



***DARPA*Tech**

2002 Symposium

Transforming
Fantasy



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Program Manager

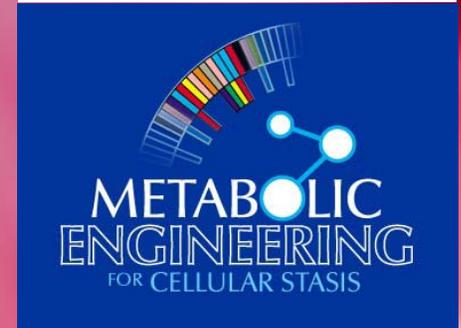


Objective Force Warrior



Enhancing Human Performance in Combat

- ▶ **Continuous Assisted Performance (CAP)**
- ▶ **Metabolic Dominance (MD)**
- ▶ **Persistence in Combat (PiC)**
- ▶ **Metabolic Engineering (ME)**



Continuous Assisted Performance



This is your brain.



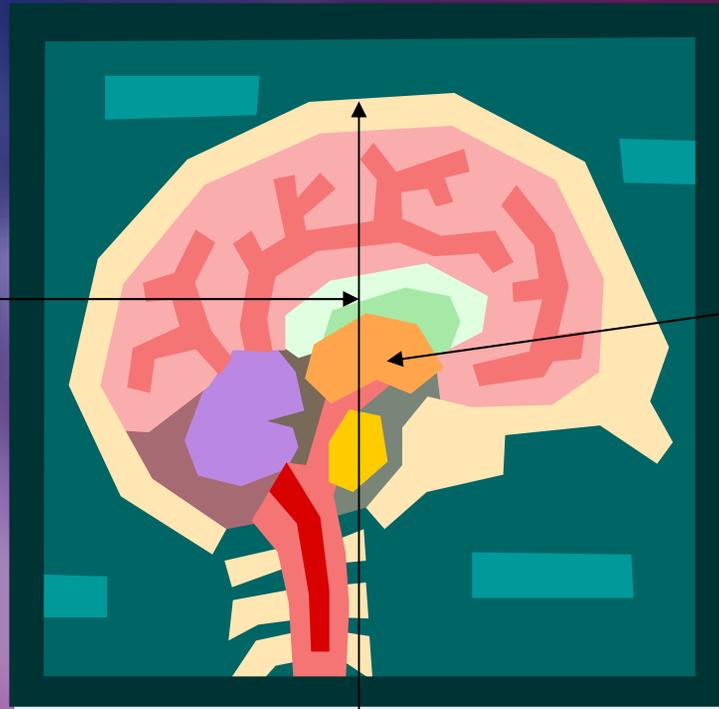
**This is your brain
without sleep**



Continuous Assisted Performance



**Expand
Available
Memory**



**Sleep
Resistant
Circuitry**

**Minimize/Reverse Consequences
of Sleep Deprivation**



Continuous Assisted Performance



**ENU Mouse
Lacks Circadian Clock**



Hemispheric Sleep



**Prunes and
Regrows Synapses**



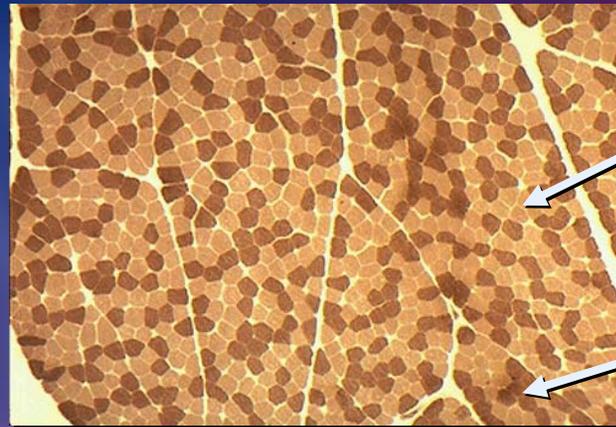
Metabolic Dominance



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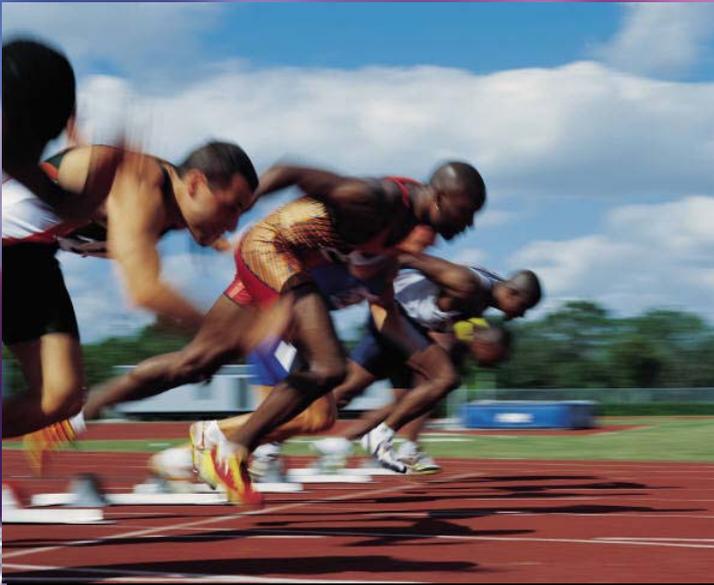


