

TBI THERAPY WEBINAR: HYPERBARIC OXYGEN THERAPY FOR TBI

By Dr. John Hughes
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DR. JOHN HUGHES, DO



- Doctor of Osteopathy
- From Georgia
- Arizona College of Osteopathic Medicine in 2007
- Aspen Integrative Medicine in 2009
- TBI Therapy in 2014



A black and white line drawing of a person's head and shoulders. The person has a thoughtful expression, with their hand resting on their chin. Two large question marks float around their head, one on the left and one on the right. A dark gray rectangular box is superimposed over the lower part of the person's face and neck.

WHAT IS A TRAUMATIC
BRAIN INJURY?

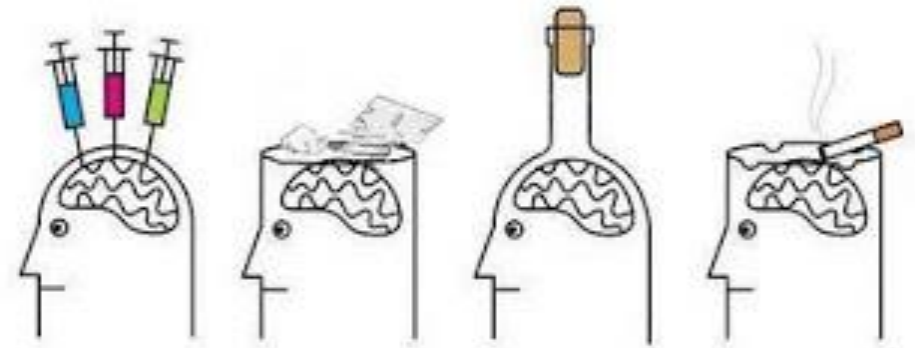
What is hyperbaric
oxygen therapy?

How does hyperbaric
oxygen therapy help TBI?

LEARNING OBJECTIVE

WHAT CAUSES A BRAIN INJURY?

- Anoxic – loss of oxygen
- Chemical
- TRAUMATIC – blunt force
OR blast trauma



DO YOU HAVE THESE SYMPTOMS?

Cognitive

- Memory decline and loss
- Slow reaction time
- Inability to pay attention
- Executive dysfunction
- Slow learning
- Interrupted speech
- Difficulty understanding
- Unable to concentrate
- Confusion
- Difficulty communicating thoughts
- Unable to plan, reason, problem-solve

Physical

- Headache
- Fatigue
- Sleep disorders
- Vertigo or dizziness
- Tinnitus or hyperacusis
- Photosensitivity
- Anomia
- Reduced tolerance to psychotropic medications
- Disorientation
- Loss of mobility
- Seizures
- Loss of smell

Psychological

- Irritability
- Easy frustration
- Tension
- Anxiety
- Affective lability
- Personality changes
- Disinhibition
- Apathy
- Suspiciousness
- Suicidality
- Depression
- PTSD



CONCUSSION (BRAIN INJURY) = METABOLIC CRISIS

“The brain is in a metabolic crisis in a concussion, potassium ion from inside the cell going extracellular, calcium ions going intracellular, neurotransmitters widely released in a chaotic manner. It takes energy to pump that potassium back, put the neurotransmitters back on so the cell can function.”

