

New Mexico Activities Association



Life *of an*
Athlete

NEW MEXICO

COMPETE *with* CLASS

RESPECT ★ INTEGRITY ★ RESPONSIBILITY

NEW MEXICO
NATIONAL
GUARD

NMAA

NMAA MISSION

“The NMAA, a member-led organization, provides leadership in interscholastic athletics & activities, promoting equitable participation and character development.”





Life *of an* Athlete

NEW MEXICO

THOSE WHO CHOOSE TO LIVE THE LIFE OF AN ATHLETE
EMBODY CERTAIN CHARACTERISTICS THAT SEPARATE
THEM FROM THE PACK



“If you aim at nothing,
you will hit it every time.”
-Zig Ziglar

[illegible]

WHAT IS YOUR PLAN?



**HAVE A
DREAM AND
FOLLOW IT.
HAVE A PLAN
AND STICK TO IT.
HAVE A GOAL
AND ACHIEVE IT.**

KUSHANDWIZDOM



A goal without
a plan is just
a wish.

— Larry Elder

MAXIMIZE YOUR POTENTIAL



why don't you care enough to be out there at your best?

Failure to prepare=Prepare to fail



What if we were really at our best?





Athlete

Physiologist

Coach



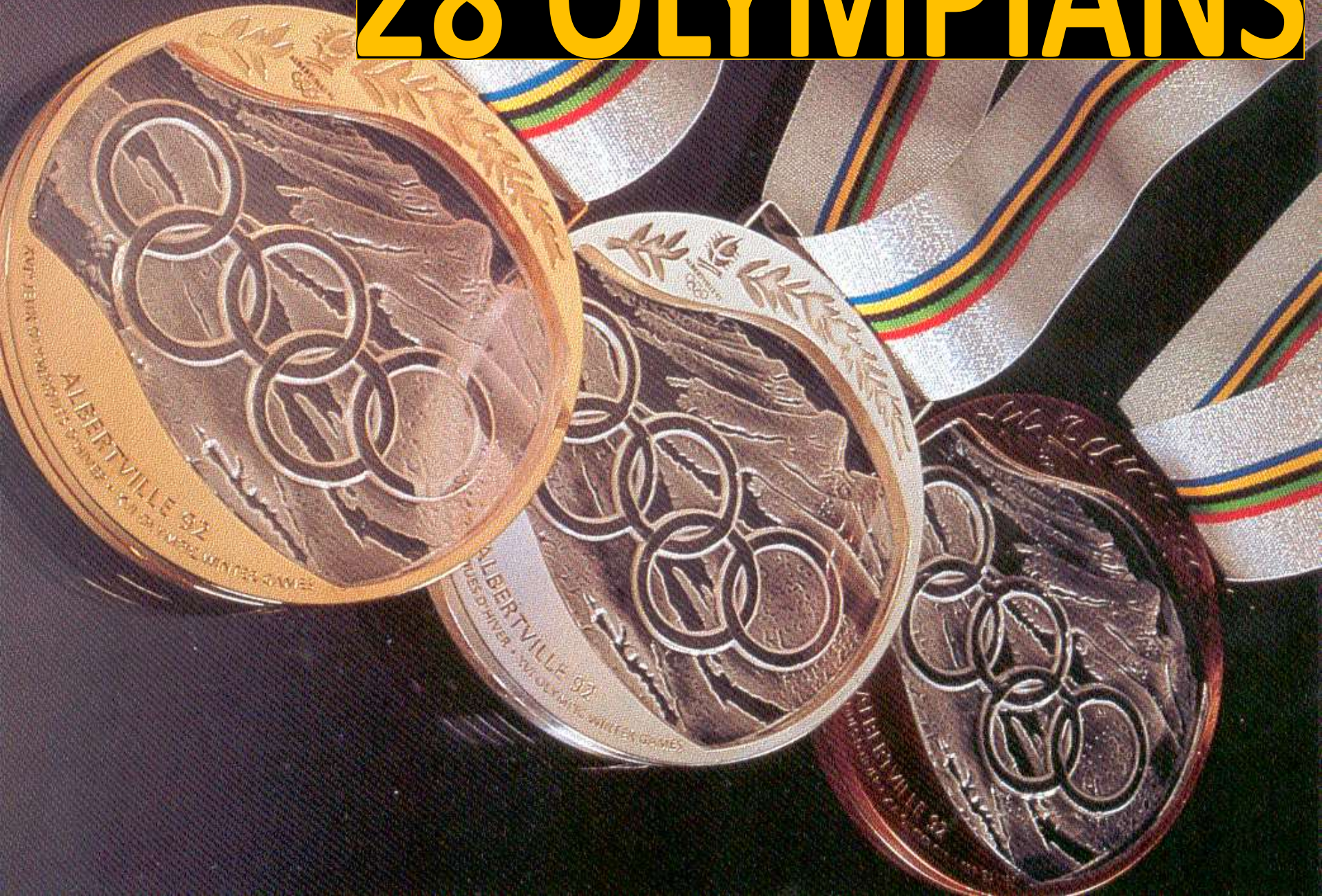
Prevention Educator

Activist

John Underwood - Educator/Activist

A former NCAA All-American, International-level distance runner and World Masters Champion, John has coached or advised more than two dozen Olympians including World and Olympic Champions. He holds three International Olympic Solidarity diplomas for coaching and has been a crusader for drug-free sport at all levels. He has appeared as a guest commentator for ABC Wide World of Sports for Olympic Drug Scandals. John has worked with nearly all sport federations, the NCAA, NHL, ECAC, Department of Justice, the U.S. Olympic Committee, Sport Canada and the International Olympic Committee.

