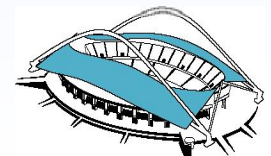


Απαγορευμένες Ουσίες και Μέθοδοι

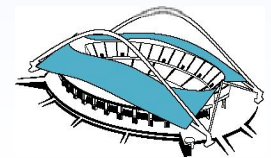
Κωνσταντίνος Γεωργακόπουλος
Εργαστήριο Ελέγχου Ντόπινγκ, ΟΑΚΑ

Ισχυρή Συμμαχία κατά του Ντόπινγκ στο Ποδόσφαιρο, Θεσσαλονίκη 070904



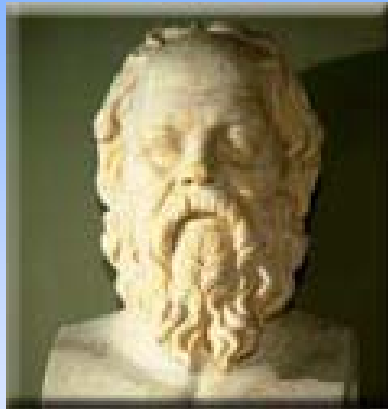
Ο Αθλητισμός είναι κομμάτι του πολιτισμού μας

- Ο Αθλητισμός είναι από τα πρώτα συστατικά του σημερινού ανθρώπινου πολιτισμού





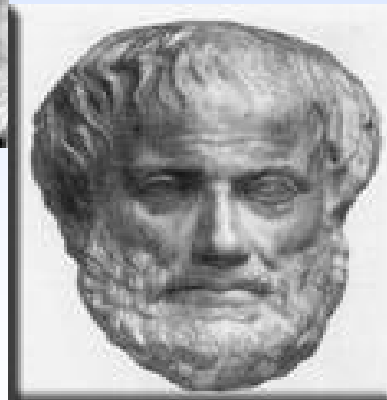
Ολυμπία,
776 πΧ



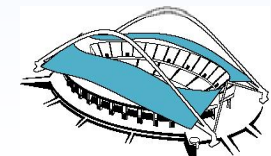
Σωκράτης, 469 πΧ



Πλάτων, 428 πΧ

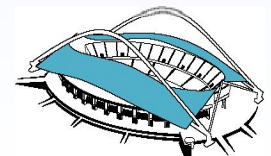


Αριστοτέλης,
384 πΧ



Ο Αθλητισμός είναι κομμάτι του πολιτισμού μας

- Ο Αθλητισμός είναι από τα πρώτα συστατικά του σημερινού ανθρώπινου πολιτισμού
- Ο Αθλητισμός είναι Δημόσια Υγεία



Ο Αθλητισμός είναι κομμάτι του πολιτισμού μας

- Physical activity in U.S. adults and at risk for developing diabetes

Diabetes Care, 2007

- The importance of continued exercise participation in quality life and Psychological well-being in previously inactive postmenopausal women

Menopause, 2006

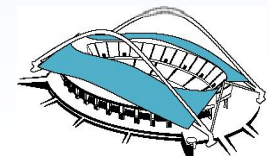
- Benefits of exercise for community-dwelling older adults

Arch Phys Med Rehabil., 2004

- American adults' knowledge of exercise recommendations

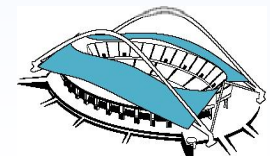
Res Q Exerc Sport, 2004

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Ο Αθλητισμός είναι κομμάτι του πολιτισμού μας

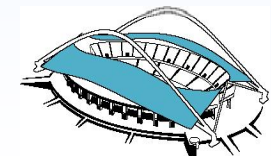
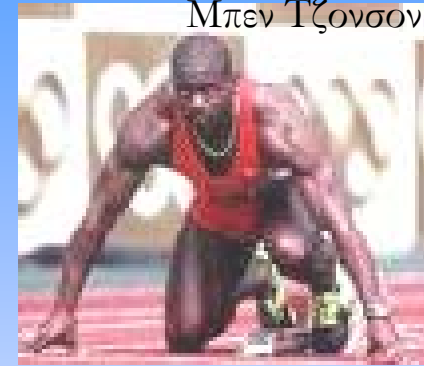
- Ο Αθλητισμός είναι από τα πρώτα συστατικά του σημερινού ανθρώπινου πολιτισμού
- Ο Αθλητισμός είναι Δημόσια Υγεία
- Ο Ανταγωνισμός είναι κομμάτι του Πολιτισμού
- Ο Αθλητισμός είναι βασικό εργαλείο της εκπαίδευσης
- Η Αθλητική Επιστήμη συμβάλλει στην βελτίωση της γνώσης της Φυσιολογίας του ανθρώπου
- Όλες οι αθλητικές Ολυμπιακές αξίες καταστρέφονται από το ντόπινγκ
- Το ντόπινγκ είναι το πιο αρνητικό φαινόμενο στον αθλητισμό



Ντόπινγκ και Ολυμπιακές Αξίες

- Η χρήση απαγορευμένων ουσιών επιτρέπεται ΚΑΙ
- Παγκόσμιο ρεκόρ 100μ ΚΑΙ
- Ρεκόρ στο βιβλίο Guinness
- Πρόβλημα: συμβαδίζει με τις Ολυμπιακές Αξίες ?
- Οι χορηγοί ενδιαφέρονται ?

