

Doping in sports



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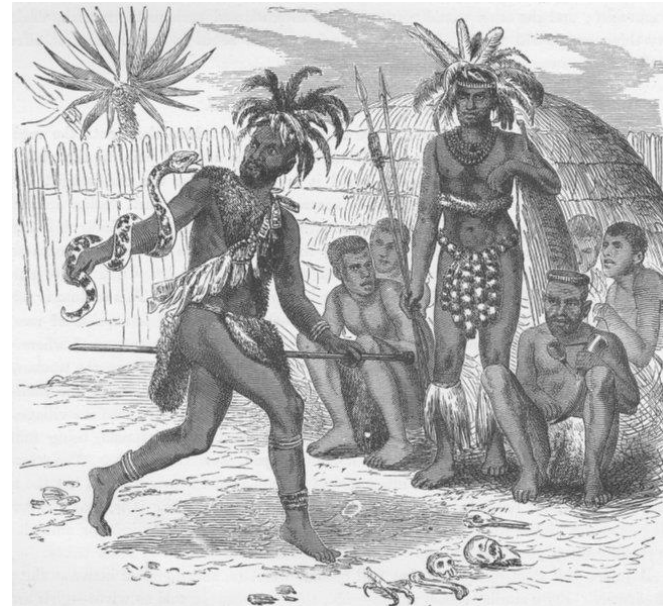
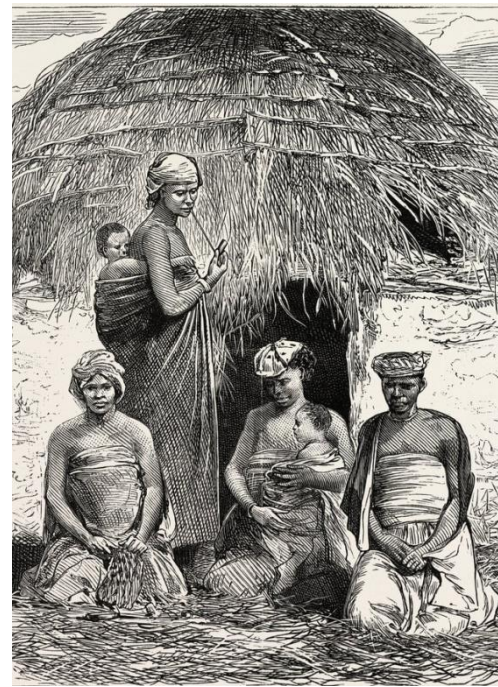
*My Heart,
Your Heart*



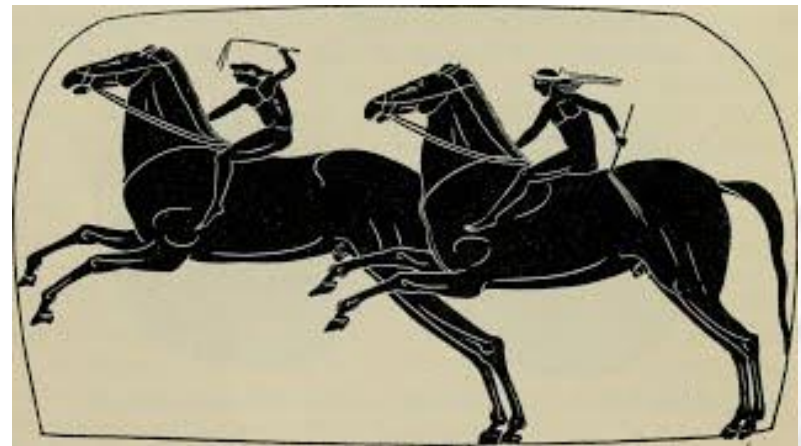
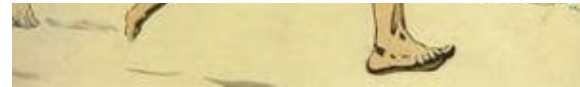
WHAT IS DOPING



The word “doping” derives from “*dop*”, a word from a Kaffir dialect in South-East Africa, *denoting a strong liquor used as a stimulant in religious ceremonies* (Prokop, 1970).



HISTORY OF DOPING



- * Doping reaches back *at least 3000 years* and has roots in various cultures.
- * Drugs and other doping means have been *used by man and animals, for hard labor, warfare, sporting contests, recreational purpose, and religious purposes.*

HISTORY OF DOPING POLICE



- * It is only after the second World War that there has been a more determined action against doping in sport.



- * *New doping means emerge.*
- * The doping police and the athletes are caught in hunter-hunted structure that may evolve indefinitely.



HISTORY OF DOPING

- * *No 100% effective control of all listed doping means has been established.*
- * Even if one should take a firm stance against doping, there is at present *no method or technique effective enough to stop the use of doping agents.*



The effectiveness of doping means is specific, not general.

The use of amphetamines, for instance, is not effective in all sports, for all athletes, on all levels, under all circumstances, etc.

Doping means, according to recent research, **often have very specific, restricted effects**. See Chandler and Blair (1980).

What are the benefits of doping?



- One benefit is that it becomes **easier to win.**
- Another benefit, at least in some sports, is that it is **easier to set world records.**
- **Discus throwers** who dope may, for instance, **throw 5 meters farther than those who do not.**



Why we do Doping



Image

Performance



Both lead to Recognition & Cash

Anabolic Steroids



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ASIAN ELITE PRO



ASIAN ELITE PRO
3500.00\$
1ST PLACE

ASIAN ELITE PRO
3500.00\$
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ASIAN ELITE PRO
3500.00\$
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Anabolic Steroids



