Whitepaper

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Precision for health

The Power of Precision

How Body Composition Assessment Drives Anti-Obesity Medication Success

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Overview

Delve into an insightful conversation between Obesity Medicine Physician, Dr. Angela Fitch and seca's Dr. Nina Crowley, exploring the significance of incorporating body composition assessment into comprehensive obesity care. Dr. Fitch discusses bioelectrical impedance analysis (BIA), emphasizing its ability to provide more comprehensive and accurate data than traditional metrics like BMI.

She highlights the role in setting realistic expectations for patients regarding body composition metrics and the potential to drive patient education about preserving lean muscle mass and reducing visceral adiposity. Throughout, they stress the importance of individualized patient care and the pursuit of optimal health and well-being through precise body composition assessment.

+ **Comprehensive Obesity Care Beyond Weight/BMI**
  In comprehensive obesity care, it's essential to consider more than just weight and BMI. Obesity is a complex disease that requires a holistic approach, considering factors like quality of life and functional well-being. Professional associations now emphasize that BMI is a screening tool, not a complete measure of obesity's impact on health.

+ **AMA's New Policy on BMI**
  The American Medical Association (AMA) has recognized the limitations of BMI and suggests using it as a screening metric, not as a standalone measure of health. The AMA emphasizes the importance of additional measures, such as waist circumference and body composition, to assess obesity and related health risks.

+ **Evolving Field of Body Composition Assessment**
  The field of obesity care is evolving to include a more comprehensive assessment of body composition, considering various body compartments like fat mass, fat-free mass, bone mass, and total body water. This shift allows for more personalized interventions and optimal metabolic health for individuals with obesity.

+ **Location, Location, Location**
  The location of adipose tissue matters for health considerations. Visceral fat (around internal organs) poses a higher risk of metabolic diseases, while subcutaneous fat (under the skin) is generally less of a risk factor. Understanding the distribution of adipose tissue helps healthcare professionals assess health risks and tailor interventions accordingly.

Join Dr. Nina Crowley and Dr. Angela Fitch, MD, President of the Obesity Medicine Society and Chief Medical Officer of Knownwell, as they dive into several questions about the role of body composition assessment in maximizing the effectiveness of anti-obesity medications, feasible body composition methods for clinic settings and how data empowers healthcare professionals to tailor personalized treatment plans for better patient outcomes.

Yours in Education, **Nina Crowley**, PhD, RDN and **Angela Fitch**, MD, FACP, FOMA, Dipl. ABOM

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Click here to see the video with Nina and Angela's thoughts

FAQs

Why do we need to consider more than weight/BMI in comprehensive obesity care?

In comprehensive obesity care, it is crucial to consider more than just weight and BMI in assessment, diagnosis, and treatment. Obesity is a chronic, relapsing disease that demands a holistic approach, including evidence-based interventions like dietary adjustments, lifestyle modifications, physical activity, medication management, and surgery, when necessary. Focusing solely on weight and BMI overlooks the broader aspects of quality of life and functional well-being, such as the ability to engage in activities like air travel comfortably. Professional associations are now collaborating to establish a consensus that BMI serves as a screening tool for obesity, but it does not directly measure body fat and should be interpreted in the context of the disease's overall impact on health, mortality, and the risk of chronic diseases. Comprehensive obesity care encompasses a multifaceted understanding of the condition beyond simple numerical metrics.

Leading Obesity Care organizations Develop Consensus Statement on Obesity

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What did the American medical Association (AMA) recently decide about BMI?

The American Medical Association (AMA) has recently made significant policy decisions regarding BMI. Recognizing the limitations of BMI, the AMA acknowledges that it does not account for the differences in races and ethnicities and that BMI cutoffs are unable to estimate adiposity or body fat for individuals. The AMA's new policy emphasizes the need for effective alternatives to measure and define the disease state of obesity. They suggest that BMI should be used as a screening metric and not as a standalone number to determine health status. The AMA proposes the use ofclarifying role of BMI as measure in obesity additional measures, such as waist circumference, body composition, and visceral adipose tissue. While the exact impact of these policy changes on medical practice is still evolving, it is expected that clinicians will increasingly adopt more comprehensive assessments beyond BMI to provide better care and understanding of obesity and its related health risks.

