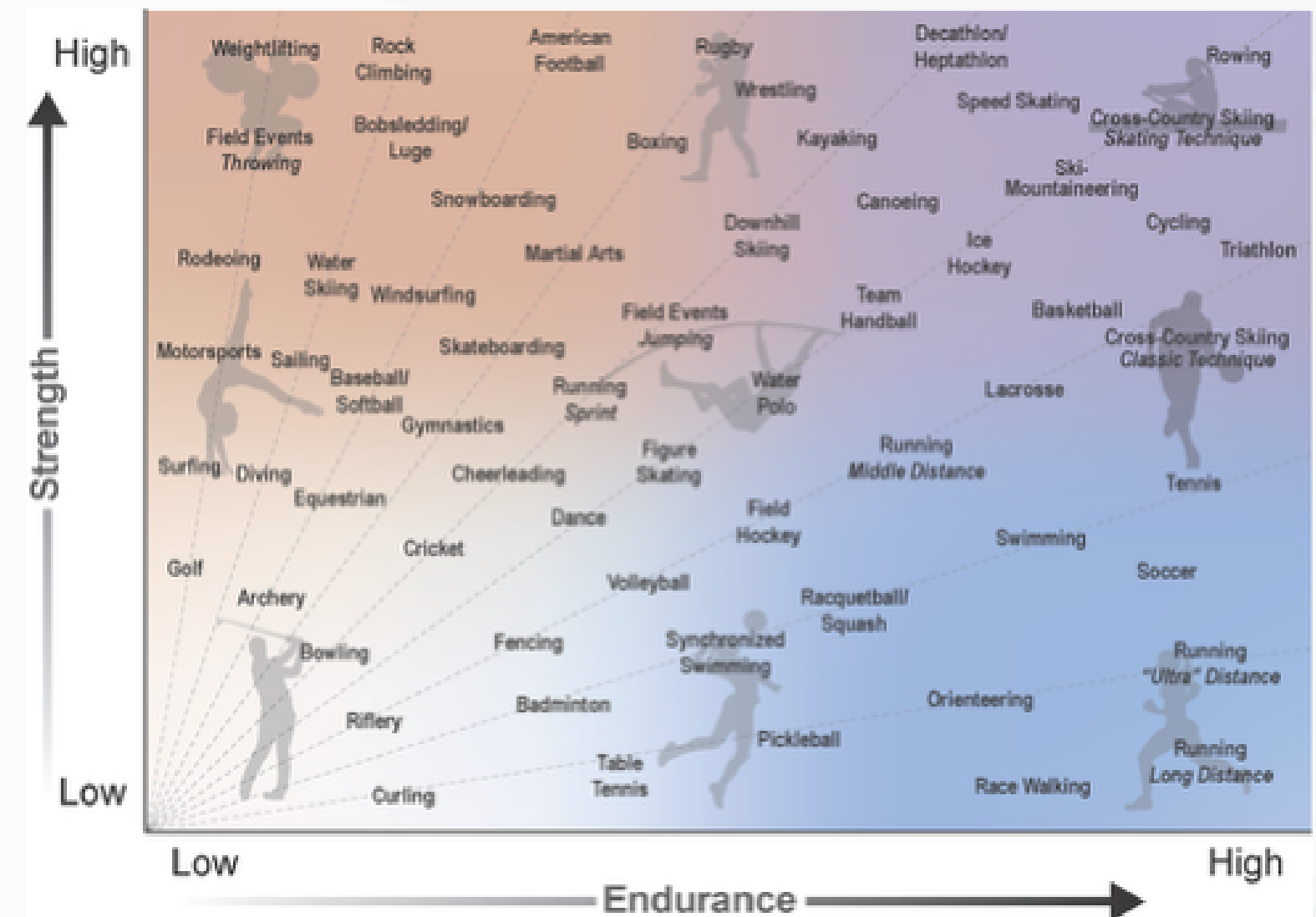


Protecting Young Hearts: Preventing Sudden Cardiac Arrest (SCA) in Athletes

SCA & Athletes

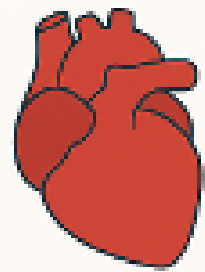
- Sudden cardiac arrest (SCA) is the **leading cause of death in young athletes** during sports.
- SCA can occur in both athletes and non-athletes, often without warning.
- There are **20,000+** pediatric out-of-hospital cardiac arrests annually in the US.
- The highest SCA risk is seen in **sports requiring high strength and endurance.**