Ben Johnson



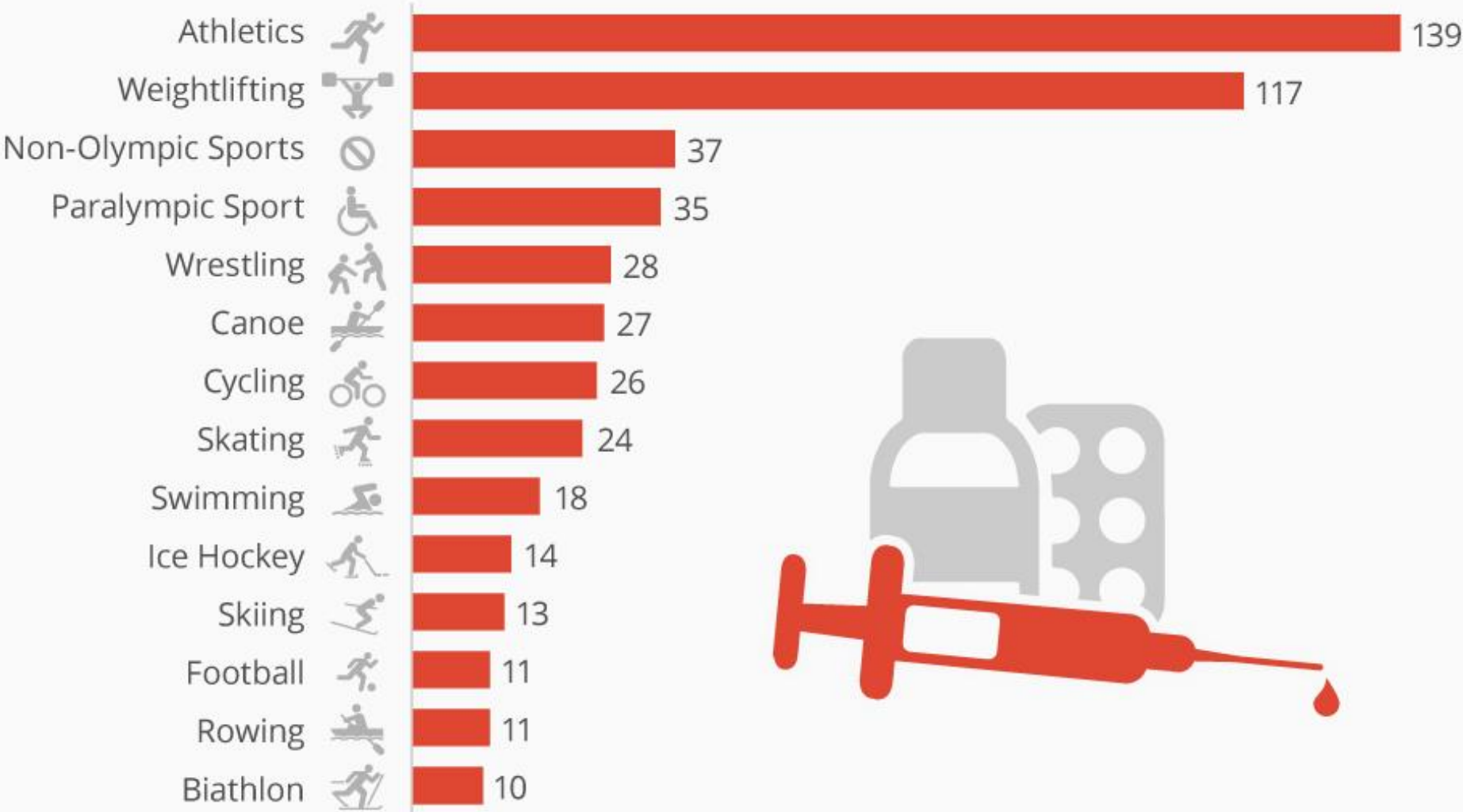
Lance Armstrong



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The Vast Extent Of Russian State-Sponsored Doping

Number of falsified results of Russian athletes from 2011 to 2015



The Doping Dilemma



?for whom?



What can one use to dop?



What are the banned substances ?



IOC & WADA LIST

https://www.wada-ama.org/sites/default/files/prohibited_list_2018_en.pdf

➤ PROHIBITED SUBSTANCES



➤ PROHIBITED METHODS

- STIMULANTS
- NARCOTICS
- CANNABINOIDS
- GLUCOCORTICOIDS
- BETA-BLOCKERS

- MANIPULATION OF BLOOD
- BLOOD COMPONENTS
- CHEMICAL AND PHYSICAL
- MANIPULATION
- GENE DOPING.

Sports doping: classification and effects

In sports, the use of performance-enhancing drugs and methods is commonly referred to as "doping"

The term "doping" is a derivative of "dope" which means a narcotic drug.

Prohibited substances:

Stimulants

Stimulate and incite the central nervous system, relieve physical and psychological fatigue

Bromantan, Cocaine, Ephedrine etc.

Cannabinoids

Improve concentration of attention, and determination.

* Used in team sports

Derivatives of cannabis sativa such as hashish

Peptide hormones and similar substances

Increase performance ability, accelerate metabolism, increase resilience and stress resistance

Insulin, Corticotrophins, Erythropoietin etc.

Diuretics

Regulate weight, reduce body liquid

* Used as masking agents to conceal other doping substances taken

Furosemide etc.

Glucocorticosteroids

Have qualities similar to adrenocortical hormones, relieve inflammation.

Prednisolone, triamcinolone, dexamethasone, hydrocortisone, etc.

Aromatase inhibitors

Increase one's own testosterone secretion

* Prohibited in males only

clomiphene, cyclofenil, tamoxifen

Narcotics

Affect the central nervous system, relieve pain and discomfort which could arise from muscle strain

Methadone, Morphine etc.

Beta-2 agonists

Slow down heartbeat, reduce tremor

* used where precise coordination is crucial – in shooting and diving

All Beta-2 agonists are prohibited except formoterol, salbutamol, salmeterol, terbutaline which are allowed to be taken in inhalations for treatment of asthma and asthmatic bronchiostenosis caused by sports exercise

Selective androgen receptor modulators or SARMs

Affect androgen receptors responsible for muscular fiber growth, stimulating growth of muscle bulk and strength

Myostatin inhibitors

Block myostatin effects. Myostatin is a specific protein responsible for regulation of organic growth of muscle tissue

* Muscle bulk is maintained after one stops exercising

Anabolic steroids

Increase muscle strength, resilience, help quickly restore after strenuous physical exercise, accelerate nearly all biosynthetic processes, especially protein generation

* Similar in structure of male sex hormones

Nandrolone, Stanozolol, Stenbolone, Dehydrochloromethyltestosterone, testosterone etc.