Μπεν Τζονσον





Sports » Cycling

Doping issues have cycling facing uncertain future

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By Sal Ruibal, USA TODAY

DISCOVERY A BIG WINNER

The Discovery Channel team could not ask for more at the Tour de France: the overall winner in Alberto Contador, Levi Leipheimer's third-place spot on the Paris podium, three stage wins, the best young rider award (Contador) and the team championship.

That trove exceeds any single year during Lance Armstrong's seven-year reign.

The only thing missing is a title sponsor for 2008.

Discovery Channel declined to extend its three-year deal with team owner Tailwind Sports after a change of top management last year.

Contador, 24, became the youngest to win the Tour since Jan Ullrich of Germany in 1997. His margin of victory -- 23 seconds ahead of Cadel Evans of Australia -- was the second narrowest in Tour history. Teammate Leipheimer finished 31 seconds behind.

Alberto Contador's final-weekend ascension to Tour de France champion gave the world's biggest cycling race a moment of grace after a series of doping scandals marred the event, but today professional cycling continues with its future very much in doubt.

The international cycling federation (UCI) and the organizers of the three Grand Tours of France, Italy and Spain can't agree on how the war on doping should be fought.

At the Olympic level, illegal doping by professionals threatens to endanger the sport's status in the Summer Games.

"If cycling doesn't resolve this problem, I'd go so far as saying it should be excluded from the Olympics," International Olympic Committee member Rene Fasel of Switzerland told the Associated Press. "Just tell them 'no more.' It's discrediting all those who are honest and clean. The heads of cycling need to know that if they don't clean up the sport, and really clean it up, then it's goodbye."

Dick Pound, an IOC member and chairman of the World Anti-Doping Agency, agreed. "If cycling doesn't take the steps

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EUROPE July 30, 2007, 4:06PM EST

A Watershed for Professional Cycling?

The sport's struggles—on full display during this year's Tour de France—drive home the need for across-the-board reform

by Jack Ewing

Considering how the Tour de France limped into Paris—after three weeks of injuries, doping scandals, and threatened sponsor defections—the mood on the T-Mobile cycling team Sunday was surprisingly relaxed. Team leader Michael Rogers, forced to drop out of the race July 15 after a harrowing crash that injured his shoulder, slouched in a folding chair and watched the final kilometers of the race on a giant TV screen set up near a VIP area. "This is much better than racing," Rogers, 27, quipped in his Australian accent, as the riders neared Paris and the finish line. "I might do this next year."

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At the same time, the cycling scandals could prove to be a watershed. The crisis demonstrates how crucial it is for all sports to become more professional in their approach to financial management and marketing, as well as doping controls. "It's adapt or die," says Bob Stapleton, the U.S. telecommunications entrepreneur who now manages the T-Mobile cycling team.

RIDING TO REFORM

The need for reform is urgent: Corporate sponsors are getting restive. German sports apparel maker Adidas (ADSG), a co-sponsor of the T-Mobile team, is just one of numerous companies considering getting out of cycling because of doping-related scandals. "We are interested in protecting the brand," says Adidas spokesman Jan Runau. Volkswagen's (VOWG) Audi unit, another T-Mobile co-sponsor, is also considering pulling out, according to German press reports. An Audi spokesperson declined to comment.

For some backers, the Tour was a disaster. The team sponsored by French consumer finance company Cofidis, a unit of Germany's Otto Group, withdrew after one of its riders tested positive for drugs. The Netherlands' Rabobank, a longtime cycling sponsor, suffered when its top rider—and race leader—Michael Rasmussen was ejected after cycling officials accused him of avoiding drug tests. Rasmussen denied wrongdoing.

CYCLING'S NEW REGIME

Despite all the bad news, Stapleton, cofounder of the wireless company now known as T-Mobile USA, is surprisingly optimistic about the future of the team—and the sport. Another major apparel maker approached the T-Mobile team almost immediately after press reports about Adidas' likely withdrawal, says Stapleton, who won't disclose the company's name. And he is optimistic that his main sponsor, the wireless unit of Deutsche Telekom (DT), will ultimately renew its support of the team.

Moreover, the unending series of doping-related scandals will finally force cycling sponsors and teams to back T-Mobile's rigorous antidoping stance, Stapleton maintains. "That's the good

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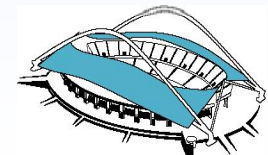
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Ντόπινγκ και Ολυμπιακές Αξίες

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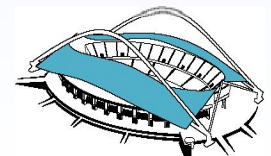


- Στον αθλητισμό απαιτούνται όχι μόνο καθαροί αθλητές,
αλλά αθλητές που δεν δημιουργούν υποψίες.