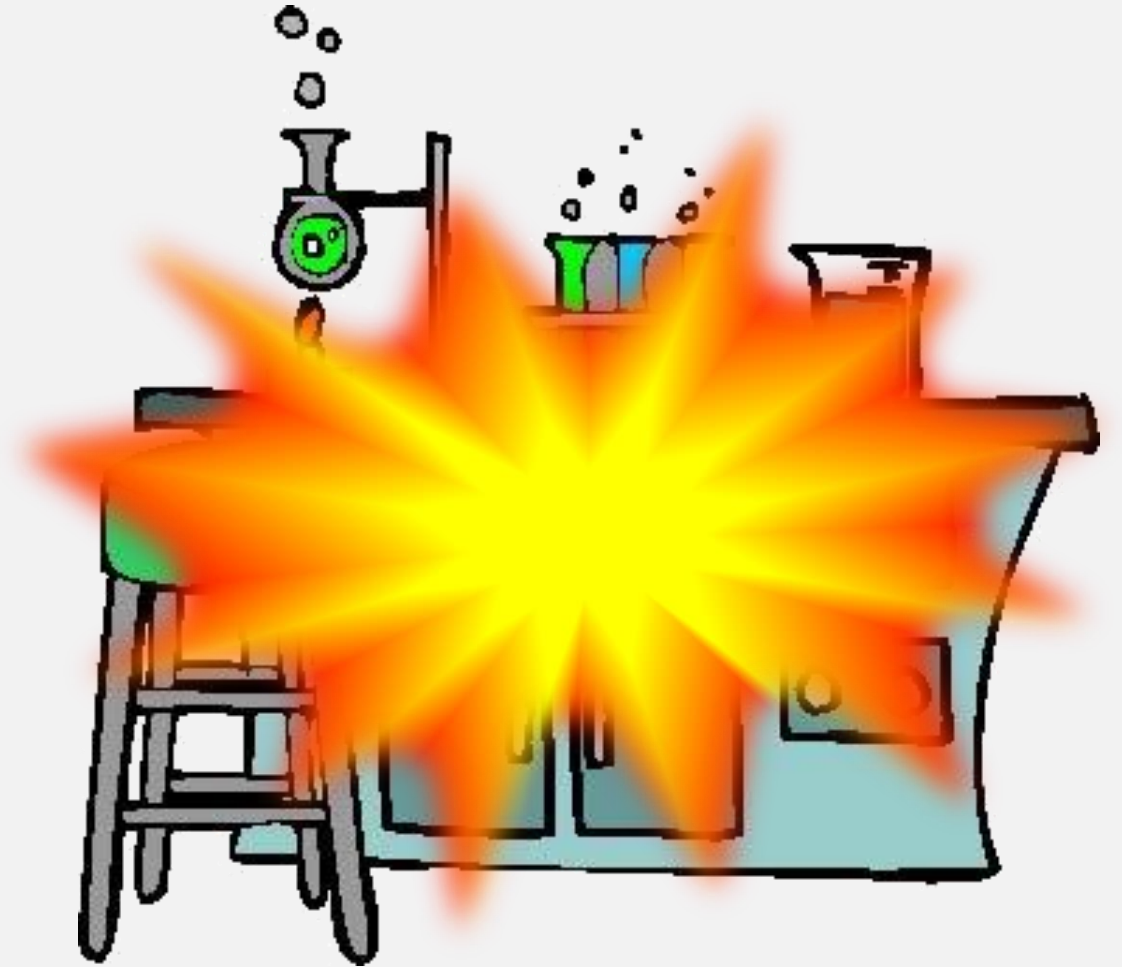
Dr. Robert Cantu MD



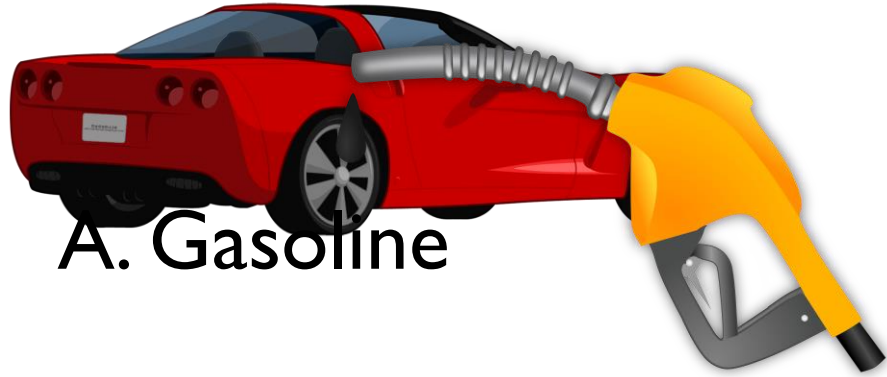
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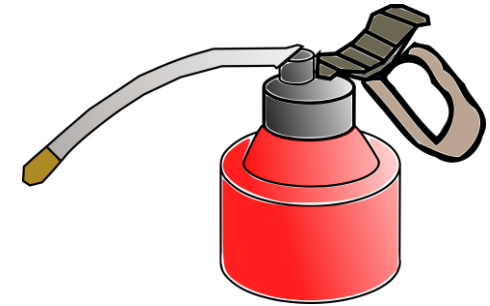
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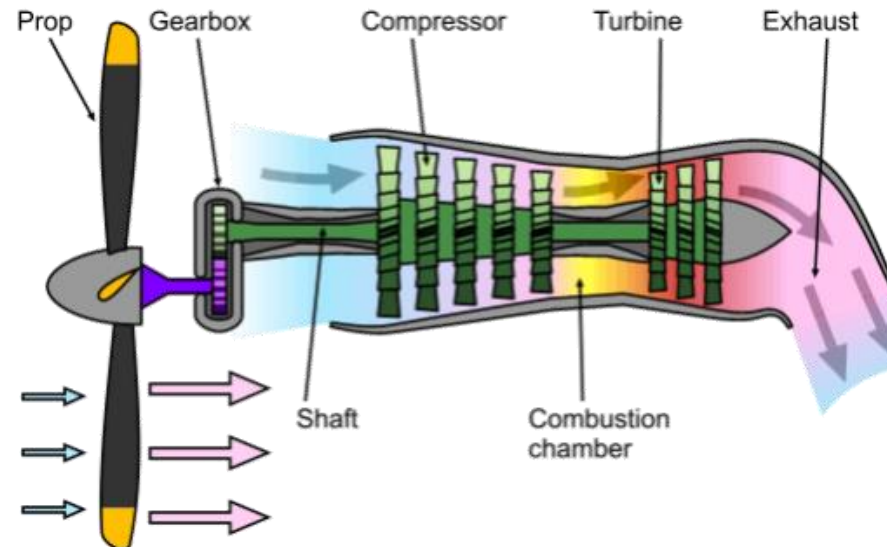
What Gives a Corvette's Engine the Most Power?