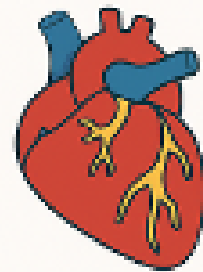
AHA/ACC Scientific Statement 2025

Causes of SCA in Athletes

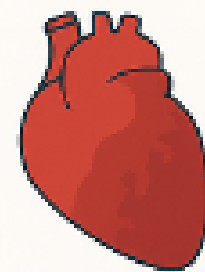
Common Causes of Sudden Cardiac Death in Athletes



Hypertrophic
cardiomyopathy



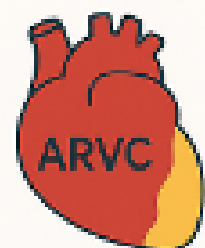
Anomalous
coronary artery



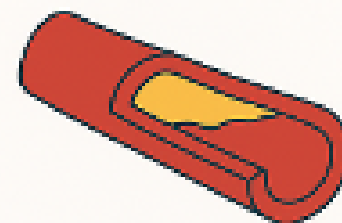
Myocarditis



Ion
channelopathies



Arrhythmogenic right
ventricular
cardiomyopathy



Coronary
artery disease

- Structural heart diseases (e.g., hypertrophic cardiomyopathy, congenital anomalies)
- Electrical problems (e.g., long QT, catecholaminergic polymorphic ventricular tachycardia (CPVT), Wolff-Parkinson-White (WPW))
- Myocarditis, arrhythmias, or coronary disease in older athletes

SCA Warning Signs

- Fainting or collapsing during exercise
- Chest pain, palpitations, and shortness of breath during exercise
- Family history of sudden death or inherited heart disease

Report any such symptoms immediately to your health care professional.



Annual Screenings



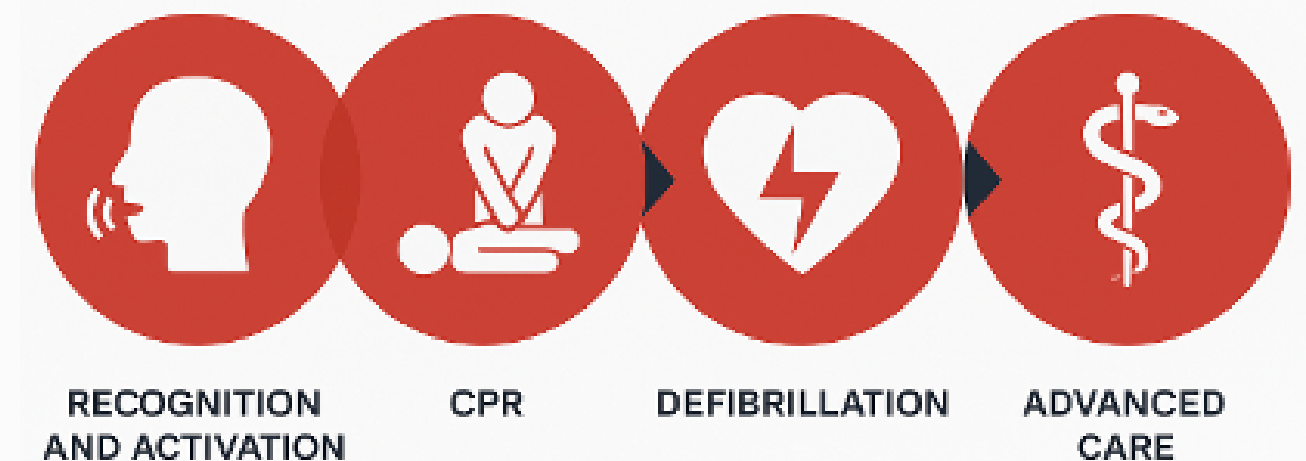
AHA Recommendations for Pre-Participation Screening of Young Competitive Athletes

- **Annual Prescreening**
 - Every young competitive athlete should undergo prescreening once per year.
 - The evaluation should include a targeted personal history, family history, and physical examination.
- **14 Key Screening Elements**
 - History of elevated systemic blood pressure
 - Knowledge of certain cardiac conditions in family members
 - Presence of a heart murmur on exam
- **Referral for Further Testing:** Any positive findings from history or exam should prompt referral for additional testing.
- **Role of ECG & Echocardiogram**
 - The AHA does not recommend mandatory ECG
 - Cardiac testing should be performed when the initial screening raises any concern

Emergency Preparedness Saves Lives

- **Cardiac Emergency Action Plans (EAP)** mean faster action and better outcomes.
- Train staff (e.g., teachers, coaches, etc.), students, and community members in **CPR and AED** use.
- Maintain accessible, well-marked **AEDs**.
- Conduct regular **drills and equipment checks**.
- Establish clear response **roles and communication**.