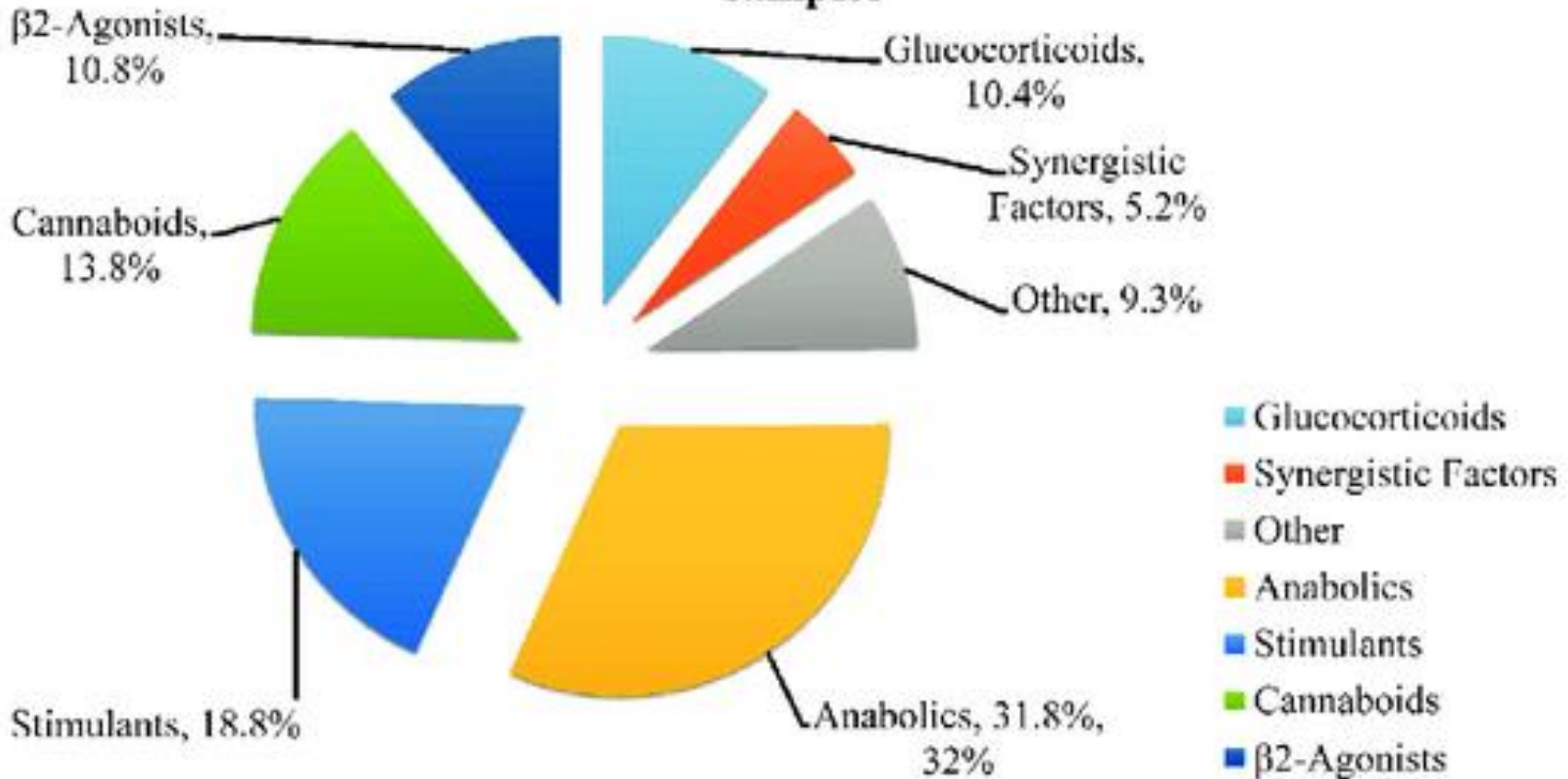
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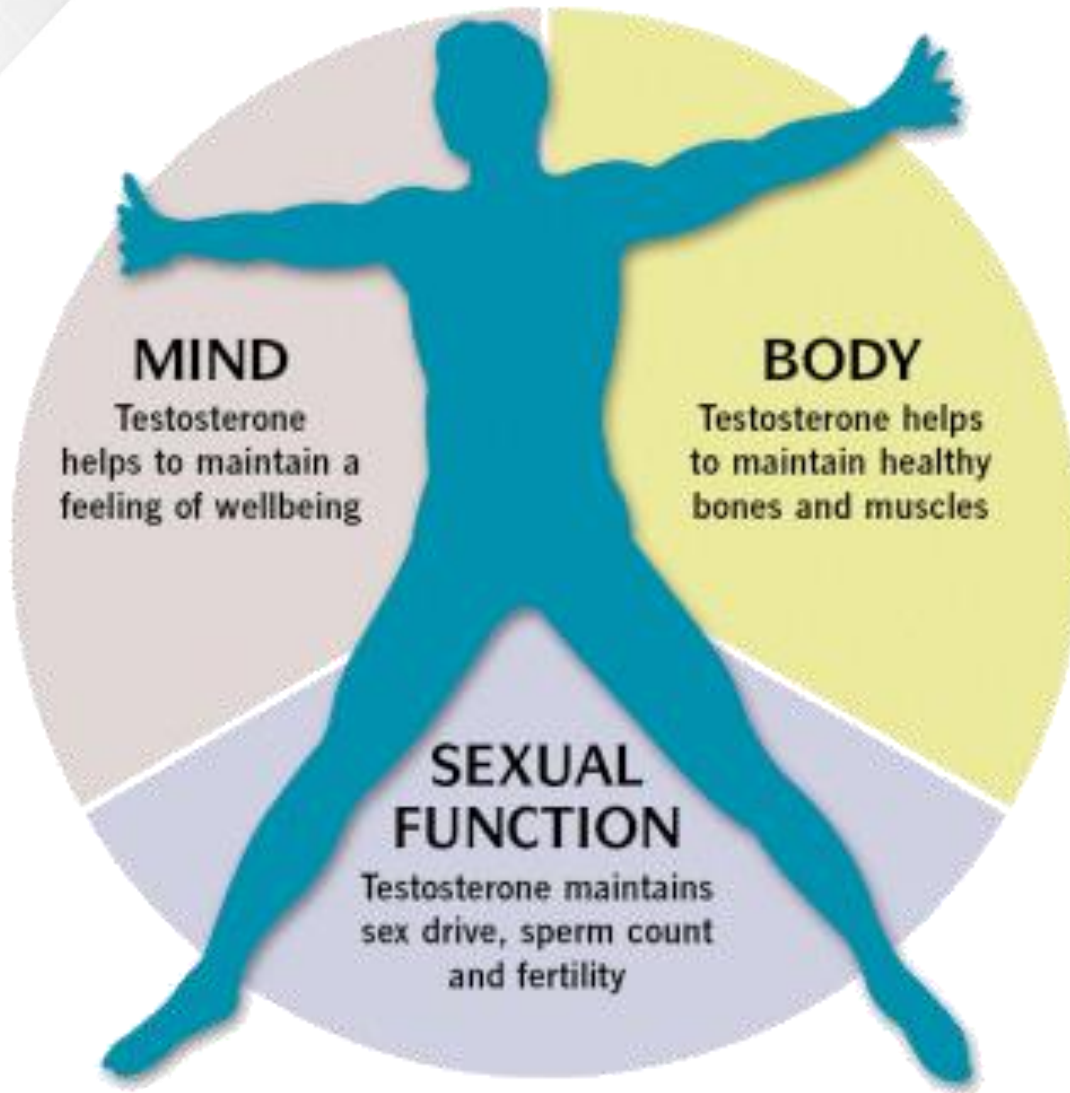
Doping +ve tests



Distribution of Anabolic Steroids in the population of positive samples

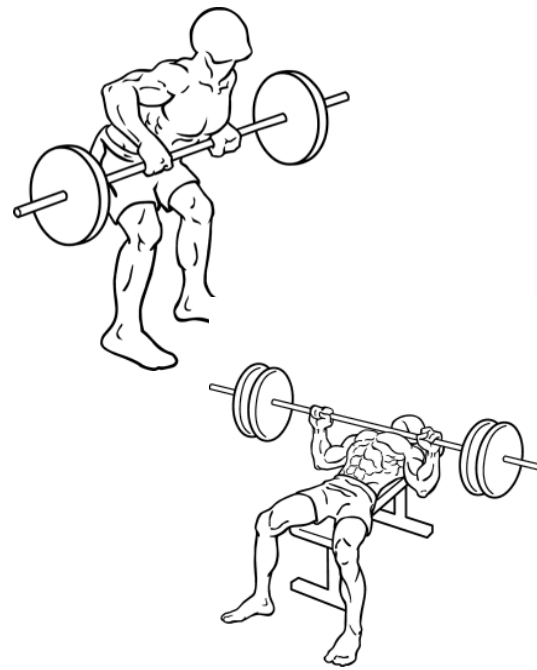


Medical use of Anabolic Steroids :-



Male hormones "Testosterone" :-

What are Anabolic Steroids?



Androgens and anabolic steroids include :-

- Endogenous male sex hormone testosterone
- Dihydro-testosterone, and
- Agents that behave like these sex hormones.

Androgens stimulate the development of male sexual characteristics (such as **deepening of the voice and beard growth**) and development of male sex organs.