B. Oil



C. Supercharger



What Gives a Human Brain the Most Power?

A. Sugar



B. Fat



C. Pressurized Oxygen



WHAT DOES A BRAIN INJURY NEED TO HEAL?

PRESSURIZED
OXYGEN

A photograph of a hyperbaric oxygen chamber, which is a large, cylindrical metal container. Inside the chamber, there is a bed with a blue sheet and a white pillow. The chamber has a viewing window that shows the interior. The text "WHAT IS HYPERBARIC OXYGEN THERAPY (HBOT)?" is overlaid on the image in a white box with a black border.

WHAT IS HYPERBARIC OXYGEN THERAPY (HBOT)?

THE MEDICAL GRADE CHAMBER



- Pressurized chamber
- 100% oxygen in chamber or by mask
- Approved by the American Medical Association, FDA, and Medicare
- Primarily used for wound care, radiation injuries, and skin healing, and diving accidents

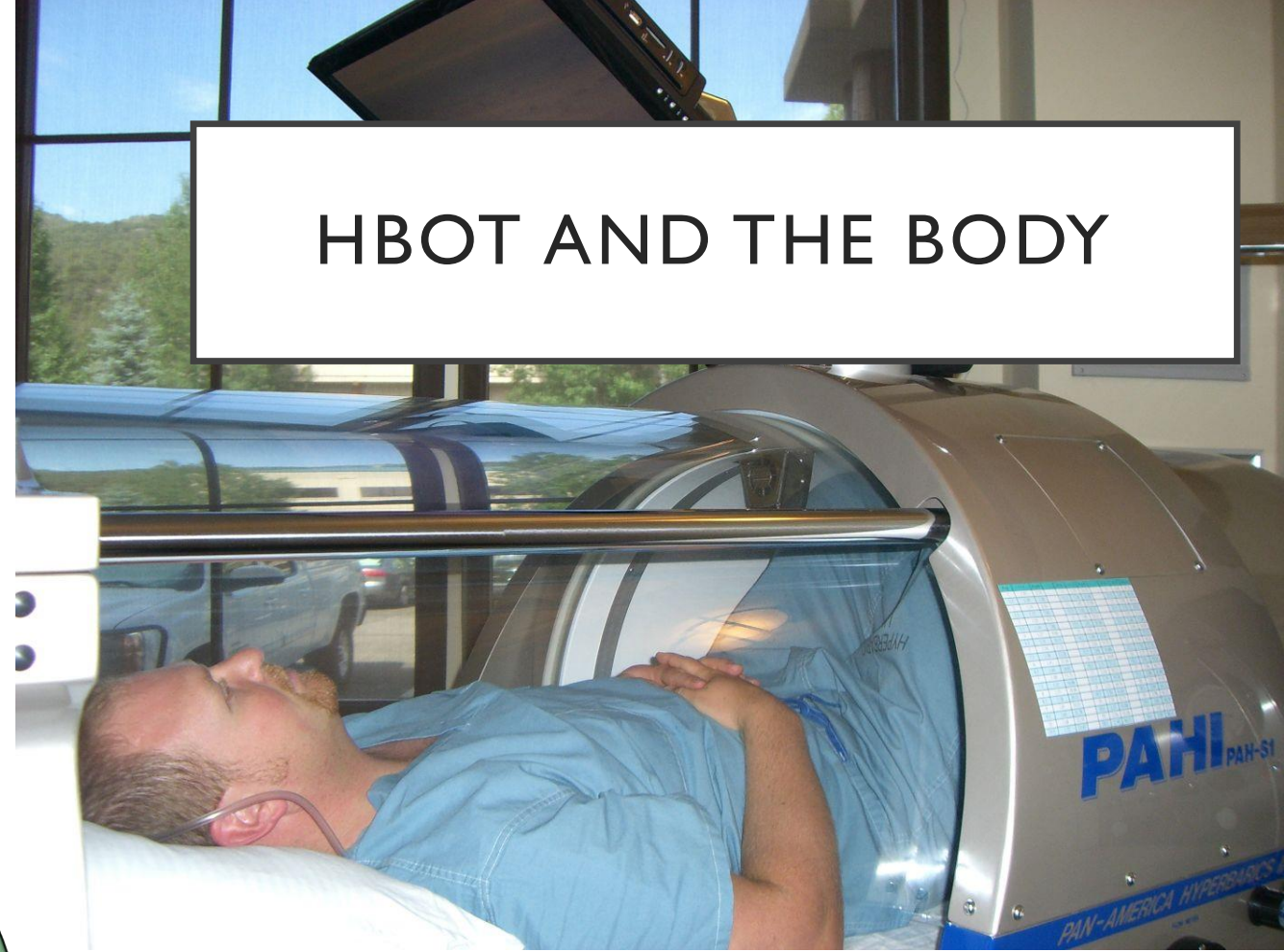
HBOT AND THE BODY

Body absorbs
10-15x its
normal supply
of oxygen

Oxygen flows
to areas in
need of
circulation

Oxygen
dissolves into
ALL of the
bodies fluids

Enhances
white blood
cells and new
blood vessels



HBOT AND THE BRAIN

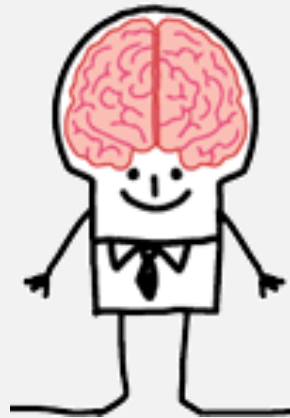
Induces neuroplasticity

Increases tissue oxygenation