AMA Adopts new Policy clarifying role of BMI as measure in obesity

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How is the obesity care field changing to include assessment of body composition?

The field of obesity care is evolving to include a more comprehensive assessment of body composition which examines various compartments of the body, such as fat mass, fat-free mass, bone mass, and total body water. The gold standard for determining fat mass employs a four-compartment model, reducing assumptions and weaknesses associated with individual methods. Preserving muscle mass, a part of fat-free mass, is crucial for metabolic health, as it contributes to resting energy expenditure. While there are no strict guidelines, it is generally considered acceptable for fat-free mass loss to be around 25% or less of total weight loss during obesity treatment. This shift allows healthcare professionals to tailor interventions more effectively and optimize metabolic health for individuals with obesity.

Weight loss composition is one-fourth fat-free mass: a critical review and critique of this widely cited rule

What is the body composed of and how do you measure the compartments?

The human body is composed of various components (fat mass, and fat free mass which can be further divided into bone, and lean soft tissue made up of total body water and protein); measuring these compartments is essential for a comprehensive understanding of health. Beyond BMI, assessing obesity involves considering factors like waist circumference and % body fat. There is no one-size-fits-all standard for body fat % which varies by race and ethnicity. Research is ongoing to establish more precise benchmarks for different populations. The focus should be on optimizing metabolic health and lifestyle improvements rather than fixating on specific numbers, as progress over time and overall health benefits are the primary goals in managing obesity.

Obesity Medicine Association Clinical Practice Statement: Obesity history, physical exam, laboratory, body composition, and energy expenditure (Table 4)

Why does the location of adipose tissue matter?

The location of adipose tissue in the body is significant for various health considerations. Adipose tissue can be subcutaneous (under the skin) or visceral (around internal organs). The distribution of fat matters because individuals who carry more fat in their visceral compartment, around internal organs, are at a higher risk of developing metabolic diseases, including cardiovascular conditions. Subcutaneous fat, while still a health concern, is generally less of a risk factor for metabolic diseases. The optimal range for visceral fat is typically less than one pound, and MRI measures it in liters due because it provides a volumetric assessment of fat distribution in the three-dimensional space around internal organs. Understanding the location of adipose tissue helps healthcare professionals assess the individual's health risks and tailor appropriate interventions accordingly.

Obesity Medicine Association Clinical Practice Statement: Obesity history, physical exam, laboratory, body composition, and energy expenditure (Table 5)

What parameters should we measure?

Individual assessment begins with BMI for screening, waist circumference and % body fat due to their correlation with increased risks of metabolic syndrome, mortality, and morbidity. The OMA's "Top 10 Body Composition Takeaways" provide a succinct summary of key points. Methods to measure body composition vary regarding accuracy, reproducibility, expense, and accessibility. The urgency of measuring obesity-related parameters in clinics is emphasized with the emergence of new anti-obesity medications, underscoring the need for accurate body composition assessments to optimize treatment and patient outcomes.

Obesity Medicine Association Clinical Practice Statement: Obesity history, physical exam, laboratory, body composition, and energy expenditure (Table 2)

Tell me about the newest class of antiobesity medications!

The emergence of a new class of anti-obesity medications, including GLP-1 agonists and newer dual and triple agonist therapies, has shown the potential for substantial weight loss, even reaching up to 30%. More and more people are getting into the 20% weight loss category which is very similar to our surgical outcomes. As more patients gain access to these treatments, there's a growing urgency to accurately monitor their effects, with a particular focus on tracking excessive muscle mass loss and potential side effects. This shift towards more substantial weight loss highlights the importance of personalized treatment plans, comprehensive patient education, and the continual refinement of measurement methods to optimize outcomes in obesity management.

Once weekly semaglutide in adults with overweight or obesity

What happens to body composition on AOMs?

