can see the disclosures.

Slide 4 – Educational Objectives

The educational objectives of this program are to help ensure that at the conclusion of this activity you’re going to be able to adopt strategies to foster effective discussion about weight loss in patients who are overweight. We’re going to evaluate the roles and risks and benefits of behavioral interventions and pharmacological weight loss interventions and finally, we’re going to see how to integrate guideline recommendations for assessing obesity in patients and making evidence-based recommendations for weight loss.

Slide 5 – The Current Scope and Impact of Obesity on Population Health
To start, let’s talk about some background information. Let’s talk about the current scope and impact of obesity on population health.

**Slide 6 – Fast Facts**

According to surveys performed, 2015 and 2016, about 40% of adults have a body mass index of over 30-kilogram per meter square so that would be obesity and the percent of adults 20 with overweight including obesity, is around, somewhere over, 70% and I think we all know that the obesity rates have tripled, in the past several decades and, in fact, obesity is characterized as an epidemic by the World Health Organization.

The next slide…

**Slide 7 - Rates of Adult Obesity Continue to Rise**

Here shows how it is that there are maybe some trending towards slowing of the increased rate of obesity in children and maybe that’s true but the fact is it’s still increasing, and I think that’s a real public health challenge, not just here in the United States, but worldwide.

**Slide 8 - Health Impact of Obesity in the United States**

And the reason that’s a challenge is because, when we define obesity as excess abnormal body weight that impairs health, that includes a lot of things. It includes, diseases that we all know such as diabetes and hypertension and the dyslipidemia and even heart disease and cancer and such. And so, as a result, the obesity increases the morbidity and mortality, of, many developed, nations. And not only is it costly to the individual patient, but it’s also costly with regard to, overall medical expenditures.

**Slide 9 - Impact on Care**

What is it about obesity that makes it, such a challenging thing for patients? Well, above and beyond the complications that I’ve already described, I think there are biases. There are just some challenges that are unique to patients with obesity. For example, patients with obesity are less likely to obtain preventive health services and exams and
cancer screens and pelvic exams and mammograms and such. And they're more likely to cancel appointments or having delays in appointments. I just think that there’s this need for recognition that obesity in many respects is a disease that has, unique characteristics, that makes it a unique challenge.

Slide 10 – Obesity: Both Fat Mass Disease and Sick Fat Disease are Pathogenic
Another unique challenge is the fact that, even though a lot of people think it might be a disease, I'm not sure everybody’s quite sure that it truly is a disease but I can just tell you, those of us that are, active in obesity medicine, in every sense of the word, obesity is a true disease. It’s a disease on the molecular level, on the cellular level, on the organ level, and on the, entire patient level and we see this every day in our clinical practice.

Slide 11 – Within Subsets of Patients with Overweight and/or Obesity
We have patients who have increase in body fat that due to the aggregation of the adipose tissue alone has fat mass consequences or has disruption of cellular function of the endoplasmic reticulum or the mitochondria and it disrupts, how it is that these adipocytes and adipose tissue function and we can call that the “adiposopathy” and this contributes to the most common, metabolic diseases we see in clinical practices like, increase in blood pressure, increase in glucose, dyslipidemia, metabolic diseases and then on the fat mass side, we’ve got the sleep apnea and many other things.

Slide 12 – Simplified Mechanism of Obesity, Insulin Resistance, and Metabolic Disease
All I’m suggesting from this short introduction is, as I said before, obesity is a disease. It’s a disease on the molecular, cellular, organ, and total patient, standpoint that contributes to liver dysfunction, muscle dysfunction, and some of the most common, metabolic abnormalities that we see in clinical practice.

The question becomes how do we convey this message that obesity is a disease and yes, we’ve got a lotta work to do when it comes to conveying that message to our fellow clinicians but what about the patient? How do we discuss obesity with patients? And with that, I would like to turn it over to Dr. Donna H. Ryan, MD.
Slide 13 – Discussing Obesity with Your Patients

Donna H. Ryan, MD: Harold, thank you so much. That was a great introduction. And I think it’s so important that we do be able to communicate with patients about obesity. Historically, they have not looked to their health care providers as a go-to for advice about weight management and I think that physicians have contributed to patients, feeling stigmatized. We really, in a way, owe our patients a grand apology because many years ago, we contributed to the stigma by thinking that, overweight and obesity were a personal choice.

