petitive athletes. All efforts should be made to identify and manage younger affected family members before life-threatening ventricular arrhythmias occur. These efforts are justified by the recognition that early diagnosis and timely therapy, predominantly by implantable defibrillator, provides life-saving protection (3). Although we agree with the comments that a nationwide clinical and genetic screening for inherited heart diseases is warranted, we believe that pre-participation evaluation of young competitive athletes and familial cascade screening should not be considered mutually exclusive—rather, they should interact synergistically to achieve early (pre-symptomatic) identification of individuals affected by inherited cardiomyopathies at risk of sudden cardiac death.

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Pre-Participation Sports Clearance

As an outspoken critic of the current state of pre-sports screening in the U.S. (1), I applaud Corrado et al. (2) and Pelliccia et al. (3) for their scientific and thorough efforts to detect conditions responsible for sudden cardiac death in athletes and adopting standardized procedures for screening. Although I agree that routine electrocardiograms (ECGs) can help detect hypertrophic cardiomyopathy, long-QT syndrome, and arrhythmogenic right ventricular dysplasia, there is one diagnosis for which ECGs seem unhelpful: congenital anomalies of the origin of the coronary arteries (4,5).

Basso et al. (5) himself reported that this diagnosis is responsible for between 5% and 35% of all sudden cardiac death in adolescents. As a result, I was surprised that this diagnosis was given little attention by these articles. Corrado et al. (2) lumped congenital anomalies of the origin of the coronary arteries with premature coronary artery disease. These 2 diagnoses have different demographics, etiologies, prevalences, presentations, and suitability of screening. As far as I know, the findings listed in the chart on page 1,984 of his article are all diagnostic for premature coronary artery disease and are of limited or no value in diagnosing congenital anomalies of the origin of the coronary arteries (2,4). Pelliccia et al. (3) failed to mention both diagnoses in their article.

In my pediatric cardiology practice, congenital anomalies of the origin of the coronary arteries is the diagnostic possibility of the most concern in athletes, especially ones complaining of nonspecific symptoms such as chest pain. I order more echocardiograms on young athletes and spend more time personally performing and reviewing echocardiograms to make this diagnosis than with hypertrophic obstructive cardiomyopathy or long-QT syndrome, which are easier to diagnose with echocardiogram and ECG. It seems to me that no matter how powerful the ECG is for screening for the other diagnoses, we are still going to have to evaluate and personally do an echocardiogram on nearly all competitive athletes if we are going to rule out congenital anomalies of the origin of the coronary arteries and thus significantly reduce the incidence of sudden cardiac death in adolescent athletes. I fail to see how this is financially feasible.

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Reply

We thank Dr. Reich for his interest in our review (1). We agree with his comments that congenital coronary artery anomaly is an important cause of sudden death in young competitive athletes and that its clinical detection in young competitive athletes undergoing pre-participation screening is challenging. The most frequent anatomical variant leading to cardiac arrest consists of both coronary arteries arising either from the right or the left coronary sinus, with the aberrant coronary artery coursing between the aorta and the pulmonary trunk. retrospective analyses of clinical and pathological series have consistently shown that neither routine 12-lead electrocardiogram (ECG) nor exercise testing are particularly informative for the diagnosis of the anomalous origin of a coronary artery from the