Οι Άξονες Καταπολέμησης του Ντόπινγκ

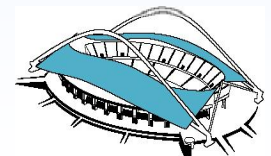
1. Εναρμόνιση Νομοθεσιών και Κανονισμών
2. Η Αθλητική Επιστήμη και η Εκπαίδευση
3. Ο Έλεγχος Ντόπινγκ

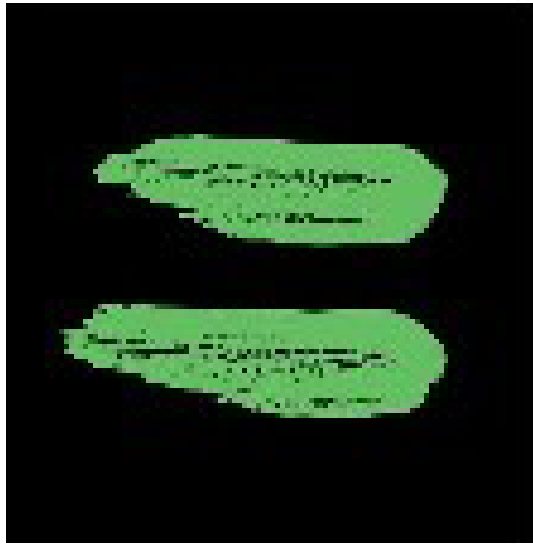


1. Εναρμόνιση Νομοθεσιών και Κανονισμών

Οι νέοι παίκτες εναντίον του ντόπινγκ:

- WADA
- Κυβερνήσεις μέσα από τις Εθνικές Επιτροπές Αντιντόπινγκ
- Ελλάδα: ΕΣΚΑΝ, www.eskan.gr
- UNESCO καθ' οδόν





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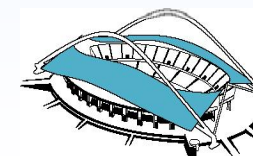
List

Επίπεδο 3 : **Models of Best Practice**

**Πρόγραμμα
Αντιντόπινγκ**

**Διαχείριση
Αποτελεσμάτων**

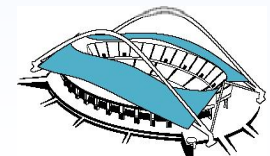
**Πρόγραμμα
Εκπαίδευσης**



Εναρμόνιση Νομοθεσιών και Κανονισμών

Τα νέα εργαλεία εναντίον του ντόπινγκ:

- Έλεγχοι Εκτός Συναγωνισμού Χωρίς Προειδοποίηση
- Whereabouts, Therapeutic Use Exemptions (TUEs)
- Ηλεκτρονικές βάσεις δεδομένων: ADAMS
- Χρηματοδότηση Ερευνητικών Προγραμμάτων από τη WADA
- Καθ' οδόν: Διαβατήριο Αθλητή, NoStart
- Τελικός Στόχος Προγραμμάτων Αντιντόπινγκ: Intelligence





UCI ProTour ·

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- Home
- UCI ProTour**
- News
- Races
- Teams
- Results / Rankings
- Pictures galleries

UCI ProTour

The UCI ProTour groups together the best races, the biggest teams and the best riders in the world. It is an international calendar with an individual ranking, a team ranking and a country ranking.

UCI ProTeams have all obtained a UCI ProTour licence, giving them the assurance and obligation of taking part in all the races of the UCI ProTour calendar. Only teams who respect a series of very strict criteria – sporting quality of their team, respect of ethics, legal and financial compliance – can benefit from this right.

By ensuring the professionalism of all those involved, the UCI ProTour gives top level cycling greater stability and helps to improve the quality of the racing. Currently, 16 teams have a sponsor until at least 2008, or even longer, six of which until 2010 or beyond. New sponsors have signed up this year and others have expressed an interest for the future.

Participation

The races of the UCI ProTour calendar are open first and foremost to UCI ProTeams. UCI Professional Continental Teams, ranked second in the hierarchy and structures taking part primarily in all races on their continental circuit, are able to ride in the races of the UCI ProTour calendar, but only if they are invited.

Riders belonging to a UCI ProTeam are not obliged to take part in all the competitions. This would be impossible and the consequences would be damaging. However, each team must take part in all races, which ensures that the greatest champions will be competing throughout the entire season. As a result, we have noted that between 2004 and 2005 (the first year of the UCI ProTour), the participation of the world's best 20 riders had increased by an average of 17% in races in the series. This increase has continued at the same level as 2006 (+17% compared to 2005).

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UCI Regulations Downloads

Part 1 : **General Organisation of Cycling as a Sport**

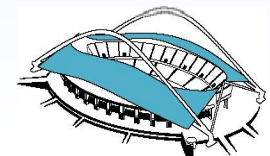
Part 2 : **Road Races**

2007 **Points scales Detailed gained points**

2. Η Αθλητική Επιστήμη και η Εκπαίδευση

Η Αθλητική Επιστήμη ως μέσο αντιντόπινγκ, ο δύσκολος και ο εύκολος δρόμος:

- Η Αθλητική Επιστήμη κάνει Πρωταθλητισμό όπως οι αθλητές ?
- Το Πανεπιστήμιο είναι η αρχή ή το τέλος της εκπαίδευσης ?
- Ποιοι είναι οι ελληνικοί φορείς επιστημονικής υποστήριξης ?
- Ποια τα προγράμματα χρηματοδότησης έρευνας ?
- Τι δεδομένα συλλέγονται και πως αξιολογούνται ?
- Πως ελέγχεται η υποπροπόνηση ή υπερπροπόνηση ?



