

Ready, set, go!

The role of pharmacists in doping control in sports

30 July 2020



Moderator

Kerstin Wagner ExCo Associate Member, Industrial Pharmacy Section



Announcements

Webinar house rules

- 1. This webinar is being recorded and live-streamed via Facebook.
- 2. The recording will be available on our website www.fip.org.
- 3. You may ask questions using the questions box.
- You are welcome to provide feedback to webinars@fip.org.
- We invite you to become a member of FIP at <u>www.fip.org/membership_registration</u>



THE FASCINATION OF SPORTS















...DOPING IN SPORTS



THE FIGHT AGAINST DOPING

A matter of knowledge, science, education and care









PHARMACISTS IN THE GAME

- Who are the persons taking the doping tests?
- Who ensures the teams can bring the needed and allowed medication to their events?
- Who can ensure the (drug) safety of athletes in training and competition?
- Who can educate athletes, coaches, families and supporting staff on the right medication?





Programme of today's panel

The role of the pharmacist in doping control in sports

Daniel Sanabria, Costa Rica

Olympic medical and pharmacy services

Mark Stuart, UK

Ensuring drug safety during the Beijing Olympics

Helen Zhang, China

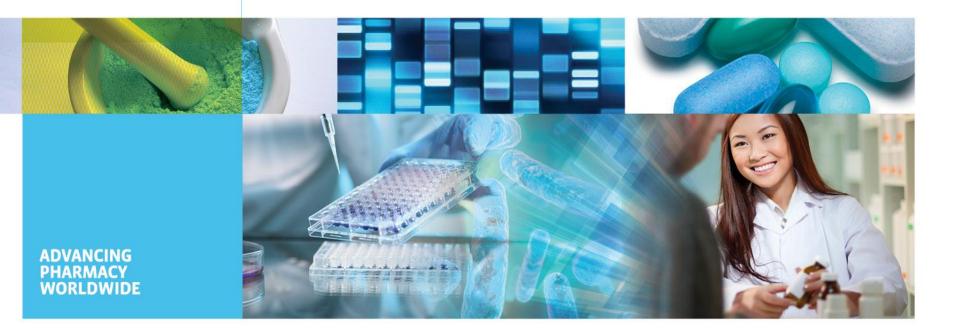






The role of the pharmacist in sports

Daniel Sanabria



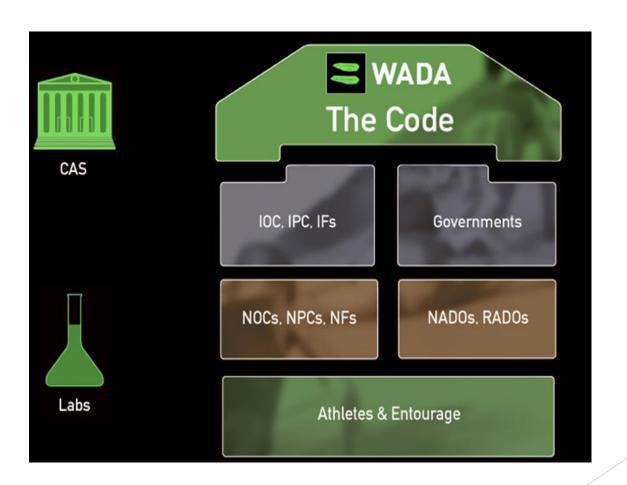
Daniel Sanabria, Costa Rica

Pharmacist and Anti-Doping Control Officer for Costa Rica and Central America





Doping in Sports



World Anti Doping Agency- WADA

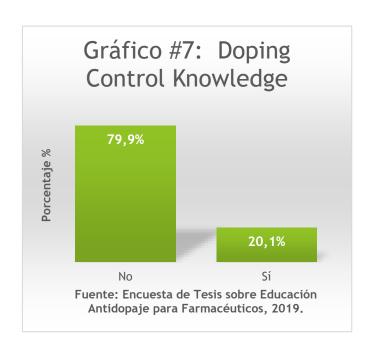


¿What is Doping?

