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The purpose of the Sports Pharmacy Practice Model Initiative is to highlight the growing field of Sports Pharmacy and provide a universal definition of Sports Pharmacy practice. Sports Pharmacy has previously been confined to the application of pharmacological knowledge to anti-doping standards, but it is evolving into a much more robust patient-centered clinical practice. We believe that providing a standard definition will provide insight, clarity and guide education pathways on the capabilities of clinical sports pharmacists.

In the current climate of the pharmacy profession, it is crucial to highlight the growing urgency of creating new avenues for pharmacists to practice. Recent events, particularly the trends of protests and walkouts at major retail pharmacies, have underscored the need for substantial change how pharmacists are valued and treated within the healthcare system. Pharmacists have long been integral members of the healthcare team, contributing significantly to patient care and medication management. Their expertise in pharmacology, drug interactions, and safe medication use is essential to ensure positive health outcomes.

We urge all stakeholders, including pharmacy associations, healthcare organizations, and policymakers, to work collaboratively in addressing the current issues the profession is facing and creating new avenues for pharmacists to excel in their roles. Sports Pharmacists can be an essential part of healthcare teams who manage patient-athletes and provide new practice opportunities for pharmacists to practice at the top of their scope.

We hope that this document will provide guidance on how to incorporate clinical sports pharmacists into healthcare teams and bring awareness to the growing field.

Brandon Welch

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President, Sports Pharmacy Network

The Sports Pharmacy Practice Model Initiative

What is Sports Pharmacy?

What does the clinical sports pharmacist practice model look like?

How can pharmacists improve outcomes in patient-athletes?

Where can clinical sports pharmacists practice?

What resources are available to help pharmacists practice Sports Pharmacy?

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The Sports Pharmacy Practice Model Initiative

What is Sports Pharmacy?

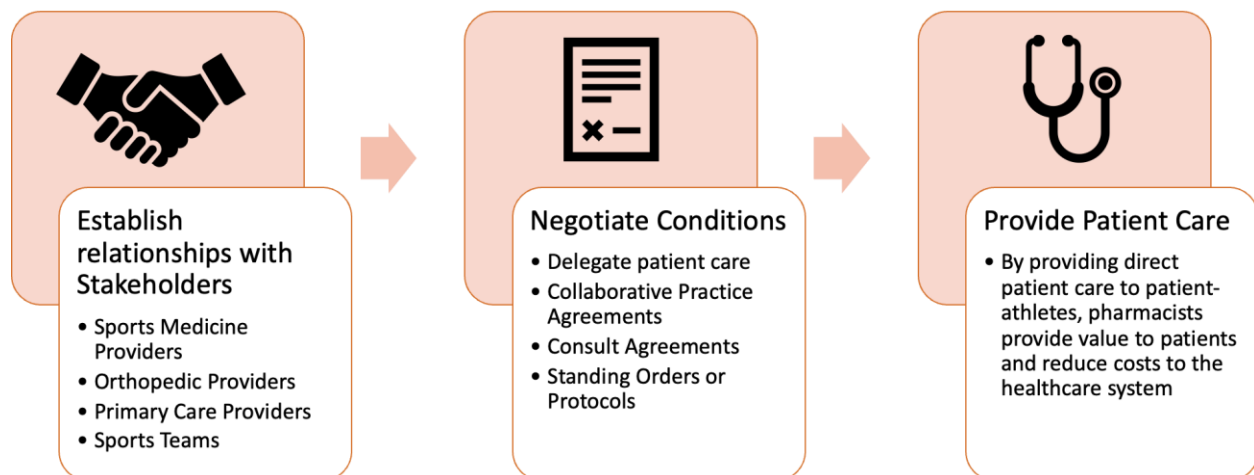
Sports Pharmacy is a specialized area of pharmacy that focuses on direct, evidence-based, patient-centered care for athletes, sports teams, and individuals who engage in physical activities. It involves trained pharmacists working as fundamental members of the healthcare team, directly with patient-athletes and their interdisciplinary healthcare team, to optimize medication therapy and improve overall health outcomes. The goal of sports pharmacy practice is to optimize the health, performance, safety, and overall well-being of patient-athletes.

What does the clinical sports pharmacist practice model look like?

The clinical sports pharmacist practice model is similar to that of an ambulatory care pharmacist, but typically in a sports medicine specialty setting.¹ Clinical sports pharmacists can work as independent consultants to athletes, sports teams, and/or orthopedic/sports medicine physicians, or work in an ambulatory care private practice setting as clinical sports pharmacists.

When set up properly, sports pharmacy practice models allow pharmacists to provide direct patient care, improve access to care, and reduce costs to the healthcare system.² Practice models may vary depending on the conditions set in place at the practice site (e.g., collaborative practice agreements, consult agreements, protocols) The business model implemented will also vary depending on the practice setting (e.g., fee-for-service, office-based practice, consulting services).

Figure 1 – Example of a Sports Pharmacy Practice Model



How can pharmacists improve outcomes in patient-athletes?