Slide 14 – The First Step

I believe the very first step in talking to patients is to understand obesity as a disease and here that shows, a very attractive patient and I want to confess to you that many years ago, before I really got trained in obesity medicine, when I was at the very beginning of my career, I would look at this patient and think her lifestyle is a personal choice and she just needs to eat less and exercise more and I’ll just tell her to lose weight and that to lose weight, she just needs to eat a little less every day and exercise a little more and if that patient would struggle, I would consider it her fault and I would certainly not think she needed medications because she surely ought to be able to do that on her own. It’s very simple. But now, I know, it’s the recognition of obesity as a disease. But I look at this patient, I think, “You know, she carries genes that make her susceptible to obesity in this given obesogenic environment.” And furthermore, life events: stress, moods, sleep deprivation, maybe even some medications like antidepressants or sulfonylureas or TZD or maybe even her injectable contraceptive have promoted weight gain and those factors, in patients at risk can really drive weight gain and furthermore, I know that losing weight requires skill. It’s skills and behaviors around food and physical activity and this is not the entirely the patient’s responsibility. It is my job as a physician to coach skill building. Furthermore, I know that when this patient is successful with weight loss, I expect weight regain. Unless that patient is taking some very special measures to prevent it, I know that weight gain is a expected
normal reaction to the reduced obese state caused by changes in metabolism and the biology of hunger and satiety and susceptibility to hyaluronic food.

Slide 15 – Create a Supportive Environment
The first step is how we think about our patient and the second step is what we are signaling when the patients, walk in our office. What’s that good first impression? Are patients seeing appropriate literature? Do we have appropriate seating? Are we being sensitive about, making sure patients, wait in a private setting? Are our bathrooms appropriate? Do we have ramps and handrails? So that patients who have some functional impairments can get in our office and do we have the right equipment? Do we have the right-sized gowns and blood pressure cuffs for the 70% of patients who are struggling with overweight and obesity? And we absolutely must train our staff, in the stigma around obesity and make sure that all of our staff are sending empathetic signals, and are treating our patients with courtesy no matter what their body size. Our staff has to understand obesity as a disease also.

Slide 16 – Patients Present in Two Ways
We’re identifying patients, who may need weight management on the basis of two pathways. For one thing, in this era, with every visit, the electronic health record is providing a BMI but there are also, many patients in our clinic that we’re treating for depression or hypertension or pre-diabetes or diabetes or, any one of the comorbid, conditions associated with obesity and those patients may or may not have received formal diagnosis of obesity. Their weight may or may not have been discussed with them. Whether you’re getting a signal that this patient may have excess abnormal body fat from the BMIs coming out of the electronic medical records or you have a high index of suspicion among your patients who are being treated for all these chronic diseases, those patients need to be counseled about weight. Because good weight management is the pathway to good chronic disease management and chronic disease prevention.

Slide 17 – Choose Your Words Carefully
You have to be careful about how we frame this with patients. I think patients, do not necessarily, like the term “morbid obesity”. It’s somewhat pejorative and they also don’t like being called “fat” or “chubby”. The way I like to frame, the discussion is around the patient’s health. I think we need to be much more accepting of variation in body size and less accepting of, ill health. I always try to frame the discussion around weight as a discussion about health. It’s not really about judging people around their body size. Patients feel blamed and shamed for that. I have a good script and that is “I’m concerned about your health. I’m concerned about your blood sugar, blood pressure, whatever, and I’m also concerned about how your weight may be affecting that. Is this a good time to talk about your weight?” That is a script that will not offend any patient. Now, you need to recognize that, many times, patients are going to take you up on that offer and are going to want to have a discussion but sometimes they won’t. Maybe the patient has a crisis at home and the patient says to you, “Don’t even go there, Doctor. I can’t think about that right now. My husband just lost his job.” Or “My mother was just put in the hospital.” Or “I have a son, who’s having, serious problems with his health. I can’t think about that now.” Well, that’s fine. I come back with that response in this way, “Well, the single best thing you can do about your health is to make some changes and lose a bit of weight. Just a modest amount of weight loss. What I want you to agree to is that, we’re not going to talk about it now, but at your next visit, I’m making a note and we’ll bring it up then.”

Slide 18 – What Does A Holistic Approach Look Like for Weight-management Interventions?
Also, we need to recognize that it’s not just about weight. It’s very much about a holistic approach to the patient’s health. Yeah, diet and physical activity are important but equally important are good sleep hygiene, stress management, managing depression and mental health. Not making the situation worse by prescribing medications that drive, weight gain. Keep that in mind. It’s about wellness, it’s about health. It’s not so much about body size.

Slide 19 – Paradigm Shift in Progress
This is a paradigm shift in how we understand obesity and that paradigm shift is in progress.

The treatment intensity, how, aggressive we get with weight loss really depends on the patient’s health status, not body size. It’s true that with increasing BMI, there’s increased risk for all the comorbidity but still, for patients who have, less severe complications of obesity, there’s not that great urgency to get aggressive early on. We are trying to develop more sophisticated risk assessment, algorithms and doing more of a personalized approach to risk assessment, and I’ll be talking to you about that in a minute, but the idea is to improve health and because the amount of weight loss that’s required to improve health varies with the particular health target. The weight loss goal is something that also has to be modified based on the patient’s health status.

Slide 20 - Major Concepts Behind Obesity Guidelines
I think we’re moving to a point in time where we’re developing more and better tools to help our patients and we’ll be able to intervene earlier but the message really should be that we as health care providers are engaging in weight management because it’s good chronic disease management. It’s good health management.