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- Chelsea 2003/04
- Chelsea 2004/05
- Chelsea 2005/06
- Chelsea 2006/07
- Chelsea 2007/08
- Gallery - Burnley 2001
- Gallery - Harlington

Frank Lampard Online

<u>Competition</u>	<u>Appearances</u>	<u>Goals</u>
Premiership	225	62
F A Cup	30	10
League Cup	23	5
UEFA Cup	6	2
UEFA Champions League	45	11

Total Number of Chelsea Appearances **329***

Consecutive Premiership Appearances for Chelsea **5**

Total Number of Goals for Chelsea **92**

England Caps **56**

England Goals **14**

*does not include pre season and Community Shield appearances

...improved... game improved, his stamina and his contribution to the cause was more noticeable and he got better and better. He scored more goals, played in every Premiership match and was the first name on the teamsheet. His achievements were recognised by fans and football writers alike and he won numerous awards, just narrowly missing out on the Players Player of the Year Award, which went to John Terry. (for list of awards see Honours section). Frank helped Chelsea win both the League Cup and the Premiership Title in an amazing season. His club success meant more caps for England and a guaranteed start for his country. He only missed the tour of the USA due to a much needed operation on his foot.

The 2005/2006 was a huge one for Chelsea and for all those players looking to qualify for a place in the England World Cup Squad. They started the season by winning the Community Shield and they looked menacing ahead of the premiership where defence of their title was high on their agenda. They made an impressive start which continued until the end of the season even though there was a little shake and wobble during the run in to the end of the season. On a personal note Frank received the first of many awards and award nominations, starting with the PFA Fans Player of the Month for October and ending the year with the runner's up accolade in the FIFA World Footballer of the Year 2005. Frank also recieved a special award from the sponsors of the Premiership. He was awarded the Barclays Special Merit Award for Most Consecutive Premiership Appearances this was awarded to him for beating David James previous record of 160. Frank made a total of 164 consecutive premiership appearances for Chelsea before illness forced him to miss a match. Its a record which does not look like being beaten for a very long time.

Even though Chelsea were on course to win 4 titles in the season (Premiership, League Cup, FA Cup and Champions League) finally they only managed to retain their Premiership title and retain the party atmosphere at Stamford Bridge.

1: Am J Sports Med. 2006 Nov;34(11):1774-8. Epub 2006 May 30. View Full-Text Article at SAGE Publications Links

Treatment of chronic elbow tendinosis with buffered platelet-rich plasma.

Mishra A, Pavelko T.

Department of Orthopedic Surgery, Menlo Medical Clinic, Stanford University Medical Center, 1300 Crane Street, Menlo Park, CA 94025, USA. allan_mishra@yahoo.com

BACKGROUND: Elbow epicondylar tendinosis is a common problem that usually resolves with nonoperative treatments. When these measures fail, however, patients are interested in an alternative to surgical intervention. HYPOTHESIS: Treatment of chronic severe elbow tendinosis with buffered platelet-rich plasma will reduce pain and increase function in patients considering surgery for their problem. STUDY DESIGN: Cohort study; Level of evidence, 2. METHODS: One hundred forty patients with elbow epicondylar pain were evaluated in this study. All these patients were initially given a standardized physical therapy protocol and a variety of other nonoperative treatments. Twenty of these patients had significant persistent pain for a mean of 15 months (mean, 82 of 100; range, 60-100 of 100 on a visual analog pain scale), despite these interventions. All patients were considering surgery. This cohort of patients who had failed nonoperative treatment was then given either a single percutaneous injection of platelet-rich plasma (active group, n = 15) or bupivacaine (control group, n = 5). RESULTS: Eight weeks after the treatment, the platelet-rich plasma patients noted 60% improvement in their visual analog pain scores versus 16% improvement in control patients (P = .001). Sixty percent

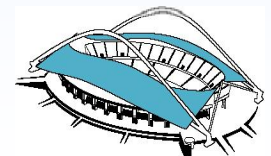
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Η Αθλητική Επιστήμη και η Εκπαίδευση

Μερικές αλήθειες για την εκπαίδευση :

- Η συνεχής είσοδος νέων γενεών αθλητών απαιτεί συνεχή εκπαίδευση
- Οι αθλητές θα πρέπει να γίνουν ο μοχλός της μάχης εναντίον του ντόπινγκ
του ντόπινγκ
- Η εκπαίδευση θα πρέπει να περιλαμβάνει όλες τις εμπλεκόμενες ομάδες πάνω στη βάση ότι ο αθλητισμός είναι μέρος της Δημόσιας Υγείας

