AMPLIFY

Leveling the Playing Field: An Urgent Care Approach to Safer Sports Clearance

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- None

Agenda & Learning Objectives

- Why PPEs & Why in Your Urgent Care
- Essential History & Physical Exam Elements
- Orthopedic Screening, Nutrition and Mental Health
- Cardiac, Neurological & Respiratory Screening
- Marketing & Launching Your PPE Program
- Summary

Why Pre-Participation Physicals?

Safety

Screen for potentially life-threatening conditions in young athletes before they reach the field

Required

Most school districts mandate PPEs for sport participation. Check state & local guidance

Access Point

For some teens, the PPE is their only annual healthcare encounter -- a critical touchpoint

An accurate, thorough history alone identifies ~75% of issues affecting sports participation.

Why in Your Urgent Care?

Access

Same-day appointments
Convenience
Extended hours for busy families
Becomes "Urgent" when not planned for

Low Acuity

Mostly healthy patients. Ideal fit for the urgent care model & workflow.

Seasonal Demand

Spring/summer volume before fall/winter respiratory surges. Predictable & plannable.

Revenue Growth

Easy to operationalize with proper training

Builds community relationships.

PPE

PREPARTICIPATION PHYSICAL EVALUATION

5th Edition

American Academy of Family Physicians

American Academy of Pediatrics

American College of Sports Medicine

American Medical Society for Sports Medicine

American Orthopaedic Society for Sports Medicine

American Osteopathic Academy of Sports Medicine

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN®

Standardized Forms

Note: Complete and sign this form (with your parents if younger than 18) before your appointment.
Name: _____ Date of birth: _____
Date of examination: _____ Sport(s): _____
Sex assigned at birth (F, M, or intersex): _____ How do you identify your gender? (F, M, or other): _____

List past and current medical conditions. _____

Have you ever had surgery? If yes, list all past surgical procedures. _____

Medicines and supplements: List all current prescriptions, over-the-counter medicines, and supplements (herbal and nutritional).

Do you have any allergies? If yes, please list all your allergies (ie, medicines, pollens, food, stinging insects).

Patient Health Questionnaire Version 4 (PHQ-4)
Over the last 2 weeks, how often have you been bothered by any of the following problems? (Circle response.)

	Not at all	Several days	Over half the days	Nearly every day
Feeling nervous, anxious, or on edge	0	1	2	3
Not being able to stop or control worrying	0	1	2	3
Little interest or pleasure in doing things	0	1	2	3
Feeling down, depressed, or hopeless	0	1	2	3

(A sum of ≥3 is considered positive on either subscale [questions 1 and 2, or questions 3 and 4] for screening purposes.)

GENERAL QUESTIONS (Explain "Yes" answers at the end of this form. Circle questions if you don't know the answer.)	Yes	No
1. Do you have any concerns that you would like to discuss with your provider?		
2. Has a provider ever denied or restricted your participation in sports for any reason?		
3. Do you have any ongoing medical issues or recent illness?		
HEART HEALTH QUESTIONS ABOUT YOU	**Yes**	**No**
4. Have you ever passed out or nearly passed out during or after exercise?		
5. Have you ever had discomfort, pain, tightness, or pressure in your chest during exercise?		
6. Does your heart ever race, flutter in your chest, or skip beats (irregular beats) during exercise?		
7. Has a doctor ever told you that you have any heart problems?		
8. Has a doctor ever requested a test for your heart? For example, electrocardiography (ECG) or echocardiography.		

HEART HEALTH QUESTIONS ABOUT YOU (*CONTINUED*)	Yes	No
9. Do you get light-headed or feel shorter of breath than your friends during exercise?		
10. Have you ever had a seizure?		
HEART HEALTH QUESTIONS ABOUT YOUR FAMILY	**Yes**	**No**
11. Has any family member or relative died of heart problems or had an unexpected or unexplained sudden death before age 35 years (including drowning or unexplained car crash)?		
12. Does anyone in your family have a genetic heart problem such as hypertrophic cardiomyopathy (HCM), Marfan syndrome, arrhythmogenic right ventricular cardiomyopathy (ARVC), long QT syndrome (LQTS), short QT syndrome (SQTS), Brugada syndrome, or catecholaminergic polymorphic ventricular tachycardia (CPVT)?		
13. Has anyone in your family had a pacemaker or an implanted defibrillator before age 35?		