Slide 21 – Assessment Directs Staging, Staging Directs Treatment
One of the factors that, really is going to help us in determining what treatment we’re going to choose is by assessing the patient and staging the patient. I particularly like the AACE, the American Association of Clinical Endocrinologist, guidelines on obesity because they have this approach to staging that’s not anthropometric. It’s not entirely about BMI. It combines BMI as a screening tool and then the assessment of complications associated with it and I’m showing you that on this slide. Our patients who have normal weight and no risk factors, no complications and healthy meal plan and physical activity to prevent the onset of metabolic and cardiovascular disease and maybe it even has some cancer-promoting, properties is the way we want to go.

Slide 22 - Considerations in Recommending a Weight Loss Intervention
Patients who have overweight or obesity and no complications, the foundation of treatment is lifestyle and behavior therapy. We can consider pharmacotherapy if those patients, meet the, labeling requirements for the drug, but the urgency to intervene on those patients with that slightly more aggressive approach is not there. It’s when patients develop complications. At stage one, when patients have one or more mild or moderate complications, that are going to be treated effectively, that are going to improve weight loss, that’s when we want to up our game. We want to consider more intensive lifestyle and behavioral approaches along with pharmacotherapy. And for patients who have severe complications, we want to be even more, intensive in our approach to treatment and for those patients who meet guidelines, we want to consider bariatric surgery and consider it earlier than we’re currently doing because these procedures, can be lifesaving and with our newer training of surgeons and less invasive surgical techniques, they’re also a lot safer. I have some recommendations for you and what I think every prescriber needs to know is how to prescribe for patients who have overweight and obesity and this includes not just medications that are approved for chronic weight management, that are approved for weight loss. It’s also all the other medications that we prescribe. The Endocrine Society has supported this systematic review that you can download from their website and it gives information not only on medications that are approved for chronic weight management, but it also gives indications, for how to, better manage all the medications for chronic disease to try to get patients on medications that are weight neutral and that don’t drive weight gain and even, if possible, get them on medications for their other chronic diseases that are associated from weight loss. But this slide really demonstrates that the foundation are the behaviors around food intake and physical activity and that we add pharmacotherapy to that, too, to intensify our effort and then for some patients, bariatric surgery may be a very good option and our approach to choosing a treatment is just like in the rest of medicine. If, the risk really determines how intensive approach goes. It’s a risk to health, makes us be more aggressive in choosing a treatment choice that has more risk.

Slide 23 – Interventions
What I’m showing on the horizontal axis is treatments that have lower efficacy and also lower risk and on the right, treatments which produce more weight loss and thus, greater health improvement but also have a somewhat higher health risk.

That’s our approach to our patients. We try to personalize that approach based on risk assessment and staging. Harold, back to you.

**Harold Edward Bays, MD:** One thing you said, Donna, really striking to me, you said that in some respects, where we are with these challenges that we’ve had with obesity, a lot of that’s on us as clinicians and that really struck me. I think about a patient sitting in an exam room with obesity and maybe low self-esteem, maybe feeling guilty and yet, there are so many of our colleagues that don’t see any problem with just throwing around terms like “Well, you suffer from morbid obesity. That’s really causing a lot of the problems you’re having here today.” I mean, that borders on cruel, wouldn’t you think?

**Donna H. Ryan, MD:** Absolutely. We need to be straight up in saying this. Times have changed. You cannot help a patient unless you’re empathetic with that patient’s illness and obesity is an illness. It is a chronic disease.

**Harold Edward Bays, MD:** That leads right into, what I want to talk about here. I think that’s where you gotta start. You can’t have an effective partnership with patients if the first thing you do is to say, “Well, in order to address your morbid obesity, we need to talk about these things.” I mean, you’re going nowhere. It’s gotta start with the patient. A partnership with the patient and dare I say respect for the patient. That’s what I think.

**Slide 24 – Evaluate the Roles and Risks/Benefits of Behavioral and Pharmacological Weight-loss Interventions**
Harold Edward Bays, MD: Let’s evaluate. Let’s say that we are accepting that obesity is a disease and we’re going to try to move forward with evidence-based, therapeutic measures in order to, try to make things better. What are we talking about?

Slide 25 – The OMA Obesity Algorithm
As, Dr. Ryan pointed out, there's various guidance’s that are out there. The Obesity Society has guidance, Dr. Ryan mentioned, American Association of Clinical Endocrinologist. This is a cartoon with regard to the Obesity Medicine Association Obesity Algorithm. It's just an algorithmic, way in order to approach a patient, with obesity

Slide 26 - The Obesity Medicine Association's Definition of Obesity
and to further nail this down, what I think we've been saying since this program started is that, one way to define obesity would be as a chronic, progressive, relapsing, multifactorial neural behavioral disease where an increase in body fat promotes adipose tissue dysfunction and abnormal fat mass physical forces resulting in adverse metabolic biomechanical and psychosocial health consequences and I don’t know how you can read something like that and not say, “Well, that sounds like a disease.” Because that’s exactly what it is intended to convey.