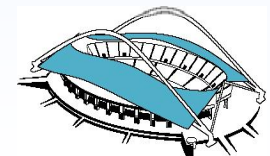


3. Ο Έλεγχος Αντιντόπινγκ

Ο ορισμός του Ντόπινγκ περιλαμβάνει τα απαγορευμένα μέσα που:

- Αυξάνουν τις αθλητικές επιδόσεις
- Καταστρέφουν την ισότητα στον αγώνα
- Είναι επικίνδυνα για την υγεία των αθλητών

- Η Απαγορευμένη Λίστα (The WADA Prohibited List) υλοποιεί τον παραπάνω ορισμό σε καθημερινή πρακτική και είναι η βάση του ελέγχου αντιντόπινγκ



WADA - Η Απαγορευμένη Λίστα

Prohibited Substances

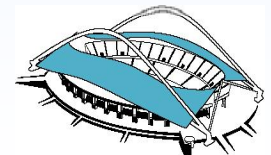
- S1. Anabolic Agents
- S2. Hormones
- S3. β 2-Agonists
- S4. Antioestrogenics
- S5. Diuretics – Masking
- S6. Stimulants
- S7. Narcotics
- S8. Cannabinoids
- S9. Glucocorticosteroids

Prohibited Methods

- M1. Oxygen Transfer
- M2. Manipulation
- M3. Gene Doping

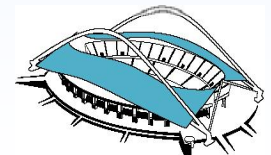
Sport Specific

- P1. Alcohol
- P2. β -blockers

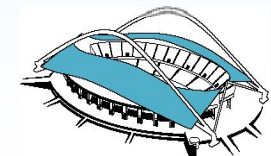
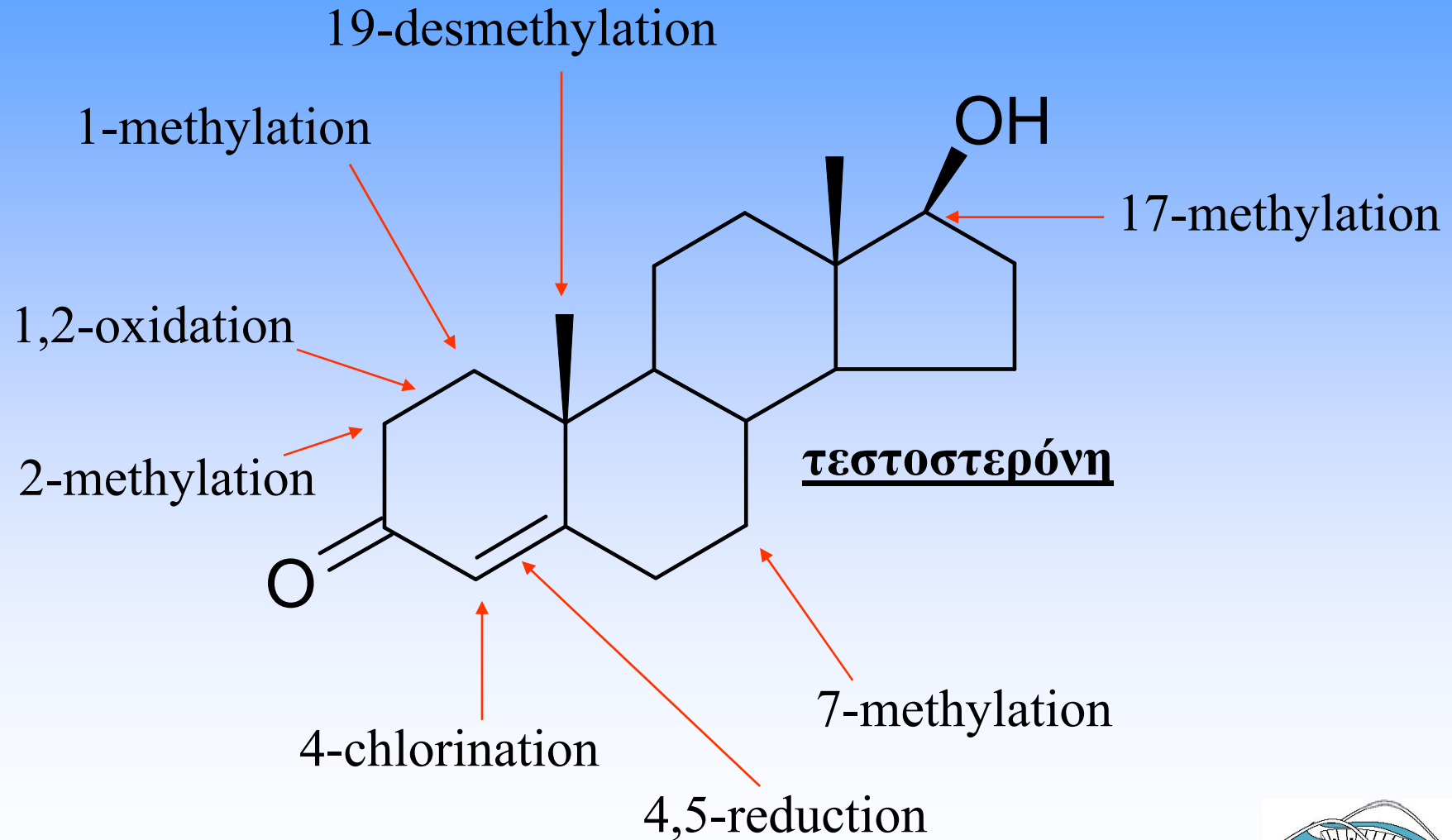


