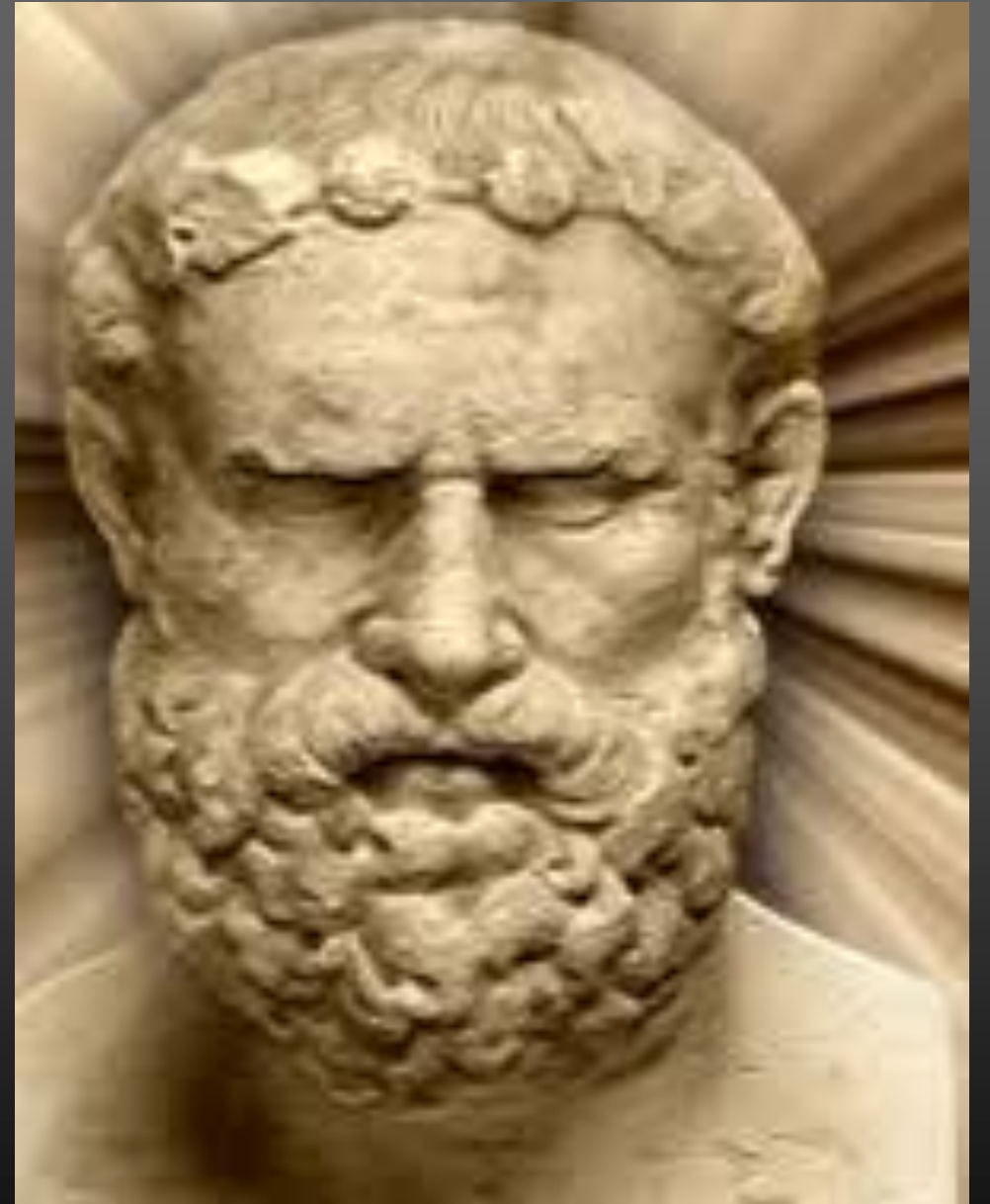


Breathwork as a tool to improve physical and mental performance

CHRIS BARNEY

“WE DON’T RISE TO THE LEVEL
OF OUR EXPECTATIONS; WE
FALL TO THE LEVEL OF OUR
TRAINING.”