Clinical sports pharmacists can play a crucial role as a part of an interdisciplinary healthcare team setting by optimizing medication and supplement therapy for patient-athletes. Their responsibilities are diverse and evolving but typically include the following:

Medication Management

- Collaborating with the sports medicine healthcare team to select, initiate, adjust, and monitor medication therapies
- Ensuring that prescribed medications are appropriate, effective, and safe for patient-athletes, taking into consideration their unique needs as athletes
- Identifying and resolving medication-related problems, such as adverse drug reactions, drug interactions, or impacts on any aspect of athletic performance
- Monitoring patients' response to therapy and making recommendations for adjustments as needed
- Recognizing medications on banned substances list and assisting with therapeutic use acceptance when necessary
- Ortho-biologic therapy recommendations such as hyaluronic acid injections, PRP, and stem cell therapy for common sports injuries and arthritis

Clinical Services

- Collaborating with physicians, athletic trainers, physical therapists, and other healthcare providers to make informed decisions about medication therapy, supplements, lab results, therapy options, nutrition, or referral to other sports specialists
- Where Collaborative Practice Agreements exist, pharmacists can manage certain commonly seen conditions in patient-athletes (e.g., skin infections, sleep disorders, bacterial infections, depression, asthma, anxiety, arthritis/joint conditions, and vitamin deficiencies)
- Ordering and interpreting lab results (general labs, pharmacogenomic tests, microbiome tests, nutrigenomics, etc.) to make adjustments to therapy or health habits

Promote Health and Wellness

- Administer vaccines (e.g., COVID, flu and recommended vaccines prior to travel) to protect patient-athletes from preventable diseases.
- Perform health screening services, such as blood pressure checks, cholesterol testing, and glucose monitoring, which can help identify health issues early and encourage preventive measures
- Provide counseling and support to patient-athletes trying to quit smoking, offering guidance, nicotine replacement therapies, and other strategies to help them succeed

- Assess smart ring (OURA, WHOOP, etc.) data and recommend appropriate sleep hygiene tips for peak performance
- Optimize the use of smart watches (Apple, Garmin, FitBit, etc.) to collect additional performance data such as VO₂, calorie expenditure, and heart rate
- Interpret continuous glucose monitors (Dexcom, Freestyle Libre, etc.) to optimize performance nutrition

Patient Education:

- Providing education on evidence-based nonpharmacologic strategies to enhance performance, such as optimizing nutrition, hydration, sleep, recovery, etc.
- Educating patients about their medications and supplements, including dosing, administration, potential side effects, and expected outcomes
- Educating patient-athletes on the kinetics and clinically effective dose and efficacy of performance-enhancing supplements
- Promoting holistic health and empowering patients to be a part of their healthcare
- Assist in compliance/adherence tactics for busy athletes, even including traveling
- Providing education on WADA, NCAA and other professional sports governing bodies that regulate banned substance lists

Drug Information

- Serving as the drug-expert to other members of the interdisciplinary healthcare team
- Providing evidence-based drug information to healthcare professionals and patients
- Staying up-to-date with the latest pharmacy research, guidelines, banned substance lists, and novel therapies

