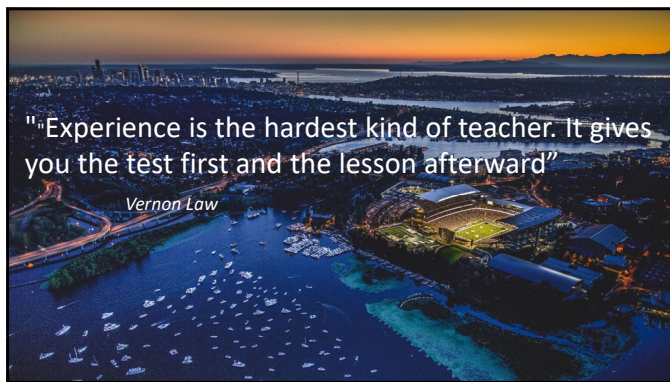


Shared Decision Making and Return to Play: Tough Cases, Hard Decisions



Kimberly Harmon, MD
Professor, University of Washington

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Case of Nicholas Knapp – September 1996

- Nick Knapp suffered a SCA his senior year of high school playing pick-up basketball
- Resuscitated and ICD placed
- Northwestern honored scholarship but declared him medically ineligible
- Knapp sued Northwestern based on the Rehabilitation Act of 1973



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Class vs. Towson – 2015

- Football player wanted to play after a liver transplant

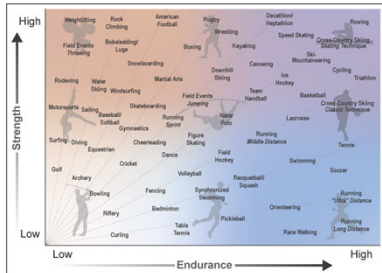
“Granting the Team Physician final clearance authority is fair and reasonable for student athletes. The dispositive question is whether the Team Physician’s opinion was reasonable – i.e. ‘individualized, reasonable made, and based upon competent medical evidence.’”

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AAHA/ACC SCIENTIFIC STATEMENT

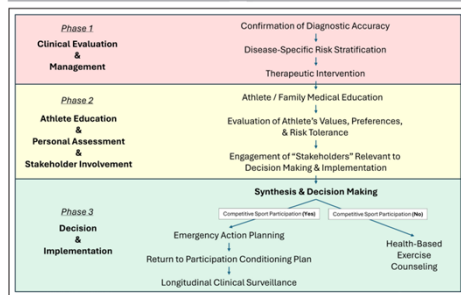
Clinical Considerations for Competitive Sports Participation for Athletes with Cardiovascular Abnormalities: A Scientific Statement from the American Heart Association and American College of Cardiology

Jonathan H. Kim, MD, MSc, FACC, Chair; Aaron L. Baggish MD, FACC, Vice Chair; Benjamin D. Levine, MD, FAHA, FACC, Vice Chair; Michael J. Ackerman, MD, PhD, FACC; Shalene M. Day, MD, FAHA; Elizabeth H. Dineen, DO, FACC; J. Sawalla Guseh II, MD; Andre La Gerche, MBBS, PhD; Rachael Lampert, MD FHR, FACC; Matthew W. Martinez MD, FACC; Michael Papadakis, MBBS, MD, FRCP; Dermot M. Phelan, MD, PhD, FACC; Keri M. Shafer, MD, FACC;

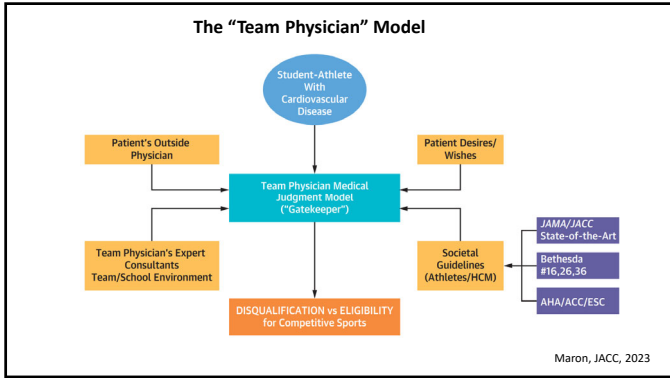


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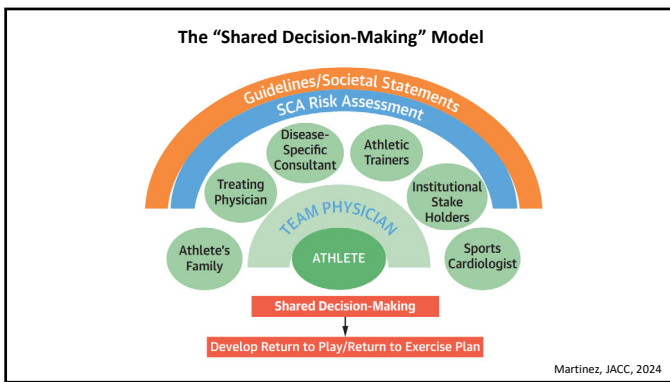
Shared Decision Making