Name: _____ Date of birth: _____

PHYSICIAN REMINDERS

1. Consider additional questions on more-sensitive issues.
   - Do you feel stressed out or under a lot of pressure?
   - Do you ever feel sad, hopeless, depressed, or anxious?
   - Do you feel safe at your home or residence?
   - Have you ever tried cigarettes, e-cigarettes, chewing tobacco, snuff, or dip?
   - During the past 30 days, did you use chewing tobacco, snuff, or dip?
   - Do you drink alcohol or use any other drugs?
   - Have you ever taken anabolic steroids or used any other performance-enhancing supplement?
   - Have you ever taken any supplements to help you gain or lose weight or improve your performance?
   - Do you wear a seat belt, use a helmet, and use condoms?
2. Consider reviewing questions on cardiovascular symptoms (Q4–Q13 of History Form).

EXAMINATION		
Height: Weight:		
BP: / (/) Pulse: Vision: R 20/ L 20/ Corrected: ☐ Y ☐ N		
MEDICAL	**NORMAL**	**ABNORMAL FINDINGS**
Appearance • Marfan stigmata (kyphoscoliosis, high-arched palate, pectus excavatum, arachnodactyly, hyperlaxity, myopia, mitral valve prolapse [MVP], and aortic insufficiency)		
Eyes, ears, nose, and throat • Pupils equal • Hearing		
Lymph nodes		
Heart* • Murmurs (auscultation standing, auscultation supine, and ± Valsalva maneuver)		
Lungs		
Abdomen		
Skin • Herpes simplex virus (HSV), lesions suggestive of methicillin-resistant *Staphylococcus aureus* (MRSA), or tinea corporis		
Neurological		
MUSCULOSKELETAL	**NORMAL**	**ABNORMAL FINDINGS**
Neck		
Back		
Shoulder and arm		
Elbow and forearm		
Wrist, hand, and fingers		
Hip and thigh		
Knee		
Leg and ankle		
Foot and toes		
Functional • Double-leg squat test, single-leg squat test, and box drop or step drop test		

* Consider electrocardiography (ECG), echocardiography, referral to a cardiologist for abnormal cardiac history or examination findings, or a combination of those.

Name of health care professional (print or type): _____ Date: _____
Address: _____ Phone: _____
Signature of health care professional: _____, MD, DO, NP, or PA

Determining Medical Eligibility

The Medical Eligibility Form is the only form that should be submitted to a school or sports organization.

■ PREPARTICIPATION PHYSICAL EVALUATION

MEDICAL ELIGIBILITY FORM

Name: _____ Date of birth: _____

□ Medically eligible for all sports without restriction

□ Medically eligible for all sports without restriction with recommendations for further evaluation or treatment of

_____

_____

□ Medically eligible for certain sports

_____

_____

□ Not medically eligible pending further evaluation

□ Not medically eligible for any sports

Recommendations: _____

_____

_____

History Drives Risk

- In outpatient medicine, approximately 73% of diagnoses are made primarily from the history alone.
- Most catastrophic misses are history-based
- Exams are often normal in early disease
- Forms create false reassurance
- Parent involvement improves accuracy
- Sensitive questions require time alone with the athlete

The 5 Questions That Should Stop You

If *any* answer is YES → pause clearance

1. Chest pain, dizziness, or syncope **with exertion**
2. Family history of sudden death <50
3. Prior restriction or cardiac workup
4. Multiple concussions or persistent symptoms
5. Eating disorder behaviors or mental health instability

Asking Family History the Right Way

Avoid:

“Any family history of heart problems?”

Ask instead:

- Sudden death during sports or sleep
- Unexplained drownings or car accidents
- ICDs or pacemakers in young relatives

Orthopedic Screening

Musculoskeletal History & Exam

Orthopedic History That Changes Clearance

Clearance should pause if history includes:

- Recurrent joint instability (“giving way”)
- Incomplete return-to-play after injury
- Prior injury requiring brace/taping to play

Case 1

17 year old **female, varsity soccer**

- Twisted knee 4 months ago
- Diagnosed “knee sprain” at urgent care
- Did not complete PT
- Reports occasional “giving way” when cutting
- No pain today

Case 1

Exam:

- No swelling
- Full ROM
- Mild increased anterior laxity compared to contralateral side

Poll:

A) Clear
B) Clear, with knee brace
C) Temporary restriction and referral

Case 1

Correct Answer: C) Temporary restriction and referral

Why?