- 1. Presence
- 2. Use
- 3. Refuse
- 4. Not Be Able
- 5. Manipulation
- 6. Possession
- 7. Traffic
- 8. Administration
- 9. Complicity
- 10. Aforbidden Association

Doping Control

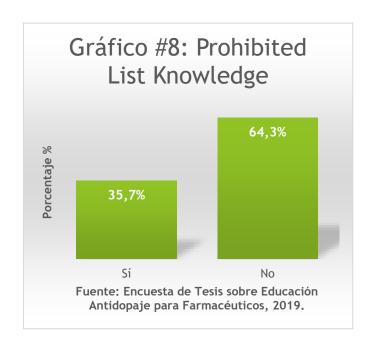
¿Do you know the doping control process?





Prohibited List

¿Conoce usted la lista de sustancias prohibidas en el deporte?

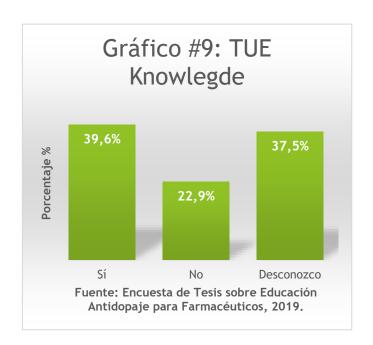






Therapeutic Use Exemption

¿Can an athlete consume a substance that is in the list?







Pharmacist in Sports











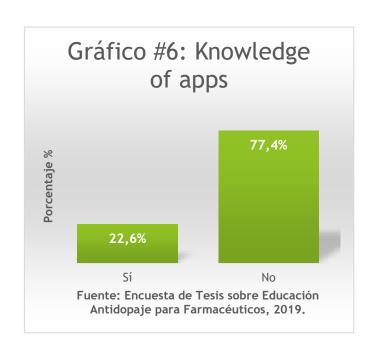
Sport Pharmacist

The specialty of Sports Pharmacy covers

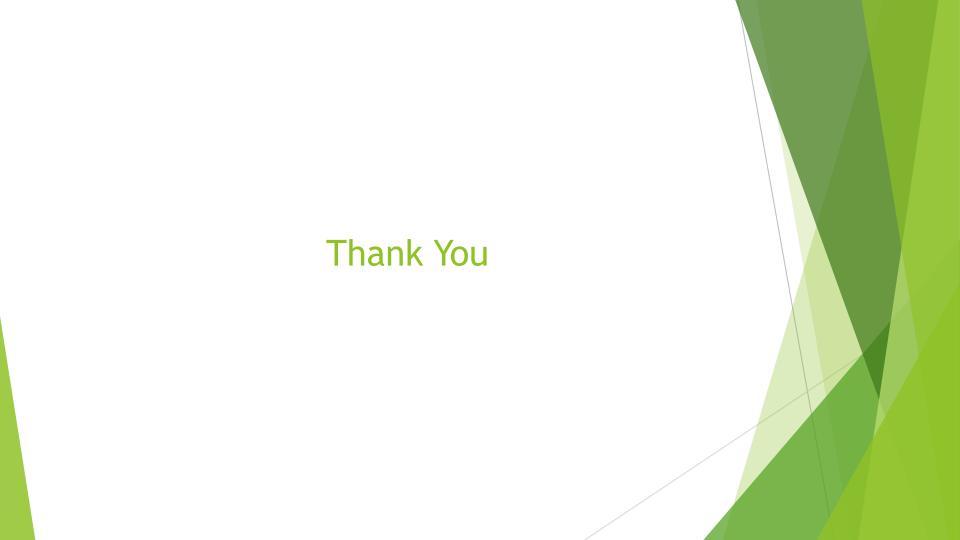
Awareness	Awareness of drugs in sport in the community, medicine & industry for both performance modification and the prevention and treatment of disease.
Therapy	Knowledge of therapeutic use of drugs in sport and how pharmacist interventions can support sport related illness or injury.
Prevention	Use of pharmacotherapy to prevent sport-related illness or injurgand maintain well-being.
Optimisation	Safe and rational use of nutrition and supplements to optimise performance.
Abuse	Knowledge of the use of drugs in sport for competitive advantage.
Detection	The science of detecting drugs of abuse in the body.

Sport Pharmacist Consultation

¿Do you know any app?