Συνθετικά Αναβολικά Στεροειδή

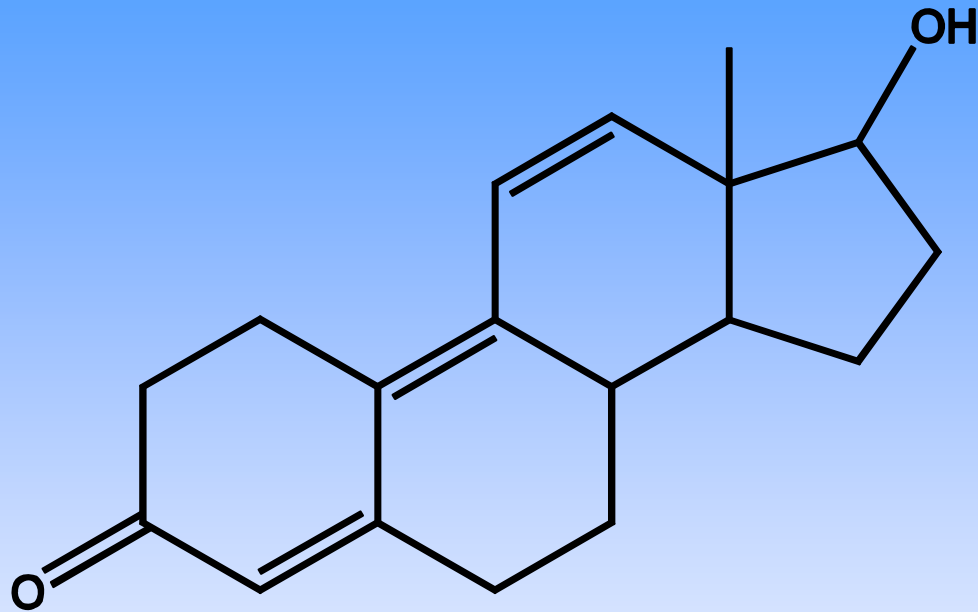
- Αντοχή στον Ηπατικό Μεταβολισμό, δηλαδή με μικρότερες δόσεις επιτυγχάνεται καλύτερη αναβολική δράση
- Μεγαλύτερη Αναβολική Δράση από Ανδρογόνο
- Στατιστική WADA: η απαγορευμένη κατηγορία ουσιών με τη μεγαλύτερη προτίμηση



Συνθετικά Παράγωγα Τεστοστερόνης



“Designer” Drugs: Συνθετικά Στεροειδή

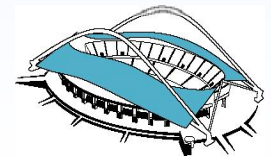
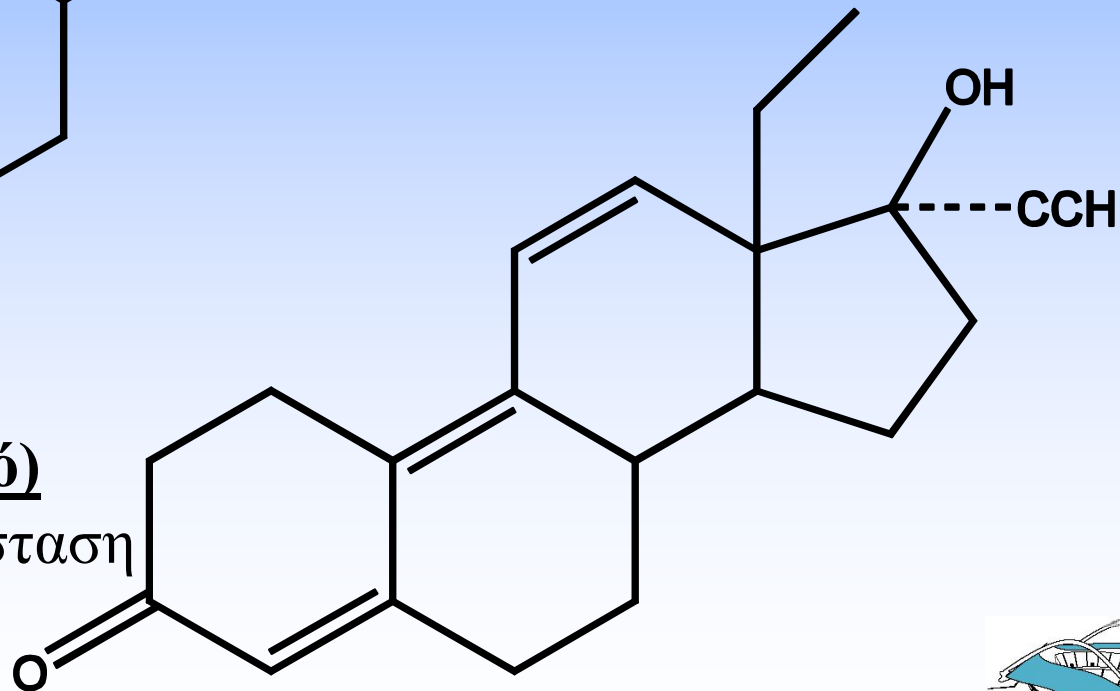


