



Case report: mBCA controlled weight loss
 Medical field: age management

1 Patient Data

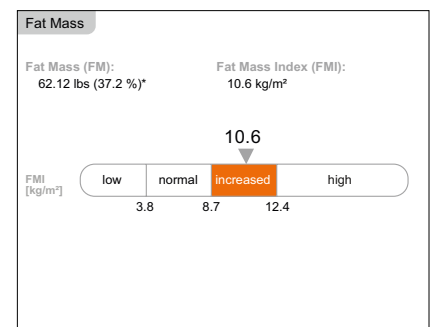
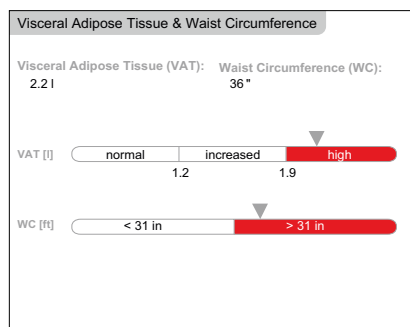
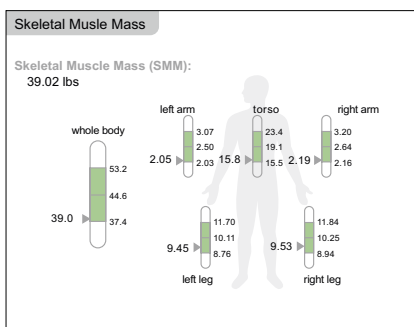
- Age: 39 years
- Gender: female
- Height: 5'4"
- Initial weight: 167 lbs
- Initial BMI: 28.6 kg/m²

2 Medical history / diagnosis and procedure

A 39 year old female struggles with her weight. Although not being obese she wants to lose fat (especially on her thighs and belly) to feel better about herself and become more fit. The patient tried out multiple diets with little to no effect since the weight was regained after some weeks. Plans to exercise more have always been dismissed due to frustration of time issues and a busy work schedule. The patient herself has always been healthy. Family history reveals her father suffered from type 2 diabetes and died from a heart attack at age 58.

The physical exam and medical body composition analysis confirms the increased fat mass and the volume of visceral adipose tissue in absolute values. Skeletal muscle mass is located in the lower normal range.

A ketogenic diet with nutritional supplements was being recommended and an individual exercise plan was implemented. Education regarding healthy weight loss with maintenance or increase in muscle mass to stabilize resting energy expenditure to prevent the yo-yo effect was conducted. Detailed therapy goals were agreed upon.



*percentage of body weight.

3 Follow-up

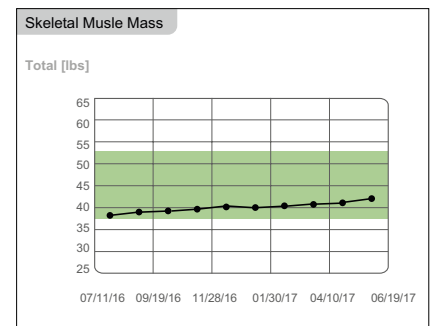
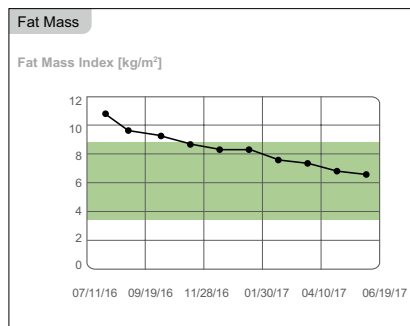
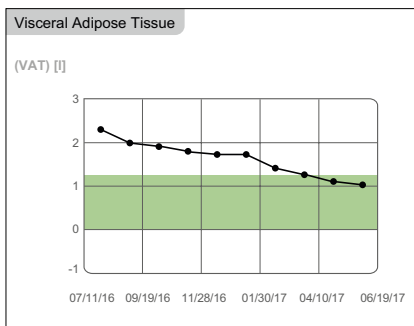
6 weeks: Although having enough time to exercise, due to feeling exhausted she admits to not sticking 100% to the plan.

- **Weight:** The patient was rather frustrated with the therapy hence she lost only 2.9 lbs in 6 weeks. With other diets she had much more success.
- **SMM:** Increased 0.7 lbs
- **VAT:** Decreased from 2.2 l to 2.0 l
- **FM:** Decreased to FMI 9.9 kg/m² (-0.7 kg/m²), %BF 35.4 % (-1.8 %), absolute 59.12 lbs (-3 lbs)

Initially being frustrated, the patient finds comfort after seeing the results of her medical body composition analysis. Seeing a change in the right direction motivates her greatly to stick more to the exercise regimen and nutrition plan. She demands regular follow-up measurements to control her body composition optimization strictly.

48 weeks: The patient was able to translate her motivation to more frequent exercise according to her plan by juggling work-life balance more effectively. Adherence to a nutritional plan and exercise regimen has improved. The patient can also feel and see changes (clothing size, belt) and is even more motivated.

- **Weight:** 148.6 lbs (-18.4 lbs since beginning of therapy)
- **BF:** 26.5 % (-10.7 %) absolute 44.26 lbs (17.87 lbs)
- **SMM:** Increased further to 42.9 lbs (+3.9 lbs)
- **VAT:** Decreased from 2.0 l to 1.0 l
- **FM:** Decreased to FMI 6.7 kg/m² (-3.9 kg/m²), %BF 26.5 % (-10.7 %), absolute 44.26 lbs (17.87 lbs)



4 Summary

Medical body composition analysis with increased VAT and FMI showed a more serious picture than BMI alone, especially with regard to the family history of diabetes and CHD. Low muscle mass disguised the increased fat mass on the scale. Although the patient is not sarcopenic obese, with no intervention this diagnosis would be probable in the future. This time the patient lost weight in a healthy way. The maintenance of muscle mass will stabilize the energy expenditure to avoid future yo-yo effects. Visualizing early changes in body composition motivates patients to comply to their often strict dietary restrictions and intensive exercise regimens. Both are necessary to achieve a healthy and maintainable body composition.