- Mechanical instability
- Incomplete rehab
- Soccer, football, basketball (high ACL demand)
- Functional instability = reinjury risk

Nutrition and Mental Health

Nutrition Risk & Mental Health

Higher-risk sports:

- Fasting/calorie restriction
- Restricting intake of liquids
- Use of laxatives, diuretics, or stimulant medications
- Excessive exercise to promote sweating
- Use of saunas to promote sweating
- Vomiting after eating

Nutrition Risk & Mental Health

- Social connection
- Self-esteem
- Mental health

- Pressure from coaches or parents
- Overtraining/injury
- Fear of losing playing time

Case 2

A 17-year-old varsity basketball player presents for a sports clearance

He reports:

- No current injuries
- Hoping to play his final high school season

His PPE questionnaire notes:

- History of concussion last season
- Recent difficulty sleeping

Case 2

During the visit he seems quiet and disengaged.

When you ask how things are going, he says "it’s been kind of a lot lately.”

- **Sleeping only 3–4 hours most nights**
- Feeling **overwhelmed with school and college recruiting pressure**
- **Frequent headaches during practice**
- Taking **multiple energy drinks daily** to stay awake
- Worried that **reporting symptoms could cost him playing time**

Recommend **evaluation with primary care or sports medicine**

Cardiovascular Screening

The Greatest Morbidity Risk in Young Athletes

Causes of Sudden Cardiac Death in Young Athletes

Category	Conditions
Structural / Functional	Hypertrophic Cardiomyopathy, Coronary artery anomalies, Myocarditis, Aortic rupture (Marfan), Aortic stenosis, Atherosclerotic CAD
Electrical	Long/Short QT syndrome, Wolff-Parkinson-White, Brugada syndrome
Other	Drugs & stimulants, Primary pulmonary hypertension, Commotio cordis

Important Cardiac Red Flags:

Key Questions to ask:

- Have you ever passed out or nearly passed out during or after exercise?
- Have you ever had discomfort, pain, tightness, or pressure in your chest during exercise?
- Does your heart ever race, flutter in your chest, or skip beats (irregular beats) during exercise?
- Has a doctor ever told you that you have any heart problems or obtained an ECG/Echo on you?
- Do you ever get lightheaded or feel more out of breath than your friends seem to be during exercise?

Red Flags in the Family History:

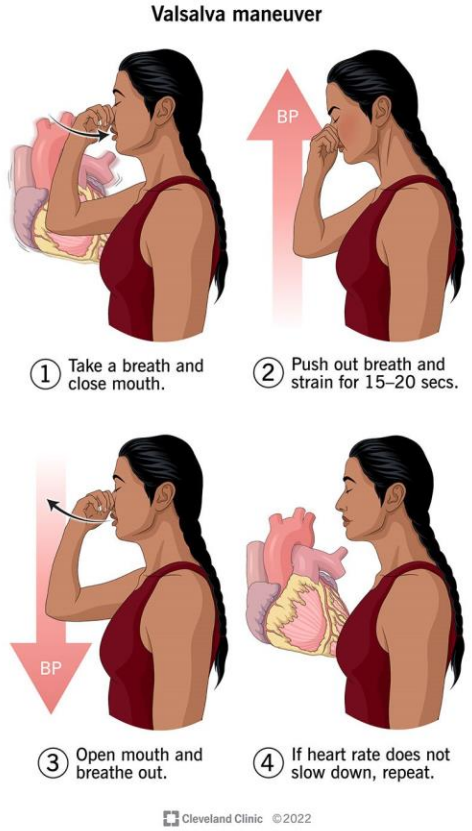
Important questions to ask about Family History:

- Has any family member or relative died of heart problems or had an unexpected or unexplained sudden death before age 50 (including drowning or unexplained car crash)?
- Does anyone in your family have a genetic heart problem?
- Has anyone in your family had a pacemaker or an implanted defibrillator before age 35?