Slide 27 - Energy Expenditure
If we’re going to approach our patients and we're going to say what it is that, people could do to maybe turn this thing around? One is to engage in increased energy expenditure. I think that’s an important component. Many people say, “Well, for most people, increase in physical activity may not help with weight loss so much.” But, it sure helps with weight loss maintenance. I have found, and I think the literature supports, that having that combination of nutritional intervention with increase of physical activity, highly effective. To be clear, yes, there are recommendations to make about how frequently people should engage in exercise, physical exercise, and that is true, but I think a lot of times, if people would just engage in the appropriate amount of steps per day and that’s where I think that wearable technologies can help a lot of patients. I know
that, when I first started wearing my wearable technology, I was quite frankly stunned at, some of the readings that I got, per day and it certainly changed, the way I approach how I conduct my day. I think the same holds true, for other folks.

Slide 28 – Nutrition Therapy for Obesity
With regard to nutrition therapy, I know there’s so much confusion out there about what’s the right kind of diet for people to be on, what’s the right type of nutritional intervention and here’s what I say, folks, is it evidence-based? A lot of these things you hear about, they’re not right. You can’t be on a marshmallow diet. I mean, you just know that that’s just wrong. Find the kind of nutritional intervention that’s evidence-based, quantitative, and one for which the patient’s actually going to do. The objective is to get the job done. Find an evidence-based nutritional intervention, that’s most effective for the patients that you see and then, I would say, aggressively, educate the patient and hopefully, implement that sort of intervention.

Slide 29 - What Can Be Expected from Lifestyle Change?
Is there any hope for doing all these things? Too many times, I hear people say, “Well, I always try to educate my patients on diet and exercise but they don’t ever do it. I got a problem with that kind of thinking because number one, if, clinicians engage in these, proven lifestyle interventions, the fact is, they can work. Now, yes, it is true these are intensive. They do require some degree of resources and such, but the essential point is, you can achieve significant and substantial, weight reduction with appropriate nutritional intervention and physical activity. I would say I think you would find remarkable efficacy if all you did, from a nutritional intervention standpoint, were to say to the patient, “Here’s what I want you to do. I want you to write down every single thing you eat and drink except for water and I want you to bring that dietary diary and that physical activity diary back, next week and let’s go over it.” And that’s what I’ve done and it is remarkable, how effective something so simple, something that just simply reflects accountability, it is remarkable how something so simple can sometimes be so effective and not everybody is going to, respond to nutritional recommendations or physical activity recommendations? Yes, I will concede that but I gotta tell you, if you
really engage, 10 patients in aggressive nutritional intervention and physical activity and even if only one has a dramatic response to that, well, I think it’s worth it. I think it’s worth the effort. Because what are you doing? You’re just simply, are trying to assist a patient through education and through, behavior modification, to do things, they’re going to be healthier in the long run. I think it’s worth it. I think we should focus on the positive, not always focus on the people that, do respond well and don’t always dwell on the people that, maybe need additional help beyond education and that sort of thing.

**Slide 30 - How Do We Intensify Lifestyle Intervention?**

How can we intensify this intervention? I think if you look at the objective evidence or that face-to-face counseling, a few things can really, drive this home, better than face-to-face counseling. Contact time, structuring the diet, these types of things. The evidence-base for the use of devices varies. But again, I would just be very cautious even with reading the medical literature, in obesity medicine because I think there’s a big difference between looking at the mean response, the average response to an intervention, and looking at that individual patient. And yes, you can find, studies where when you look at a population of folks, maybe the devices don’t help so much, whatever, but I gotta tell you, for people like me makes a big difference and I think it’ll make a big difference in a lot of your patients, who engage in these wearable technologies to help out.

**Slide 31 – Anti-obesity Drug Summary**

What about pharmacotherapy? Lots of options out there. We have amphetamine, been around since 1959. It is a DEA schedule IV stimulant agent. It does have some potential side effects as you would expect from an adrenergic agent with a high blood pressure and increase in heart rate and tremor and these types of things and contraindicated in patients with cardiovascular disease and have some drug interactions but for the people in which it may be appropriate, that’s a potential option that, a lot of obesity medicine, clinicians, have chosen to implement. What about orlistat? Again, a kind of an older type of drug. It’s a gastrointestinal lipase inhibitor. It inhibits the breakdown of fat in the intestine and if you inhibit that breakdown of fats in the intestine, essentially, it inhibits
the absorption of those fats then the fats are going to kinda go through the intestine and you get the oily discharge and those types of things, maybe some impairment of fat soluble vitamins and some rare reports of liver toxicity and pancreatitis and such and yes, there’s some drug interactions but for selected patients, I have found orlistat, to be a, welcome treatment option, for selected patients. Lorcaserin is a selective serotonergic, agent, 2C receptor agonist. It is a DEA schedule IV agent, that gives people a sense of fullness and I will tell you, it’s generally well-tolerated. I mean, yes, some people get headache and dizziness and fatigue and nausea and dry mouth and constipation and these types of things and yes, potential interaction with other serotonergic drugs and such but, for the selected patient, I find it to be a well-tolerated and sometimes, effective agent, for reducing body weight and specifically for improving metabolic parameters like Doctor Ryan just talked about. We should be focused on the disease of obesity not the weight of obesity and it’s remarkable how much of a improvement you can often get with, Lorcaserin in lowering glucose levels. That’s not a approved drug to treat, diabetes but the evidence is there that it can substantially lower hemoglobin A1c. Same thing with liraglutide.

