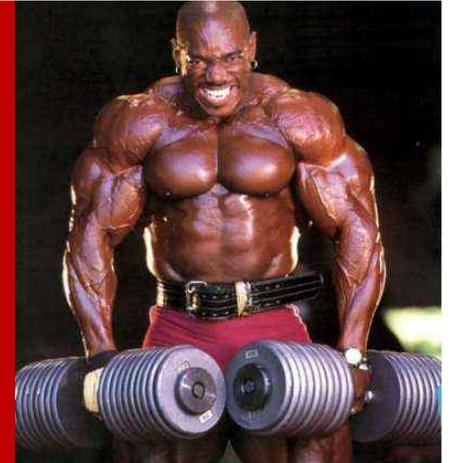


**DRUG DOPING IN SPORTS**  
**NORTH BAY, MAY 2010**  
**Dr Cathy Campbell**



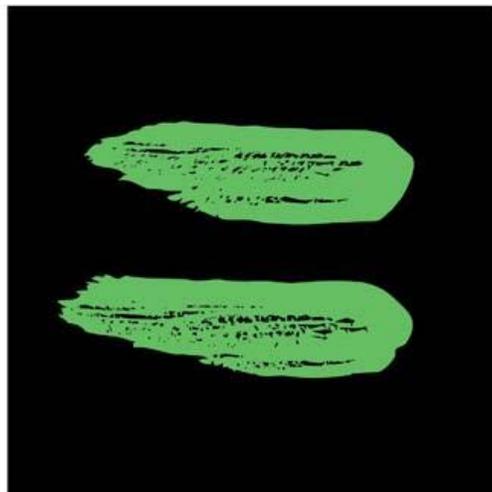
# AGENDA



1. Who is WADA? CCES?
2. What is doping?...Performance enhancing?
2. How are the tests conducted?
3. Why is it wrong and who cares?
4. What are the drugs and what do they do?
5. Resources for parents? Athletes? Coaches?
6. Questions?

# WHAT IS WADA?

- World Anti-Doping Agency
- Promotes, coordinates and monitors the fight against doping in sport in all its forms



**WORLD  
ANTI-DOPING  
AGENCY**

# Canadian Center for Ethics in Sport

- [www.cces.ca](http://www.cces.ca)
- mission is to foster ethical sport for all Canadians
- non-profit organization independent from sport organizations and government
- funded through Sport Canada, grants, etc...



# What is Doping?

**Doping** is defined as the occurrence of one or more of the anti-doping rule violations set forth in Article 2.1 through 2.8 of the WADA code