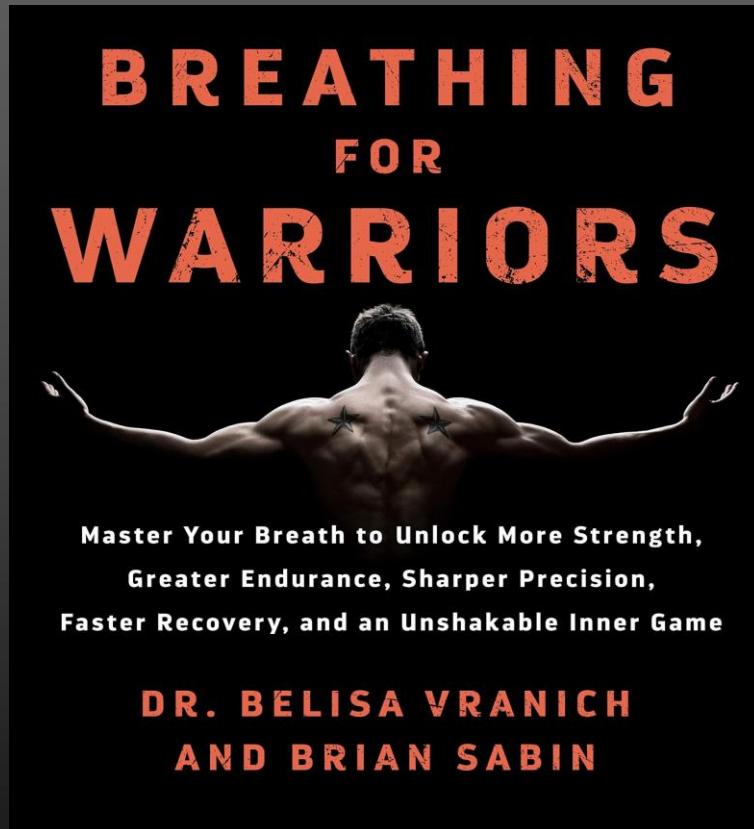
-ARCHILOCHUS





- LIEUTENANT; LACEY FIRE DIST. 3
- 27 YEARS AND COUNTING IN THE FIRE SERVICE
- SPECIAL OPERATIONS RESCUE; RAPID ENTRY RESCUE SWIMMER, SWIFT WATER RESCUE
- PEER SUPPORT COUNSELOR
- CROSSFIT L1 COACH; CROSSFIT OLYMPIA
- BRAZILIAN JIU JITSU AND MUAY THAI PRACTITIONER; HAMMERHEAD MMA
- BOXING; BRICK 3 BOXING
- BREATHE CERTIFIED BY DR. BELLISA VRANICH; THE BREATHING CLASS
- CURRENTLY ASU STUDENT; COUNSELING/PSYCHOLOGY PROGRAM

Dr. Belisa Vranich



Dr. Belisa Vranich



FDNY MPI

Tactical Breathing:

The deliberate use of diaphragmatic breathing biomechanics and pacing for the control of arousal and heart rate in a training, performance *and* active recovery settings.

Why should I care about my breathing

- Your breathing controls your heart rate.
- You have over 10 pounds of breathing muscles. If you train them your endurance will get better without cardio
- Active recovery. 10 minutes of breathing exercises can lower cortisol and detoxify you.