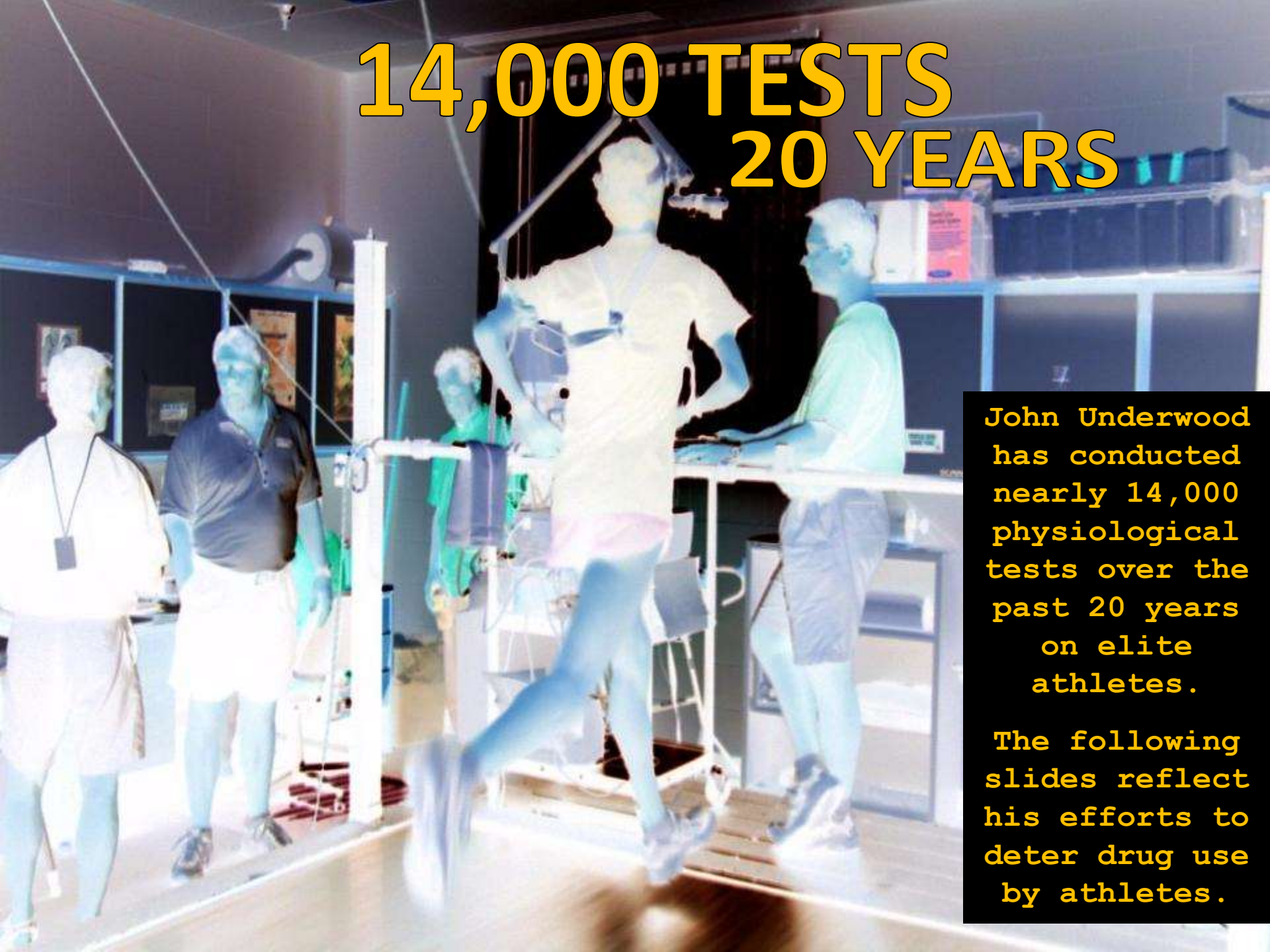
28 OLYMPIANS





600 COLLEGES

14,000 TESTS 20 YEARS



John Underwood has conducted nearly 14,000 physiological tests over the past 20 years on elite athletes.

The following slides reflect his efforts to deter drug use by athletes.



OPTIMAL

Preparation

LIFESTYLE

Recovery

Performance

**Every day matters
and every day counts
when the most important day comes**




Poor Diet
Poor Sleep
Stress
CNS Overstimulation
Social Drug Use
Poor Recovery

—FACTORS

ALL SYSTEMS NO



A muscular man with dark skin is shown from the side, crouching low to the ground. He is wearing a white singlet with a grey waistband. His head is buried in his hands, and his body language suggests he is exhausted or in the process of recovering from a strenuous workout. The lighting is dramatic, with strong highlights on his muscles and deep shadows elsewhere.

When you consider that most people spend only 10-20 hours a week working out, you can see that the vast majority of our time is spent in the rest and recovery phase.

**RECOVERY KEY
TO PERFORMANCE**

4 years
1460 days
35,040 hours

TIME

Time management

Every day matters
Every day counts



**The single largest factor in
athletic development is time...** Matveev USSR



The best information To make the best choices



EXPLAINING
TRAINING



Life of an Athlete
Human Performance Project

To understand how to train so you can get the biggest return on your effort.

To help you understand what outside factors influence optimal mental and physical performance.

HOW TO BE AT YOUR BEST

SCIENCE BASED



The single biggest factor in
optimal performance

#1

CNS READINESS

SLEEP



The Importance of SLEEP
in Mental and Physical Performance

6 Hours 40 Minutes

4-6 Hours



Average sleep for most athletes

Don't fight it... SLEEP

To train and compete at a high level you need regular sleep cycles. That means you need to go to bed at wake at the same time every day... Even on weekends. Your body gets used to many physiological responses during sleep and they happen at critical times during the night. Sleep includes muscle restorative phases, organ restorative phases and brain and CNS restorative phases. If you have random sleep patterns, these responses will be random. Critical recovery and adaptation occurs based on these cycles. In the recent Stanford Sleep Studies it was proved that the more you sleep the better you perform.



