

ASSESSMENT OF 15 MCQS

FPSC NO : 127

MCQS ON MUSCLES MATTER: UNCOVERING THE ROLE OF MUSCLES
IN HEALTH AND DISEASE

SUBMISSION DEADLINE: 13 May 2025, 12 NOON

INSTRUCTIONS

- To submit answers to the following multiple choice questions, you are required to log on to the College Online Portal (<https://lms.wizlearn.com/cfps/>)
- Please contact sfp@cfps.org.sg if you have not received an email on the new LMS account.
- Attempt ALL the following multiple-choice questions.
- There is only ONE correct answer for each question.
- The answers should be submitted to the College of Family Physicians Singapore via the College Online Portal before the submission deadline stated above.
- There will be NO further extension of the submission deadline

- An 80-year-old man had three falls in the past one year. Which of the following is sufficient for the diagnosis of "Possible Sarcopenia" by Asian Working Group for Sarcopenia (AWGS) 2019 criteria?**
 - Calf circumference of 32 cm
 - 5-time chair stand test time of 14 s
 - SARC-CalF score of 4
 - SARC-F score of 2
 - SPPB score of 10
- SARC-F would be useful to screen for sarcopenia in a 65-year-old lady with the following clinical history except:**
 - Cognitive impairment
 - Obesity
 - Swallowing impairment
 - Type 2 Diabetes Mellitus
 - Urinary incontinence
- Which of the following about proper measurement of handgrip strength is correct?**
 - Average value of 2-3 trials
 - Flexed elbow in a standing position
 - Single attempt from the dominant hand
 - Sitting position using Jamar dynamometer
 - The type of dynamometer does not matter
- Which of the following is a contraindication to the use of bioelectrical impedance analysis for muscle mass quantification?**
 - Contrast allergy
 - End-stage renal failure
 - Implanted pacemaker
 - Obesity
 - Total knee replacement
- Which of the following is most beneficial for increasing muscle strength in older adults with sarcopenia?**
 - Aerobic exercise
 - Leucine supplementation
 - Resistance exercise
 - Testosterone treatment
 - Vitamin D supplementation
- In which of the following scenario(s) should you screen for sarcopenic obesity?**
 - A 45-year-old with a BMI of 35 kg/m² who engages in regular weight training and whose job involves climbing stairs**
 - A 45-year-old man with a BMI of 35 kg/m² who lost 15% of his weight in three months through a restrictive diet alone, now complaining of difficulty going up the stairs**
 - A 65-year-old lady with known obesity (BMI 28 kg/m²) who was recently admitted for a pneumonia and had lost substantial weight**
 - A 65-year-old lady with rheumatoid arthritis who had always been lean (BMI 21 kg/m²) and gained 10% of weight in the last six months from inactivity (joint pains)**
 - II and III
 - I and IV
 - I, III, and IV
 - II, III, and IV
 - All of the above

7. Which of the following statement is false?

- A. Sarcopenic obesity only affects people of older age
- B. The presence of sarcopenia can worsen the glycaemic control and cognitive impairment in people with type 2 diabetes
- C. In people with obesity, chronic dieting and body weight cycling as part of weight management can increase the risk of SO development
- D. In people with type 2 diabetes, the presence of diabetes microvascular complications and poor glycaemic control increases the risk of sarcopenia
- E. Sarcopenic obesity can be affect up to 20% of people with type 2 diabetes

8. With regards to the use of screening and diagnostic tools in sarcopenic obesity, which of the following statement is true?

- A. Measuring the waist circumference does not add any value in assessing for obesity in Asian people with a high-normal body mass index
- B. In a person with chronic lymphoedema, measuring the calf circumference should serve to be an accurate screening
- C. In a person with a BMI of 35 kg/m² and type 2 diabetes, a history of muscle fatigue is sufficient grounds to screen for sarcopenia
- D. In a Chinese man with a BMI of 33 kg/m² and waist circumference of 105 cm, sarcopenic obesity can be confirmed if his hand grip strength is below the Asian cutoff of 28 kg
- E. Only the DEXA scan should be used to assess body composition in people with obesity

9. Which of the following treatment of obesity can lead to substantial muscle loss?

- I. Bariatric surgery**
- II. Lifestyle modification with high-protein diet and exercise**
- III. GLPI-RA**
- A. I and III
- B. III only
- C. II and III
- D. None of the above
- E. All of the above

10. Mdm A is a 50-year-old sedentary lady who is post-menopausal and has sarcopenic obesity. Which of the following lifestyle advice would you recommend?

- I. Rapid weight loss with very-low-calorie-diets**
- II. Hypocaloric, high-protein diet, aiming for 1.0-1.5 g/kg body weight**
- III. Low-to-moderate intensity physical activity consisting of resistance and aerobic exercise**
- IV. Use of an effective obesity medication as monotherapy**
- A. IV
- B. II and III
- C. I and III
- D. I, III, and IV
- E. All of the above

11. Since 2010, there have been a number of definitions for sarcopenia by different working groups in different regions. Which of the following is not used in the diagnosis of sarcopenia?

- A. Muscle mass
- B. Muscle strength
- C. Gait speed
- D. Short physical performance battery
- E. Muscle quality

12. Sarcopenia is a highly prevalent condition and healthcare burden. The following accurately describe sarcopenia except:

- A. Conservative estimates suggest a prevalence of 10 percent in the community
- B. As the population gets older, the prevalence of sarcopenia increases
- C. Low muscle strength is a better predictor of adverse clinical outcomes compared to low muscle mass
- D. The decline in strength manifests after the decline in muscle
- E. Peak muscle mass is achieved in early adulthood

13. Recent studies have suggested that individuals with a pre-sarcopenic state have a higher likelihood of reverting to a non-sarcopenia state than progressing to a sarcopenic state. The best evidence-based intervention to improve muscle mass and muscle strength is:

- A. Metformin
- B. Protein
- C. Progressive resistance exercise
- D. Myostatin inhibitors
- E. Testosterone

14. There are many causes that might lead to loss of muscle tissue. In sarcopenia, the loss of muscle mass is predominantly as a result of:

- A. Reduced positive muscle protein synthesis
- B. Increased muscle protein breakdown
- C. Inflammation due to diabetes
- D. Fatty tissue infiltration in the muscles
- E. Excessive misfolded muscle protein and dysfunctional organelles

15. Dietary protein is a potent stimulator of muscle protein synthesis. For maximal anabolic effect, the following is true except for:

- A. The anabolic effect of dietary protein lasts for about three hours
- B. Ingesting the total daily recommendations of protein in one meal maximises muscle protein synthesis
- C. Performing physical activity increases the sensitivity of muscle to the anabolic effect of dietary protein
- D. The recommendation for healthy older people for dietary protein intake is 1.0 to 1.2 g/kg/day
- E. Adequate energy intake is required for maximal muscle protein synthesis