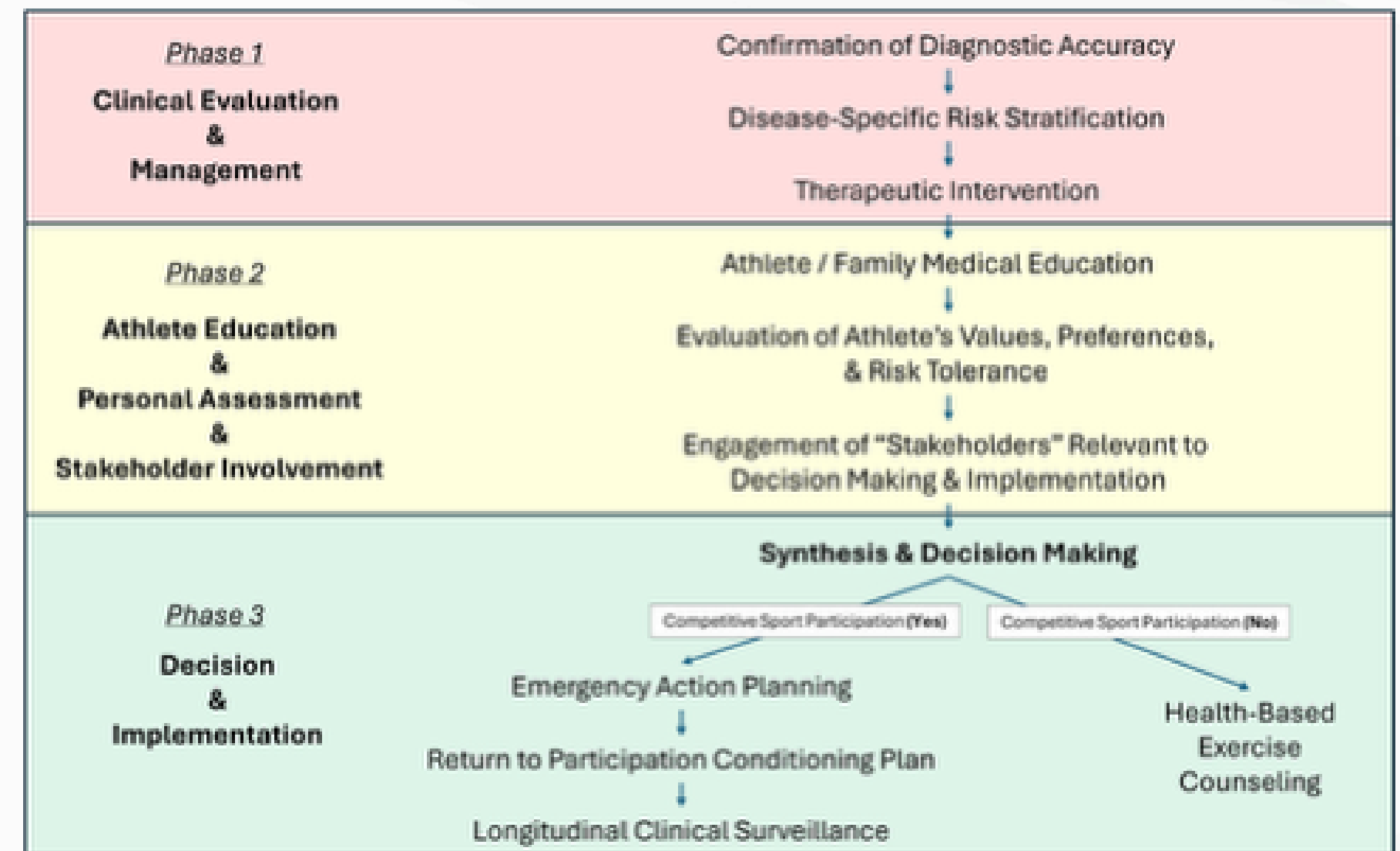
CHAIN OF SURVIVAL



Safety of Athletic Participation After Proven Heart Disease

- **Old approach:** Athletes with suspected heart disease were automatically restricted.
- **New approach:** Shared decision-making (SDM) between athlete, family, and physician.
- Many athletes with heart disease and even rescued cardiac arrest can safely continue sports with monitoring.

You and your healthcare team will make the final decision together.



Addressing Equity & Access



- SCA risk is **highest among Black male athletes**, especially in basketball and football.
- Pre-participation screening must be strengthened for these at-risk groups.
- **Barriers to care** include:
 - Limited AED access in schools
 - Screening costs
 - Disparities in CPR/AED education
- Communities share responsibility for maintaining emergency preparedness standards in schools and athletic facilities.
 - "A Responsibility of All, Not One."
 - Call for equitable access to screening, AEDs, and trained responders

Key Takeaways



- Death among athletes due to SCA is rare and devastating, but preventable.
- Prevention = Screening + Awareness + Emergency Preparedness
- Communities should:
 - Encourage pre-participation screenings.
 - Ensure AEDs & EAPs in schools, sports venues, and other community centers.
- Promote CPR/AED training for all.

Together, we can save young lives.