Life of an Athlete
Human Performance Project

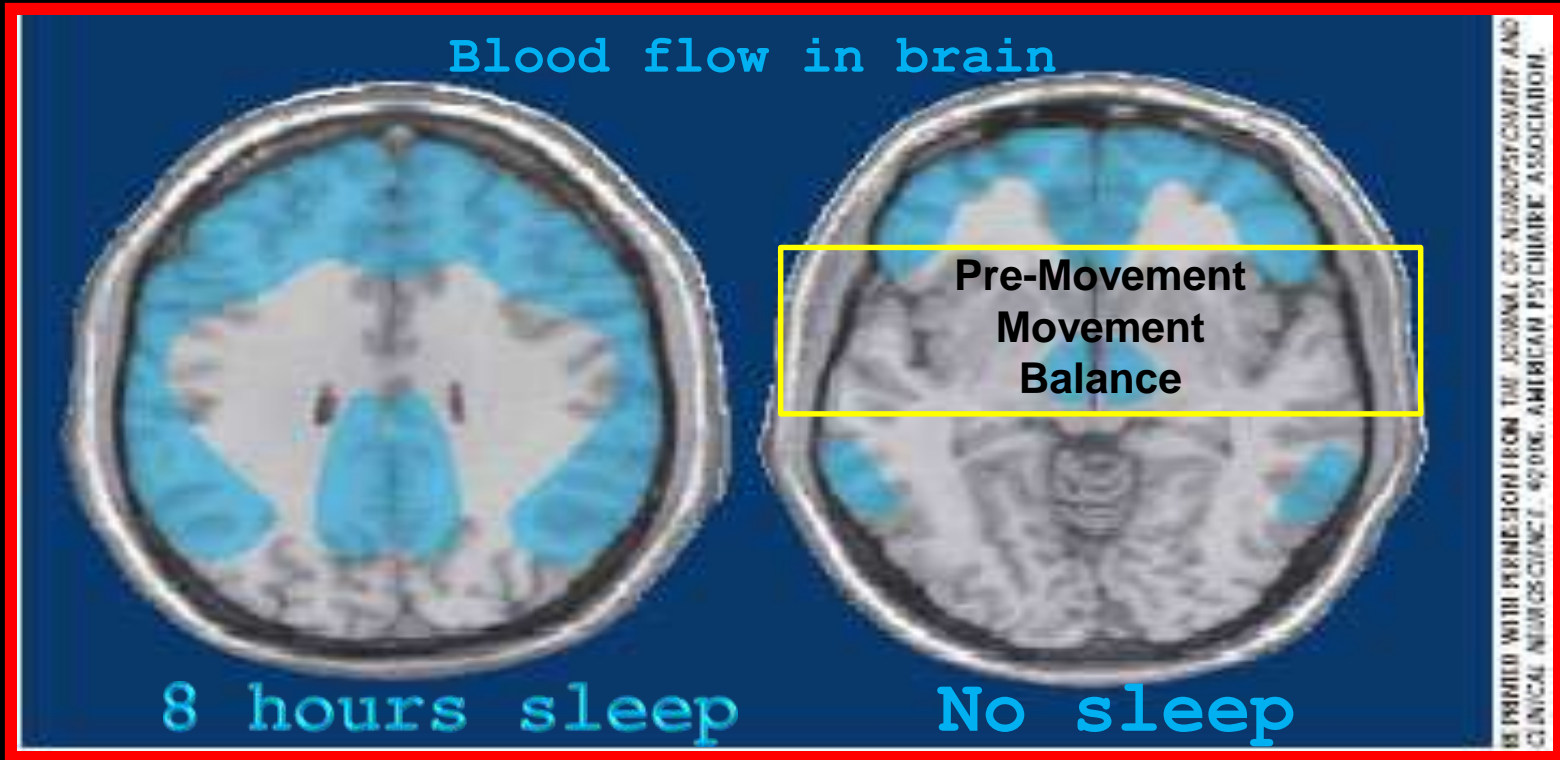
Muscle Restorative

Organ Restorative

CNS Restorative

Rested

Tired



WORKS

FAILS

IF THE BRAIN DOESN'T WORK
THE BODY DOESN'T WORK

Reaction Time best indicator
of CNS Recovery/Readiness



Sending Signals






REACT

Twenty four elite athletes
reaction time to visual
stimulus rested:

. 186^{Sec.}



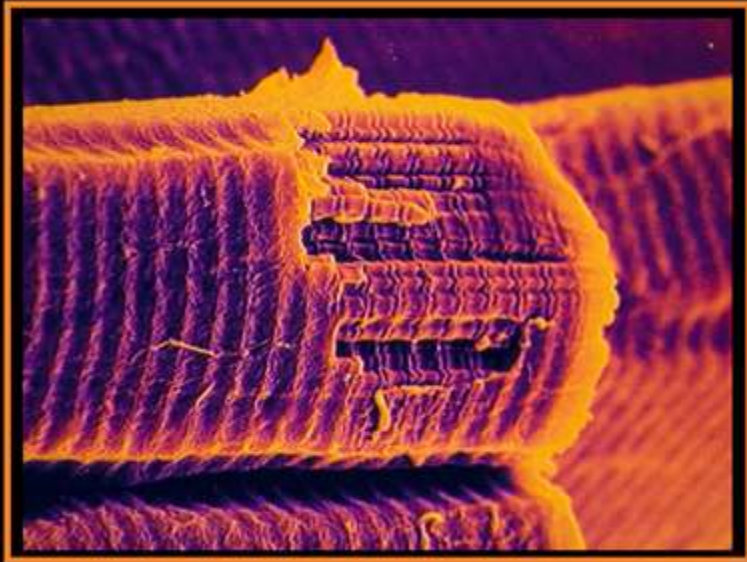
Twenty four elite athletes reaction
time no sleep overnight:



. 246^{Sec.}



Sleep and GROW



Sleep is a critical component in the muscle building process and should not be overlooked. Your muscle tissue repairs itself and grows during rest periods but sleep is more important than waking rest periods.