Slide 32 - Anti-obesity Drug Summary

Liraglutide it’s a glucagon-like, peptide one receptor agonist. In its lower doses, 1.8 milligram per day indicate lower blood sugar but at that higher dose, that 3.0 milligrams per day, it’s approved for treatment of obesity. The adverse reactions include nausea and constipation, diarrhea, gastrointestinal complaints and such, and that is true. And you have to be careful with the use of these drugs in patients who have certain sorts of, genetic syndromes and such. I think if you had to pick the most, common, thing to really focus upon is if you have a patient that does have the diabetes and they’re placed on liraglutide for whatever purpose, if they’re on a sulfonylurea or if they’re on insulin, they have the risk of developing hypoglycemia, because you’re having them lose the body weight and plus, liraglutide does have a glucose lowering effect. Really need to focus in on the glucose levels in your patients with diabetes who have the obesity. And, it does slow the gastric emptying which may conceivably impact absorption of concomitantly administered oral medications. There’s the naltrexone-bupropion. We all know
naltrexone, opioid antagonist, used for addictions. Bupropion used for depression. As far as side effects, again, gastrointestinal-type side effects, insomnia, that sort of thing. Bupropion, because it’s an anti-depressant can actually increase the risk of suicidal thinking and such. And you sure don’t want to be using now a Naltrexone agent in patients with, a seizure disorder or a drug or alcohol withdrawal. You’re sure you don’t want to do that and yes, there’s some potential drug interactions that are listed here but how this combination drug works is on the reward center where people feel like they want to rewards themselves and instead of rewarding themselves with maybe some other things, they do it with food and maybe that helps out with those patients. And then finally, there’s the phentermine-topiramate. Phentermine, we’ve already talked about. Topiramate is an anti-seizure drug, and when used in combination, pretty effective in weight reduction. You do have to, educate the patient about the potential of paresthesias. That’s the tingling or the numbness to the extremities or abnormal taste. Again, gastrointestinal side effects, maybe glaucoma. And, topiramate could potentially contribute to birth defects. The phentermine-topiramate should not be started until pregnancy test is, done and negative, and it needs to be, monitored, afterwards. And yes, there may be some potential drug interactions there, but the good news is, as with, the lorcaserin, as with liraglutide, as with the naltrexone–bupropion and as with the phentermine-topiramate, what you’re going to see is improvement in these metabolic complications of obesity and particularly the diabetes mellitus.

As far anti-obesity drugs in development, all I can tell you is stay tuned because there’s a lot in the pipeline. And where do they work? Mainly on the gastrointestinal system or on the brain. There’s a lot going on, very exciting time in obesity research and maybe we can do another program some other time but again, very active in research right now because I think even the clinical science has recognized obesity as a disease and now, I think we’re approaching it like we did approach the diabetes, the high blood pressure and the dyslipidemia.

Slide 33 - Illustrative Targets of Anti-obesity Therapy
And finally, last thing I’d like to end with is, I’ve spent a lot of time over the years, decades, talking about how it is that dysfunctional adipose tissue contributes to the diabetes and the hypertension and the dyslipidemia and the fatty liver and even cancer but what’s really coming to the forefront in the just the past few years is how it is that obesity both directly and indirectly contribute to cardiovascular disease.

Slide 34 – Obesity Causes Heart Disease
I would just say to all of you, just buckle up, stay tuned because I think you’re going to see more and more science that’s really going to help explain, the cardiomyopathies and the cardiac disease that we find in patients with the obesity and what specific interventions that we can do when addressing obesity that may improve the heart health, of our patients. Some of that may be a bit granular and such and I think maybe this would be a really good time to ask Doctor Ryan and we’ve talked bits and pieces about things but how do we put it all together? How do we put it all together and implementing these evidence-based recommendations for our patients?

Slide 35 - Putting it All Together
Donna H. Ryan, MD: Harold, I think you did a great job of that. And yes, I think the way we put it together is around a patient. When you and I see each other, we always end up talking about a patient and doctors love to do that, as do all healthcare providers because that’s how we learn. It’s when it’s relevant to our patient is how we remember it.

