DARPA

DARPATech

2002 Symposium

Transforming Fantasy

DARPA

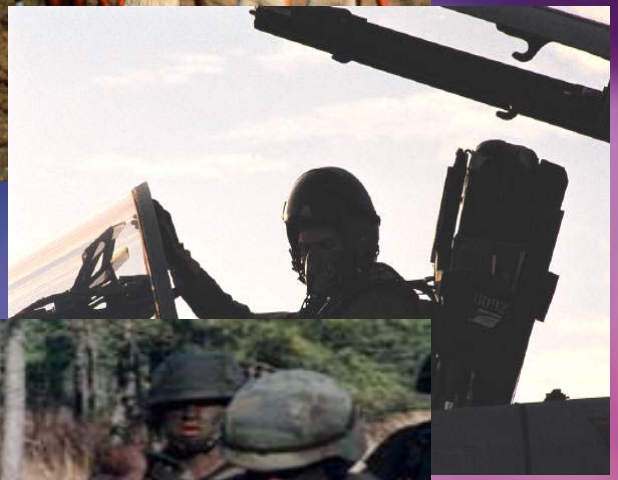
Joseph Bielitzki

Program Manager
Defense Sciences Office

Transforming Fantasy

Distribution Statement A. Approved for public release; distribution is unlimited.

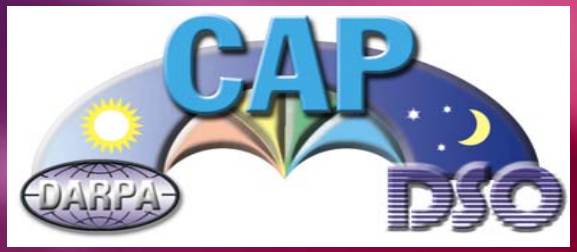
Objective Force Warrior

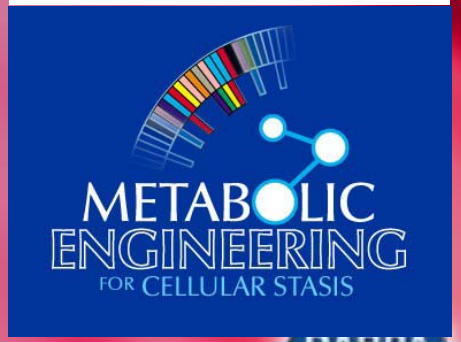


Distribution Statement A. Approved for public release; distribution is unlimited.

Enhancing Human Performance in Combat

- Continuous Assisted Performance (CAP)
- Metabolic Dominance (MD)
- Persistance in Combat (PiC)
- Metabolic Engineering (ME)





Distribution Statement A. Approved for public release; distribution is unlimited.

Continuous Assisted Performance

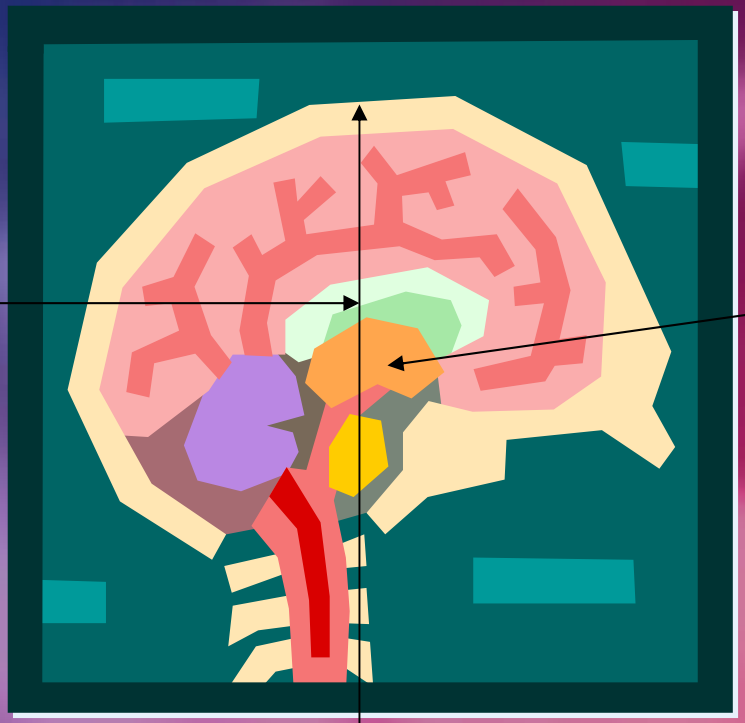
This is your brain.

This is your brain without sleep

Distribution Statement A. Approved for public release; distribution is unlimited.

Continuous Assisted Performance

Expand Available Memory



Sleep Resistant Circuitry

Minimize/Reverse Consequences of Sleep Deprivation

Distribution Statement A. Approved for public release; distribution is unlimited.

Continuous Assisted Performance

ENU Mouse
Lacks Circadian Clock

Hemispheric Sleep

Prunes and
Regrows Synapses

Distribution Statement A. Approved for public release; distribution is unlimited.