Research from clinical trials such as the STEP1 trial, studied 140 patients from the larger study who had body composition analysis. A key consideration is that it's nearly impossible to lose weight exclusively from fat mass, as some lean mass loss is common in any weight reduction program. Even in placebo groups that undergo lifestyle interventions, both fat and lean mass can decrease, emphasizing that all weight loss regimens induce some degree of lean body mass loss. The percentage of body fat relative to other body components is a crucial metric to evaluate. AOMs may help individuals achieve a more favorable ratio of fat to lean mass, which is an essential goal in obesity management. Future AOMs are showing promise in optimizing body composition by increasing lean mass while reducing fat mass, representing a potentially beneficial approach in obesity treatment.

Exploring the wider benefits of semaglutide treatment in obesity: insight from the STEP program

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What can we learn from bariatric surgery studies?

Monitoring changes in body composition has become increasingly relevant in surgical weight loss where it is important to emphasize the importance of fat mass reduction in weight loss. Studies have shown that in bariatric surgery patients, the majority of weight loss, which typically ranges from 20% to 30% of total body weight, primarily comes from adipose tissue. Examining changes in body composition over time is crucial in understanding the impact of weight loss interventions. Monitoring excessive loss of fat-free mass, including skeletal muscle, is a concern, as it can negatively affect patients' overall health and quality of life. Fortunately, studies indicate that only a small percentage of patients experience excessive loss of fat-free mass beyond 30% post-surgery. This underlines the importance of not only achieving weight loss but also promoting muscle mass maintenance and growth, ensuring that patients can lead healthier, stronger lives even as they age.

Rate and determinants of excessive fat-free mass loss after bariatric surgery

Where is weight loss coming from?

The conversation emphasizes the importance of understanding where weight loss originates and the significance of body composition changes in patient well-being. The clinical practice statement by OMA underscores the need to prioritize fat loss while preserving and promoting muscle mass. It's unrealistic to expect patients to lose only fat and retain all muscle mass, so patient education is vital in setting realistic expectations. Assessing each patient individually before their weight loss intervention allows for tailored approaches, especially for those with varying levels of muscle mass. Adequate protein intake and counseling on protein consumption, as well as the timing of protein intake, are essential for maintaining muscle while losing fat. Additionally, incorporating strength training into patient routines contributes to their overall success in achieving healthier body composition. The patient-centered approach involves setting expectations and helping individuals understand the balance between fat loss and muscle preservation to optimize their well-being.

Obesity Medicine Association Clinical Practice Statement: 30 obesity myths, misunderstandings, and oversimplifications

Beyond appetite regulation: Targeting energy expenditure, fat oxidation, and lean mass preservation for sustainable weight loss

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What happens if people lose too much weight?

When individuals experience excessive weight loss, especially exceeding 25-30% fat free mass loss, whether due to newer medications or surgical interventions, it raises concerns. In such cases, it is crucial to consider adjustments like dose reduction, increased nutrition support/adequate protein intake, regular follow up with a dietitian, and emphasis on resistance exercise. The OMA convened a panel and propose a structured and algorithmic approach to the patient with excessive weight reduction. To manage this effectively, education in a shared decision-making process and assessing body composition at baseline, prior to treatment, becomes vital to determine the level of monitoring and intervention required for each individual.

Obesity Pillars roundtable: Excessive weight reduction with highly effective anti-obesity medications (heAOMs)

What diet/physical activity recommendations can we make?

Dr. Fitch underscores the importance of individualized diet and physical activity recommendations based on evidence-based principles. The challenge of determining protein intake based on body weight is acknowledged, and the potential use of skeletal muscle mass or fat free mass versus just weight or adjusted weight for tailored recommendations. Routine physical activity is highlighted as crucial for overall health and weight maintenance, particularly emphasizing the significance of resistance training, even for those unfamiliar with it. To support patients, accessible resources, and accountability, such as health coaching and online fitness programs, are recommended to establish and maintain an active lifestyle.