Anabolic steroids stimulate growth in many other types of tissues, especially :-

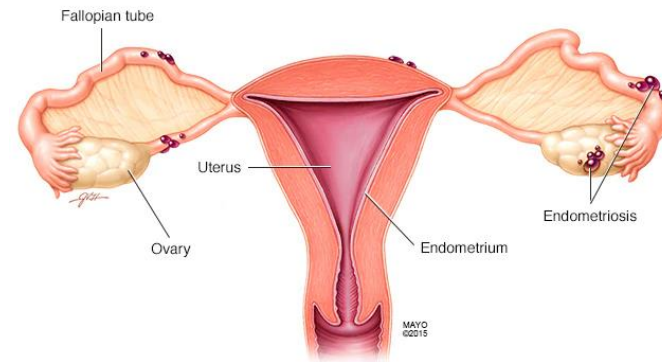
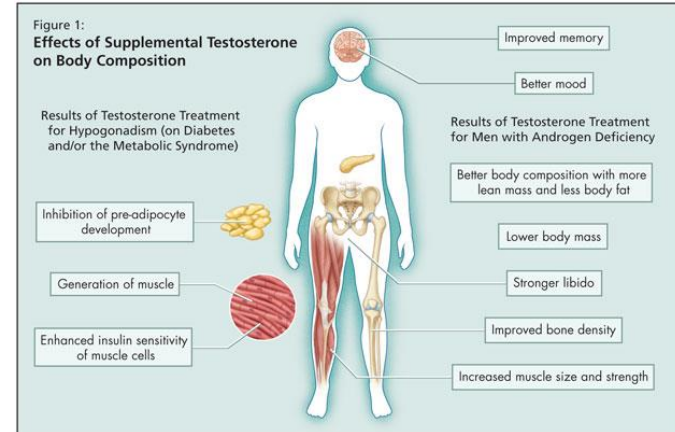
Bone and Muscle.

Anabolic effects also include increased production of red blood cells.

Medical use of Anabolic Steroids :-

Medically, androgens and anabolic steroids are used to treat:-

- Delayed puberty in adolescent boys
- Hypogonadism and impotence in men
- Breast cancer in women
- Anemia
- Osteoporosis
- Weight loss disease in HIV
- Endometriosis
- Other conditions with hormonal imbalance



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SIDE EFFECTS OF STEROIDS

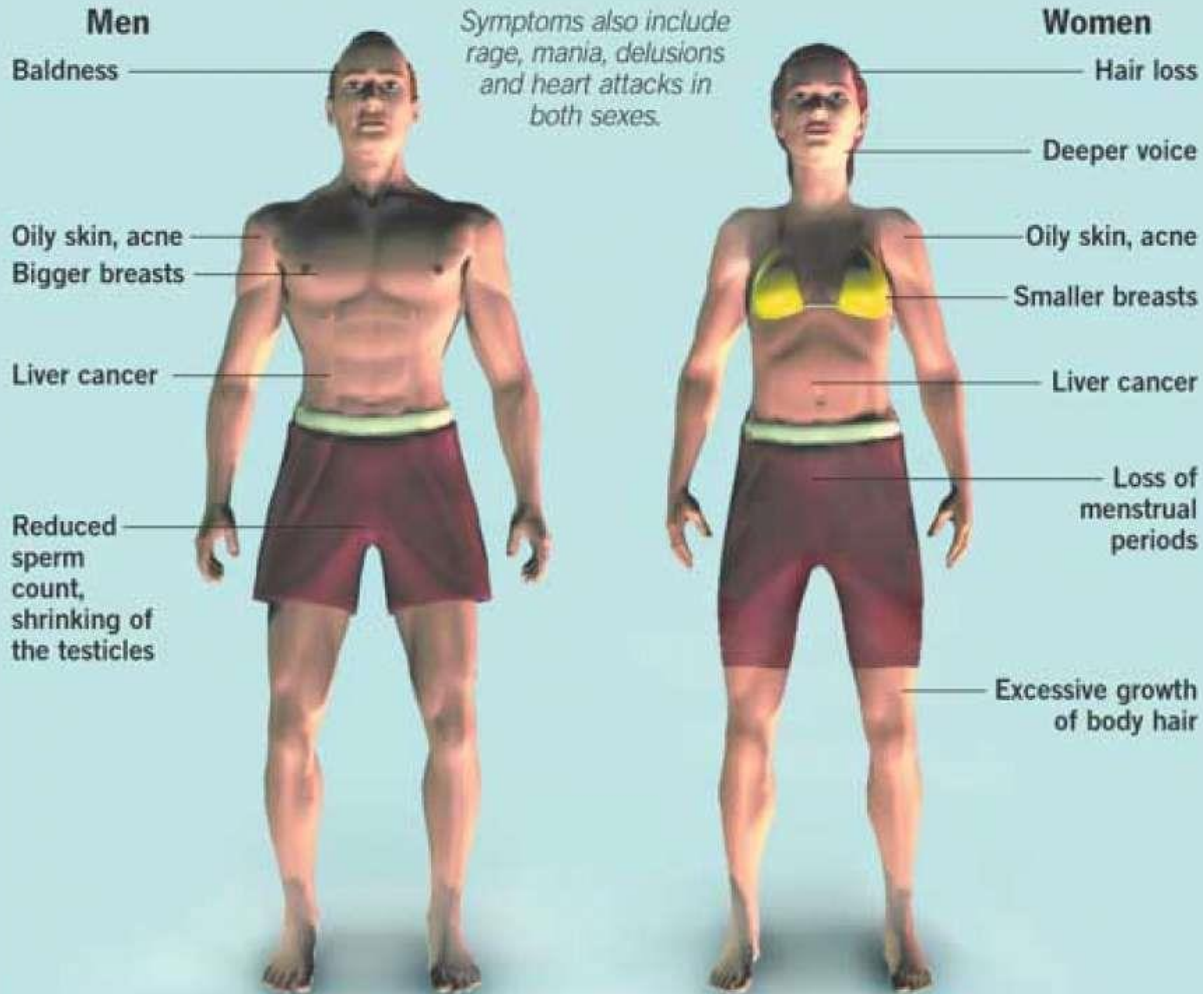


Side Effects and Safety

Anabolic Steroids



Health effects of steroids

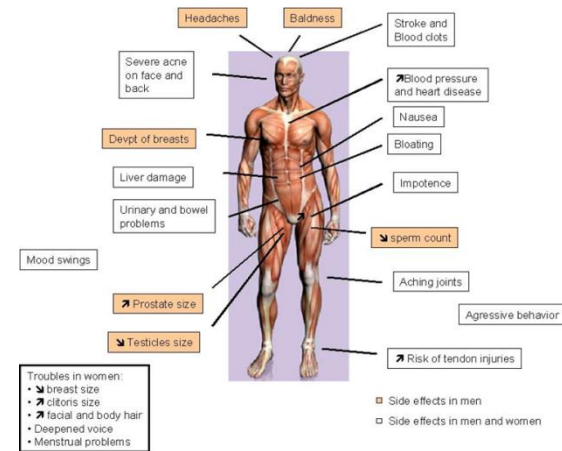


Side Effects and Safety

Anabolic Steroids



1. severe acne, oily skin and hair.
2. hair loss.
3. liver disease, such as liver tumors and cysts.
4. kidney disease.
5. ***heart disease, such as heart attack and stroke.***
6. altered mood, irritability, increased aggression, depression or suicidal tendencies.
7. alterations in cholesterol and other blood lipids.
8. ***high blood pressure.***



Side Effects and Safety

Anabolic Steroids



9. gynecomastia (abnormal development of mammary glands in men causing breast enlargement).