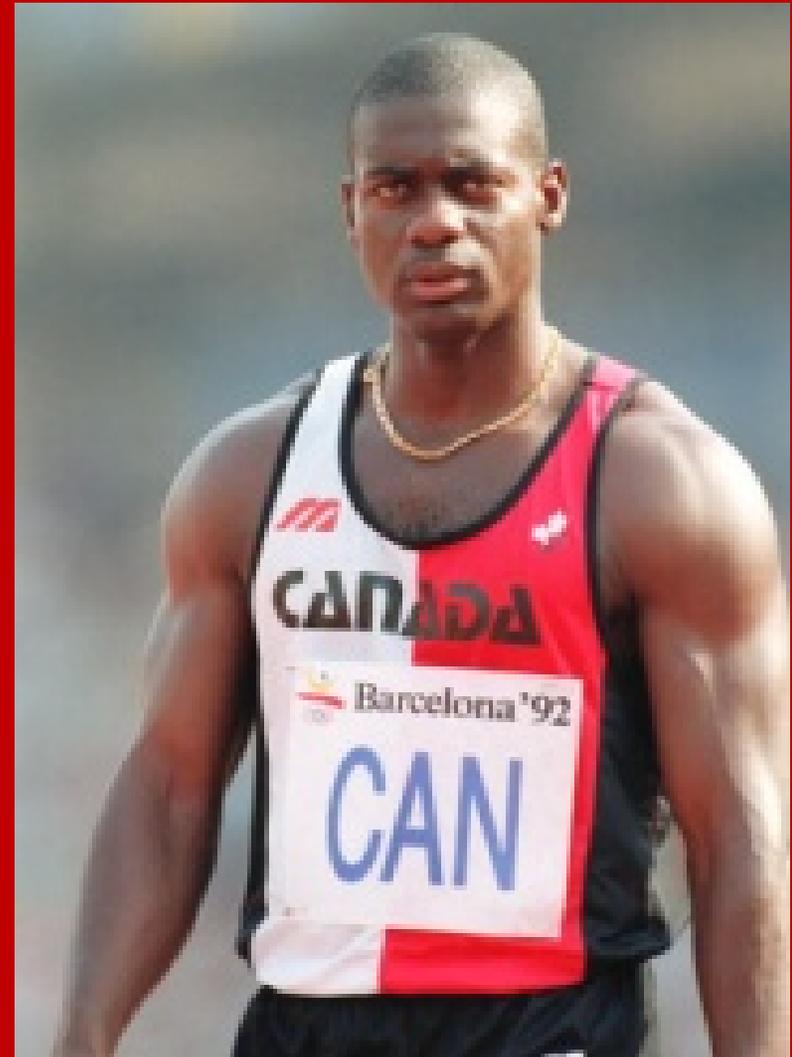
Richard Pound



# SUMMARY OF CODE

2.1 Presence of prohibited substance, metabolite or marker in an athlete's bodily specimen

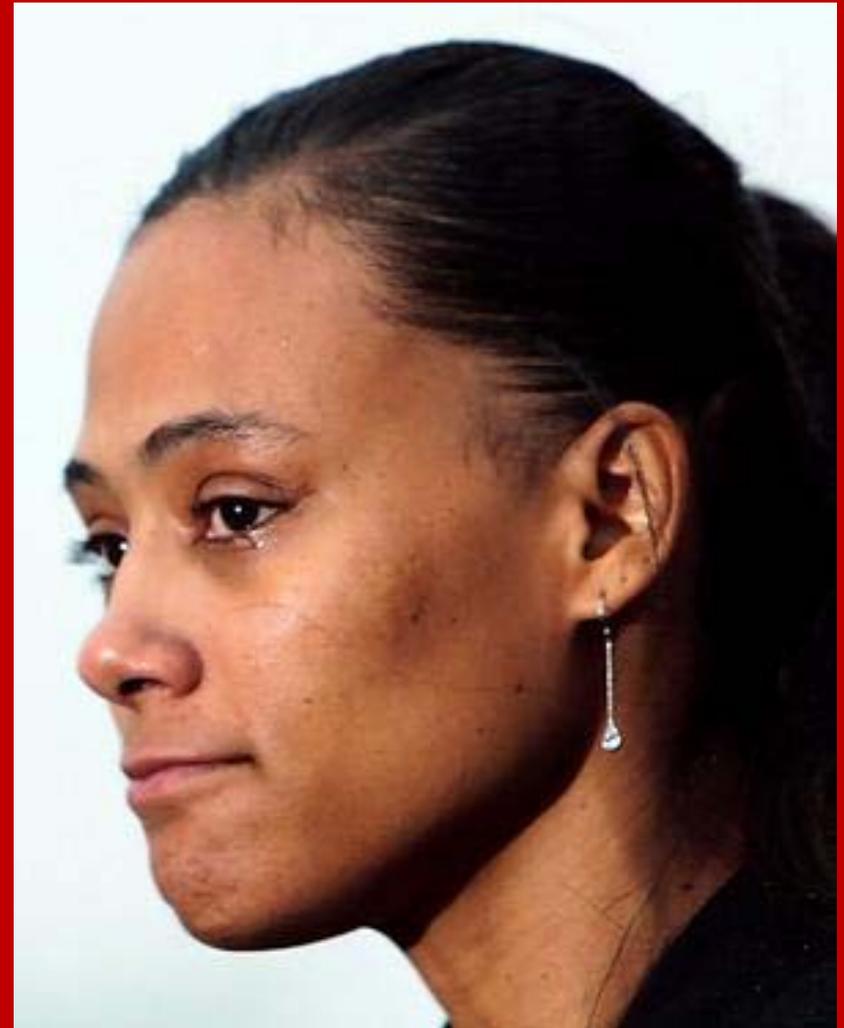
Ben Johnson



# Summary of Code Cont...

- 2.2 Use or attempted use of prohibited substances
- 2.3 Refusing, or failing without compelling justification, to submit to sample collection after notification
- 2.4 Failure to provide whereabouts outside competition

Marion Jones



# BALCO LAB



BALCO Lab



Victor Conte et al.