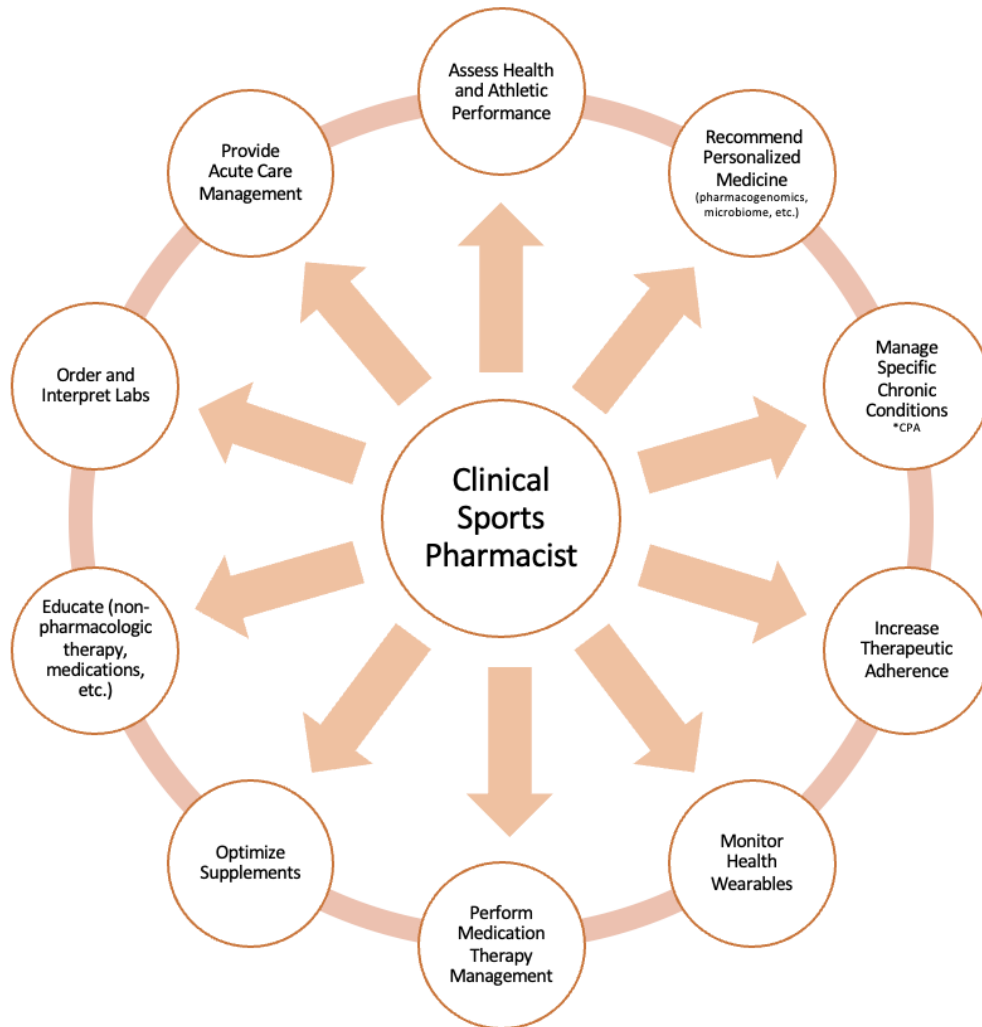
Research and Quality Improvement

- Participating in clinical research projects focusing on patient-athletes
- Contributing to quality improvement initiatives by analyzing medication-related outcomes and making recommendations for improvements

Interprofessional Collaboration:

- Working closely with other healthcare professionals to achieve the best possible patient-athlete outcomes through a team-based holistic health approach
- Educating coaches and other ancillary staff who may receive questions from patient-athletes

Figure 2 – Potential Responsibilities of a Clinical Sports Pharmacist



Where can clinical sports pharmacists practice?

Some of the sites clinical sports pharmacists can practice include the following but are not limited to:

- Sports Medicine offices that see professional athletes (e.g., primarily manage elite athletes, leagues/national teams, etc.)
- Primary care offices that see a large number of athletes (e.g., college students, high school students, etc.)
- National/international organizations that promote clean sport (e.g., USADA/WADA, IOC)
- Wellness Director or independent contractor/consultant for sports teams
- Academia, providing rotations or electives focused on sports pharmacy
- Research, publishing peer-reviewed literature on sports pharmacy topics
- Community Pharmacy, promoting health and wellness to all patients
- Private consultant

What resources are available to help pharmacists learn more about Sports Pharmacy?

- The **Sports Pharmacy Network** offers a variety of free resources for healthcare professionals, including the Sports Pharmacy Magazine, and produces live and home-based continuing education courses.
 - <https://sportsrxnetwork.com/>
- The **International Olympic Committee** offers a Certificate in Drugs in Sport. This is an international 6-month postgraduate program for healthcare professionals, and interested pharmacists must apply to the program.
 - <https://sportsoracle.com/ioc-certificate-drugsinsport/>
- The **United States Anti-Doping Agency** is the national anti-doping organization (NADO) in the United States for Olympic, Paralympic, Pan American, and Parapan American sport.
 - <https://www.usada.org/>
- The **World Anti-Doping Agency** offers two free courses for Sports Pharmacists interested in working with elite professional athletes. ADEL for Medical Professionals and Athlete Support Personnel (ASP) Guide.
 - https://adel.wada-ama.org/learn/public/learning_plan/view/13/medical-professionals-education-program-english
- **Drug Free Sport International** offers a variety of free or low-cost home-based continuing education courses on sports pharmacy topics.
 - <https://www.drugfreesport.com/home-study-courses/>
- **Consumer Labs** is the leading provider of independent test results and information to help consumers and healthcare professionals identify the best quality health and nutrition products
 - <https://www.consumerlab.com/>
- **NSF Certified for Sport** is an independent and accredited non-governmental organization whose mission is to protect and improve global human health. They are widely recognized as the “gold standard” for quality in areas such as water systems, food safety and health sciences including dietary supplements, functional foods and cosmetics/personal care.
 - <https://www.nsf sport.com/index.php>
- The **International Pharmaceutical Federation** released a Global Overview in Sports Pharmacy Practice and Education
 - <https://www.fip.org/file/5391>

References

1. Ambulatory care clinics and institutional ambulatory care ACCP Task Force on Ambulatory Care Clinical Pharmacy Practice. ACCP white paper: establishing and evaluating clinical pharmacy service in primary care. *Pharmacotherapy* 1994;14(6):743–58.
2. Centers for Disease Control and Prevention. Collaborative Practice Agreements and Pharmacists' Patient Care Services: A Resource for Pharmacists. Atlanta, GA: US Dept. of Health and Human