TACTICAL BREATHING

What Breathing Exercises Can Do For Firefighting



BREATHING FOR
WARRIORS DR. BELISA

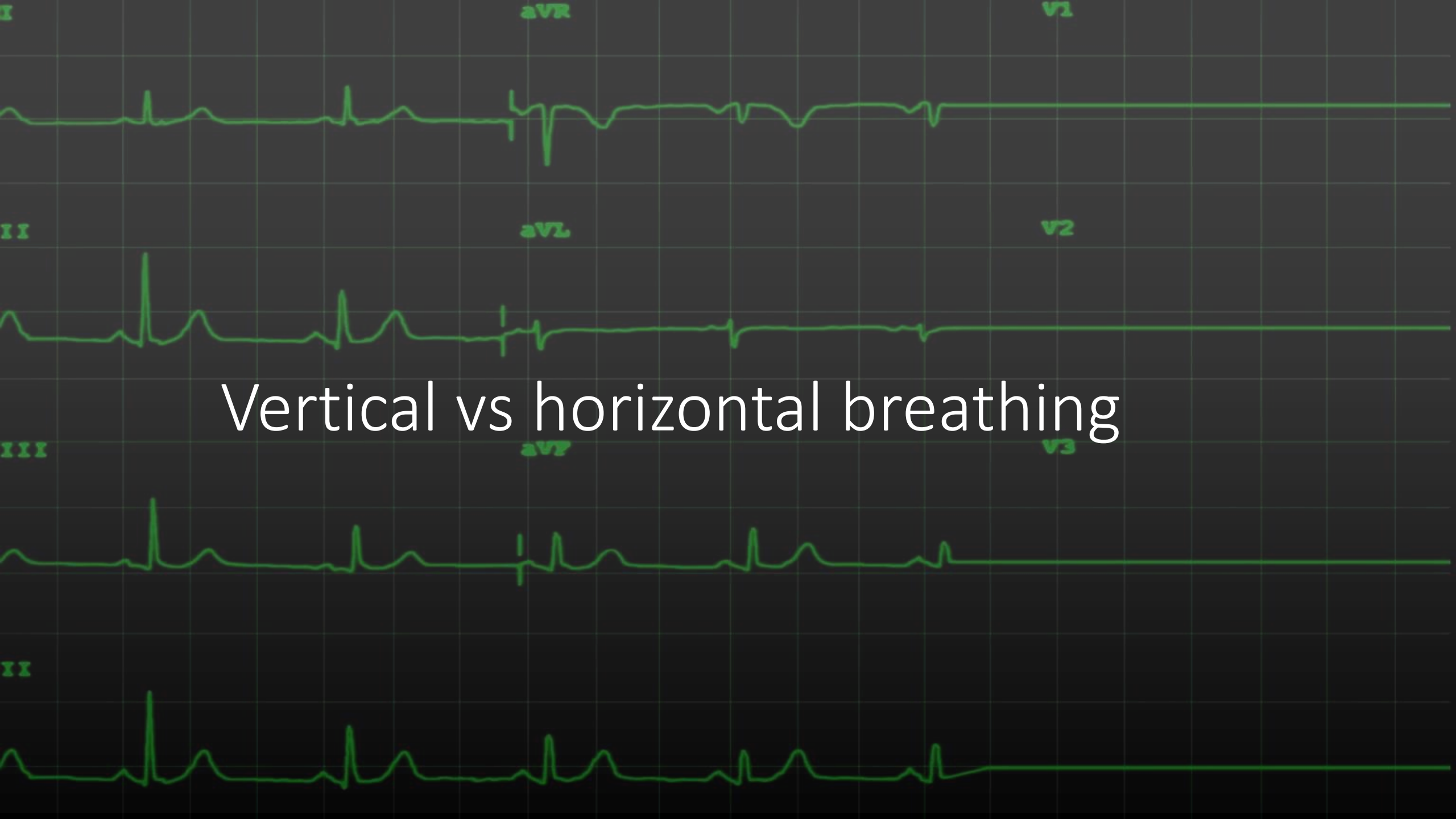


You can't work your breathing muscles during sport.

Your breathing muscles must be worked out separately.









