The Competitive Senior Athlete



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KEYWORDS

- Older athletes
 Sports medicine
 Master athletes
 Chronic diseases
- Cardiovascular diseases
 Diabetes mellitus
 Medication complications
- Dehydration

KEY POINTS

- As the population ages, more individuals older than the age of 65 will have the opportunity to participate in a variety of fitness activities and competitive sports.
- Even though there may be a possible cause and effect relationship between some sports and osteoarthritis, there is evidence that exercise reduces pain and enhances physical function of the affected joints.
- The risk of sudden cardiac death increases with physical activity; however, there is a consensus that health benefits of regular physical exercise far outweigh the acutely increased risk of this condition.
- Older athletes should ingest fluids before and during sports competitions, because there is an increased risk of dehydration in that age group.
- The use of medications and dietary supplements is common among older athletes. Clinicians should be aware about the possible effects of medications on sports performance.

INTRODUCTION

In the year 2017 the National Senior Games Association will be celebrating 30 years of their first competition. In that initial event, which was held in St. Louis, Missouri, close to 2500 competitors older than the age of 50 participated in 15 sports. In the year 2015, the number of participants grew to almost 10,000 athletes.¹ With the well-discussed aging of the population more individuals older than the age of 65 will have the opportunity to participate in a variety of fitness activities and competitive sports. Clinicians should be prepared to treat older athletes and help them to continue their active lifestyles. This article discusses some of the unique medical challenges that this population presents.

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Phys Med Rehabil Clin N Am 28 (2017) 767–776 http://dx.doi.org/10.1016/j.pmr.2017.06.009 1047-9651/17/© 2017 Elsevier Inc. All rights reserved. First we need to define older athletes. Other terms that have been used to describe this group include master athletes, mature athletes, and aged athletes. An athlete is defined as a person who commits to their sport or activity at least five times a week with the activity level achieved being more than what is recommended for general health benefits, resulting in the heart beating significantly faster and shortness of breath that makes talking difficult.² Another simpler and more inclusive description of an athlete is a person who participates in an organized team or individual sport that requires regular competition against others as a central component, places a high premium on excellence and achievement, and requires some form of systematic (and usually intense) training.³

What constitutes a senior athlete will depend on the sport or the events. The National Senior Games includes athletes that are older than 50 years. World Masters Athletic includes women and men of age 35 and older and divides them into 5-year groups up to age 100. To play in the Senior Professional Golf Association tour the athlete must be older than 50 years. The International Tennis Federation divides their older players into three divisions. The young seniors age categories range from 35 to 45 for men and women, the seniors range from 50 to 60, and the super-seniors range from 65 to 85 for men and 60 to 80 for women.⁴ The American College of Sports Medicine/American Heart Association physical activity and public health recommendations for older adults suggest that, in most cases, "old age" guidelines apply to individuals aged 65 years or older, although they can also be relevant for adults aged 50 to 64 years with clinically significant chronic conditions or functional limitations.⁵

When treating older athletes, one should contemplate each patient's goal. Some patients compete sporadically just for fun, but some others want to achieve a high level of skill that allows them to participate in organized competitions. Also consider if the patient is an experienced athlete who has been participating in their sports for most of their life or a newcomer that started practicing sports during their adult years. For some competitors their athletic achievements are a source of great pride and an important part of their lives, so it is imperative for them to heal fast and get back to competition as soon as possible. As health care professionals we understand that returning to sports is equally important to all patients regardless of their goals, because it is an important part of a healthy lifestyle.⁵

There is evidence that physical activity significantly reduces the risk of many medical problems and that master athletes have a lower risk of chronic diseases than their sedentary counterparts.⁶ However, advancing age is associated with an increased risk of for chronic diseases.⁵ Some of the conditions that older athletes may suffer and important considerations that are helpful to manage this important group are discussed next.

THE OLDER ATHLETE AND DIABETES

It is estimated that there are 11.2 million people 65 years and older who suffer from diabetes mellitus in the United States.⁷ Studies have shown that the decline in glucose tolerance and insulin sensitivity that is commonly seen with aging and that may lead to this condition is prevented in some individuals with regular exercises.⁸ Master athletes with an average age of 60 years were found with normal glucose tolerance and lower plasma insulin levels (fasting and after glucose ingestion) when compared with older, untrained men. The master athletes' blood glucose and insulin levels were found as low as in young athletes.⁹ A group of master runners and triathletes with an average age of 63.5 years showed enhanced insulin sensitivity and a lower waist-to-hip ratio

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