Cardiac Exam Findings

Physical Exam Findings

- Hypertension 160/100 (stage 2 = restrict until controlled)
- Physical findings suggestive of Marfan syndrome
- Irregular or unequal pulses. Radial and femoral pulses should be palpated simultaneously to screen for coarctation of the aorta
- Pathological heart murmurs: Auscultation Supine, Auscultation Squatting to Standing ± Valsalva
- If a murmur is softer when the patient squats or is louder or longer when he or she returns to a standing position or during the Valsalva maneuver, hypertrophic cardiomyopathy or mitral valve prolapse should be suspected.



Hypertrophic Cardiomyopathy (HCM)

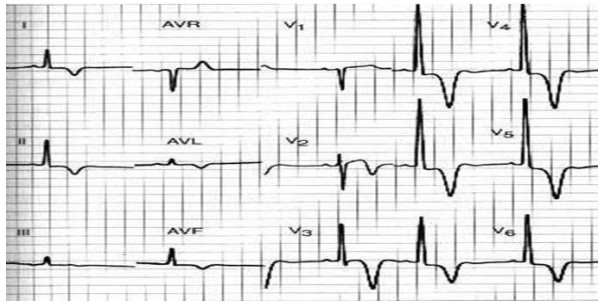
Autosomal dominant | Typically develops in early adolescence/young adulthood

Physical Exam

- Harsh systolic ejection murmur
- Best heard at RUSB
- Increases with Valsalva or standing
- Only 25% with known HCM have murmur

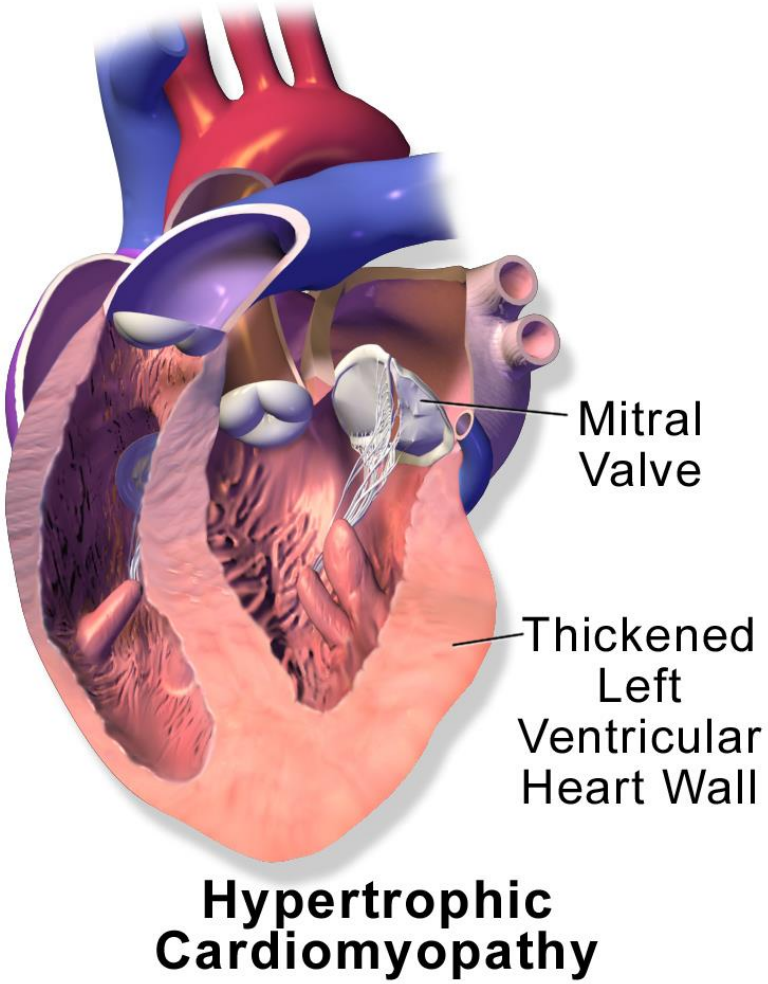
ECG Findings

- Abnormal in > 90% of HCM patients
- Prominent Q waves in 2+ leads (not III, aVR)
- Deep negative T waves V2-V6



Cardiac Exam Findings

- Valsalva or standing decreases venous return-->
- Hypertrophied walls come closer together -->
- Murmur becomes louder



CASE 1

16-year-old male, soccer

Presentation

- Chest tightness during sprints
- Normal vitals, systolic murmur heard during exam getting harsher when goes from squatting to standing.