Vertical Breathing

- Chest puffs out
- Belly moves inward
- Rib cage narrows
- Shoulders become tense and move towards the ears
- If you breath vertically you ignore your diaphragm

Horizontal breathing

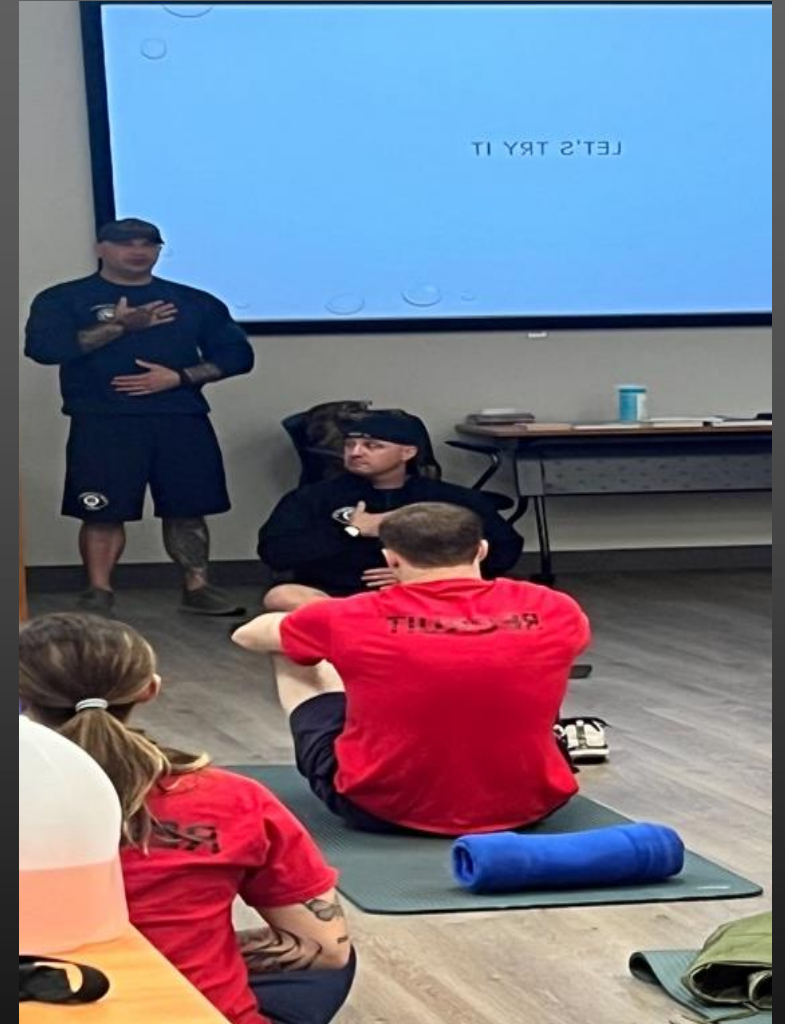
- Diaphragm engaged
- Belly expands in the front, back and sides (360 breathing)
- Shoulders, neck and chest are relaxed



Breathing IQ (BIQ)

- Location of movement (LOM)
- Range of movement (ROM)

CAN'T CHANGE WHAT YOU DON'T
MEASURE



The work before the work (Pacing)

Using the combination of nasal and diaphragmatic breathing as a way to control our arousal and exertion.

Recovery



Recovery is the time when the body repairs and information gets ingrained in the brain.

Quick recovery between rounds or intervals allows for prolonged and optimal performance

Active recovery

- Research shows that intense exercise (at or above 60% max heart rate) increases cortisol levels
- Exercise at 40% or below max heart rate can decrease cortisol levels
- 10 minutes of breathing exercises can lower cortisol and can help detoxify the body.



Meditation & Recovery

- Meditation is the use of various techniques to achieve a mentally clear, calm, and stable state of mind
- Meditation is a form of active recovery that can increase overall mood, cognitive reaction time, mental clarity, creativity, and overall mental resilience



Active meditation

- Active meditation is A breath focused meditation for those who find meditating difficult
- Active meditation helps detox the body and helps build mental resilience

Breathing and the mental game



The most important six inches on
the battlefield is between your ears.