Here's why:



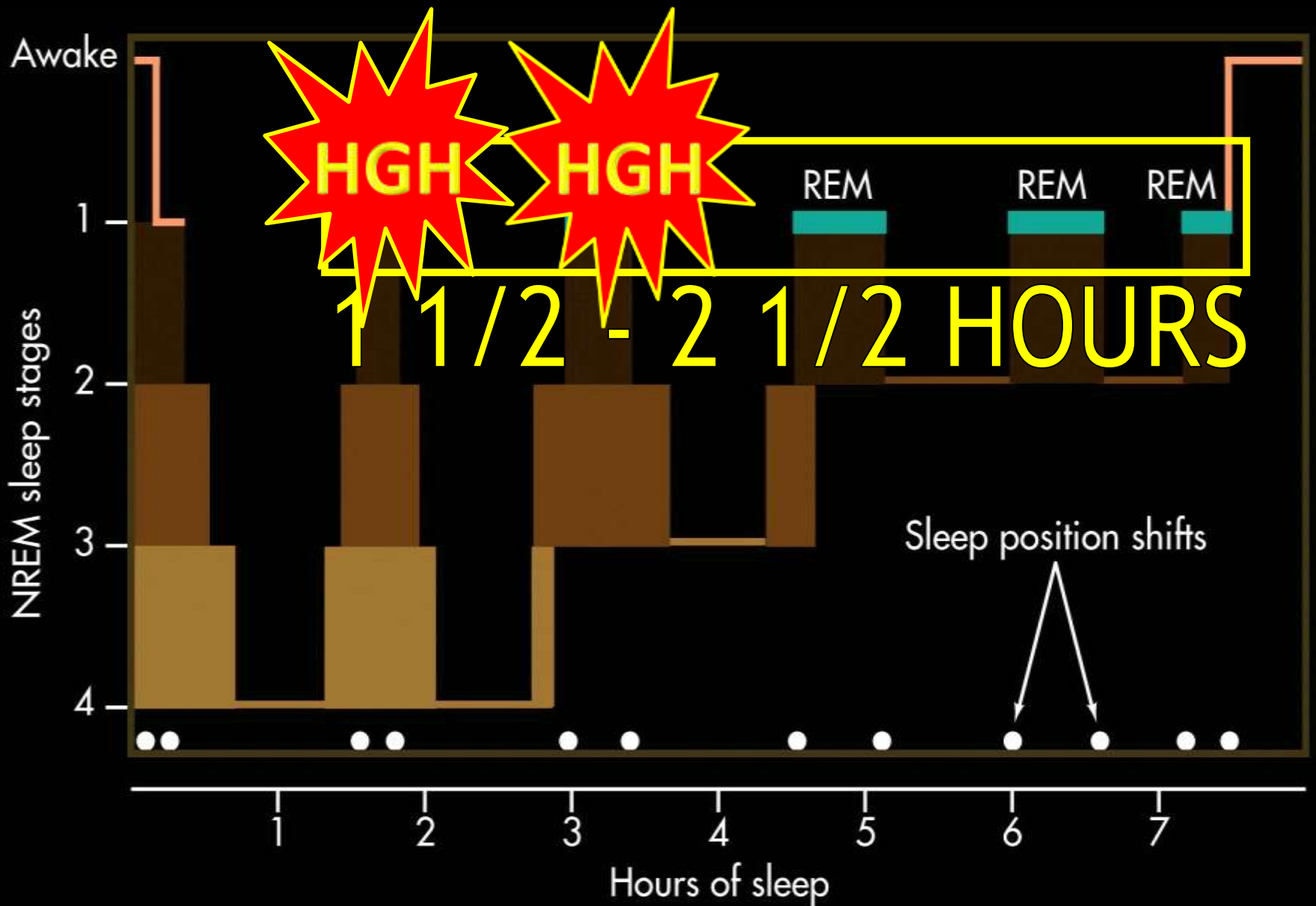
Life of an Athlete
Human Performance Project

The release of growth hormone reaches its peak during deep sleep

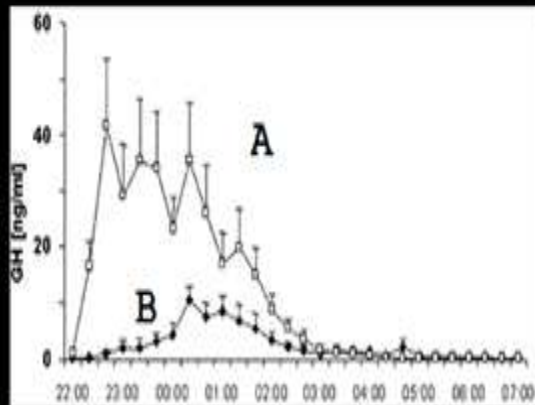
Your metabolic rate slows which is perfect for muscle tissue repair and growth

Increased blood flow to the muscles

HGH Release at night



8 HOURS OF SLEEP



Go to BED early... Lots of HGH

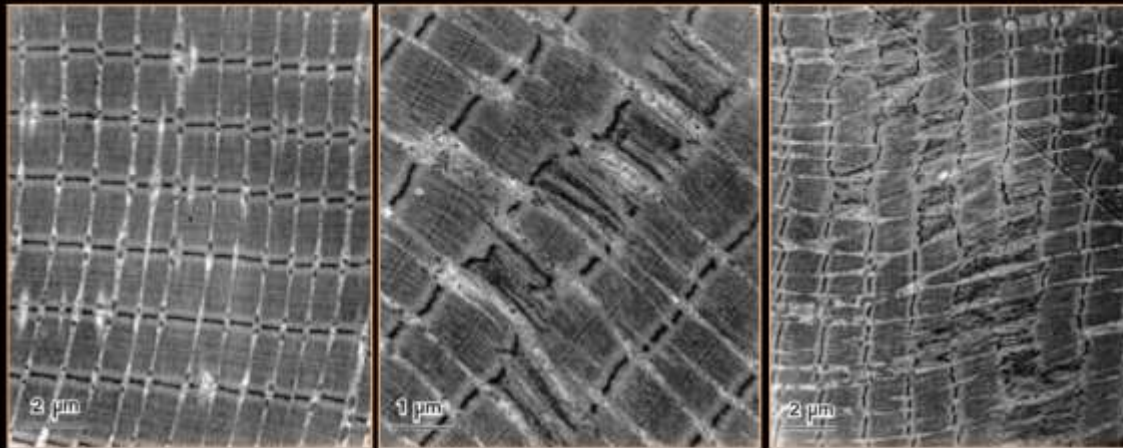
More GH is released during the earlier hours of the night than the later hours. Thus, sleep schedules are also important as **A** (8 hours of sleep from 10 pm to 6 am) causes greater GH release than **B** 8 hours of sleep from midnight to 8 am. The above diagram shows pulses of growth hormone corresponding to the four sleep cycles that occur during an average good night's sleep.