10. shrinking of testicles.

11. azoospermia (absence of sperm in semen).

12. menstrual irregularities in women.

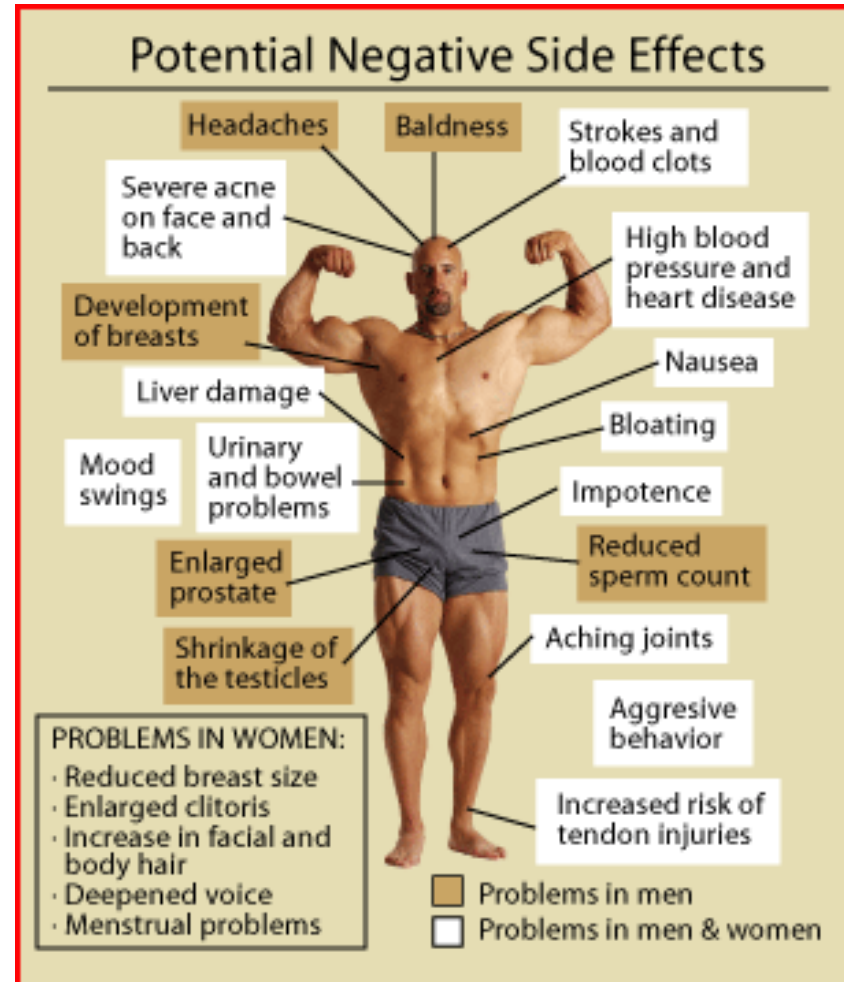
13. Infertility.

14. excess facial or body hair (hirsutism),

deeper voice *in women*.

15. stunted growth and height in teens.

16. risk of viral or bacterial infections due to unsterile injections.





Why Take the RISK ??????

The dirtiest race in history: 1988's Olympic 100m final, the year that steroids turned sport sour



DENNIS MITCHELL

FINISHED: 9th, 10.64sec

 Mitchell, who went on to win a bronze medal in the 100m and a gold in the 4x100m relay at the 1992 Olympics, tested positive for excessive testosterone in 1998. He blamed the test result on "five bottles of beer and sex with his wife at least four times," explaining that, "it was her birthday, the lady deserved a treat."
 USA Track and Field accepted his explanation but the IAAF did not, and banned Mitchell for two years.
 Mitchell also testified at the trial of his former coach that he had been injected with a human growth hormone. Today he coaches at the National Training Centre in Florida, and at his own club.

DESAI WILLIAMS

FINISHED: 7th, 10.11sec

 During the Dublin inquiry, established by the Canadian government following Johnson's disqualification, a Toronto doctor testified that he had supplied Williams with anabolic steroids for which the sprinter escaped punishment.
 It was also claimed that in 1985 Williams told a Canadian team manager about Johnson's use of steroids. Despite this, in the run-up to Seoul he trained with Johnson under coach Charlie Francis, and even holidayed with him in St Kitts.
 Both men have since graduated to coaching, but Johnson insists relations between them are frosty. "There's a rift between us now," he says.

BEN JOHNSON

FINISHED: 1st, 9.79sec

 "I was 50 years ahead of my time," says Ben at the race in Seoul. He has suffered bouts of depression since, especially over the past decade, but now coaches young athletes in Toronto. He's also argued that drugs are a necessity for any athlete who wants to get to the top. "It's still tainted," he says of his sport. "No doubt about that."
 After completing his two-year ban after Seoul, he competed at the Barcelona Olympics but failed to make the final.
 He tested positive for drugs on two further occasions, and has been trainer to Diego Maradona and Colonel Gaddafi's son, Al-Saadi.

CALVIN SMITH

FINISHED: 4th, 9.99sec

 "I feel I should have been the gold medalist," says the American, who held the 100m world record between 1983 and 1987 before Ben Johnson took it from him.
 Smith finished fourth in Seoul before being promoted to the bronze medal position. Like Robson Da Silva, he has never been implicated in any case of doping and describes himself as the "moral whizzer" of the 1988 final.
 "It was a surprise he was caught," says Smith. "If they could've covered it up, they would've done. There must have been a breach at the lab."
 A two-time 200m world champion, Smith now lives outside Tampa, Florida, where he is a social worker.

LINFORD CHRISTIE

FINISHED: 3rd, 9.77sec

 Christie was the first European to break the ten-second barrier. At Seoul he was awarded the silver medal following Johnson's disqualification. Four years later, he won gold when a sickly Carl Lewis failed to qualify at the US trial.
 Christie reached the final again in 1996 when he was 36 and already a grandfather, but was disqualified for two false starts.
 "He avoided punishment for a positive test for a banned stimulant after the 200m in Seoul, but tested positive in 1999 for the anabolic steroid Nandrolone and was banned for two years, though he has always denied any wrongdoing."

CARL LEWIS

FINISHED: 2nd, 9.92sec

 The gold medal Lewis was eventually awarded replaced the 100m gold he won four years earlier, which he'd shared with his father.
 In 2003, weeks after news broke that he had failed three drugs tests at the 1988 Olympic trials, he crashed into a wall and was convicted of driving while intoxicated. Lewis has always maintained his innocence, claiming he'd taken a herbal remedy.
 A winner of nine Olympic gold medals, he now lives in Los Angeles where he runs a marketing company and is an ambassador for Nike and McDonald's. In 2011 he tried unsuccessfully to run for a seat in the New Jersey Senate.