Calculation of protein requirements; a comparison of calculations based on bodyweight and fat free mass

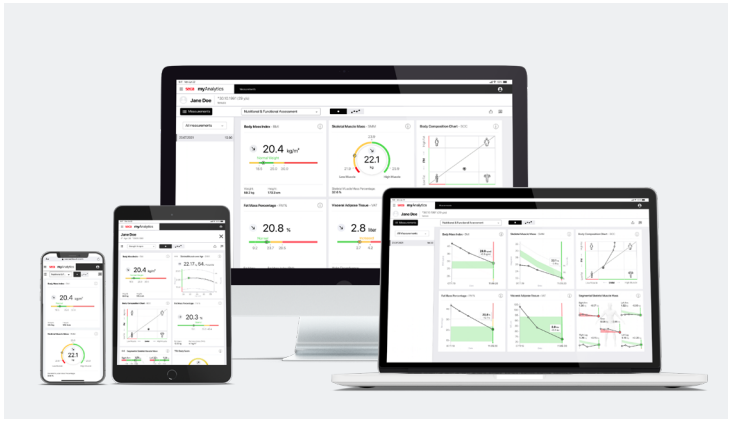
How to decide which body composition method to use in our clinic settings?

Selecting appropriate body composition assessment methods in clinical practice requires consideration of the practicality and accessibility of these methods for both healthcare providers and patients. Dr. Fitch discussed the need to consider options that are more readily available than the often-cited "gold standard" methods, like DEXA or MRI.

+ While DEXA is precise and provides detailed information about fat mass, lean mass, and bone density, it has its challenges. These include radiation exposure (albeit at a low level), the need for specialized software, and accommodations for patients of higher body weight or size. DEXA may also not distinguish between visceral and subcutaneous fat, nor measure water content accurately.
+ The BOD POD is considered challenging due to its need for a skilled technician, the requirement for patients to wear specialized attire (a cap), and the inherent difficulty of getting into the machine, especially for individuals with obesity.
+ BIA (Bioelectrical Impedance Analysis) is a practical, noninvasive, and cost-effective option suitable for most patients. BIA measures impedance through the body's tissues and can be easily incorporated into clinical practice. It provides valuable data for assessing fat mass, skeletal muscle mass, and can even offer insights into water levels.

When choosing a body composition assessment method, factors to consider include: weight limit, the stability of equipment, ease of data entry, and customization of parameters for individual patients like body fat percentage, skeletal muscle mass, and visceral adipose tissue to support clinical goals and motivate patients towards longterm health improvements.

Obesity Medicine Association Clinical Practice Statement: Obesity history, physical exam, laboratory, body composition, and energy expenditure (Table 3)



From your perspective, what are the best reasons to get a BIA device?

Dr. Fitch emphasizes the importance of body composition assessment in clinical practice for several reasons.

+ Provides **more comprehensive and accurate data** than traditional methods like BMI, enabling better tracking of changes over time.
+ Helps address the challenge of **setting realistic expectations for patients** regarding their body fat %.
+ Allows for a **more personalized approach** to weight management, focusing on losing fat mass and preserving lean muscle mass.
+ Opens discussion and **provides data on skeletal muscle mass**, especially as we age, and how we can use the data can educate patients about the need for resistance training to combat muscle loss.
+ Provides insight on **assessing visceral adiposity** for metabolic health and connection to other health conditions.
+ **Potential for future reimbursement** by insurance companies, making BIA a valuable practice management tool.
+ BIA aligns with the **evolving standards of high-quality obesity care** and should be incorporated into the certification process for obesity medicine.

> The fact that we lose skeletal muscle mass every year without trying is the trajectory we are on. If we can recognize it, we can work against it, to fight mother nature and work on our health and well-being.

> Visceral adiposity is really what we want to look at from a metabolic health perspective. Being able to show people what their visceral adipose tissue levels are and then suggest treatment options is really what we are looking at doing.

> Sometimes it's hard to have that first discussion with patients about their results because they may have unrealistic expectations of what a goal body fat percentage is. So we have to level set expectations and armed with data like these, you can talk about more realistic goals based on the individual.

For more information on seca medical body composition, reach out to **Nina Crowley, PhD, RDN** (nina.crowley@seca.com) for clinical questions or how to interpret your seca results and discuss with your patients/clients or **Bobby Ison** (bobby.ison@seca.com) for a product demo.

Book product demo with Bobby Ison HERE

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