Poll: Clear today or defer?

Neurological Assessment

Concussion, Cervical Spine & Brachial Plexus

Sports-Related Concussion (SRC)

Definition & Mechanism

Direct blow to head/face/neck or impulsive force transmitted to the head.

Results in rapid-onset, short-lived neurological impairment.

Signs may evolve over minutes to hours.

Pathophysiology

Neurometabolic cascade: trauma causes extracellular glutamate surge

Neuronal depolarization --> depressed neuronal activity --> reduced cerebral blood flow and energy crisis

CT/MRI usually normal.

Key Screening Questions

- Have you had a concussion/head injury causing confusion, prolonged headache, or memory problems?

Sports-Related Concussion (SRC)

Symptoms

- No single diagnostic sign, symptom, or objective test.
- Headache, irritability, light sensitivity, dizziness, confusion, balance problems, difficulty concentrating or sleeping.
- Exam findings: Balance disturbances, vision changes, cognitive impairment

Return to Play (RTP) Considerations

- No RTP until symptoms resolved + graduated return to sport process completed
- An athlete is clinically recovered when asymptomatic at rest/able to participate in usual activities without symptoms.
- No consensus on the absolute number of concussions

Mark E. Halstead, Kevin D. Walter, Kody Moffatt, COUNCIL ON SPORTS MEDICINE AND FITNESS. *Pediatrics December 2018; 142 (6)*

Post Concussion Syndrome & Second Impact Syndrome

Post-Concussion Syndrome (PCS)

- Defined as persistent symptoms beyond 14 days (adults) or 4 weeks (children)
- Requires evaluation by concussion specialist
- No return to participation until all symptoms resolved

Second Impact Syndrome (SIS)

~50% mortality rate

A second injury before full recovery results in worsening cellular metabolic changes leading to rapid diffuse cerebral swelling resulting in severely decreased cognitive function

Morbidity rate near 100%

Mortality Rate near 50%

Cantu RC. Second-impact syndrome. *Clin Sports Med. 1998;17(1):37–44*

Cervical Cord Neurapraxia & Brachial Plexus Injuries

Cervical Cord Neurapraxia (CCN)

Acute transient sensory/motor impairment. Burning pain, numbness, tingling, weakness.

Usually resolves in 10-15 min, may last up to 48 hours.

The most common cause of CCN is cervical spinal stenosis

If the patient reports CCN MRI may be warranted to screen for cervical stenosis.

Seek neurosurgical consult before RTP in contact/collision sports.

Brachial Plexus (Stingers/Burners)

Unilateral UE pain/paresthesia from blow to neck/shoulder.

Burning dysesthesias radiating down arm/hand. Common in football, rugby, wrestling.

RTP when pain-free with full ROM and strength.

Key Questions to ask:

Have you ever had numbness, tingling, weakness, or inability to move arms/legs after being hit ?

Physical Exam Elements

- Strength (C4-C8 myotomes)
- Sensation (C3-T1 dermatomes)
- Reflexes (biceps, triceps, brachioradialis)
- Upper limb tension tests
- Spurling Test

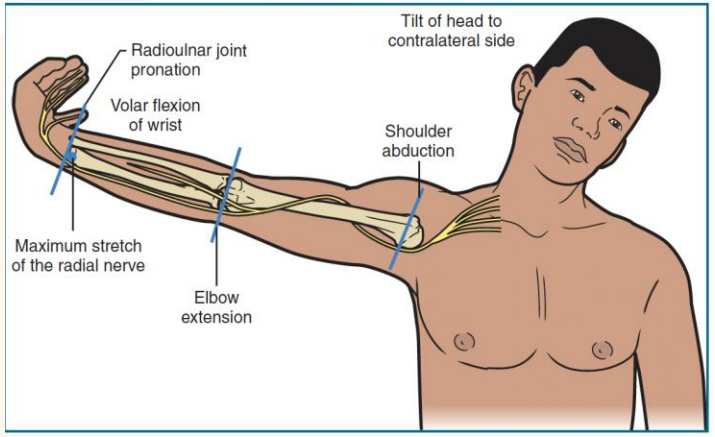
Spurling test:

- Extend the head in a lateral direction
- Rotate it while applying axial pressure
- Positive when this produces radicular symptoms.