RAY STEWART

FINISHED: 8th, 12.26sec

 Stewart had reached the 100m final at the 1986 Olympics and won gold in the 4x100m relay. At Seoul, however, a leg injury meant he finished last of the eight finalists. He went on to record a personal best of 9.97 seconds.
 In 2008, when Stewart was coaching several top athletes, he was implicated in a drugs scandal and charged by USA Track and Field, now the American governing body, for the alleged trafficking and administration of a prohibited substance. It followed claims he had purchased human growth hormone. Stewart continues to protest his innocence. He now lives in Texas and works in finance.

ROBSON Da SILVA

FINISHED: 6th, 10.11sec

 Da Silva competed in four consecutive Olympic Games (1984-96) and won two bronze medals. In the 200m at Seoul and the 4x100m relay in Atlanta. He now lives in Brazil, where it is understood he runs a discotheque.
 "He sent me his number on Facebook," said Johnson of Da Silva. "I want to go and visit him in Brazil. A nice guy." Da Silva is one of the two Seoul finalists never tainted by drug allegations. "I decided not to do drugs and lose," he said. "But I sleep well at night."
 The Race That Shocked The World is on BBC4 later this month. The Dirty Race in History by Richard Moore (Faber) is out now.

Ben Johnson was famously disqualified after winning this 100m final in Seoul 1988, but which five other athletes on the track that day have also been tainted by drugs?

A BRIEF HISTORY OF

OLYMPIC DOPING!



AS OF 2014

52 COUNTRIES



United States

12 violations

10 medals lost



Russia

11 violations

10 medals lost



Bulgaria

8 violations

7 medals lost



Greece

8 violations

1 medals lost



Hungary

7 violations

4 medals lost



20 EVENTS



Athletics
41 violations



Weightlifting
40 violations



Equestrian
8 violations



Cross-Country Skiing
8 violations



Wrestling
7 violations



Cycling
7 violations



47 DIFFERENT DRUGS

STERIODS

Steroids are used to increase muscle mass and strength

Anabolic Steroids

16 violations

Nandrolone

13 violations

Stanozolol

10 violations

DIURETICS

Diuretics are used for rapid weight loss and masking other banned substances

Furosemide

14 violations

BLOOD DOPING

Blood doping increases red blood cell count improving oxygen delivery to muscles

CERA

5 violations

EPO

4 violations

STIMULANTS

Stimulants increase alertness and concentration while decreasing fatigue

Ephedrine

5 violations

Amphetamine

2 violations

Caffeine

2 violations

SMARTER EVERY DAY





FAMOUS ATHELETES & THE DRUGS THEY TOOK



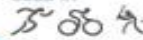
DRUG NAME
BARBITUATES
DRUG EFFECTS
REDUCE ANXIETY
DAYS IN BODY
2DAYS
USED IN



DRUG NAME
MANNITOL
DRUG EFFECTS
LOSE WEIGHT, DILUTING URINE TO EVADE DOPING TEST
DAYS IN BODY
4DAYS
USED IN



DRUG NAME
COCAINE
DRUG EFFECTS
INCREASE ALERTNESS, AGGRESSION & ENDURANCE
DAYS IN BODY
4DAYS
USED IN



SOCCER PLAYERS DIEGO MARADONA & ADRIAN MUTU WERE BANNED FOR 15 MONTHS & 7 MONTHS RESPECTIVELY FOR COCAINE DOPING.



DRUG NAME
HGH
(HUMAN GROWTH HORMONE)
DRUG EFFECTS
INCREASE MUSCLE STRENGTH & BULK
DAYS IN BODY
28DAYS
USED IN



28



SPRINTER TIM MONTGOMERY WAS BANNED FROM ATHLETICS FOR HGH DOPING AND WAS VOIDED OF HIS WORLD RECORD OF 9.78 SEC IN THE 100M RACE.

DRUG NAME
CLENBUTEROL
DRUG EFFECTS
INCREASED FAT LOSS, IMPROVED METABOLISM
DAYS IN BODY
5DAYS
USED IN



DRUG NAME
CANNABINOIDS
DRUG EFFECTS
REDUCE ANXIETY
DAYS IN BODY
60DAYS
USED IN



DRUG NAME
STEROIDS
DRUG EFFECTS
INCREASE MUSCLE STRENGTH & BULK
DAYS IN BODY
90DAYS
USED IN



90



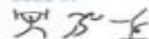
BEN JOHNSON BROKE THE 100M RECORD BUT TESTED POSITIVE FOR STANZOLOL (ANABOLIC STEROID). HIS MEDAL WAS AWARDED TO CARL LEWIS.

AMERICAN GOLFER DOUG BARRON WAS THE FIRST GOLFER TO BE BANNED FOR TAKING STEROIDS.