# Tower of Power

(Victor Conte—bass player)

## **Tower of Power**



# Summary of Code Cont...

2.5 Tampering or attempting to tamper with any part of the doping control

2.6 Possessing prohibited substances or methods

2.7 Trafficking in any prohibited substance or prohibited method



# Summary of Code Cont...

2.8 Administration or attempted administration of a prohibited substance or prohibited method to any athlete or assisting, encouraging, aiding any other type of complicity involving an anti-doping violation.



Banned Russian runner, Soboleva

# Prohibited Substances

## s1. Anabolic Steroids



Mark Maguire

## What are they?

- drugs which mimic the effects of the male steroids testosterone and dihydrotestosterone
- increase protein synthesis in cells...increases cellular tissue including muscles

# Anabolic Steroid Effects

- Side Effects

- high cholesterol
- acne
- high blood pressure
- liver damage
- changes in the heart
- virilizing effects
- testes shrinkage
- sperm production reduction



# Anabolic Steroid Effects

In women:

- same effects but many unwanted features:
- growth of vocal cords and body hair

“The side effects on women are **often** reversible” from steroid website



Ms Olympia 2006-Iris Kyle

# Prohibited Substances Cont...

S2. Peptide Hormones, growth factors and related substances including:

- Erythropoiesis-Stimulating Agents(EPO)
- Insulins
- Growth Hormone
- Platelet-derived preparations by IM route (e.g. Platelet Rich Plasma, "blood spinning")



Florence Griffith Joyner

# Prohibited Substances Cont...

## S3. Beta-2 Agonists



- all are prohibited except salbutamol and almeterol by inhalation (needs Therapeutic Use Exemption)
- presence of salbutamol in urine in excess of 1000ng.ml is presumed not to be an intended therapeutic use of the substance unless otherwise proven by athlete

# Therapeutic Use Exemption

## TUE

-The Code permits Athletes to apply for TUEs i.e. Permission to use, for therapeutic purposes, substances or methods contained in the List of Prohibited Substances or Methods where Use would otherwise be prohibited



Missy Franklin-USA Swim Team

# Canada's 2003 World Cup Team



How common? 5 of these athletes needed TUEs

# Prohibited Substances Cont...

S4. Hormone Antagonists and modulators

S5. Diuretics and Other Masking Agents



David Sherman, Getty Images

Pat and Ken Williams (Vikings)-caught using diuretics

# Prohibited Methods

## M1. Enhancement of Oxygen Transfer

- Blood doping
- Artificially enhancing the uptake, transport or delivery of oxygen, excluding supplemental oxygen



Becky Scott

# Prohibited Methods Cont...

## M2. Chemical and Physical Manipulation

- Tampering or attempting to tamper in order to alter the integrity and validity of Samples
- IV infusions are prohibited



Michelle Smith

# Prohibited Methods Cont...

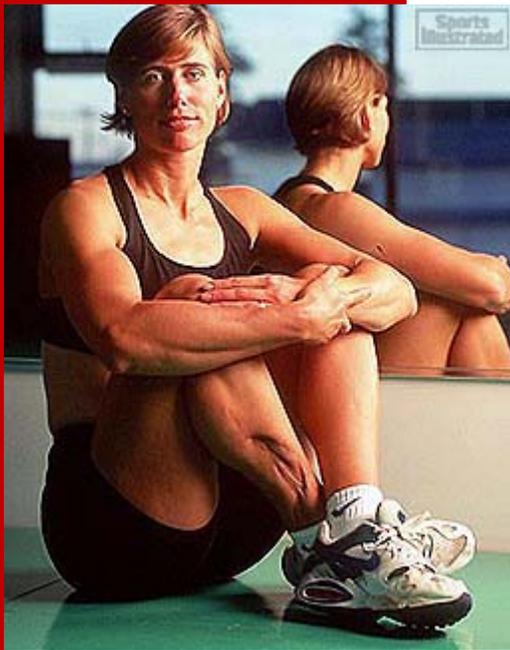
## M3. Gene Doping

- transfer of cells or genetic elements (e.g., DNA, RNA)
- use of pharmacological or biological agents that alter gene expression



# Prohibited Substances in Competition

## S6. Stimulants



Silken Laumann



## S7. Narcotics



# Prohibited Substances in Competition

S8. Cannabinoids



S9. Glucocorticosteroids



# Substances prohibited in Particular Sports

## P1 Alcohol (in competition)

- Aeronautic
- Archery
- Automobile
- Karate
- Modern Pentathlon (or disciplines involving shooting)
- Motorcycling
- Bowling and Power boating