Slide 36 – Case Presentation
I put a case presentation together, this is a real patient. It’s Mr. Budrow. He’s 44 years old and a truck driver. He’s married to an LPN. He has three children in high school. It’s the first time you’ve seen him. You inherited its care from a partner who recently retired and the purpose of this visit is an annual wellness visit. He doesn’t voice any complaint. He’s six feet tall, weighs 250 pounds. The electronic health record has calculated that BMI as 33.9. His blood pressure is 135/85. And his problem is he has a past history of hypertension and GERD. He smokes one pack of cigarettes per day and when you
asked him about this, he said he quit smoking nine months ago and says it’s the best thing he ever did. He’s on omeprazole for his GERD and an ACE-inhibitor for his blood pressure. On physical exam, everything appears to be okay. He does have truncal body fat distribution and you talked a bit about that and a large waist size. What’s our approach to assessing Mr. Budrow?

**Slide 37 – Differentiating the Consequences of Excess Body Fat Among Individuals**
I like this slide. This actually comes from the OMA, the Obesity Medical Association’s algorithm. And the very first step is to try to get some idea of the degree of severity of Mr. Budrow’s illness. Is he overfat and sick or is he overfat and well?

**Slide 38 - Assessment Directs Staging, Staging Directs Treatment**
Generally, with the ACE algorithm, does he have one or more mild to moderate complications? Is he Stage I? He has hypertension and GERD. Is he stage II? Does he have more severe complications because this is really going to help us decide our treatment plan.

**Slide 39 - Getting Started**
For Mr. Budrow, we’ve got a checklist here for personalizing his risk assessment. We’ve already got his BMI fixed, race, waist circumference we didn’t measure and, in this case, I don’t think it’s really necessary to. He obviously has an elevated waist circumference. We might measure it to sort of track progress. He’s got a blood pressure and we’ve noted his medications and his, past history. The things we need to add to this are some idea of his weight gain history and his prior treatments. We need to know more about his lipid profile, his metabolic profile, what’s his fasting plasma glucose, his A1C, what’s his liver function. We need to know a bit more about his well-being and psychological symptoms, pain, mobility, impairment and functional limitations. There’s a pretty good, checklist for how to go about it.

**Slide 40 – Case Presentation (continued)**
We do these things. We assess the weight history and lifestyle history. We got a history of obesity and associated symptoms and signs and we obtained blood chemistries. His associated symptoms and signs were okay. He did have some symptoms as we’ll in a minute around that make us suspicious of sleep apnea.

Slide 41 – Further Assessment of Mr. Boudreau
His weight history was interesting. He weighed 175 pounds when he finished high school. His gain has been slow and steady, about two pounds a year. He eats well at home he says. His wife is an LPN and a good healthy cook but he eats lots of fast food on the job, remember, he’s a truck driver. And he’s drinking caffeinated, carbonated beverages to stay awake. In terms of his physical activity, he’s not getting much on the job and he’s a member of bowling league and does bowling one night a week. He also goes deer hunting about four times a year during season but otherwise, he’s sedentary. He has lost weight in the past. He went on the Atkins diet and lost 25 pounds, a year or so ago for his 20-year high school reunion. He gained it all back especially when he stopped smoking. He does admit to falling asleep in front of the TV and his wife reports loud snoring but he doesn’t have any other functional complaint.

His fasting glucose is elevated, it’s 123. That is the pre-diabetes range, as is his a1c, 6.1. His total cholesterol is a little high, 201; LDL, 130; triglycerides, 170; HDL cholesterol, 35 and his liver function studies are normal. This is metabolic syndrome. He meets those criteria. The purpose of this is to give an idea of the severity of his illness and I think if we go back to that concept from OMA, he does have some complications. He’s sick. If we go back to the ACE guidelines, I will characterize this patient as stage II. He has severe enough disease that we need to get a bit more aggressive, with him because his pre-diabetes is something that we can prevent the progression of type II diabetes, if we can get about 10% weight loss.

Slide 42 - Teaching Points
The teaching points that I’m trying to bring out in this case is that the very first step in patient management is not telling the patient to go on a diet, it’s assessing risk and
comorbidities so that you can develop the intensity of your treatment plan approach and if you find abnormalities, you don’t ignore them. You’re going to address them immediately. We always have a high index of suspicion for obesity-related conditions and so I particularly probed about symptoms of snoring and obstructive sleep apnea in this patient. That lifestyle and weight history were important because they’re going to inform how we’re going to work together to develop a treatment plan.

Slide 43 – Mr. Boudreau’s Treatment Plan
The first step is to talk to Mr. Budrow, make sure he’s on board with how his excess abnormal body weight is affecting his health. I talked to him about prediabetes and metabolic syndrome. I talked to him about how his body weight is making his blood pressure harder to control and it’s also contributing to his GERD. I told him he absolutely must be on CPAP because of his job as a trucker and he absolutely needs to have good sleep hygiene. After this discussion, I focused on health. I advised him that the single best thing he could do to improve all of these conditions is to make some changes and we need to target a weight loss of at least 10%. It takes 10% or more weight loss to really get significant improvement in those, symptoms of obstructive sleep apnea.