A global overview of the role of pharmacists in international multi-sport events

Mark Stuart



Mark Stuart, UK

IOC Medical and Scientific Commission Games Group

Operations Development Manager at International Testing Agency





The Olympic Games

- 205 Countries
- 33 Sports
- 39 Competition Venues
- 339 Events
- 56 Test Events
- 17 Days



Scope of Medical Service

- 11,000 Olympic Athletes
- 4,000 Paralympic Athletes
- 5,000 Olympic Family
- 27,000 Press and Broadcast
- 7000 Sponsor representatives
- 200,000 Workforce
- 9 Million spectator tickets
- 400 Horses



The Olympic Medical Service must:

- Be accessible for healthcare providers and athletes from every country
- Provide continuity of treatment between every country
- International best practice
- Protect athletes from inappropriate and unsafe care
- Protect athletes from inadvertent doping
- Respect medical regulation of host country



Olympic Village Polyclinic

- Large primary care medical centre
- Sports medicine & physical therapies
- 24h emergency department
- Athlete priority
- Access to specialist services











Pharmacy Services

- 3 Polyclinic Pharmacies
- 2 Spectator Olympic Park
- Media Centre

- Medicines information for international doctors
- Anti-doping monitoring, drugs in sport

6000 prescriptions



Biggest challenges in delivering quality Variances in international medical practice

Variances in medicines availability

Variances in country laws and policy

Limited clinical evidence in elite athletes

Varied anti-doping knowledge & education

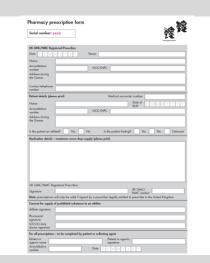
Drug Safety & Doping Prevention

- Prescription forms
- Pharmacy dispensing system
- Warning labels
- Shelf warnings



PROHIBITED IN SPORT

Therapeutic use exemption may be required









Olympic & Paralympic Model Medicines Formulary

Aims to standardise the drug treatment options available at all Summer, Winter and Youth Olympic & Paralympic Games

- Evidence-based medicine options
- International best practice
- Reduce variability in prescribing and availability
- Support athletes to remain doping free
- Reduce wastage and costs through rational selection

Olympic and Paralympic model formulary 2019

		Primary indication and notes	WADA status	Needle-use Declaration required [N]	Venue stock [V]		
1. Medicines for pai	n and inflammation						
1.1. Non-opioids and Non-steroidal Anti-Inflammatory Drugs (NSAID)							
Acetylsalicylic acid (Aspirin)	Tablet or soluble tablet: 300mg to 500mg	Mild to moderate pain; pyrexia (refer to section 8.3 Anti-thrombotic medicines for anti-thrombotic use)	Not prohibited		V		
Celexoxib*	Tablet: 200mg	Mild to moderate pain; pain with inflammation; where other NSAIDS are not tolerated or not appropriate	Not prohibited				
	*Or other oral COX-2 inhibitor						
Ibuprofen	Oral liquid: 200mg/5mL	Mild to moderate pain; pain with inflammation; pyrexia	Not prohibited				
	Tablet: 200mg; 400mg	Mild to moderate pain; pain with inflammation; pyrexia; dysmenorrhea	Not prohibited		V		
	Tablet: 250mg or 500mg	Pain and inflammation in musculoskeletal conditions; dysmenorrhea	Not prohibited		V		
Naproxen*	*Or other oral NSAID such as meloxicam, ketorolac, or loxoprofen						
	Oral liquid: 120mg/5mL	Mild to moderate pain; pyrexia	Not prohibited		V		
Paracetamol (Acetaminophen)	Suppository: 100 or 200mg	Mild to moderate pain; pyrexia	Not prohibited		V		
	Tablet: 500mg	Mild to moderate pain; pyrexia	Not prohibited		V		

IOC Needle Policy

- Introduced at London 2012
- Aims to eliminate inappropriate injections and doping during the Olympic Games
- Needles can only be used by medically qualified practitioners
- Only for clinically justified treatment of injury or illness
- Requires a written medical justification by the doctor



IOC NEEDLE POLICY INJECTION DECLARATION FORM

XXXI Olympic Games in Rio in 2016 (Please complete legibly in English or French)

Email: medicalgames@olympic.org - Fax to: +41 21 621 63 66
(Email and Fax effective from opening of Olympic Village to Closing Ceremony)