Trenbolone

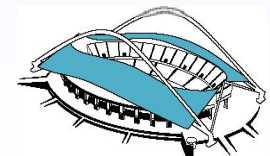
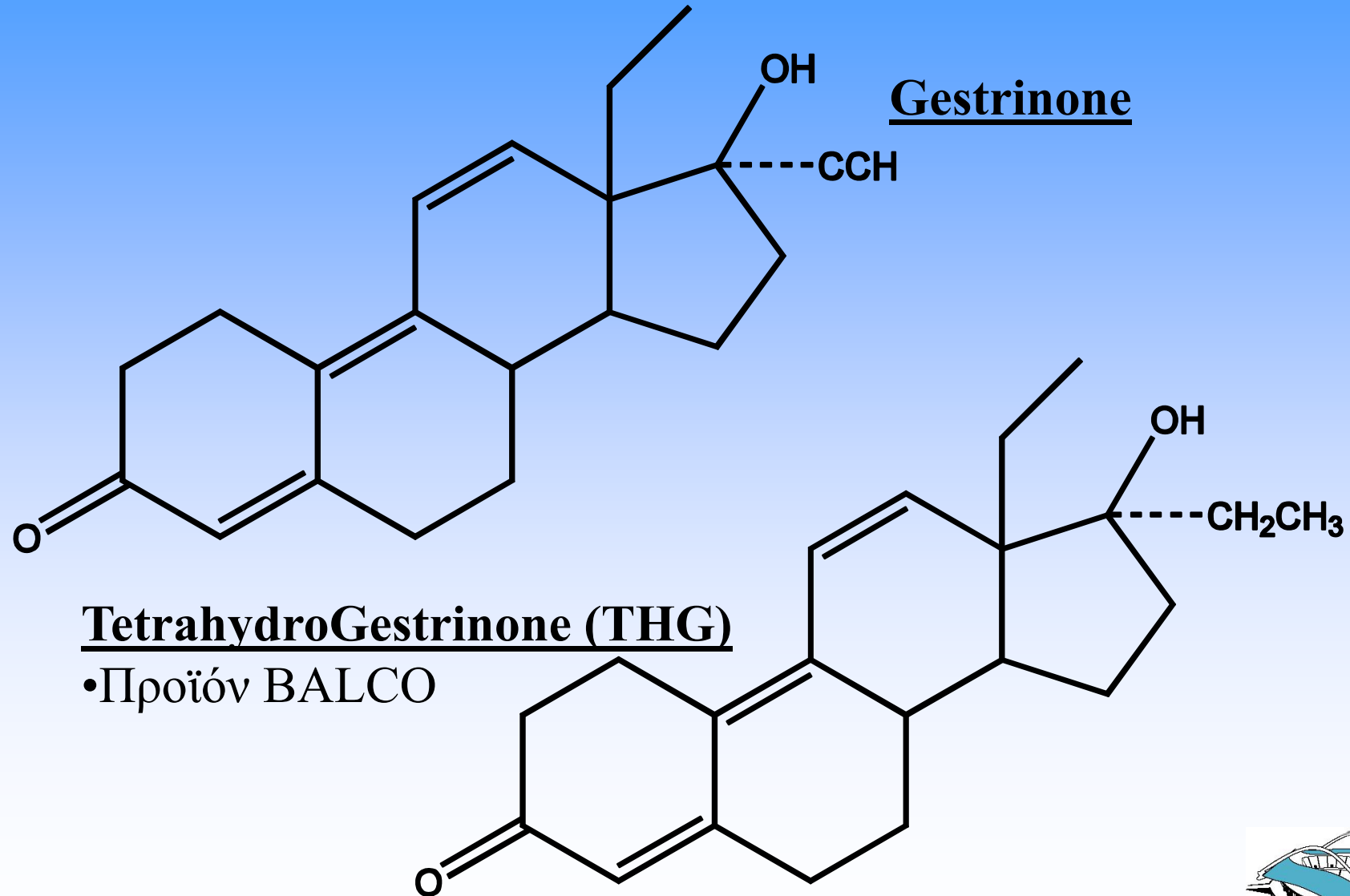
- Θερμοδιασπώμενο
- Κτηνιατρικό

Gestrinone (ανενεργό)