Susan Nattrass

# Substances Prohibited in Particular Sports

## P2. Beta Blockers

Some sports include:

- archery
- bobsleigh
- curling
- golf
- gymnastics
- shooting
- modern pentathlon



Integrity is doing the  
right thing when no  
one is watching you

# Disgraced



Dwayne Chambers



Tim Montgomery/Marion Jones

# Dwayne Chambers speaks about doping

[http://www.youtube.ca/watch?v=sM  
drlztBPJs](http://www.youtube.ca/watch?v=sMdrIztBPJs)

# What About Supplements?



# CCES Position on supplements

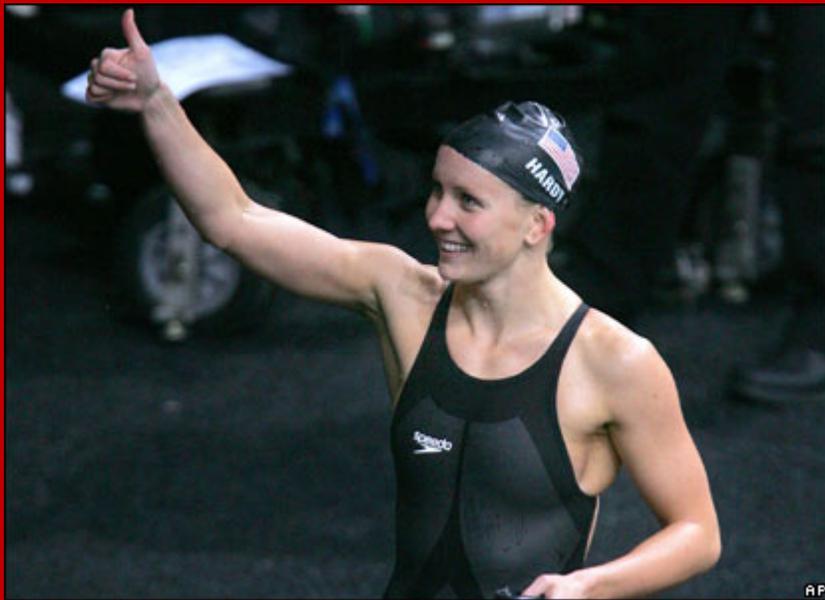
The CCES believes the use of most supplements poses an unacceptable risk for athletes and their athletic career. While the CCES does not recommend the use of supplements, we do acknowledge that many athletes choose to use them to support the nutritional demands of training and travelling.

# Why doesn't CCES help more with supplement advice?

- Many products are mislabelled
- Some products are contaminated
- Little government regulation of industry
- Counterfeit products laced with banned products in the marketplace



# More on Supplements



Jessica Hardy-USA swim

The NSF Certified for Sport Program can help athletes identify products that have been tested for purity banned substances, and help minimize the risk of inadvertent doping:

[www.nsf sport.com](http://www.nsf sport.com)

# NSF Athletic Banned Substances Program



March, 2010, NSF International announced that it is the first US certification organization approved by the Standards Council of Canada (SCC) to offer dietary and sports supplement screening for all nutritional products

# Other Supplement Advice

- Contact the Manufacturer
- Get written guarantee from company
- Are any banned substances manufactured in the same building?
- Do they stand behind their product?

