



**Case report:** marathon runner  
**Medical field:** sports medicine

## 1 Patient data



Age: 33 years  
 Gender: female  
 Height: 1.71 m

Initial weight: 61.20 kg  
 Initial BMI: 21.00 kg/m<sup>2</sup>

## 2 Medical history / diagnosis

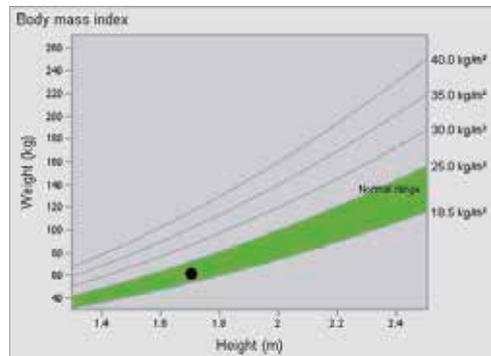
A 33-year-old woman ran her most recent marathon two years ago. At that time she ran five or six times per week, combined with functional training in a fitness studio. During the past two years she was so busy studying that she had to give up running. Now that she has completed her studies, she would like to return to her former training level. To do so, she runs twice a week and does functional training once a week. With body composition analysis, she wants to find out how effective her new training regimen has been.

## 3 Graphs of measuring results

### Body mass index (BMI)

The Body Mass Index shows that her weight and height put her in the normal range between 18.50 kg/m<sup>2</sup> and 25.00 kg/m<sup>2</sup>.

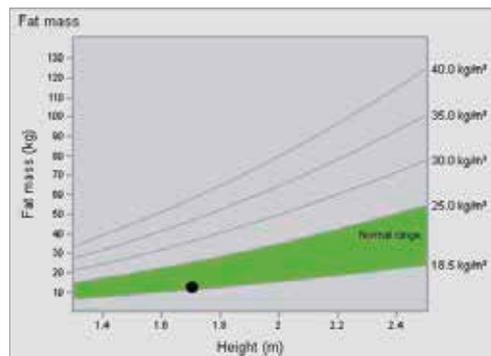
- 21.00 kg/m<sup>2</sup>



### Fat mass (FM)

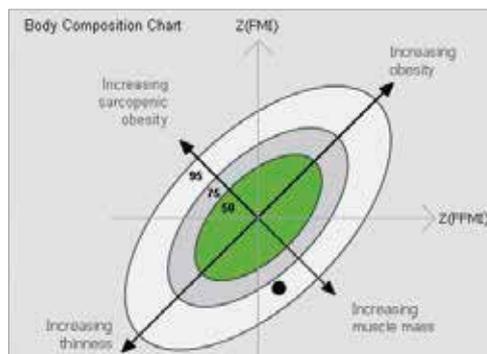
The fat mass diagram shows that the value of 12.28 kg (20.10 %) is very low, relative to the BMI cut-off. Such a composition is frequently observed in athletes.

- Fat mass (FM): 12.28 kg
- Fat mass (FM) %: 20.10 %
- Fat mass index (FMI): 4.20 kg/m<sup>2</sup>
- > BMI class: 18.50–25.00 kg/m<sup>2</sup>



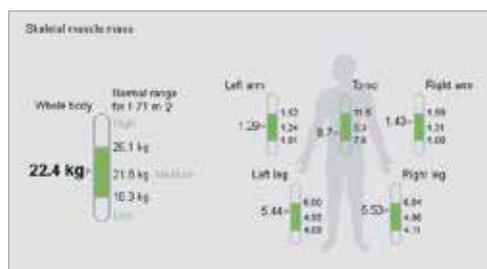
### Body composition chart (BCC)

The low fat mass can also be seen in the BCC, where the measurement point lies outside the 75th percentile. The above-average high fat-free mass is recognizable in that the measurement point is shifted to the right. The position indicates a high proportion of muscle.



### Skeletal muscle mass (SMM)

The results of the BCC are confirmed here. The SMM is above average. Furthermore, it is clear that the legs are more muscular than the remaining segments. This condition is typical of runners.



- SMM: 22.40 kg
- SMM (left arm): 1.29 kg
- SMM (right arm): 1.44 kg
- SMM (Torso): 8.80 kg
- SMM (left leg): 5.46 kg
- SMM (right leg): 5.54 kg

## 4 Summary

The body composition analysis shows a very low fat mass accompanied by elevated muscle mass and indicates a good level of fitness. Regularly repeated body composition analysis is a good means of monitoring the effect of further training.

**The analysis of body composition with the seca mBCA shows that the subject's fitness level is very good and that she can intensify her training to ensure a strong finish to the next marathon.**

seca | mBCA



Scan code for seca mBCA product information or see directly at mbca.seca.com