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The Pathophysiology of Athlete's Heart

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**The Pathophysiology of Athlete's Heart**

Hannah McKee, BSN, RN

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**What is Athlete's Heart?**

Athlete's heart is a pathologic cardiac hypertrophy, closely resembling remodeling resulting in increased cardiac output, but without cardiac disease (McKelvie, 2017). Significant left ventricular wall thickness and left ventricular dilation are seen as LVH (left ventricular hypertrophy), intraventricular septum hypertrophy, and left ventricular mass increase. Bradycardia may also be present. In strength athletes, such as weightlifters and wrestlers, the left ventricular wall thickness and only mild ventricular dilation is present. These adaptations can occur, taking roughly two years of vigorous exercise at least five hours per week to cause the changes seen with athlete's heart (Martini & Nair, 2014). These adaptations occur so that the heart can more readily meet the body's demand. These adaptations may occur without chest pain or other complaints of near syncope and may not be apparent on electrocardiograms (EKGs). The adaptation of athlete's heart is reversible, but sometimes irreversible under certain conditions. Conditions that require further evaluation and follow-up include the following:

- **Atrial fibrillation**
- **Atrioventricular (AV) blocks**
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**Signs & Symptoms**

Most athletes are asymptomatic (McKelvie et al., 2015). However, according to McKelvie (2017), a variety of signs and symptoms may occur in athletes:

- Bradycardia
- Syncope caused by an impulse that is out of place, large, and with increased amplitude
- Soreness in the left ventricular wall
- **LVH** is characterized by a wall thickness of 2-15 mm. Left ventricular mass seen as LVH is seen as LVH (left ventricular hypertrophy), intraventricular septum hypertrophy, and left ventricular mass increase. Bradycardia may also be present. In strength athletes, such as weightlifters and wrestlers, the left ventricular wall thickness and only mild ventricular dilation is present. These adaptations can occur, taking roughly two years of vigorous exercise at least five hours per week to cause the changes seen with athlete's heart (Martini & Nair, 2014). These adaptations occur so that the heart can more readily meet the body's demand. These adaptations may occur without chest pain or other complaints of near syncope and may not be apparent on electrocardiograms (EKGs). The adaptation of athlete's heart is reversible, but sometimes irreversible under certain conditions. Conditions that require further evaluation and follow-up include the following:

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