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Benchmark: Commercial Aviation

Extremely safe
1 death in 10 mio hours = 1,141 years
Chance of Dying in next 1000 hours = 0.01%

Generally Safe Activities
(1/1000 as dangerous as commercial aviation)

- Driving (US): 1 death in 2.7 mio hours = 262 years
- Cycling (US): 1 death in 1.7 mio hours = 168 years
- Basekicking (kicking football): 1 death in 200,000 hours = 18 years
- Open Water Swimming (UK): 1 death in 22,000 hours = 20 years
- Recent Skiing (Colorado): 1 death in 4,400 hours = 400 years
- Equine Riding: 1 death in 200,000 hours = 18 years

Dangerous Activities

(~100-1000x as dangerous as commercial aviation)

- Scuba Diving: 1 death in 120,000 hours = 11 years
- General Aviation (US): 1 death in 44,000 hours = 4 years
- Hang Gliding (UK): 1 death in 1,100 hours = 110 years
- Paragliding (Germany): 1 death in 25,000 hours = 2.5 years
- Paragliding (Germany): 1 death in 18,000 hours = 1.8 years
- Climbing the Tetons (US): 1 death in 8,000 hours = 800 years
- Summitting Mt. Everest (Buddhist path): 1 death in 2,500 hours = 250 years

Insanely Dangerous Activities

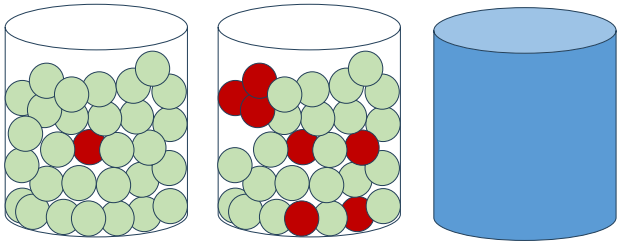
(more than 100,000x as dangerous as commercial aviation)

- Base Jumping: 1 death in 21 hours
- Base Jumping: 480,000x as dangerous as commercial aviation
- Motorcycling (US): 1 death in 100,000 hours = 11 years
- Flying Sailplane (Germany, France): 1 death in 30,000 hours = 3 years
- Aviation: 1 death in 10,000 hours = 1 year
- Formula 1 Car Racing (Wolfschlaede): 1 death in 5,000 hours = 500 years

<https://chessintheir.com/the-risk-of-dying-doing-what-we-love/>

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Decision Making with Uncertain Risk



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Case 1 – cardiac

- 21 y.o. women’s basketball player has an arrest on New Year’s Eve (12-31-2002)
- She was at home, didn’t feel well, arrested
- Roommates performed CPR
- EMS arrived –defibrillated



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January 2003

- No family history of cardiac issue
 - Father with normal ECG
 - Mother with one borderline ECG but rest normal
 - Brother with normal ECG
- Diagnosis of LQTS was made
- Defibrillator placed Jan. 6
- Medically disqualified



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Summer 2003 - Second Opinion

- Only one ECG, post-arrest with LQT in setting of UTI while on Cipro
- Arrest occurred at rest
- No FH
- Was as likely to have another arrest at rest vs. exercise
- Did not have LQTS
- Cleared to play



Mike Ackerman, MD, PhD

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Now What?

- Kayla and her family came to me asking to play
- I reviewed case with UW cardiologist
 - He disagreed with opinion from Mayo
- I went to UW administration to see if they would let her play
 - They said it was my decision



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Case 2

- 22 y.o. football athlete
- Was tackled, helmet dislodged, hit in the head
- Was unconscious for ~ 10 minutes
- Spine boarded
- When he awoke he was confused and combative
- Paralyzed, intubated and transported to trauma center

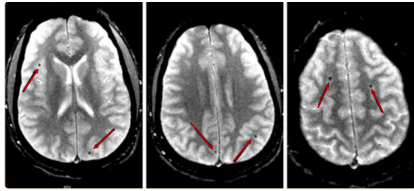


Asif, Sports Health, 2010

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Case 2

- MRI showed multiple cerebral microhemorrhages
- Symptoms resolved and balance improved over 3 weeks



- ImpACT testing was at his baseline; however, the patient continued to have difficulty with concentration, depression, and memory.
- Neuropsychological evaluation showed mild to moderate impairments in several areas, including left-hand fine motor speed, complex attention, executive function, and delayed memory recall of complex verbal information.