365

DRUG NAME
NANDROLONE
DRUG EFFECTS
INCREASE MUSCLE STRENGTH & BULK
DAYS IN BODY
365DAYS
USED IN



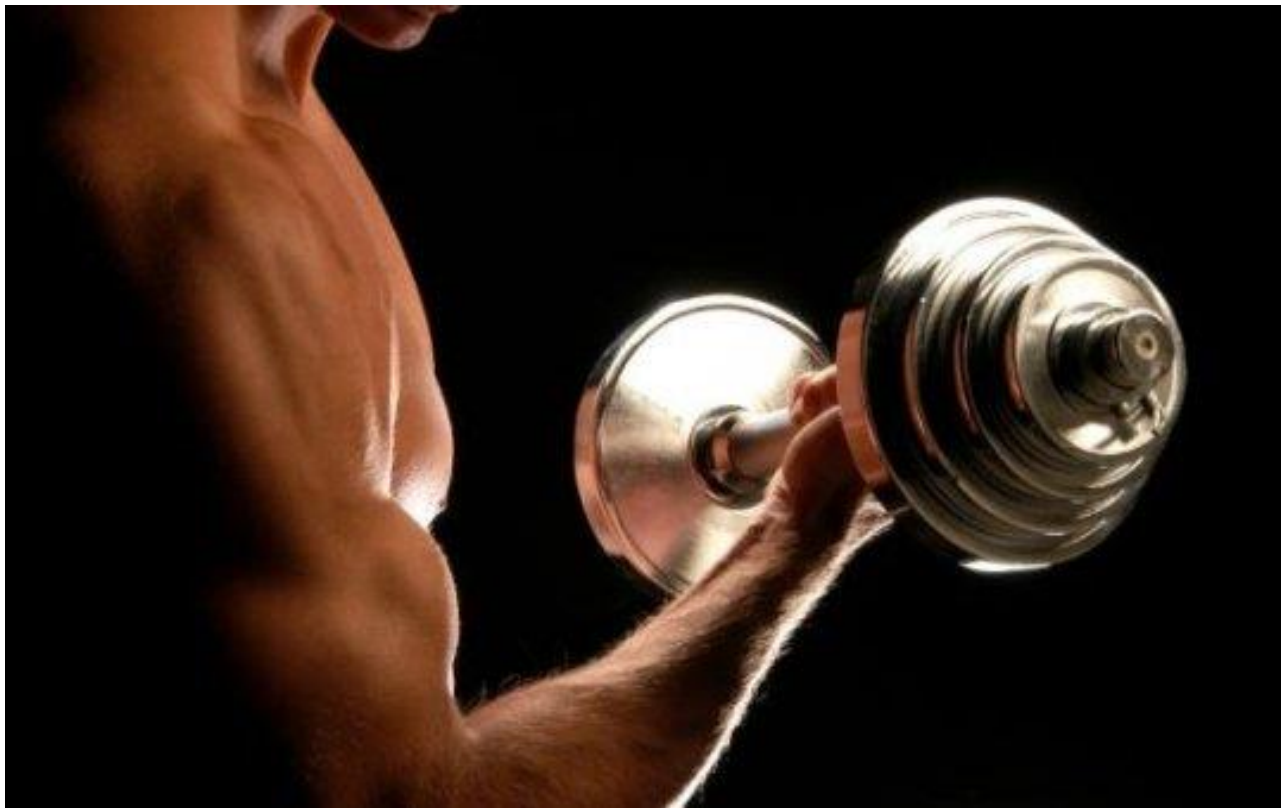
SEVEN ATHLETES WERE CAUGHT IN 1984 FOR NANDROLONE DOPING



Days to detect



Doping & sports in Brunei Darusslam

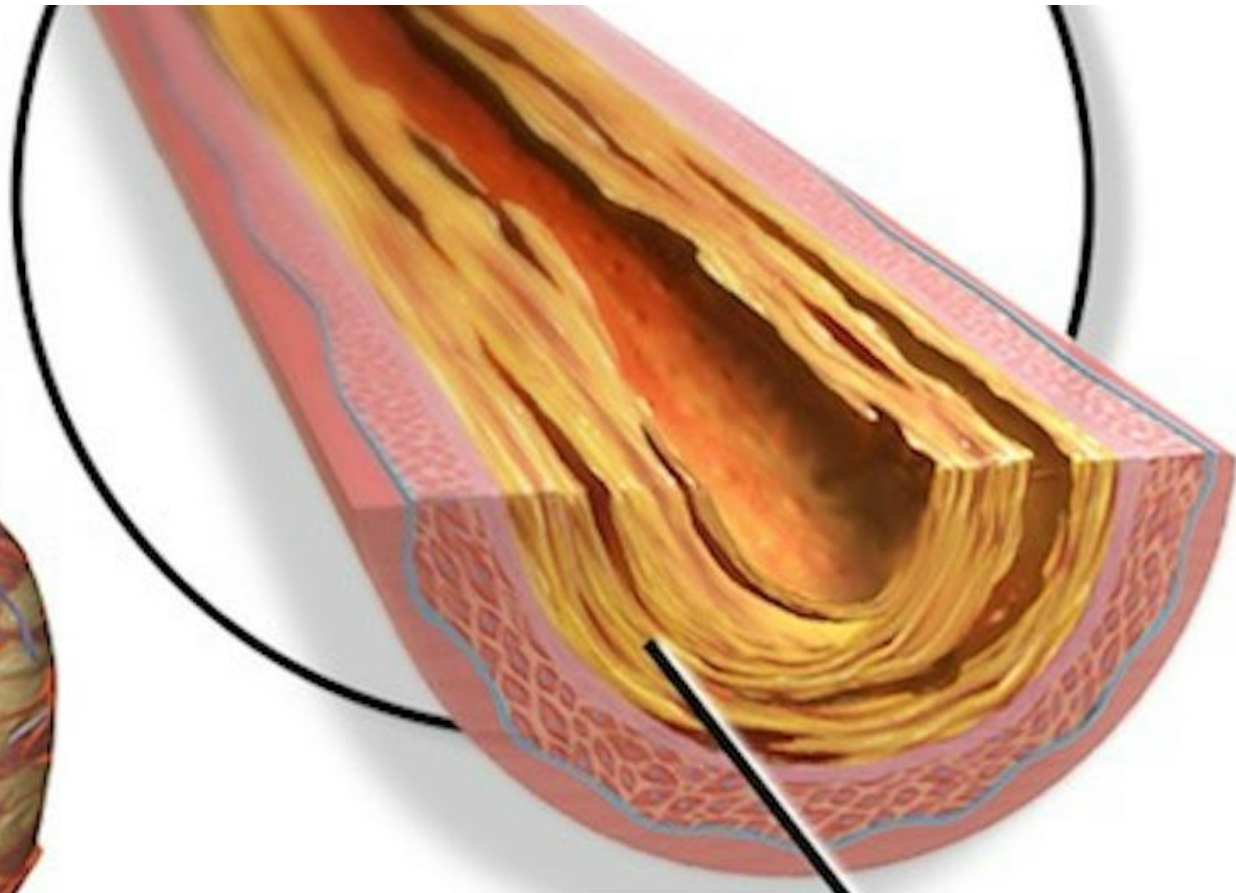
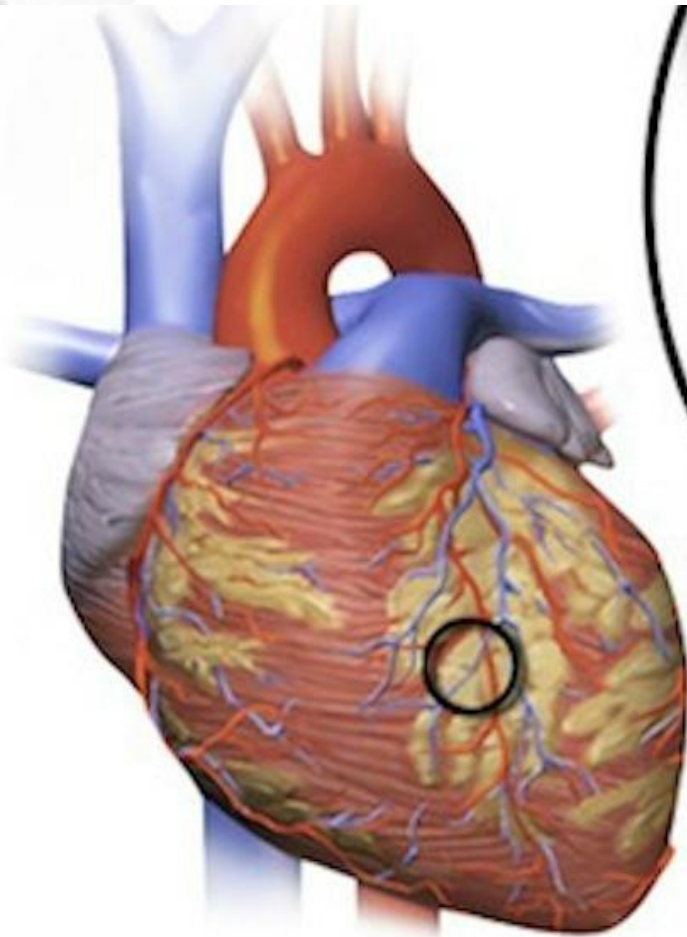


Brunei Body Building Champion

RE
2010



Cardiac Side Effects



Arterial Plaque

Doping's negative side effects

Heart and circulatory system

Steroids: hardening of the arteries, heart attack

Peptide hormones: thickening of blood, high blood pressure, blood clots

Diuretics: low blood pressure, circulatory failure

Stimulants: high blood pressure, irregular heartbeat, heart attack, circulatory failure

Sex organs and reproductive system

Steroids: ♀ breast shrinkage, menstrual cycle disruption, growth of the clitoris, increased body hair, voice changes

♂ breast growth, testicular shrinkage

Hormones: ♀ menstrual cycle disruption, cysts and deformities in ovaries and uterus