Upper limb tension tests:

Median and Radial bias maneuvers: Analogous to straight-leg tests of lower extremities

- Head tilts to contralateral side
- Shoulder abducts
- Volar flexion of the wrist
- Radioulnar joint pronation
- Positive when burners/stingers reproduced



American Academy of Pediatrics. Preparticipation Physical Evaluation. 5th ed. Elk Grove Village, IL: *AAP; 2019.*

Other Neurological Considerations

Seizure Disorders

Well-controlled seizure disorders: OK for contact/collision sports without affecting frequency. Note: concussion may exacerbate seizure disorders.

Headaches

Evaluate for primary/secondary causes. PE: BP, papilledema, cranial nerve and cerebellar function.

Ask about migraine triggers and implement avoidance strategies.

Respiratory, Hematologic & General Medical Screening

Respiratory & Hematologic Considerations

Asthma / Exercise-Induced Bronchospasm

Screen for exercise-induced symptoms. Most athletes with asthma can participate fully with proper management. Refer to pulmonology if unresponsive to regular therapies.

Sickle Cell Trait & Disease

- SCT can put athletes at risk for exertional sickling
- Ask about personal/family history; newborn screening
- SCT: stay hydrated, report muscle pain immediately
- SCD: avoid highly strenuous/ contact/collision sports

Other Medical Considerations

Diabetes: Written action plan. Alert tag. OK for all sports with good control.

Mono: Noncontact 3-4 wks. Contact 4 wks + buffer. Splenic rupture rare > 28 days.

Blood-Borne Pathogens: Transmission exceedingly low. Not excluded. No mandatory screening.

Absent Organ: Not a contraindication. Protective gear recommended.

Classification of sports: Contact Vs. Noncontact

CONTACT

Contact	Limited-Contact	Noncontact
•Basketball •Boxing[a] •Cheerleading •Diving •Extreme sports[b] •Field hockey •Football, tackle •Gymnastics •Ice hockey[c] •Lacrosse •Martial arts[d] •Rodeo •Rugby •Skiing, downhill racing •Ski jumping •Snowboarding •Soccer •Team handball •Ultimate Frisbee •Water polo •Wrestling	•Adventure racing[e] •Baseball •Bicycling •Canoeing or kayaking (white water) •Fencing •Field events •Floor hockey •Football, flag or touch •Handball •Horseback riding •Martial arts[d] •Racquetball •Skating •Skateboarding •Skiing •Softball •Squash •Volleyball •Weight lifting •Windsurfing or surfing	•Badminton •Bodybuilding[f] •Bowling •Canoeing or kayaking (flat water) •Crew or rowing •Curling •Dance •Golf •Orienteering[g] •Powerlifting[f] •Race walking •Riflery •Rope jumping •Running •Sailing •Scuba diving •Swimming •Table tennis •Tennis •Track

NONCONTACT

American Academy of Pediatrics Council on Sports Medicine and Fitness. Medical conditions affecting sports participation. *Pediatrics*. 2008;121(4):841–848.