# How do you get tested??

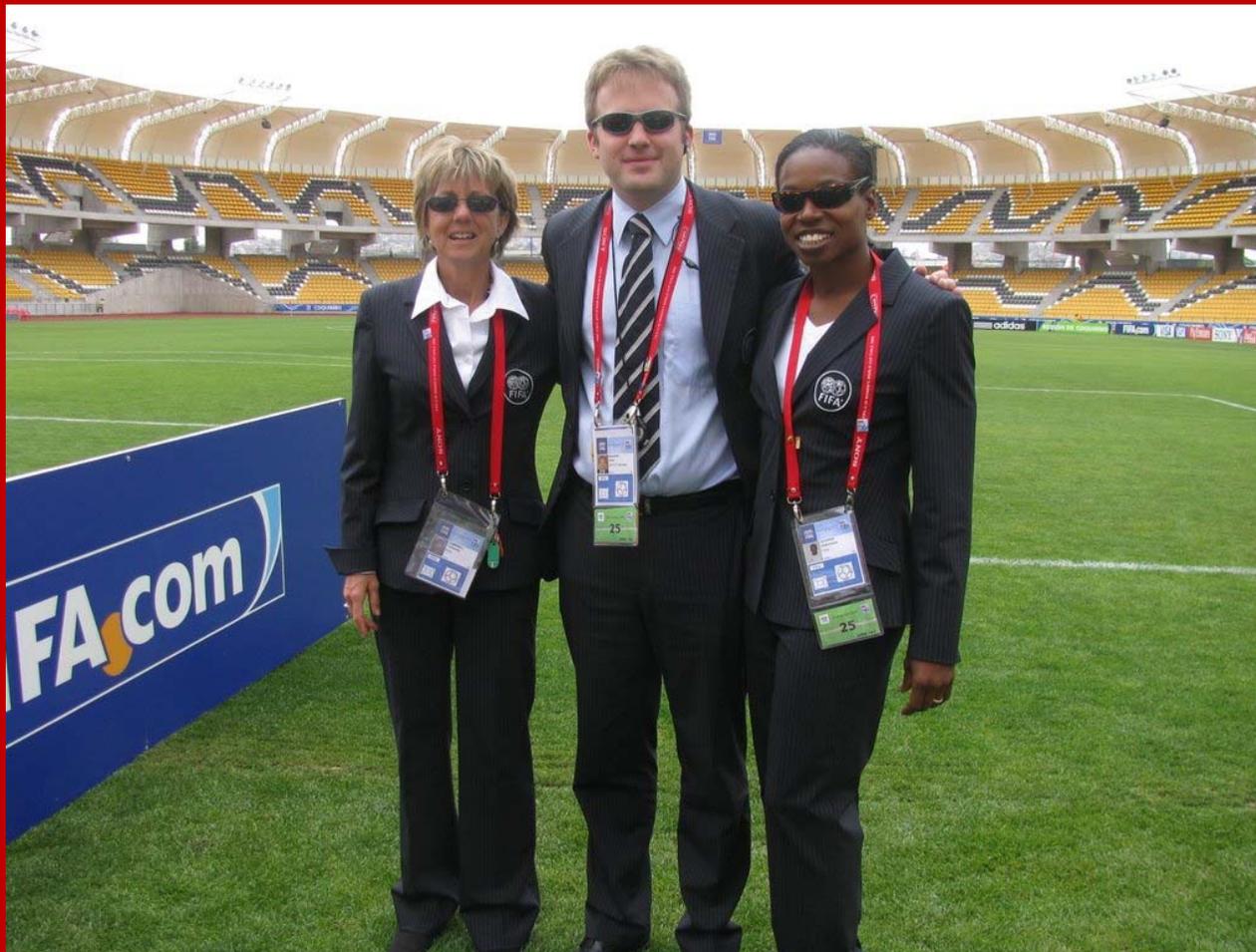
Urine +/-



Blood Sample



# Drug Testing in Chile 2008 U20 Women's World Cup



# Drug Testing Chaperones



# Doping Room Waiting Area



# Drug Testing



Drug testing station in  
Coquimbo, Chile



# Sample heads to the lab

Chain of Custody



Testing



Christiane Ayotte, Director  
of Anti-doping in Laval

# RESOURCES

1. <http://www.wada-ama.org/en/>
2. [www.cces.ca](http://www.cces.ca) or call 1-800-672-7775
3. [www.nsf sport.com](http://www.nsf sport.com)
4. [MayoClinic.com](http://MayoClinic.com)
5. [www.globaldro.com](http://www.globaldro.com)

# Resources



Les Wilkinson with Even Pellerud

# Why do athletes take PED?

- Pressure from parents or peers
- Desire to gain muscle mass (impatient)
- Desire to be stronger (impatient)
- Negative body image
- Tendency to compare their appearance with others, particularly those who use steroids

# How do Parents/Coaches know?

- Creatine---kidney problems
- Steroids-as listed before-particularly harmful for growing teens
- DHEA—OTC—similar to steroids
- Look for sudden changes in appearance or behaviour



# What can you do as parents?

- Be clear about your expectations as a parent
- Discuss ethics and proper training
- Talk with your child's coach
- Monitor your teen's purchases
- Monitor for signs of drug use



The End....Thank you!



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