I asked to Mr. Budrow, “How confident are you that you can make some changes to achieve weight loss and sustain them so that you can sustain the weight loss?” And he said, “Frankly Doctor, I need help. My job is monotonous and there’s no time to exercise. I get so bored. I eat to get some pleasure in life.” First of all, he’s had a big appetite.

Slide 44 – Teaching Points
The teaching points I’m trying to bring out here is that the weight loss plan is not something that I prescribe, that the physicians prescribe, like we will prescribe a statin. The weight loss plan is dependent on Mr. Budrow. It depends on how the patient is going to adhere to the diet and physical activity. It’s something we have to negotiate. To negotiate the plan of action, the patient has to know what the options are. We lay out
the options. The different options, the diet that Dr. Bays brought out, the different options in physical activity, we must get him doing more physical activity. This is a sedentary guy. In terms of how we’re going to go about the skill building around diet and physical activity, we talk about self-help approach and programmatic approaches. Because he’s gone from home so much, he’s not a very good candidate to enroll in a weight management program where you have 14 to 16 sessions, around behavioral skill building but it’s possible for other approaches like online, to be able to build those skills. Mr. Budrow qualifies for medications and he may need medications to help him adhere to his diet. And devices and surgery, although I wouldn’t start with balloons or a bariatric surgery now, the bariatric surgery may be something in Mr. Budrow’s future. But we discussed things and together we both agreed that he’s going to do some self-monitoring. He’s going to weigh regularly, at least once weekly. I could ask him to do as Harold suggests and keep a food diary. And Harold, that’s a great idea and I like to do that especially initially because it really makes patients aware of what they’re doing and if they record it, they’re going to eat less.

One thing what we can do, this is a low hanging fruit, we’re going to switch from those caffeinated beverages that are sugar sweetened to either diet caffeinated beverages or water. And, we negotiated with him and he wants some control of his meal. He is going to take a portion control approach while he’s working. He’ll either pack his meals from home and his wife can help him or he can buy things, at the truck stop so he can get lean cuisines and other, shelf-stable meals, rather than just eating, fast food through the drive-thru. He’s going to increase his walking. We’re starting with bouts of 10 minutes, and this is, good for him to do as a truck driver to have a regular scheduled, break. And, during those breaks, he needs to be, walking around. And so, we’re aiming for at least 30 minutes a day. A total of 10 minutes, three times a day. We’d like to go up to that so that we’re at an hour or so a day. I started on metformin, I like that metformin ER and that’s really around his dysglycemia. And, there’s also a little bit of weight loss that occurs with metformin in most people. It’s not much. It’s 1% to 2% but every little bit helps and it tends to stabilize body weight too. And I tell him that I’m going to be checking on him. I need to see him every month for the next three months. This is a big
mistake that doctors make. They think they do a one-off counseling session and they don’t follow up. The more you follow-up, the more weight the patients are going to lose. I followed him up and at the three-month visit, he’s lost 10 pounds but he’s struggling and he raises the issue and I raised the issue of medications.

Slide 45 - Rationale for Medications in Obesity Management
And the way we’re going to, frame these medications is that food intake is biologically determined and these medications are going to work by helping him better adhere to his diet. They’re going to help him with less hunger, more satiety and they’re going to help him avoid those trigger foods, those highly rewarding foods that frequently will sabotage a diet.

Slide 46 – Matching the Patient to the Weight-loss Medication
The way we’re going to choose which medication, my first step is to make sure that he’s not on something that is driving weight gain. Fortunately, he’s not. He’s not on anti-depressant. He’s not on, sulfonylureas, GVDs or oral contraceptive that drive weight gain. Getting rid of those is important but then, the first step is what are the contraindications around the medications approved for chronic weight management? Mr. Budrow doesn’t have any so he’s really eligible to consider all medications. He’s already identified that appetite is a problem.

Slide 47 – Patient and Provider Concerns with Medications
Orlistat is off of my menu of medications I might, be concerned about. The next thing I can think about is the dual benefit. Mr. Budrow has dysglycemia and a medication like liraglutide which has an independent effect on glycemia and lorcaserin which also has an independent effect on glycemia might be good choices for him. One of those would be a good choice but the bottom line is it’s a joint decision between the physician and Mr. Budrow. I like to send patients home with the list of the medications, let them do the research online. Let them go in to their insurance policy and find out how much this medication is going to cost. We’re getting much better on having coverage for these medications, for people who have employer-based health insurance. Now about 2/3 of
employers will at least cover part of these medications so I have him research that and then he comes back and then together, we work, to identify, the medication that he is going to try. I think one thing to remember is not every picked medication works in every patient. There’s always a trial period with the medication. We want to see about 4% or 5% weight loss in the first three months and if that occurs, then we know the medication is working and we’re going to continue it and we’re going to continue it although long-term.

