Gemma Bridge

- > No improvement in alert, non-fatigued subjects
 - If used prior to competition when athletes are usually alert and not fatigued, amphetamines can be counterproductive and cause hyperactivity and irritability

Caffeine

Caffeine is a stimulant found in foods, drinks and over the counter drugs. Caffeine is absorbed quickly from the GI tract and is significantly elevated in the blood 15 minutes after ingestion, and the peak concentration is achieved 60 minutes after.

- > May improve performance at the muscle or nervous system, or the delivery of fuel to muscle
 - Affects the CNS, heart and skeletal muscles and alters the mobilization of glucose and fat
- > Can elevate blood glucose and increase fat utilization
- > Can decrease perception of fatigue and lower RPE during prolonged exercise
 - Effect is variable and dose-related
 - Effect may be diminished in regular users
- Potential side effects
 - o Insomnia, diarrhea, anxiety, irritability
 - Diuretic effect?
- Caffeine-ephedrine mixtures

Results of caffeines affects on performance are largely from lab studies. Cauton should be taken when extrapolating the research because caffeine's ergogenic effect on performance is variable, and appears to be dose-related and less pronounced in subjects who are daily as pronounce.

Nicotine

Nicotine is a drug with no therapplication. However a stars part of cigarettes and chewing tobacco it is one of the most abused products.

- Smoking of chewing tobacco
 - o Smoking leads to cancers and heart and lung diseases
 - Causes diseases of the mouth, including oral cancer and dental caries
- > Can stimulate both sympathetic and parasympathetic nervous systems
 - Small doses increase autonomic activity
 - Large doses block autonomic responses
- Cardiovascular or GI effects
 - o Increases in HR, higher RMR, increased cardiovascular responses to light exercise

Physical Warm up

Warm up activities are recommended for individuals to complete before they conduct moderate or strenuous activity.

- > Causes both physiological and psychological changes that are beneficial to performance
 - Increased muscle temperature, arousal, focus on event
- ➢ Warm-up activities
 - Identical to performance
 - Directly related to performance
 - General warm-up