- A. sleep from 10pm. - 6am.
- B. Sleep from 12am. - 8am.

HGH release won't adapt to your crap lifestyle...
All your gains are lost. Damage unrepaired!



Life of an Athlete
Human Performance Project



NORMAL

MODERATE

EXTREME

Muscle rested

Medium intensity workout

Max workout

Muscle Damage



Antidote
SLEEP



Life of an Athlete
Human Performance Project

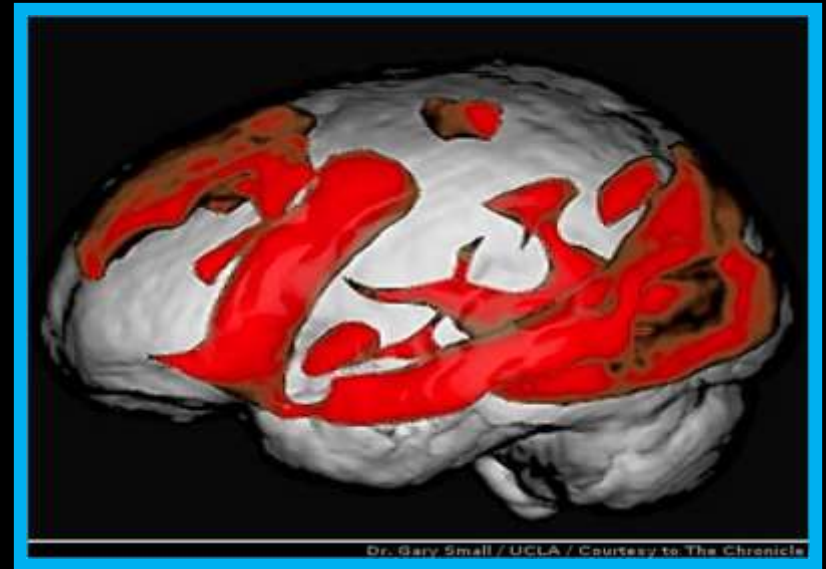


Technology



READ

INTERNET



Rest means Rest...

The CNS can rest
and reboot
critical energy
when the brain
function is
minimal...

Information Overload

P.S.

“

Kids are leading the world's transition to digital media. This is in part because kids aren't afraid of technology and in part because kids haven't spent years getting used to anything else.

So if you want a sense

MORE THAN HALF OF THE HUMAN RACE IS UNDER THE AGE OF 30.

it makes sense to watch what kids are doing.”

Generations M2
Media in the Lives of 8- to 18-Year-Olds
Kaiser Family Foundation
January 2010



How much does technology effect mental and physical performance?

More than you think!



Life of an Athlete
Human Performance Project

PROCESSING

Brain Stimulation

Create An Electronic Sundown.

The smallest amount of light can impact your Melatonin levels (the sleep hormone). About ninety minutes before bed, turn off all electronic devices in your bedroom.



Life of an Athlete
Human Performance Project

Delays brains transition from
wake state to sleep





Life of an
Athlete

ATHLETE TIME
MANAGEMENT
VERSUS
TECHNOLOGY

STRESS
TIME LOSS
CNS FATIGUE
RECOVERY DELAYS
METABOLISM CHANGES
LOSS OF FOCUS

Technology has increased significantly the sedentary hours per week for all populations including athletes.