Classification of sports: Dynamic and Static Impact

Increasing Static Component	A. Low (<50%)	B. Moderate (50–75%)	C. High (>75%)
III. High (>30%)	Bobsledding/Luge Field events (throwing) Gymnastics[a,b] Martial arts Rock climbing Sailing Water skiing[a,b] Weight lifting[a,b] Windsurfing[a,b]	Body building[a,b] Downhill skiing Skateboarding[a,b] Snow boarding[a,b] Wrestling[a]	Boxing Canoeing Kayaking Cycling[a,b] Decathlon Rowing Speed skating Triathlon[a,b]
II. Moderate (10–20%)	Archery Auto racing[a,b] Diving[a,b] Equestrian[a,b] Motorcycling[a,b]	American football[a] Field events (jumping) Figure skating Rodeoing[a,b] Rugby Running (sprint) Surfing Synchronized swimming[b] "Ultra" racing	Basketball[a] Ice hockey[a] Cross-country skiing (skating technique) Lacrosse[a] Running (middle distance) Swimming Team handball Tennis
I. Low (< 10%)	Bowling Cricket Curling Golf Riflery Yoga	Baseball/Softball Fencing Table tennis Volleyball	Badminton Cross-country skiing (classic technique) Field hockey[a] Orienteering Race walking Racquetball/Squash Running (long distance) Soccer[a]

Increasing Dynamic Component →

Eligibility and disqualification recommendations for competitive athletes with cardiovascular abnormalities: task force 1; classification of sports: dynamic, static, and impact. *Circulation*. 2015;132(22):e262–e266

When & Where to Refer

Specialty	Indications for Referral
Cardiology	Loud murmur, syncope with exercise, hypertension, family hx of SCD
Pulmonology	Exercise-induced bronchospasm unresponsive to standard therapies
Neurology	Seizures, headaches with exercise, persistent neurological symptoms, PCS
Neurosurgery	Bilateral burners/stingers (transient bilateral neurapraxia), cervical spinal stenosis
Nephrology	Persistent hypertension requiring evaluation
Ophthalmology	Monocular vision status evaluation

Launching and Marketing your PPE program

UC San Diego Health Same Day Care

Access to high quality efficient care where people live and work

- 7 convenient Express Care locations
- 1 central Urgent Care
- 1 Virtual Express Care
- 24/7 Online scheduling capability- 7 days a week
- APP & physician staffing
- Standardized workflow & documentation in EPIC
- Marketing & community engagement

Marketing Playbook

Objective: Drive volume and awareness efficiently

School & League Outreach

Send targeted emails to athletic directors, coaches, and school nurses. Offer group PPE events on-site.

QR Code Scheduling

Place scheduling posters with QR codes in clinics, schools, and community recreation centers.

No PCP Required

Emphasize that no primary care referral is needed. Walk-in and same-day appointments available.

Social Media Campaigns

Instagram and Facebook campaigns targeting parents. Highlight convenience, speed, and competitive pricing.

Convenience Messaging

No appointment wait times, extended hours, walk-in availability, one-stop clearance.

Community Partnerships

Sponsor local teams, attend school board meetings, become the trusted community sports medicine provider.

Flyer example with QR code to our scheduling platform :

Distributed to local school districts & displayed in clinics

Sports Physicals at Express Care

Is your child joining a school or extracurricular sports team? Get medical clearance with a convenient sports physical at UC San Diego Health's Express Care clinics. Also known as a preparticipation physical evaluation (PPE) or an athletic clearance, this exam helps ensure that athletes from elementary school through high school are healthy and ready to play.

What's Included

- Review of the child's medical history
- Complete medical screening, which may include vision and hearing screening
- Lab tests, such as blood or urine tests, if required on the form
- Recommendation for additional tests, if necessary
- Completion of the provided form

Note: This exam is for sports clearance only. It does not replace your child's regular checkups with a primary care provider, which are essential for overall health.

What to Bring to Your Appointment

- Your child's vaccination records, if available
- A list of current medications and allergies
- Form provided by the school or organization

Helpful Tips

- Reserve your spot and check wait times at **health.ucsd.edu/savemyspot**.
- Plan ahead to meet your deadline. Express Care offers same-day or next-day service only.

Insurance and Payment

- Most insurance plans cover youth sports physicals as a standard clinic visit (co-pay may apply).
- Express Care does not accept Medi-Cal.

Locations

We offer six convenient Express Care clinics across San Diego County, from Vista to Eastlake.

Scan QR code to find a location and save your spot online

UC San Diego Health

health.ucsd.edu/expresscare

What Clinicians need to feel set up for success

Delivering high-quality efficient PPE's

Clinical clarity

Standardized PPE forms and clearance criteria, clear red flag symptoms and mandatory referral triggers, quick reference guides for cardiac, ortho and concussion screening.

