Director Founder of the American Athletic Institute – Human Performance Project. A former NCAA All-American, International-level distance runner and World Masters Champion, John has coached or advised more than two dozen Olympians including many 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. John is an internationally recognized human performance expert, specializing in recovery, peaking training and lifestyle impact on mental and physical performance. John’s innovative program “Life of an Athlete,” has gained international prominence. John has worked with nearly all sport federations including the National Federation of High School Athletics, NCAA, NHL, NFL, NBA, the U.S. Olympic Committee, Sport Canada and the International Olympic Committee. John Underwood is Human Performance Consultant for the U.S. Navy SEALs.

20 years Olympic Sport
15 years HPP
Human Performance Project

Perform at your best!

Life of an Athlete
Human Performance Project
Human Performance Project
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.
MEASURING PERFORMANCE
28 OLYMPIANS
OREGON

600 COLLEGES
Life of an Athlete
Human Performance Project

Athlete Lifestyle Programs

Military Project

United States Military Human Performance Project
The SEALs met Underwood, who had studied in Finland for three years, at the U.S. Olympic Training Center in Lake Placid, N.Y., and asked for his help in changing the way SEALs trained.

Sports Illustrated
NSWG2 Laboratory

United States Navy SEALS
Human Performance Project
“It is the most significant experience I have had in sport. They are simply the toughest athletes on the planet. The training methods they utilize humble those we have used with Olympic and Professional athletes.”

John Underwood
Rio de Janeiro BRA
Physiological Considerations for Recovery in Elite Hockey

John Underwood  Director American Athletic Institute
THE 10K HRS. RULE

You become what you practice!

Life of an Athlete
Human Performance Project
Remember when you are not training...
That somewhere, someone is training
and when you meet them... They will beat you!

Matveev USSR
Understanding Performance

Lifestyle
Training
Recovery
Performance

OPTIMAL
1:54.31
1:54.38
1:54.40
1:54.52
1:54.64
1:54.67
1:54.82
1:54.84
1:54.87
1:54.88

.57 Secs.
If you do what you’ve always done, you will get what you’ve always gotten.”

A gift from a coach to an athlete!

Life of an Athlete
Human Performance Project
If you go too hard on your easy days ...
Soon you will be going too easy on your hard days.

QUALITY RESTED

If you are going to train very hard...
Of course you need to rest very hard.

Keijo Hakkinen  FIN
( World's Leading Power Strength Scientist)
A coach can be with an athlete for three hours in a day... but what is happening in the other 21 hours?

Joachim Cruz
All your time, effort and energy is for nothing, if you are not willing to make sacrifices in the way you are living your life!

Life of an Athlete
Human Performance Project

Creature of HABIT
The primary circadian "clock" in humans is located in the suprachiasmatic nucleus (or nuclei) (SCN), a pair of distinct groups of cells located in the hypothalamus. Destruction of the SCN results in the complete absence of a regular sleep-wake rhythm. The SCN receives information about illumination through the eyes. The retina of the eye contains "classical" photoreceptors ("rods" and "cones"), which are used for conventional vision. But the retina also contains specialized ganglion cells which are directly photosensitive, and project directly to the SCN where they help in the entrainment of this master circadian clock.

Several studies have indicated that pineal gland melatonin feeds back on SCN rhythmicity to modulate circadian patterns of activity and other processes. However, the nature and system-level significance of this feedback are unknown.

Life of an Athlete
Human Performance Project
The lifestyle of this century has created conflicts and dilemmas that greatly reduce the effectiveness of top level athletes to train, recover and perform consistently at or near their best.
Performance Factors

LIFESTYLE

Preseason  Inseason  Preseason

TRAINING
Sleep
Now Clearly a Predictor of Performance

Without any question the brain and central nervous system play the most significant role in optimal physical performance. Every movement, activity, and neural function is controlled by the brain and central nervous system. Sleep is now clearly a predictor of performance.

Social drug use among athletes is prevalent and the problem is complex. Athletes may be more likely to abuse alcohol than their non-athlete counterparts and are more likely to suffer behavioral and psychosocial consequences as a result of their drug use. They are also more prone to heavy episodic drinking (HED) (five or more drinks).

The problem of social drug use by athletes at any age or level of sport is unacceptable. It has gone unchecked and unaddressed for far too long.
LIFESTYLE EDUCATION

I’m fine, just tired.

LIFE OF AN ATHLETE

FOOD CHOICES

DETERMINE

ENERGY LEVELS

POWER BACK DIET
These are given suggestions for nutrition that can help you have more energy and be a better athlete...
The rest is mostly up to you! Unlock your potential with POWER BACK DIET NUTRITION.

Power Back Diet

Diet Nutrition Summary for Athletes

John Underwood Life of an Athlete Human Performance Project

Life of an Athlete Human Performance Project
Americans take in more than 22 teaspoons of "added sugar" each day. Sugar can ruin your performance!
Do Not Take Too Much Protein at Once

Your muscles can utilize only 30 grams of protein at any time, a study in the Journal of the American Dietetic Association notes. Any more than that gets stored as fat. Aim for a minimum of 46 g of protein per day. Athletes often take in too much protein per serving. It is most pivotal to take fast protein after workouts.

Cannot be processed
Huge strain on body
It takes 40-54 hours to turn this into any usable muscle fuel.
The human body can only utilize about 30g of protein at a time. If you eat a 24 ounce steak most of it will be deposited as fat because you cannot uptake that huge amount of protein or metabolize it into any form of fuel. That is why you need to eat just enough protein but not too much.

Go with more feedings that are small enough to be utilized.

If you gain 10 pounds and 8 pounds is fat and 2 pounds is muscle, have you really helped yourself as an athlete? You might as well strap on 8-pound ankle weights. By eating protein and training hard you can reverse this and gain 8 pounds of muscle and 2 pounds of fat. Now you are a leaner, faster and stronger athlete! That's the difference that protein and proper nitrogen balance can make and as you can see, it is a HUGE difference!

Power Back Diet

More is not better!
Want Mass?
Some solid...some liquid (Fast protein) More feedings, spread out over waking hours...

Timing of protein feeds

7 a.m. – 30g protein shake
11:30 a.m. – Lunch, with 40g of some type of chicken, lean beef or fish
3 p.m. – Protein-Bar and Whey protein, 30g
7 p.m. – Dinner with 40g of chicken, lean beef, fish
10 p.m. – 30g Protein Choice Liquid may be best

Power Back Diet

5-6 protein feedings / day
Knocking back 40 grams of protein before bed can boost muscle growth while you sleep by 23 percent, according to research in Medicine & Science in Sports & Exercise. "Look for protein powders high in whey-casein, which digests slowly to provide a steady stream of protein". When you release HGH and growth factors at night, there is sufficient fast protein available to convert to new mass and repair damaged mass.

Life of an Athlete
Human Performance Project
450-650mg + 40mg = 30% increase in Testosterone
Fatigue, which is at the root of the whole recovery paradigm, can be split into four categories:

- Neuro-muscular
- Metabolic
- Structural
- Endocrine

FATIGUE
No Brain No Gains

CNS readiness is a prerequisite for a workout that will act as the stimulus for gains in muscle performance over time. This means your brain and CNS must be rested when you train on these demanding workout days. The requirements of the CNS for this high end work is huge and if a fatigued and tired athlete uses any type of stimulant to "pull off" a workout the deficits in the CNS post workout are deep. Often recovery is delayed by as much as 48 hours. Go in rested. Maximize your efforts!

Life of an Athlete
Human Performance Project

If brain and CNS is fatigued...
Training effect is minimal!
Performance is decreased!