Metabolic Dominance

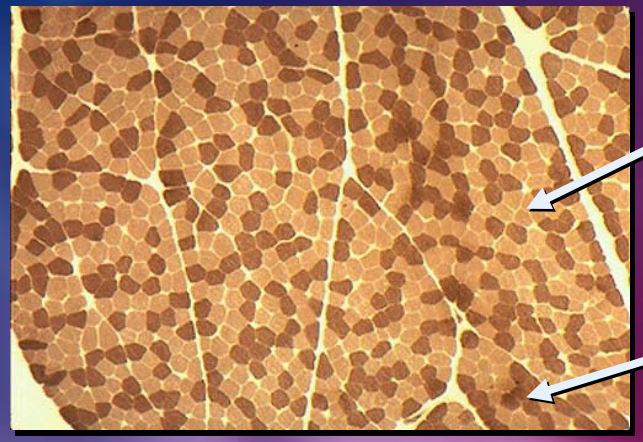
Created by Myron Waldman

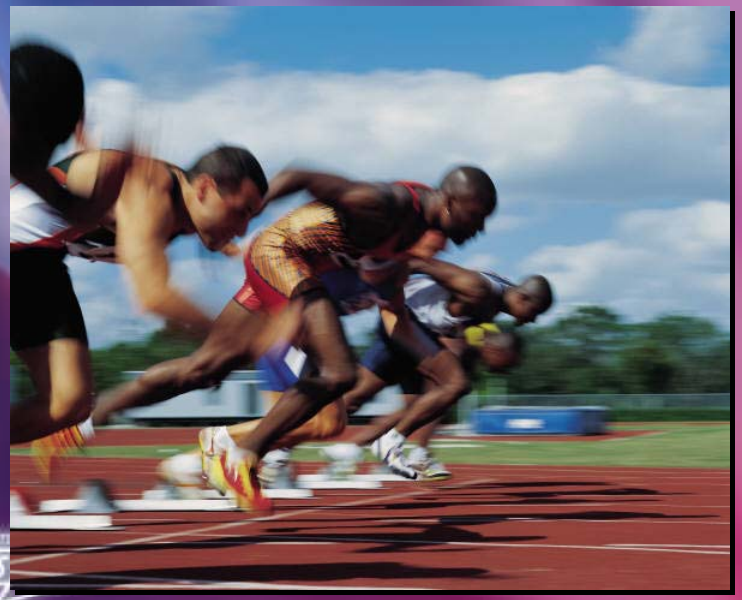
Transforming Fantasy

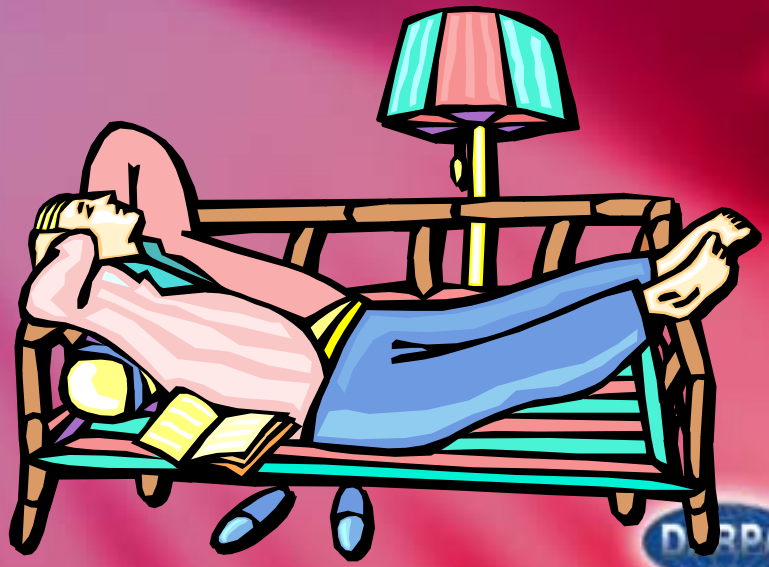
DARPA

Distribution Statement A. Approved for public release; distribution is unlimited.