Workflow efficiency

Pre-Visit questionnaires completed online or at check-in, nurse driven vitals, vision and form prep, provider workflow designed for 15 min encounters.

Documentation Made easy

Smartphrases and templates aligned with state requirements, auto-populated normal exams with easy toggles for abnormalities.

Provider Support

Annual PPE refresher training, since its seasonal. Case reviews of complex clearances.

Lessons Learned for Scalability

Objective: Measure impact and scale your sports physical program

Plan Staffing Proactively

Anticipate summer peaks. Schedule additional providers and support staff ahead of the rush.

Expect Family Clusters

Siblings and cousins often come together. Design workflows to handle multiple patients per family efficiently.

Set Expectations Early

Communicate timelines, requirements, and pricing through your website and at scheduling.

Build Provider Confidence

Trained, confident providers improve throughput and quality. Regular in-service education is key.

Align Specialist Access

Coordinate with cardiology, orthopedics, and other specialists to avoid referral bottlenecks.

Standardize for Scale

Consistent protocols and forms ensure the program can replicate across multiple locations.

Key Takeaways

- Urgent care improves access for PPEs
- History drives clearance decisions
- Pause for red flags, refer when needed
- Standardization enables quality + efficiency
- PPE programs build community + seasonal growth

Thank you for your time!

References

1. American Academy of Pediatrics. Preparticipation Physical Evaluation. 5th ed. Elk Grove Village, IL: *AAP; 2019.*

2. Basavarajaiah S, Wilson M, Whyte G, et al. Prevalence of HCM in highly trained athletes. *J Am Coll Cardiol. 2008;51(10):1033-1039.*

3. Harmon K, Asif I, Ellenbogen R, Drezner J. Incidence of sudden cardiac arrest and death in US high school athletes. *Br J Sports Med. 2014;48(7):605.*

4. Maron BJ, Zipes DP, Kovacs RJ; AHA/ACC. Eligibility recommendations for competitive athletes with cardiovascular abnormalities. *Circulation. 2015;132(22):e256-e261.*

5. Rice SG; AAP Council on Sports Medicine and Fitness. Medical conditions affecting sports participation. *Pediatrics. 2008;121(4):841-848.*

6. LaBotz M, Bernhardt DT. PPE: is it time to stop doing the sports physical? *Br J Sports Med. 2017;51(3):151-152.*

7. Madsen NL, Drezner JA, Salerno JC. The PPE: an analysis of clinical practice. *Clin J Sport Med. 2014;24(2):142-149.*

8. Dubow JS, Kelly JP. Epilepsy in sports and recreation. *Sports Med. 2003;33(7):499-516.*

References (continued)

9. Mountjoy M, Sundgot-Borgen J, Burke L, et al. IOC consensus statement: beyond the female athlete triad. *Br J Sports Med. 2014;48(7):491-497.*

10. Koester MC, Amundson CL. Preparticipation screening of high school athletes. *Phys Sportsmed. 2003;31(8):35-38.*

11. Smith J, Laskowski ER. The PPE: Mayo Clinic experience with 2,739 examinations. *Mayo Clin Proc. 1998;73(5):419-429.*

12. Mayer F, Bonaventura K, Cassel M, et al. Medical results of PPE in adolescent athletes. *Br J Sports Med. 2012;46(7):524-530.*

13. Wingfield K, Matheson GO, Meeuwisse WH. Preparticipation evaluation: an evidence-based review. *Clin J Sport Med. 2004;14(3):109-122.*

14. Dixit S, DiFiori J. Prevalence of hypertension and prehypertension in collegiate student athletes. *Clin J Sport Med. 2006;16(5):440.*

15. Kriz PK, Stein C, Kent J, et al. Physical maturity and concussion symptom duration among adolescent ice hockey players. *J Pediatr. 2016;171:234.e1-239.e2.*

16. Hagan JF Jr, Shaw JS, Duncan PM, eds. Bright Futures: Guidelines for Health Supervision. 4th ed. *AAP; 2017.*

I Need Your Feedback

Prefer paper?

On the form in front of you, please score me and the content I shared with you today.

AFTER THE CONVENTION

You may claim CME here www.urgentcareassociation.org/learning-center/cme/