There is no way
to make up for
the deficits of
lost sleep with
stimulants



ENERGY DRINKS



SLEEP MANUAL



Human Performance Project Athlete Sleep Manual



Life of an Athlete
Human Performance Project

The impact of sleep on and physical performance

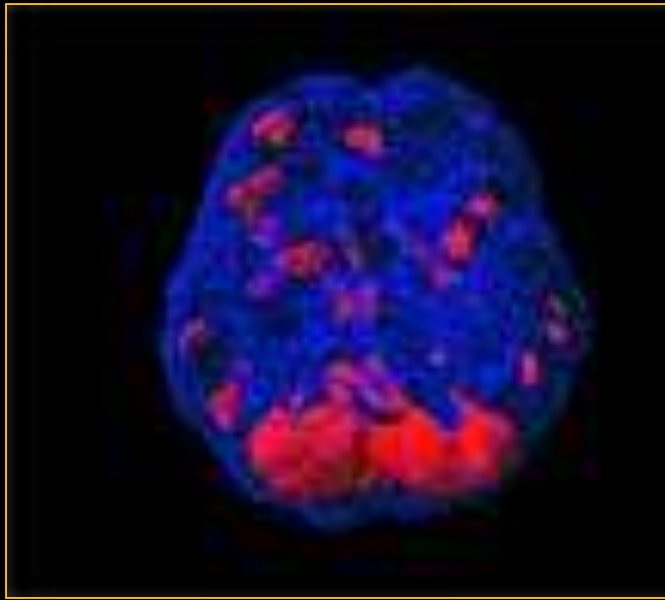
SOCIAL DRUGS



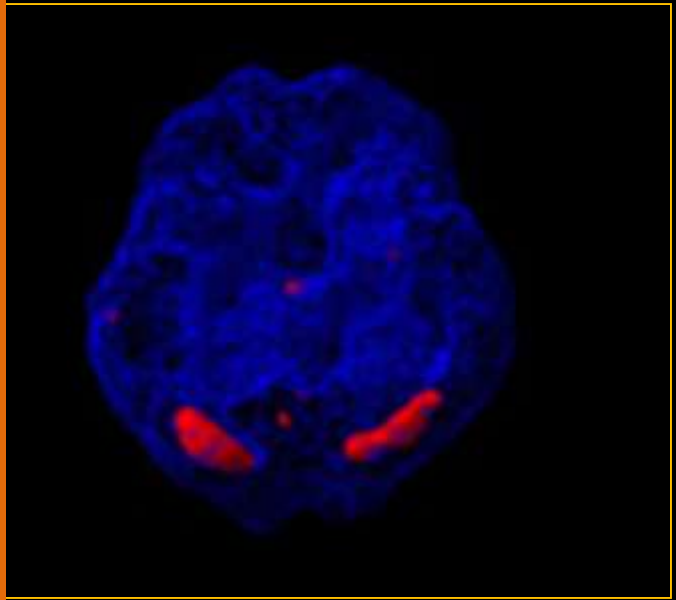
Choices you will have to make

Life of an
Athlete

Brain Activity Alcohol



Not under
influence



Intoxicated

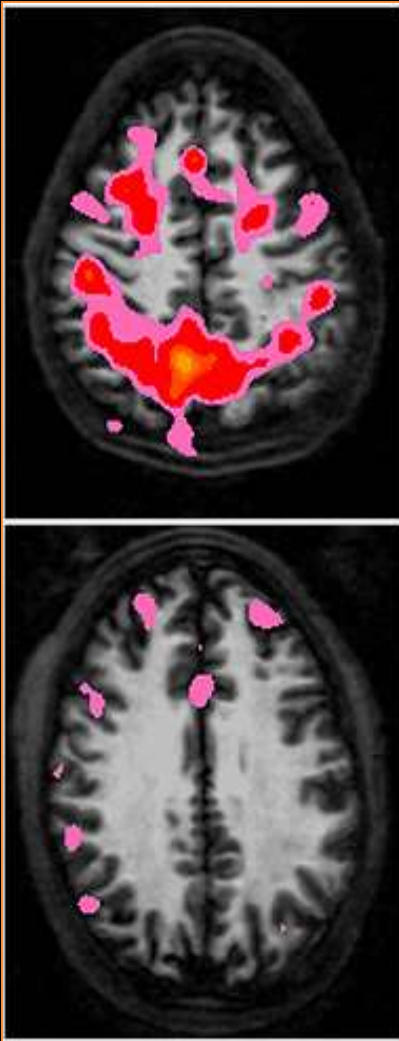


BRAIN ACTIVITY

NORMAL

15 YEARS OLD

ALCOHOL USER



Susan Tapert/University of California, San Diego

Images above show the brain activity of a 15-year-old nondrinker, top, and a drinker, bottom.

Life *of an*
Athlete



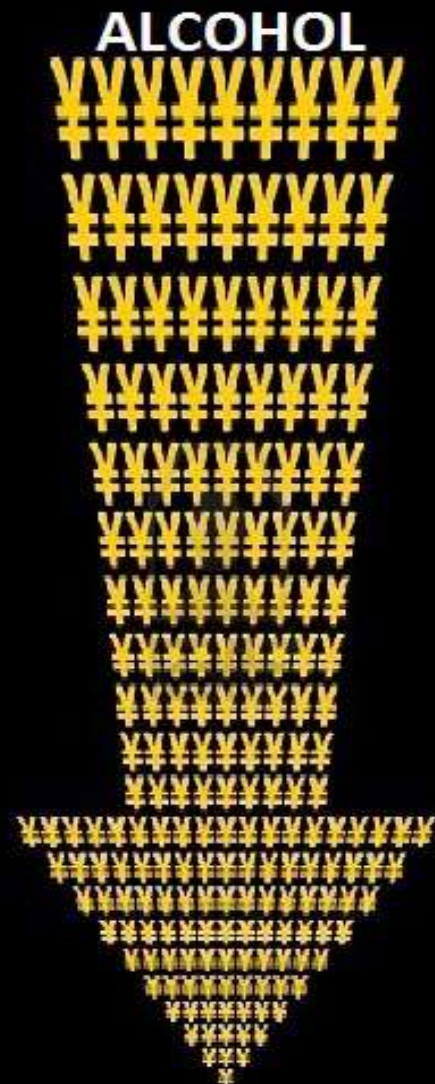
TESTOSTERONE

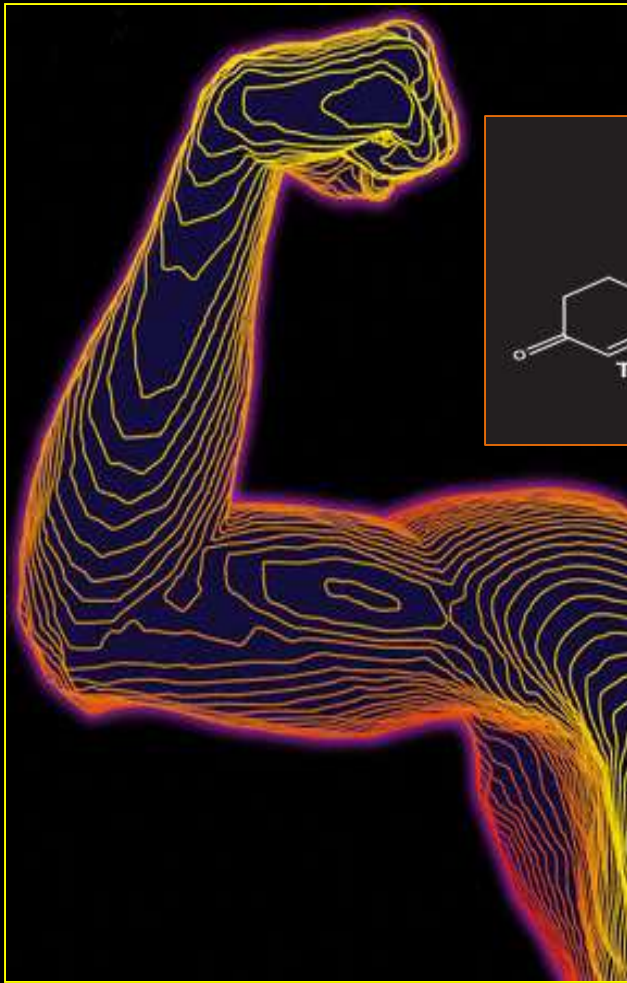
Studies of athlete drinkers have shown that alcohol directly suppresses testosterone levels.