(Email and Fax effective from opening of Olympic Village to Closing Ceremony)					
ATHLETE					
Name of the Athlete having received the injection:					
Bennesenting National Olympia Committee of	Coorts				
Representing National Olympic Committee of:	Sport:				
Date of Birth:	Gender:				
	[] Male [] Female				
INJECTION					
Substance(s) Injected:					
Data and place of injection:					
Date and place of injection:					
MEDICAL JUSTIFICATION					
Justification for injection, including clinical history and diagnosis (attach confirmatory					
evidence when available):					

RIO 2016: 358 Injection Declarations

IOC Consensus Statement on Pain Mana Elite Athletes

Issues

- Inconsistent international practices
- Lack of evidence in elite athlete
- Overuse and high doses
- Inappropriate prophylactic use
- Inappropriate use in recovery
- Doping risks

British Journal of Sports Medicine (BJSM)

IOC CONSENSUS STATEMENT ON PAIN MANAGEMENT IN ELITE ATHLETES

NON-DUADMACOLOGICAL STDATEGIES

5165 Reference: by B. Hainline et al. BJSM 201

Pain management depends on identifying contributory factors from biological, psychosocial and c domains and addressing them through various evidence-based techniques

MODALITIES & MASSAGE 1 Physical therapy techniques: no clear 3 Cryotherapy: little evidence from

1 Physical therapy techniques: no clear benefit for most of them
2 Low-level laser therapy: possibly beneficial (tendinopathy & acute



5 Electrical stimulation, massage therapy, myofascial trigger point treatments and acupuncture: poor reliability and consistent efficacy for relief of pain resulting from musculoskeletal injury

The effects of modalities may be manifest in an individually specific way, especially as it pertains to the skill of the treating clinician

PSYCHOSOCIAL

(with possible efficacy)

MOVEMENT, STRENGTH & CONDITIONING



Skills training in goal setting, imagery, relaxation & positive self-statements

2 Cognitive restructuring (identifying and challenging negatively biased appraisals) & developing plans for maintaining treatment gains and coping with setbacks

txercise-based approaches are effective for managing pain in individuals with chronic painful conditions and can also improve patient self-efficacy for managing pain and fear of (re)injury

SUPPLEMENTATION



vs anced by any proinflammatory

3 Psychologically informed physical therapy, which incorporates cognitive and behavioural principles and strategies (eg. techniques to reduce hear-avoidance, use of graded activity and exposure techniques), and education about pain during physical rehabilitation, is a promising approach

not methodologically sound and have unclear relevance to elite athletes

Pain disturbs sleep, and poor sleep quality or duration increases pain levels decreases pain thresholds. Psychological strategies to address sleep disorders include cognitive-based therapy, self-hypnosis & mindfulness-based stress reduction.



SURGERY

Surgery should not be performed to treat chronic pain simply because all other interventions have failed but should rather be used when a structural problem associated with the pain has been identified

Designed by @YLMSportScience

in collaboration with

IOC Consensus Statement on Dietary Supplements in Athletes

- Use of dietary supplements widespread
- Diet significantly influences athletic performance
- A few supplements may provide performance benefits for some athletes in some sports
- Risk of contaminated supplements

British Journal of Sports Medicine (BJSM)



WADA & IOC Education Collaboration

Sports Physician Toolkit

Mandatory for all physicians attending Olympics since Rio 2016

- 1. Identifying & Prescribing Prohibited Drugs
- 2. Complying with the IOC Needle Policy
- 3. Bringing Medicines to the Games for Team Use

www.wada-ama.org



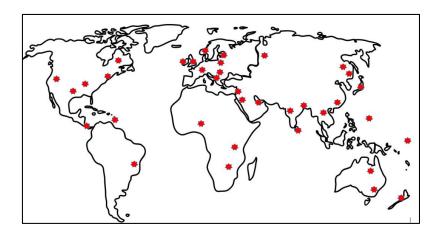
IOC Certificate in Drugs in Sport



Launched 2018

- Safe and effective medicines use in sport
- Doping prevention
- Prohibited drugs
- Supplement use and risks
- 6 month online, awarded by the IOC
- Graduate in Lausanne
- Pharmacists, physicians and all healthcare providers

www.sportsoracle.com















HOME SERVICES SEARCH **ABOUT US**



International Doping Control Officer Training Program

Setting new ITA Certified standards of quality and best practice

for International Doping Control Officers.