Asif, Sports Health, 2010

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Case 2

- 2 previous concussions
- F/u MRI at 6 weeks showed persistence of microhemorrhages
- He was medically disqualified
- In the spring he and his father requested clearance to return to play

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Case 3

- 17 yo hockey athlete
- Had an episode of transient neuromyoclonus (lasting 30 minutes) after he slid into the boards at relatively slow velocity
- MRI showed cervical C3 disk protrusion with cord compression and central canal stenosis
- Cervical disk was resected and fusion of C2/C3 was performed
- Operating surgeon recommended restriction from contact/collision sport
- 3 outside consultants also recommended restriction

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Case 3

- Athlete was medically disqualified
- After about 6 months requested return to play



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Case 1 – Cardiac

- Basketball athlete with history of SCA and ICD
- Differing opinions from specialist

Case 2 – Concussion

- Football athlete with third concussion with prolonged LOC, MRI changes, and deficits on neuropsychological testing
- Desire to play professional football

Case – Spinal cord injury

- Hockey athlete s/p spinal surgery
- Agreement among consultants
- Professional aspirations

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Case 1 – Cardiac

INTRODUCTION

Revised Eligible Recommendations for Competitive Athletes With Cardiovascular Abnormalities

ADAPTED FROM: AMERICAN HEART ASSOCIATION/American College of Cardiology

STATE-OF-THE-ART REVIEW: AMERICAN COLLEGE OF CARDIOLOGY

The purpose of this document is to provide a comprehensive review of the current evidence regarding the management of competitive athletes with cardiovascular abnormalities. This document is intended to serve as a resource for clinicians and athletes alike, and to provide a framework for the development of individualized management plans. The document is organized into sections based on the type of cardiovascular abnormality, and each section provides a summary of the current evidence, followed by a list of recommendations. The recommendations are based on the best available evidence, and are intended to be used as a guide, rather than a strict protocol. The document is intended to be updated as new evidence becomes available.

Implications for the Clinician

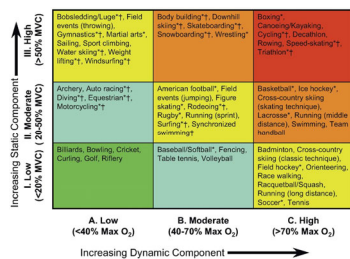
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Definitions

This document uses the following definitions for the terms used throughout the document:

- Competitive Athlete:** An individual who participates in organized sports at a level that requires a high degree of physical fitness and skill.
- Cardiovascular Abnormality:** Any condition that affects the heart or blood vessels, and that may increase the risk of cardiovascular disease.
- Management Plan:** A plan of care that is developed for an individual athlete, based on their specific cardiovascular abnormality and their goals for participation in competitive sports.

Bethesda Guidelines, 1994



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The Seattle Times

UW's Burt coming back to play basketball again

Aug 18, 2004

"The problem with whether Kayla plays is we can't really quantify her risk," said Dr. Kim Harmon, the team physician. "The problem here is dealing with an unknown risk."

"The waiver doesn't help the team doctor or the university," said Dr. Barry Maron, a cardiology expert based in Minnesota. "And it doesn't limit the athlete in any way should something happen. The waiver is powerless to prevent a lawsuit."

"Put it this way: It's not against the law to let her play. There are all kinds of ways that universities look at these things. I just don't see how this case benefits the university at all."

Said Harmon: "I'm trying to do what I think is best for the patient and not based on legal ramifications. I'm trying to do what I think is right. It's not the easy decision, and it's not the safe decision."

"That's fantastic," Knapp said when he heard the news. "She's safer than any of her teammates with that device. You'll see. A university finally got this one right."

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What happened to Kayla?



- Kayla had an appropriate discharge of her ICD during a game in 2005 during a time out
- It went off a second time in the hall as we were walking to meet EMS
- She elected to retire
- She is a nurse, married with 2 kids and her defibrillator has not gone off again

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Case 2 – Concussion

College Sports | Huskies | Husky Football | Sports

'I'm a miracle': How ex-Husky Darin Harris has learned to live with his traumatic brain injury



- "One of the consequences of a traumatic brain injury is that the person doesn't always know he or she has a brain injury. It took time — again, years — for Harris to understand what had happened, and then accept it."
- He is actively involved with the Brain Injury Association of Washington
- "I love UW," he says. He has remained in touch with the Huskies' team physician, Dr. Kimberly Harmon. He considers her a confidant.

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Case 3 – Spinal cord injury

- Transferred to another institution
- Visited a specialist who thought it was reasonable for him to play
- He participated without incident
- He was drafted and continues to play professionally



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Things to Think About

- Be aware of your personal biases and risk tolerance
- Understand your institutions perspective and risk tolerance
- Understand your patient/patient's family may have different risk/benefit equations than you
- Ultimately you need to do what you think is right and you have support for
- No one has a crystal ball



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