Brain and body are two different grids for recovery...

24 hours

24-48 hours
Fatigued Forget it

The body and all physiological systems must be rested and restored in order for training effect to take place. Any disruptions to the recovery process leaves the body unable to respond anabolically. The net outcome is at best a flatline. Come ready to train...

DON'T WASTE YOUR TIME
SKILL
Your body may be ready to compete but your brain may be fatigued!

Life of an Athlete
Human Performance Project

Random performance
HEART RATE VARIABILITY (HRV)
2:1

AWAKE STRESS

ASLEEP RECOVER

DAILY STRESS

16 HOURS 8 HOURS
14 days optimal

14 days wasted

Drinking

All nighter

Drunk

Drunk
Understanding Recovery

It is a timeline... a process... As soon as physical activity is over, recovery begins. The longer you wait the more you postpone return to optimal performance capacity. The Human Performance Project has helped athletes understand the paradigm of the four levels of fatigue. Set yourself up for training and competing at a higher level with this valuable information. The human body systems and central nervous system can recover fully in 24 hours.

Life of an Athlete
Human Performance Project
“You don’t grow when you train, you grow when you rest”.

The largest release of HGH is at night when you sleep!

Stress Recovery Adaptation
Recover so you can increase the QUALITY of your training
5-6% COMPRESSION
14 STEP PROCESS
24 HOURS

BODY RECOVERY
BODY MUST BE RESTED WHEN YOU TRAIN

The CNS takes much longer to recover than the heart lungs and muscle systems...

48 HOURS  24 HOURS
RECOVERY

DYNAMICS OF RECOVERY AND TIME

HOUR 1
HOUR 8
HOUR 24

70%
20%
10%
During the first hour after a workout the majority of recovery takes place and training effect is maximized.
The single most critical factor in training effect taking place or not...

POST TRAINING NUTRITIONAL RECOVERY
The highest rates of nutrient uptake occur during the first 10mins after training.

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).
What is the Best Protein Supplement?

With all of the protein supplements available today, how do you know which one to choose? Your lifestyle and diet will definitely need to be taken into consideration when choosing the best protein supplement, and things like flavor and quality of the actual product must also be considered.

Whey Protein – The most common of all protein supplements seen on the shelf. Whey protein is the faster digesting protein found in milk. Not only is it fast digesting, but it also has a very high branched-chain amino acid content making it great for pre-workout and post-workout shakes. Whey tend to mix and digest easily, and comes at an affordable price.
Protein blunts negative effects
Accelerates positive factors in muscle

Fast Protein Critical
Changes in strength, muscle size, and muscle fiber size

Percentage increase

Strength: immediate (25), 2 hours post (0)
Quad size: immediate (5), 2 hours post (0)
Muscle fiber size: immediate (20), 2 hours post (5)

CARBS / PROTEIN

Don’t Wait
There is muscle damage from any kind of physical activity. The higher the intensity, the greater the damage.
Muscle Damage
CARBS AND PROTEIN AFFECT ON MUSCLE DAMAGE

How sore do you want to be?
Muscle Fiber Hypertrophy in Protein Group

% increase

Type I Type II

protein group
carb group

Muscle Protein Synthesis

NEW MASS
Sweet Drink 4-6 oz.
5 MINUTES
Fast Protein In 12-16 oz
Carbs In 75g
Meal within one hour (Dinner)
Brain Body Connection
Mental and Physical Performance

Office of Juvenile Justice and Delinquency Prevention
Department of Justice National Leadership Conference
The single biggest factor in optimal performance

CNS READINESS
Brain Drain

Learn how you can either waste or save CNS readiness for when you need it in a competition...
ATHLETE BRAIN

CNS readiness is built up 1–3 days prior to a maximal effort. The energy expenditures of the brain and CNS during high level performance is very demanding. Besides the mental processing functions of competition, the brain must also use huge energy reserves to send myographic impulses to muscles via the nervous system. If you want to perform, make sure your CNS is rested. This is quite different than the rest requirements for heart, lungs and muscles.

Life of an Athlete
Human Performance Project

- Focus Concentration
- High Speed Decision Making
- Emotional Regulation
- Relaxation
- Pattern Recognition
- Spatial Reasoning
- Visualization
- Imagination
- Reaction
- Anticipation
- Focus
- Refocus
- Attention Arousal
Brain and Movement
Neural fatigue in processing (FRONTAL CORTEX) fatigues other regions of brain function...
Fatigue levels in the frontal cortex decrease functions in pre-movement and movement regions of the brain.
Neural Fatigue (NF) is defined as an involuntary reduction in voluntary activation.
The approach of simply hoping for the adaptation of high intensity capacities to build up an athlete's tolerance to NF is no different than an athlete getting used to sleeping less and less while having to train and compete, tired, at world class levels.
Information Overload
Athletes included!

P.S. “More than half of the human race is under the age of 30.
It makes sense to watch what kids are doing.”

How much does technology effect mental and physical performance?
More than you think!

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Human Performance Project
Toddlers and Tablets: Way of the Future?
The frightening takeover of young minds!
"Every piece of information you are consciously or unconsciously exposed to - has to be processed by your brain!"

The amount of information we are now exposed to has increased more in the last 50 years than in the previous 5,000.
STRESS
WORRIED
Serotonin and dopamine are both neurotransmitters found in abundance within the human brain and throughout the human body. Both classified as biogenic amines, they are among the group of psychoactive chemicals responsible for the proper functioning of the central nervous system (CNS).
A real eye-opener

In case your daily dose of caffeine hasn’t boosted your attention span, here’s a quick look at the jolt you’re getting from those caffeinated concoctions:

- Diet Pepsi: 35 mg per 12 fl. oz.
- Diet Coke: 47 mg per 8.3 fl. oz.
- Red Bull: 76 mg per 16 fl. oz.
- Dunkin’ Donuts coffee: 143 mg per 16 fl. oz.
- Rockstar energy drink: 160 mg per 16 fl. oz.
- Can of No Name (formerly Cocaine): 280 mg per 8.4 fl. oz.
- Can of Vitamin Energy: 300 mg per 16 fl. oz.
- Grande cup of Starbucks coffee: 330 mg per 16 fl. oz.
The importance of the connection between serotonin and dopamine stems from the balance that must be maintained within the body for brain/body function.
SEROTONIN

Marijuana  100x
Alcohol    225x
Cocaine    400x
Caffeine   500x
Nicotine   700x
Meth       1000x

DEPRESSANTS
STIMULANTS

Increase in serotonin uptake on substances compared to normal uptake in brain.

Restoring NT levels 24-96 hours
DEPLETED SEROTONIN

DEPRESSION
ANXIETY
AGRESSION
DEPLETED DOPAMINE

DECREASED MOTIVATION
ALL THAT MAKES YOU

8% TALENT