ABOUT

COURSE

GET INVOLVED







Helen Zhang, China

Director of Pharmacy, United Family Healthcare



Ensuring Drug Safety in Pharmacy During Beijing Olympics

Helen Zhang, Pharm D United Family Healthcare Beijing, China July 30, 2020



Outline

- 1. Background of 2008 Beijing Olympics
- 2. Anti-doping preparation
- 3. Pharmacy services preparation
- 4. Results and Conclusion

Objective

To understand the role and responsibilities of pharmacist during Olympic event



2008 Beijing Summer Olympics

- From August 8-24, 2008
- 37 venues
 - 31 in Beijing
 - 6 in Hong Kong, Shanghai, Qingdao, Qinhuangdao, Shenyang and Tianjin





China





Potential Health Concerns

- Infectious Diseases
 - Risk of pandemic
 - Food and water safety
- Air pollution and respiratory diseases
- Motor vehicle accidents
- Fake medication
- Use of stimulants
- Lack of clean toilets



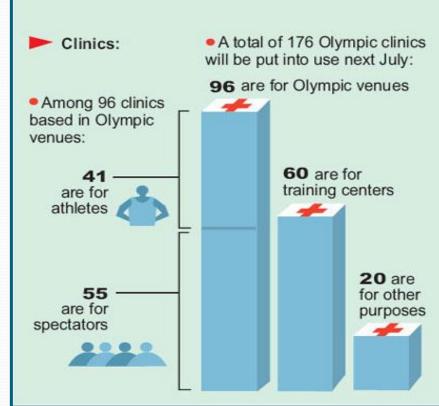






OLYMPIC • SNAPSHOTS

Medical facilities for Olympics



Ambulances:

will be stationed outside Olympic venues

Doctors:

3,000 volunteer doctors, mostly from major medical universities in Beijing, with a Master's degree or higher, while others are from BOCOG designated hospitals



Medical Infrastructure

- 22 official Olympic hospitals in Beijing
 - 5,000 emergency hospital beds
 - 19 emergency medical teams
 - 160,000 medical personnel



Mapping out medical services





My Main Responsibilities as Pharmacy Director for UFH During Olympics

- 1. Ensuring that doping agents would not be dispensed to athletes inadvertently
- Providing pharmacy services and medications in an efficient and effective manner
- Ensuring safety and quality of medication used



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Anti-Doping

- In 2007, the Chinese State
 Food and Drug
 Administration (SFDA) and
 the International Olympic
 Committee (IOC) decided
 on the "Doping" drug list or
 "Prohibited List"
- It contained 767 brands of Western medicines and 1,227 kinds of Chinese herbal products

8 classes of Prohibited
substance:
stimulants
narcotics
anabolic agents
glucocorticoids
beta-2 agonists
diuretics
hormones and metabolic
modulators
peptide hormones





The International Olympic Committee Anti-Doping Rules applicable to the Games of the XXIX Olympiad, Beijing 2008

International Olympic Committee Château de Vidy C.P. 356 1007 Lausanne Telephone no: + 41 21 621 61 11 Fax no: + 41 21 621 62 16

ARTICLE 1	DEFINITION OF DOPING	3
ARTICLE 2	ANTI-DOPING RULE VIOLATIONS	3
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ARTICLE 4	THE PROHIBITED LIST	5
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 APPENDIX 1 - APPENDIX 2 - (referred to in A 	CRITERIA RELATING TO THE INTERNATIONAL STANDARD FOR TESTING Vitcle 5.3) TECHNICAL PROCEDURES RELATING TO DOPING CONTROL (referred to	19 9 22





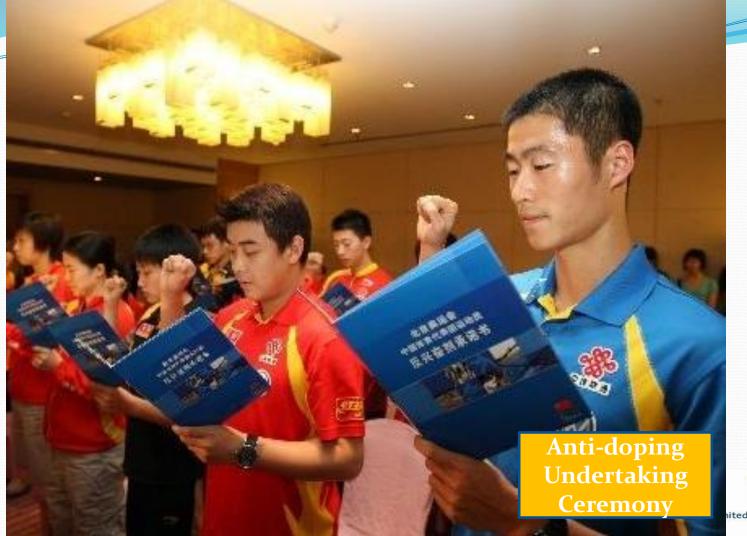
奥运会兴奋剂检测 Olympic Doping Test 检测阳性数 Positive tests 北京 计划检测数 Anticipated number of tests IL. σ