- 17-ethinyl υποκατάσταση
- Ενδομητρίωση

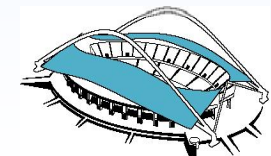


“Designer” Drugs: Συνθετικά Στεροειδή



Designer Στεροειδή: Από τον Πάγκο στο Σώμα

- No. 1 Πρόβλημα: Designer Στεροειδή
- Πρακτική Εργαστηρίων: Ανίχνευση Γνωστών Αναβολικών, τα Άγνωστα Αναβολικά δεν Ανιχνεύονται
- Τεχνολογία TOF: Ανίχνευση και Αγνώστων Αναβολικών
- Αποθήκευση Αρνητικών Δειγμάτων Αθλητών :
Μεγαλύτερη των 3 Μηνών
- Αποκάλυψη Designer Στεροειδούς : Επανεέλεγχος των Αποθηκευμένων Δειγμάτων
- Εργαστήριο ΟΑΚΑ: Ερευνητικό Πρόγραμμα TOF με Χρηματοδότηση WADA, ΟΑΚΑ



Preventive doping control analysis: liquid and gas chromatography time-of-flight mass spectrometry for detection of designer steroids

Costas G. Georgakopoulos^{1*}, Ariadni Vonaparti^{1,5}, Marianna Stamou^{1,5}, Polyxeni Kiouisi^{1,6}, Emmanouil Lyris¹, Yiannis S. Angelis¹, George Tsoupras², Bernhard Wuest³, Michel W. F. Nielen^{4,7}, Irene Panderi⁵ and Michalis Koupparis⁶

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⁵Division of Pharmaceutical Chemistry, Department of Pharmacy, University of Athens, Panepistimiopolis-Zographou, 15771 Athens, Greece

⁶Laboratory of Analytical Chemistry, Department of Chemistry, University of Athens, Panepistimiopolis-Zographou, 15771 Athens, Greece

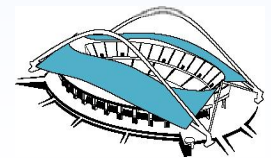
⁷Wageningen University, Laboratory of Organic Chemistry, Dreijenplein 8, 6703 HB Wageningen, The Netherlands

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A new combined doping control screening method for the analysis of anabolic steroids in human urine using liquid chromatography/electrospray ionization orthogonal acceleration time-of-flight mass spectrometry (LCoaTOFMS) and gas chromatography/electron ionization orthogonal acceleration time-of-flight mass spectrometry (GCoaTOFMS) has been developed in order to acquire accurate full scan MS data to be used to detect designer steroids. The developed method allowed the detection of representative prohibited substances, in addition to steroids, at concentrations of 10 ng/mL for anabolic agents and metabolites, 30 ng/mL for corticosteroids, 500 ng/mL for stimulants and β -blockers, 250 ng/mL for diuretics, and 200 ng/mL for narcotics. Sample preparation was based on liquid-liquid extraction of hydrolyzed human urine, and the final extract was analyzed as

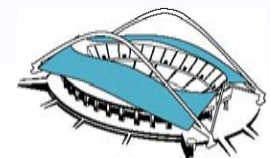
Μεταφορά Οξυγόνου στους Μύες

- Συνθετική Ερυθροποιητίνη (EPO)
- Αυτόλογη Μετάγγιση Αίματος: το Παλιό Ντόπινγκ
- Διαβατήριο αίματος



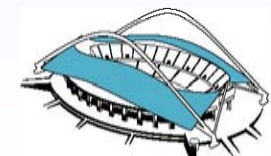
Αυξητική Ορμόνη

- Λιπόλυση, Σύνθεση Πρωτεϊνών
- Έκκριση σε Παλμική Μορφή
- Έκκριση Ανάλογα με την Ηλικία, Άσκηση, Άγχος
- GH: Βελτίωση Επιδόσεων ?
- Διαθεσιμότητα: Μαύρη Αγορά, Νοσοκομεία, Internet, Υποφύσεις
- Ανιχνευσιμότητα: 36 ώρες



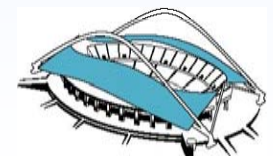
Γενετικό Ντόπινγκ στον Αθλητισμό

- Η δύσκολη ιστορία των κλινικών εφαρμογών γονιδιακών θεραπειών:
40 το 1993, 120 το 1999, 35 το 2004
- Διάρκεια Επίδρασης Θεραπείας: από μερικές ημέρες έως μόνιμη
π.χ. η θεραπεία IGF-I προκαλεί μόνιμη καρδιακή υπερτροφία
- Κίνδυνοι: μεταλλάξεων, τοξικότητας, επιμολύνσεων από μη
καθαρούς ιούς
- Ανίχνευση: είναι δυνατή η ανίχνευση παράγωγων πρωτεϊνών
- Οι γονιδιακές θεραπείες είναι εδώ, η τεχνολογία είναι ανώριμη
- Η μη θεραπευτική χρήση της σημερινής τεχνολογίας είναι παράλογη



Συμπεράσματα

- Πως λύνονται τα προβλήματα:
 - επιστημονική έρευνα
 - εναρμόνιση νόμων
 - αύξηση ποινών
 - χρήση συστημάτων intelligence
- **Ο αθλητισμός είναι μέρος της Δημόσιας Υγείας, συνεπώς οι αθλητές πρέπει όχι μόνο να είναι καθαροί αλλά και να μην δημιουργούν καμία υποψία**



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Ευχαριστώ Πολύ