**Slide 48 - Strategies for Developing a Team Approach**

I think that the primary care doctors can take care of patients like Mr. Budrow even with the flow of an ordinary medical practice. I'm sure you need some strategies for developing a team approach here because what you can do is you can put systems in place that will increase the efficiency of your office to help you support weight management in patients like Mr. Budrow. You can identify existing personnel who have certain strengths. You can add personnel to help you. You need to look at the resources that you have in your office and in your community and make sure all of your team members are in-serviced and trained. You can establish standard operating procedures and protocols, develop some timesavers so that patient tools and waiting room questionnaires can help us move the flow of weight management. And you need to develop a good network of referral courtesy then remember the etiquette of that.

**Slide 49 – Spectrum of Office-based Obesity Management Services**

There are viable business models. No weight management in primary care is going to work unless you do have a good business model to sustain it. And in that regard, considering shared medical appointment may be a way to go. Getting certified as an MD PV provider is another way. But this doesn’t mean to say that every single primary care physician has to give A to Z treatment for weight management. Every single primary care physician needs to know how to assess patients for health risk associated with obesity and to advise patients in developing a treatment plan but for the actual delivery of the treatment plan, you can refer.
Slide 50 – Tools and Resources
Some of the primary care providers will be interested in developing weight management approaches and there are a number of resources for you that I’d like to go through next.

Slide 51 - Guidelines
First and foremost, the guidelines. The 2013 obesity guidelines are found free and downloadable on the Obesity Society website. That obesity algorithm from the Obesity Medicine Association is fantastic and it’s a PowerPoint format and it's updated annually so it’s fresh and new. We do have those guidelines from the Endocrine Society website that can be downloaded and that’s based on a systematic evidence review and every provider needs to know about medications that drive weight gain and how to avoid that. And finally, the ACE guidelines can be helpful to you also.

I want to thank you all for joining us today, but before I close, I’ll ask if there are any wrap-up comments that you might have, Harold?

Harold Edward Bays, MD: Yeah, the one thing that struck me, Donna, that you were talking about, I think you explicitly said but I want to make sure that we nail this down is, yes, for many of the patients with obesity where it’s a chronic disease, it’s very complicated, we now have obesity medicine specialists that are out there just like there’s infectious disease specialists and pulmonologists and cardiologists and endocrinologists and such. Those folks are out there but that doesn’t mean that a primary care clinician can’t treat obesity. People shouldn’t get so overwhelmed and think “This is just beyond me. It’s just way too complicated, whatever.” I think what it takes is just being a good clinician. It’s like evaluate the complications of obesity and recognize it as a disease and look for those complications that we just see all the time. Just exactly what you pointed out: the glucose and the blood pressure and the dyslipidemia and such and the sleep apnea. Diagnose these basic things and then have some knowledge of an appropriate nutritional intervention like we talked about, maybe keep a dietary diary and review that in an intelligent way. Then make some basic physical activity recommendations as I said. Maybe recommend a certain amount of
steps per day or you said, a certain amount of time per day that you’re going to be walking around or doing these things. These are just basic medical interventions that in many patients can make a huge difference. And there aren’t so many anti-obesity drugs that a clinician couldn’t pick out a few and get to know them really well and start, administering those drugs or recommending those drugs when appropriate, for the patient. I think they’re just some essential elements here that really aren’t that complicated but just takes a basic understanding of, how to manage the patient with obesity. And I think you going over that case illustrated each one of those basic points. I just hope that people come away with the message that obesity is treatable. They can do something about it and it’s not so overwhelming, that they just feel stagnant in an inability to do anything. What's your sense about that?

Donna H. Ryan, MD: I’d go back to one of the first things you said and that was the prevalence of obesity that, more than 40% of the US population of adults has a BMI of 30 or higher. That’s obesity classification. We cannot afford this as a specialty disease. There’s no way we can train enough specialists to manage this.

Harold Edward Bays, MD: That’s right.

Donna H. Ryan, MD: We need primary care physicians to be engaging in this. And one thing that Mr. Budrow’s case illustrates is that it’s not a one-off treatment. It’s like managing diabetes. It’s like managing dyslipidemia. This patient needs to keep coming back. If this patient can keep coming back, we’re going to make a lot of progress on his weight. The idea is to keep the patient under chronic care and over time, I think you’ll be amazed at what you can accomplish with your patients.

Slide 52 – Thank you
I want to thank everybody for joining us today. We hope we provided some insights that will be useful in your clinical practice. To receive credit for viewing this program, you must proceed to the post-test and evaluation. Close this window to return to the open activity screen. Click the continue button to proceed. Taking a few minutes to do this will
also help us gauge the clinical impact of this activity and match future CME programs to your specific interest and needs. Thank you very much.