Metabolic Dominance



Slow

Fast



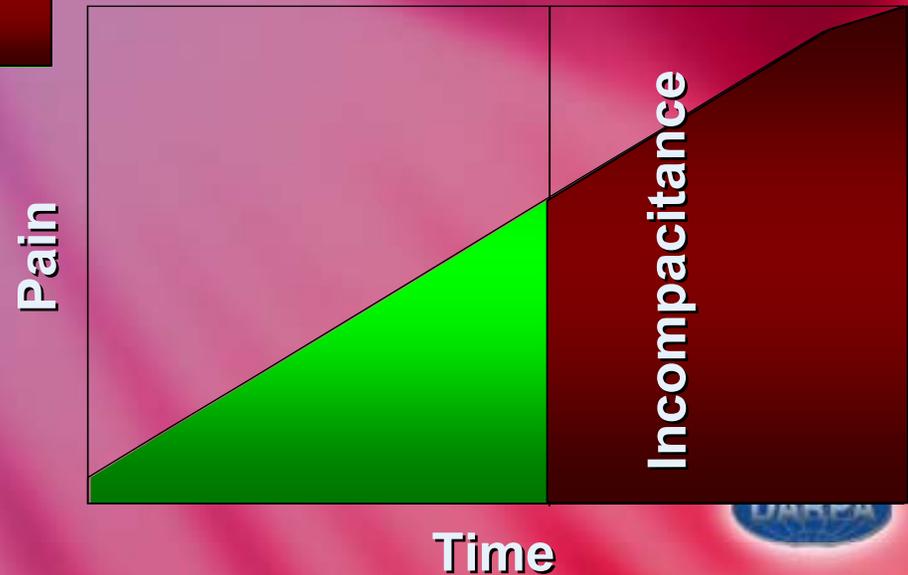
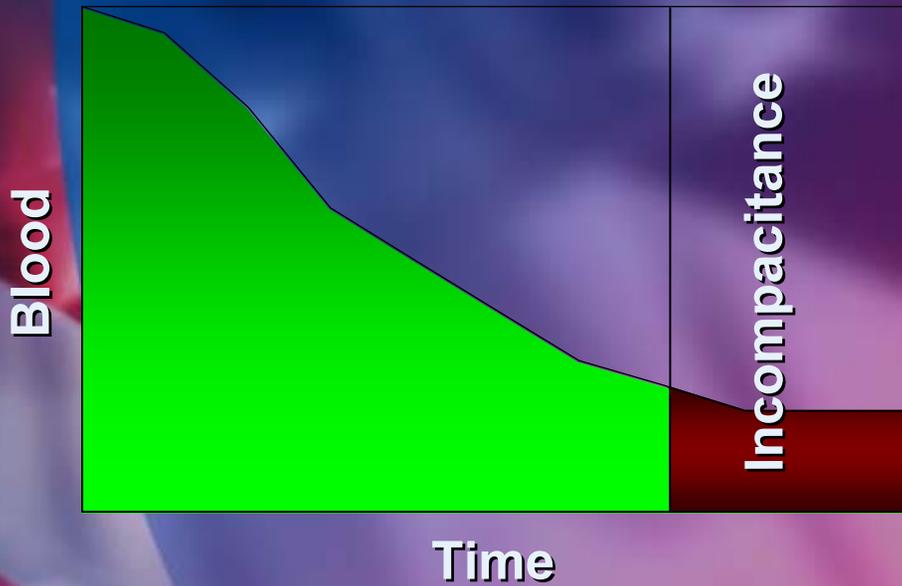
Fantas

DRPA

Persistence in Combat



Blood Loss Over Time



Metabolic Dominance



- ▶ **Blood with an indefinite shelf life.**
- ▶ **Slow down metabolism.**
- ▶ **Accelerate healing.**
- ▶ **Non-contact bioelectric potentials.**



Enhancing Human Performance in Combat

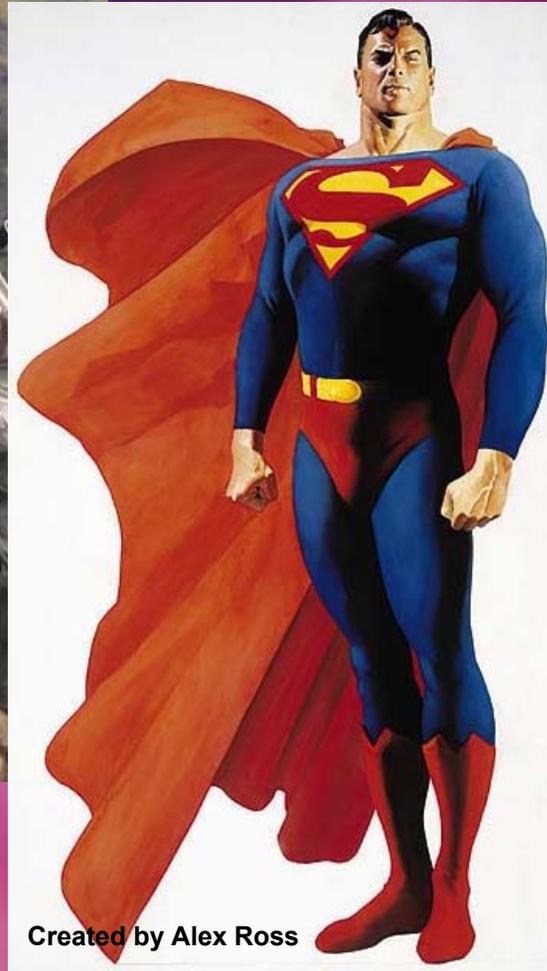


Enhancing the abilities of the warfighter results in superior capabilities and a decided edge on the battlefield.



Enhancing Human Performance in Combat

“Be all that you can be . . . and a lot more.”



Created by Alex Ross





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