The more you drink, the worse it gets.

And it's not just at the time you are drinking.

The biggest hit comes later, and spills into the following days...





Heavy maximal level training followed by excessive alcohol consumption can result in hormonal disruptions for up to 96 hours (4 days)

TRAINING EFFECT
RECOVERY
PERFORMANCE

THE 96 HOUR HOLE



HGH

Maintains muscle mass
Repairs muscle fiber
Fat metabolism
Carbohydrate metabolism



70%



Human Growth Hormone



REM and Alcohol Use

You are asleep but your CNS is not recovering!

REM

separating alcohol fact from fiction

Q When you pass out do you still have REM sleep?

A. An unfortunate effect of alcohol is the disruption of sleep patterns. This disruption can lead to restless sleep and other sleep problems, which can cause fatigue, memory, cognition and motor deficits the following day.



You wake up the next day with an exhausted brain and central nervous system. Your alertness levels are decreased. Your level of focus is decreased. Your attention span is decreased. Your ability to process information is decreased. Your reaction time is 25% slower.

Time to exhaustion is decreased. Perception of fatigue is higher!



Life of an Athlete
Human Performance Project

2:27

1:31



:58



:31

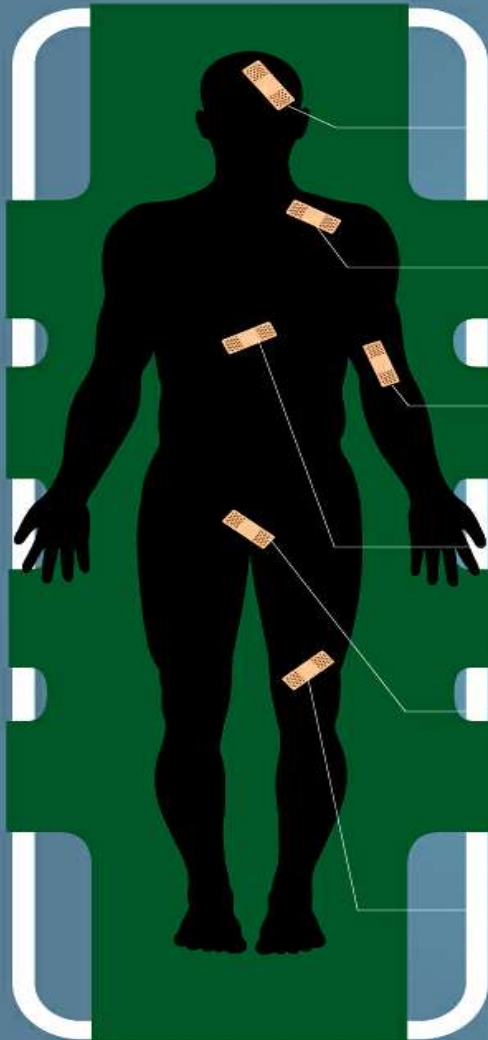


INJURIES

**Injury rate for
drinkers is 54%**

**Injury rate for
non drinkers is
23%**

NCAA Injury Study



HEAD	252
BRAIN	67
SKULL	185
SCALP	8
EYE	133
MOUTH	118
TEETH	106
TONGUE	24
NOSE	108
NOSTRIL	0
EAR	137
THROAT	92
NECK	389
SHOULDER	693
BACK	456
SPINE	84
ARM	239
BICEP	400
TRICEP	331
ELBOW	722
FOREARM	424
HAND	378
WRIST	609
FINGER/THUMB	600
FINGERNAIL	28
PECTORAL	272
CHEST	58
RIB	503
HEART	88
TORSO	121
ABDOMINAL	155
OBLIQUE	508
HIP/PELVIS	111
BUTTOCKS	63
ANUS	3
GLUTEUS	25
GROIN	760
TESTICLE	52
SCROTUM	1
PENIS	2
VAGINA	0
GENITAL	6
LEG	396
THIGH	574
QUADRICEP	1812
HAMSTRING	785
KNEE	734
CALF	646
ANKLE	752
SHIN	1386
FOOT	678
TOE	711
SKIN	20

SOURCE: LEXISNEXIS





The residual effect of alcohol or a hangover has been shown to reduce performance by an average of 11.4% in elite athlete populations.

<11.4%

PERFORMANCE POTENTIAL





<8%



STRENGTH/POWER



<11%



EXPLOSIVE POWER



<6%



ACCELERATION SPEED



<8%



START UP SPEED



0-5 yds.



<8%

LATERAL SPEED



<6.96%



ENDURANCE



<8%

POWER ENDURANCE





1X DRUNK = 14 DAYS
LOST TRAINING EFFECT

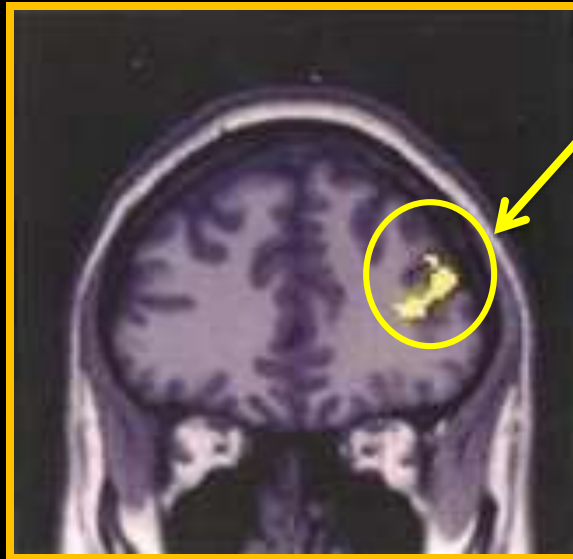
American Athletic Institute has studied the impact of alcohol on condition in elite athletes. Impact has shown significant projections in lost physiological condition that correlates to as much as 14 days of lost training effect...for each time drunk...

