

## Effects of Hormonal Induced Heart Rate Increase

Stress hormones, flooding the body in a moment, and caused by stress inducing circumstances, can cause these effects.....

60 to 80 beats per minute is a normal resting rate

115 beats per minute

Fine motor skills begin to deteriorate

115 to 145 beats per minute

Optimal survival and combat performance level for: complex motor skills, visual reaction time, and cognitive reaction time.

Above 145 beats per minute

Complex motor skills begin to deteriorate

175 beats per minute

Cognitive processing deteriorates: vasoconstriction (reduced bleeding from wounds: loss of peripheral vision (tunnel vision): loss of depth perception: loss of near vision: auditory exclusion (tunnel hearing)

Above 175 beats per minute

Irrational fighting or fleeing: freezing: submissive behavior: voiding of bladder and bowels: gross motor skills, running, charging, etc. at highest performance level.

1. This data is for hormonal induced heart rate increases resulting from sympathetic nervous system arousal. Exercise induced increases will not have the same effect.
2. Hormonal induced performance and strength increases can achieve 100% of potential max within 10 seconds, but drop to 55% after 30 seconds, 35% after 60 seconds, and 31% after 90 seconds. It takes a minimum of 3 minutes of rest to "recharge" the system.

3. Any extended period of realization after intense sympathetic nervous system arousal can result in a parasympathetic backlash, with significant drops in energy level, heart rate and blood pressure. This can manifest itself as normal shock symptoms (dizziness, nausea and or vomiting, paleness, clammy skin) and or profound exhaustion.

1997 Sidle and Grossman

## PERCEPTUAL DISTORTIONS IN COMBAT

From "Deadly Force Encounters" by Dr. Alexis Artwohl & Loren Christian

Based on the survey of 141 Officers

85%	Diminished sound (Auditory exclusion)
80%	Tunnel Vision
74%	Automatic Pilot
72%	Heightened Visual Clarity
65%	Slow Motion Time
51%	Memory Loss For Parts of the Event
47%	Memory Loss for Some of Your Actions
40%	Dissociation (detachment)
26%	Intrusive Distracting Thoughts
22%	Memory Distortions
16%	Intensified Sounds
16%	Fast Motion Time
07%	Temporary Paralysis