Metabolic Dominance



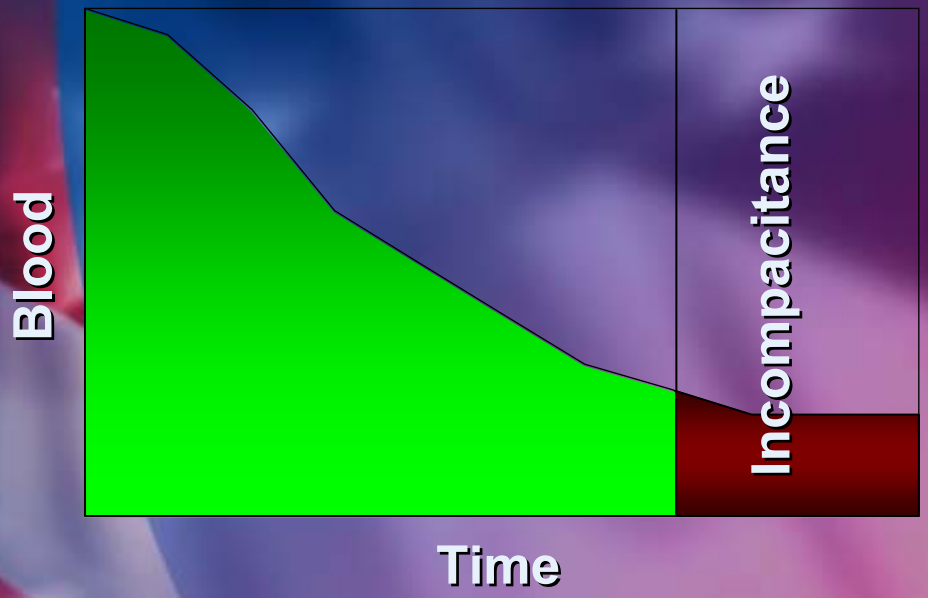


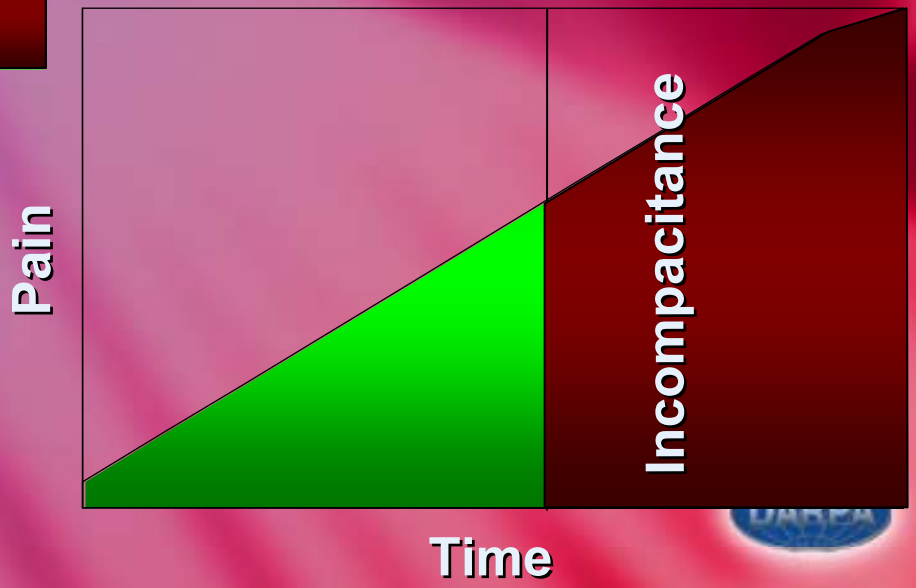


Distribution Statement A. Approved for public release; distribution is unlimited.

Persistence in Combat

Blood Loss Over Time





Distribution Statement A. Approved for public release; distribution is unlimited.

Metabolic Dominance

METABOLIC ENGINEERING FOR CELLULAR STASIS

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

Transforming Fantasy

DARPA

Distribution Statement A. Approved for public release; distribution is unlimited.

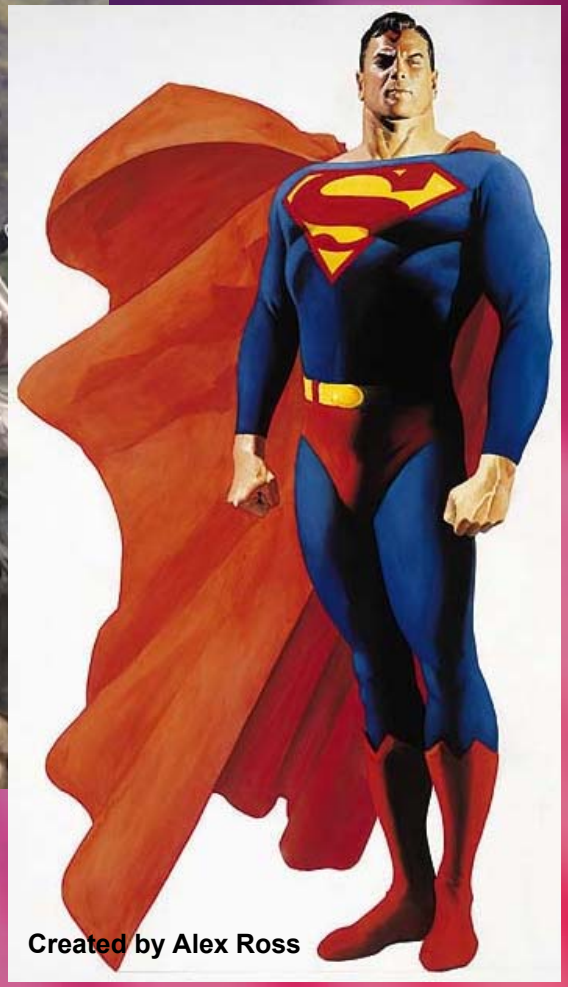
Enhancing Human Performance in Combat

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

Distribution Statement A. Approved for public release; distribution is unlimited.

Enhancing Human Performance in Combat

"Be all that you can be . . . and a lot more."



Transforming Fantasy

DARPA

Distribution Statement A. Approved for public release; distribution is unlimited.

DARPA

DARPATech

2002 Symposium

Transforming Fantasy