WASTING YOUR TIME





MARIJUANA SKILL IMPAIRMENT



NON USER

SIMPLE HAND SKILL

Skill
Recall
Area



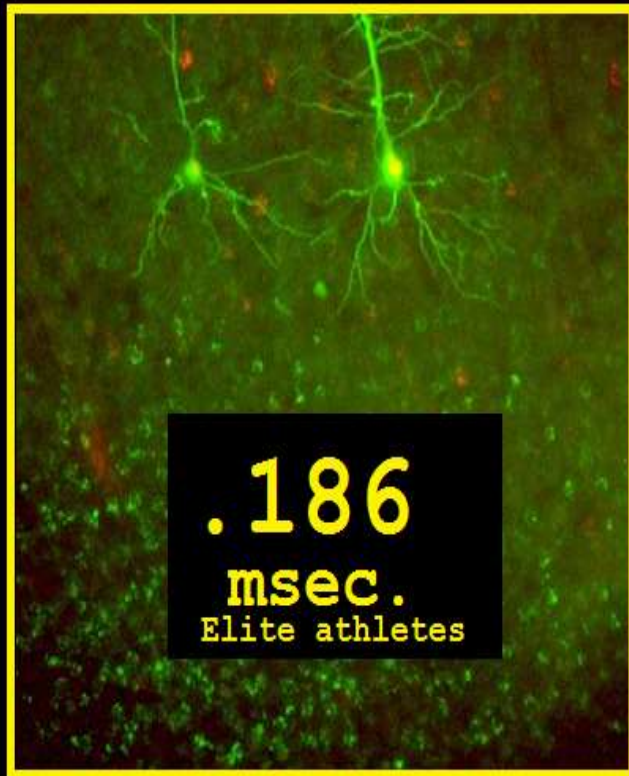
MARIJUANA USER

SIMPLE HAND SKILL

Note: Subject not under influence during scan.

POT OR NOT? YOUR CHOICE YOUR GAME

Normal Reaction Time



Weed and Reaction Time



Average in the
.300-.450msec range.



Marijuana slows down reaction time to .300-.450 msecs



Slowing down your game...

Life of an
Athlete





Today's Pot



Marijuana THC content 1960-70's 1-4% THC
Marijuana THC content today 20+% THC



Detection Times

If you stop smoking

- **Marijuana/Cannabinoids (THC, Marijuana) Detection Time:**
 - 1 time use only 5-8 days
 - 2-4x per month 11-18 days
 - 2-4x per week 23-35 days
 - 5-6x per week 33-48 days
 - Daily 49-63 days



Marijuana vs. Tobacco

- Releases five times as much carbon monoxide into the blood, which ties up oxygen

- Three times more tar than cigarettes.



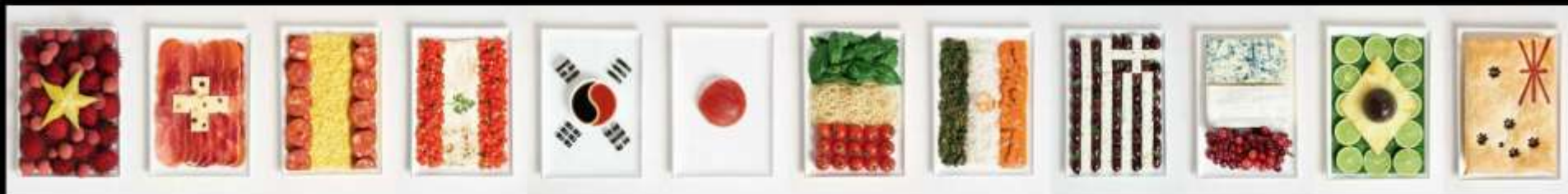
- Another study showed that a few joints a day can produce as much lung damage as 20 tobacco cigarettes.

POWER BACK DIET

Power Back Diet



Power Back Diet
Life of an Athlete
Human Performance Project



Eat better... Compete Better...



Power Back Diet

Life of an
Athlete

You can't beat nature!

Top Ten Olympian Foods



OATMEAL



EGGS



BANANAS



STEAK



YOGURT



TUNA



PASTA



PB



TRAIL MIX



COTTAGE
CHEESE

Power Back Diet



Life of an Athlete
Human Performance Project





Bananas #1 for Athletes

Bananas contain three natural sugars – sucrose, fructose and glucose combined with fiber. A banana gives an instant, sustained and substantial boost of energy. Research has proven that just two bananas provide enough energy for a strenuous 90-minute workout. No wonder the banana is the number one fruit with the world's leading athletes.

When you compare it to an apple, it has FOUR TIMES the protein, TWICE the carbohydrate, THREE TIMES the phosphorus, five times the vitamin A and iron, and twice the other vitamins and minerals.. It is also rich in potassium and is one of the best value foods around So maybe its time to change that well-known phrase so that we say, 'A BANANA a day keeps the doctor away.



Life of an Athlete
Human Performance Project



70% in one hour!



RECOVER

70%

IN ONE HOUR

THE QUICKER THE BETTER

The highest rates of nutrient uptake occur during the first 10mins after training .

75g Carbs
40g Whey



This is because all the nutrient transport and storage mechanisms become switched on thus increasing the body's absorption rates. The nutrients that are required are glucose (from Carbohydrate) and amino acids (from Proteins).



Life of an Athlete
Human Performance Project

One day your life will flash before your eyes...
Do something worth watching!

Every day matters
Every day counts
Make every day matter
Make every day count.