— *James Mattis* —

AZ QUOTES

Autonomic
nervous
system

Sympathetic- fight or flight

Parasympathetic- rest and digest

Enteric- gastrointestinal

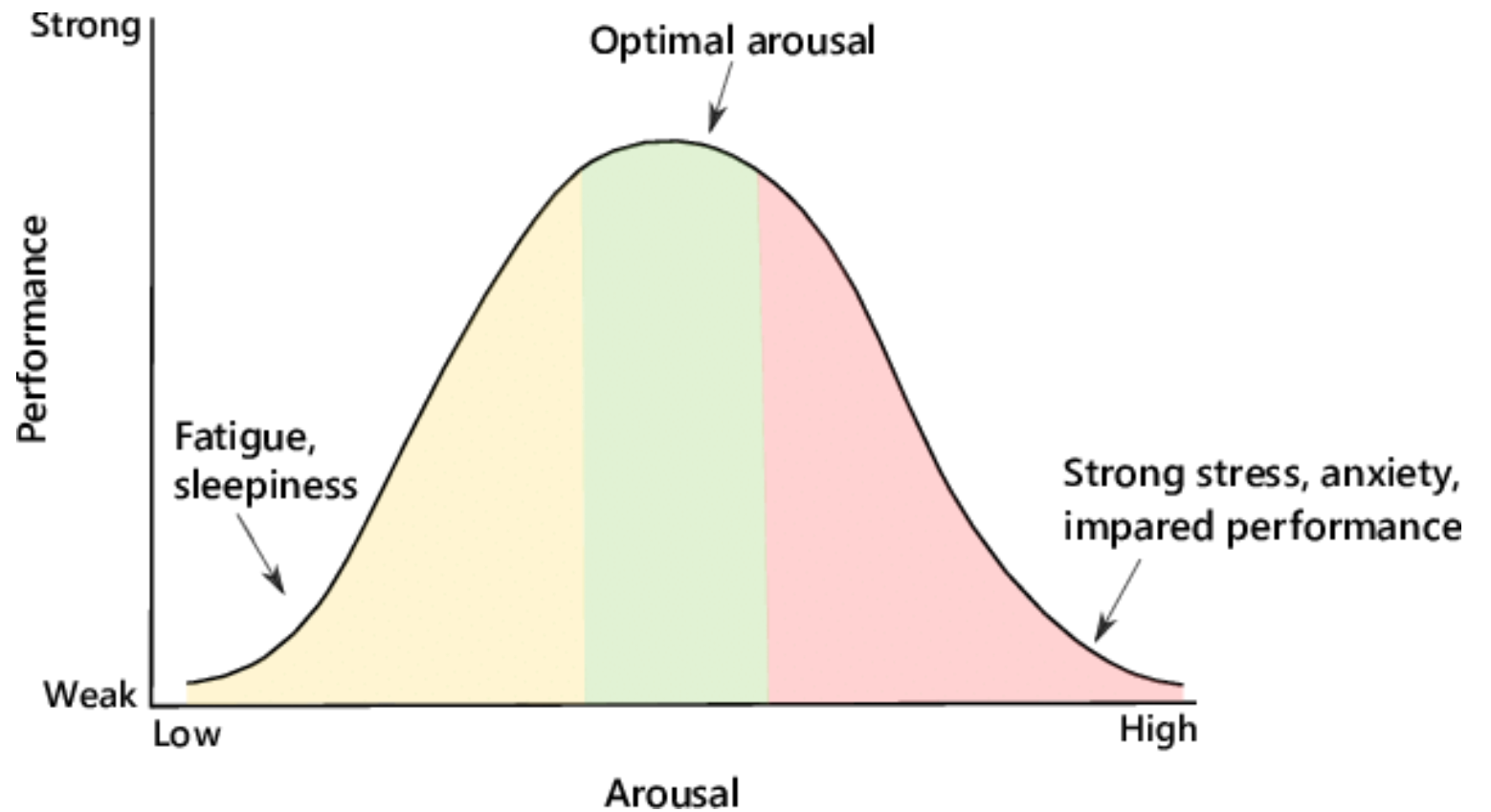
Operational Environment



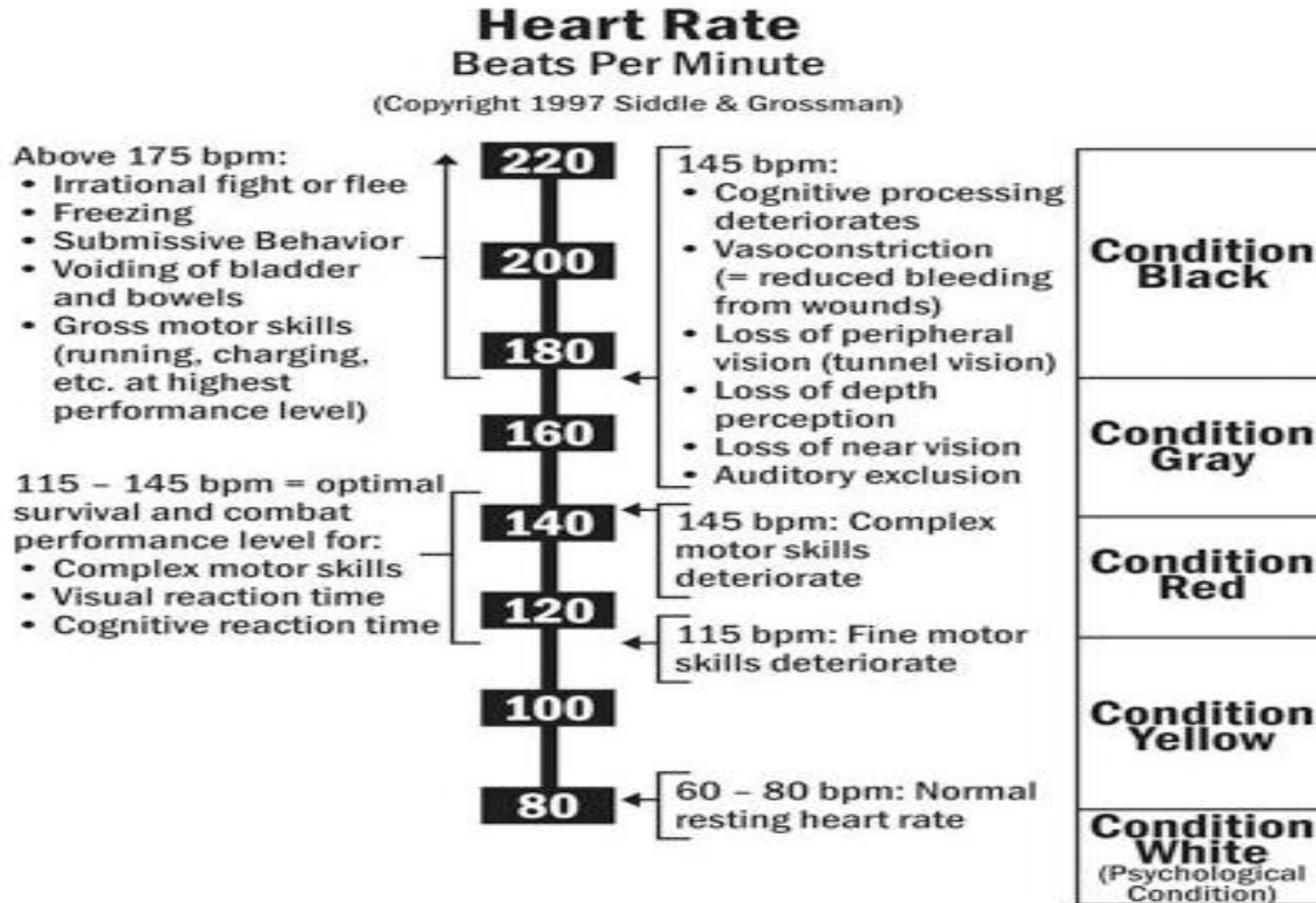
Decision making under stress & managing arousal

- In certain situations, and for certain professions, making decisions under stress can be a matter of life or death
- Understanding the physiological responses to stress and how we can influence those responses through breath work can help us manage our arousal and make better decisions under stress.
- When our heart rate goes up so does the chances of making mistakes.

Inverted U curve



Physiological response to stress



In closing

The understanding and utilization of proper breathing mechanics, as well as an awareness of how to use breathing to affect recovery and manage stress is a fundamental building block of higher performance