Brain and nervous system

Steroids: mood swings, aggression, memory and concentration problems

Narcotics: depression, addiction

Stimulants: addiction

Hormones: vision disorders, nausea

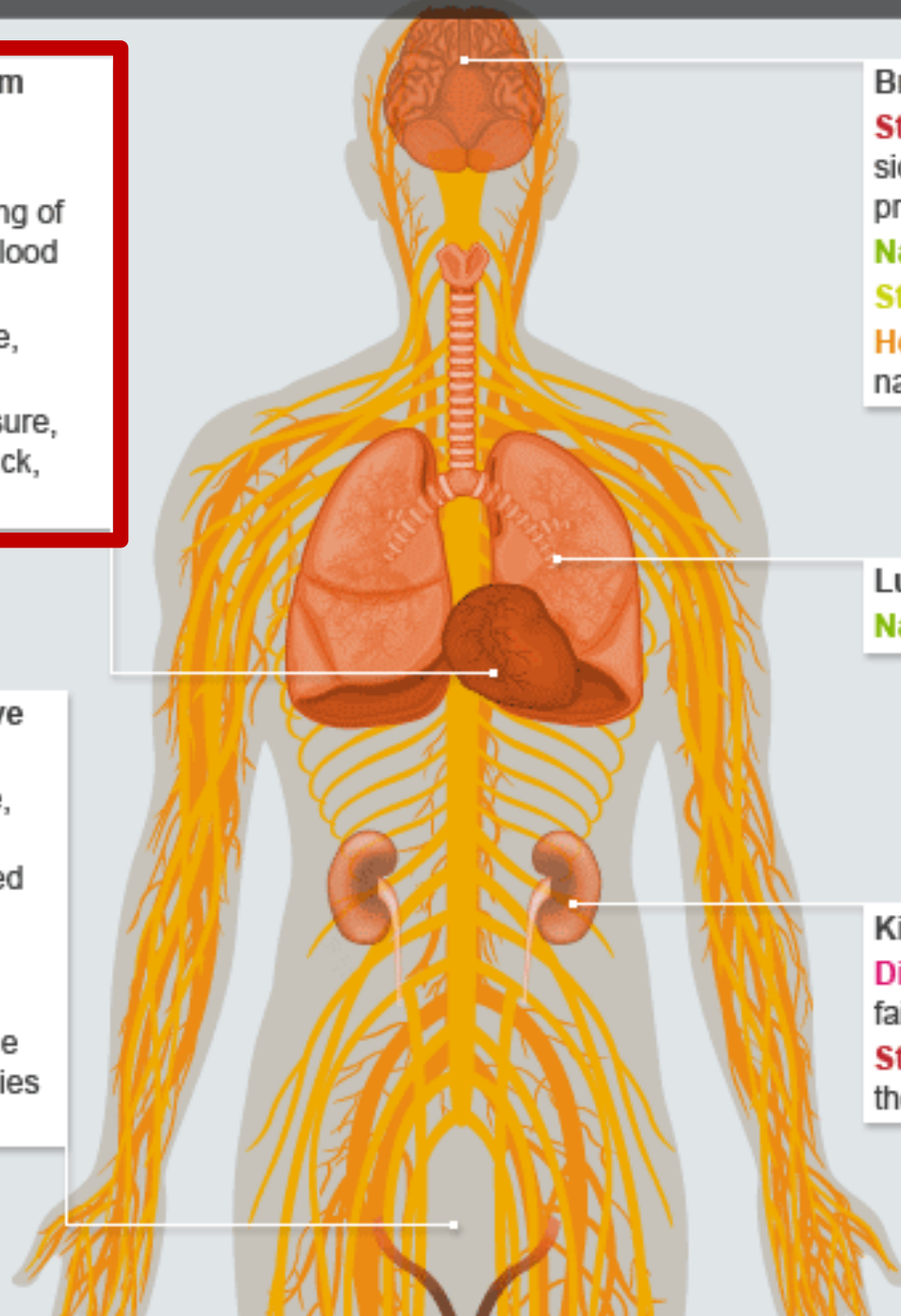
Lungs and respiratory system

Narcotics: respiratory failure

Kidneys and excretory system

Diuretics: dehydration, kidney failure

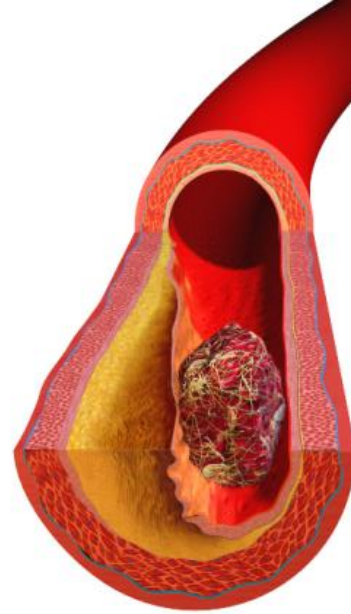
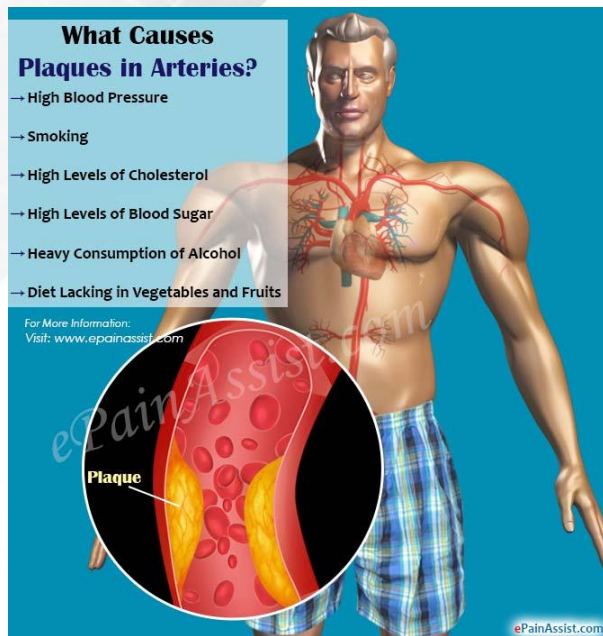
Steroids: acne (particularly on the chest)



Researchers found that :-



1. *steroid users had significantly **weaker hearts** than those who never used steroids.*
2. *Among steroid users, men that **currently used anabolic steroids** had significantly **worse heart function** than past users.*
3. *Steroid users had significantly **more plaque build-up in their arteries** than non-users.*



- The longer men reported taking steroids, the ***worse their arteries were.***
- *Plaque build-up is a sign of heart disease, which is the No. 1 killer of men and women in ***the United States.****



Left ventricular hypertrophy (LVH)



- *Cardiac diastolic or contractile failure* might result directly from structural change within the ventricle (such as *altered capillary density or matrix deposition*).
- the association of LVH with cardiovascular disease is more likely *dependent upon the increased activity of shared physiological pathways driving both processes*.

Benefit Vs Price

A doctor in a white coat with a stethoscope around their neck is holding a black tablet. The tablet's screen is red and displays the text 'THANK YOU' in white, bold, italicized capital letters. Below the text, there is a block of smaller text in black, italicized font.

THANK YOU

Dr. Essam SHAABAN
Sports Medicine & Research Centre
Ministry of Culture, Youth & Sports
Brunei Darussalam