Educating community on healthy sports engagement









Pharmacy Stores





Medication



All products on the prohibited list should have "运动员慎用" or "Precautions for Athletes" in the package insert or warning stickers on the outside box.

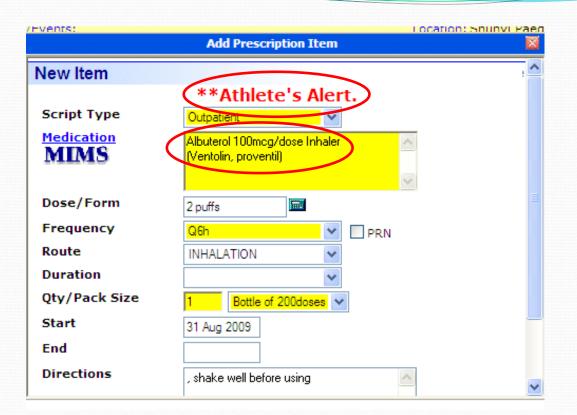


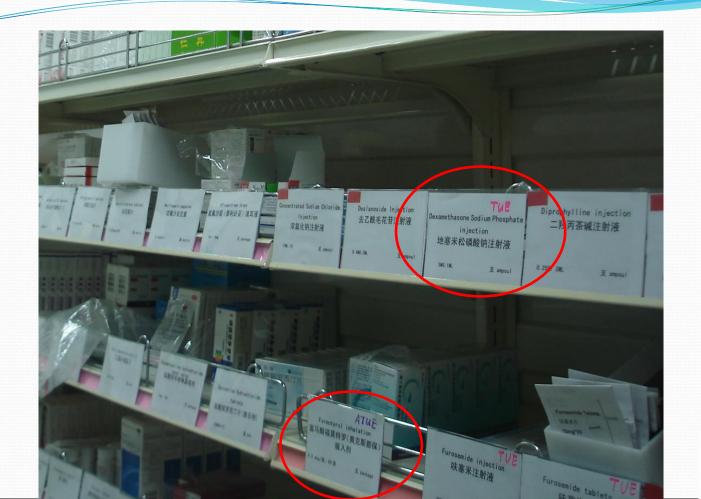


Anti-Doping Preparation in Hospital

- 1) Compiling hospital's own anti-doping drug list
- 2) Educating all staff about the list
- 3) Alerts on the Hospital Information Systems and on the medication shelves
- 4) Requesting athletes to identify themselves upon admission to hospital
- 5) Steps to take if usage of "prohibited" medications were necessary including patient consent form









TUE: Therapeutic Use Exemption

ATUE: Abbreviated Therapeutic Use Exemption

Athletes with a documented medical condition requiring the use of a *Prohibited Substance* or a *Prohibited Method* must first obtain a TUE or ATUE from IOC

Example: Glucocorticoids

- PO/IV/IM use for medical condition need TUE
- Inhalation/IA/IT use need ATUE
- External use is not prohibited

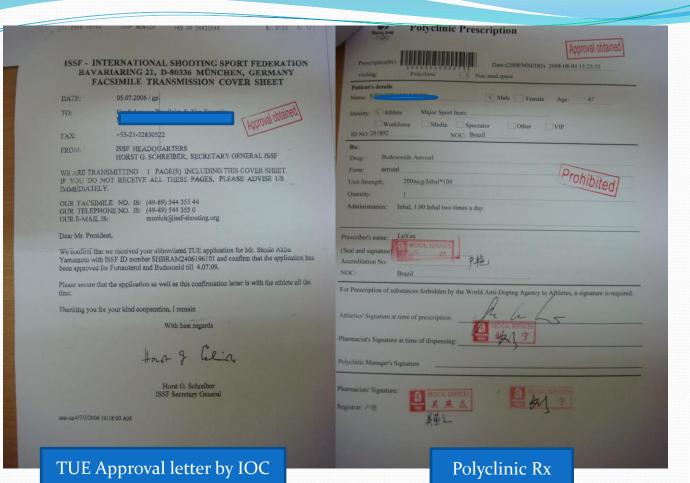


POLYCLINIC PRESCRIPTION

For dispenser:

Date: MM /DD / 2008 **Identity**: □Athlete Sports item: □NOC/NPC Staff Patient's details ID No.: NOC/NPC: Drug [Generic name]: Dose Form: Ouantity: Route: Frequency: **Medical practitioner** [Seal and signature]:.... Accreditation No.: NOC/NPC: For prescription of substances prohibited by WADA to athletes: Athlete's signature: Pharmacist's signature:





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Ensuring Drug Supply

- Drug procurement issues:
- 1. Increased demand:

Government stockpile

Increased number of patients

Sichuan earthquake (especially blood products)

2. Decreased supply

Tighter quality control

Closing of substandard factories



Drug Supply Chain

- Ensure traceability of all drugs from manufacturer wholesaler – retailer/hospitals
- 15 patrol vehicles for medication quality testing for rapid and accessible testing in Beijing
- Use of best available brands
- Add English translation for drugs labels + information sheets



Warehouse:

Stock For Olympics Athletes use only

Ensuring medication complies with quality standards – mobile









Government inspections



- Pharmacy license and personnel record
- 2. Drug procurement documents
- 3. Good receipt records
- 4. Drug storage records
- 5. Anti-doping regulations
- 6. Special medication management



Special drug regulation: Medicinal Toxic Drugs





TITLE 题目:		EFFECTIVE DATE 生效日期:	
THE MANAGEMENT OF MEDICINAL TOXIC DRUGS 医疗用毒性药品管理制度		2020.03.26	
CODE 编号:		APPROVAL DATE 审批日期:	
UFH-PHM-0041-B-PC-002		2020.03.26	
EFFECTIVE SITE(S) AND LOCATION(S) 实施范围:		DOCUMENT DEVELOPER 文件制定部门:	
☑ UFH System-Wide	☐ BJR only	Pharmacy Department	
☐ BJU only	☐ BJC only	To be APPROVED BY 审批流程:	
☐ SHM (PDU+PXU) only	☐ QDU only	Approval 1:	Facility Pharmacy Managers
☐ PDU only	☐ GZU only		UFH Director of Pharmacy
☐ PXU only	□ PPR Entity only	Approval 2:	Facility MAB
☐ TJU only	□ Other (specify)	Approval 3:	Board of QAS sub policy committee
		Final Approval:	Board of QAS

PURPOSE 目的

保证医疗用毒性药品的安全储存,保证患者安全、有效、合理使用此类药品。 Ensure safe storage, Ensure safe, effective and rational use of medicinal toxic drugs.

DEFINITIONS 定义

毒性药品系指毒性剧烈、治疗剂量与中毒剂量相近,使用不当会致人中毒或死亡的药品。毒性药品的储存容器上 必须印有规定的毒药标志,黑底白字。包括 A 型肉毒毒素。

Toxic drugs are drugs that are highly toxic and the therapeutic dose of which are close to the toxic dose. Misuse may lead to toxicosis or death. Stipulated mark must be labeled on the containers of toxic drugs. Including Botulinum Toxin A.



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Results

- Weekly inspections passed with high remarks
- 20% increase in patient volume in our hospital
- Most common illness minor sport injuries, heat strokes, allergies and gastrointestinal problems
- "zero" case of accidentally dispensing of doping agents to athletes



Conclusion

- Keys to successful preparation:
 - 1. Early planning
 - 2. Know your Prohibited list
 - 3. Maintaining a constant and transparent relationship with governing bodies
 - 4. Reliable suppliers
 - 5. Supportive hospital administrators and staff



Take Home Message – as a pharmacist

- Proactive communication
- Information dissemination and documentation
- Raise awareness

Balance between antidoping and clinical need

If you have excellent risk management process.....then





Thank you!





Wrap up & Conclusions



Thank you for attending!