Generates new capillary networks

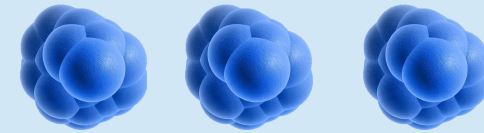
Restores blood supply

Increases stem cells in the blood

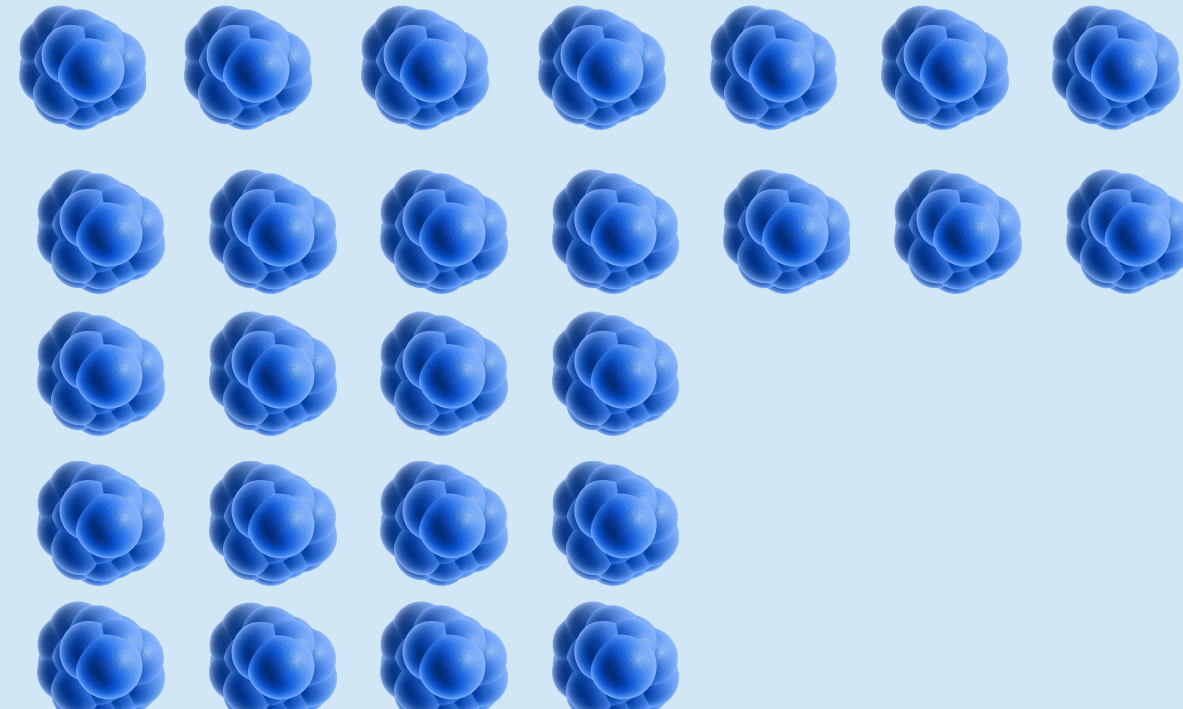


HBOT AND ADULT STEM CELLS

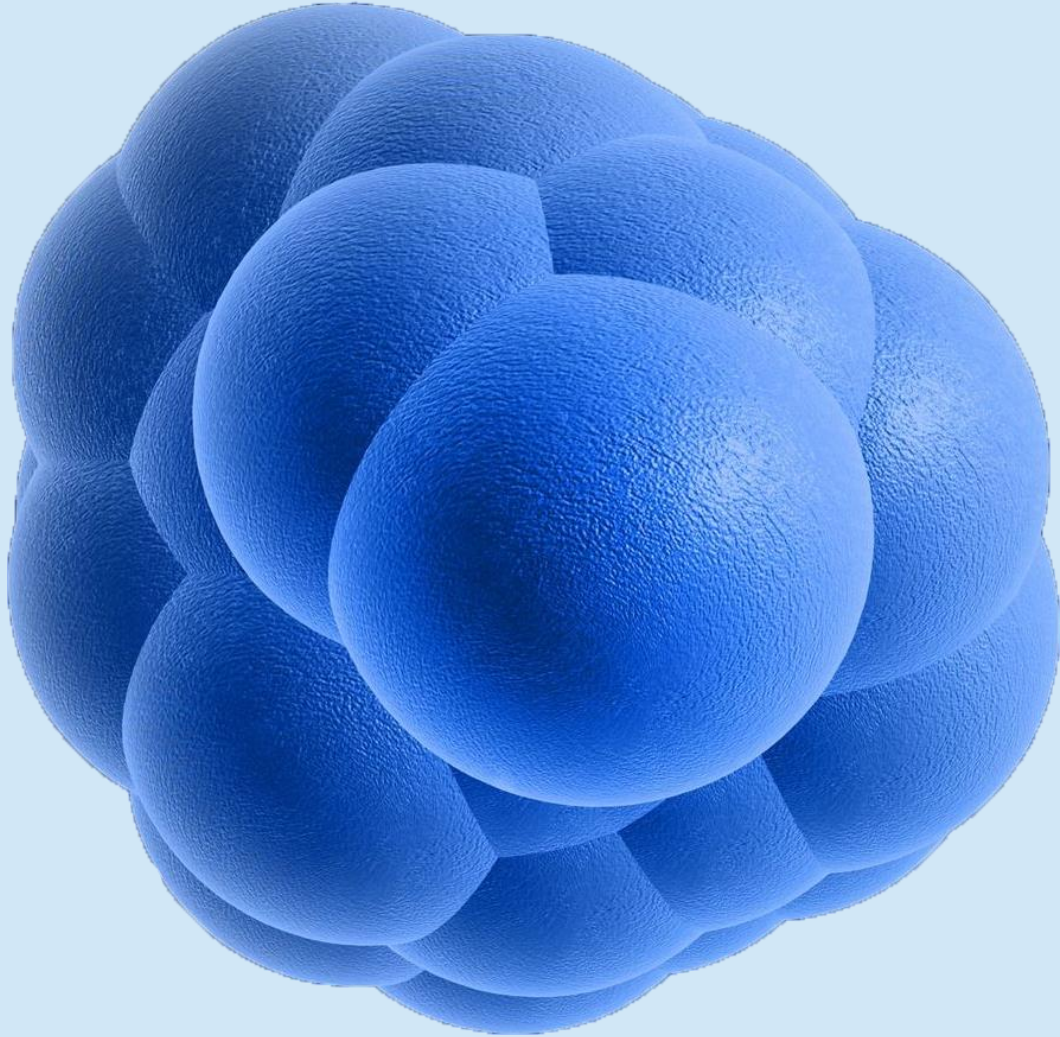
2 hours = 3x amount of stem cells
circulating stem cells in your blood



20 sessions = 800% more stem cells
circulating stem cells in your blood



HBOT AND ADULT STEM CELLS



- Stem cells migrate to damaged tissues and help them regenerate
- Stem cells from the blood are essential to healing nerve and brain tissue

TBI THERAPY HBOT PROTOCOL

Medical Grade
HBOT

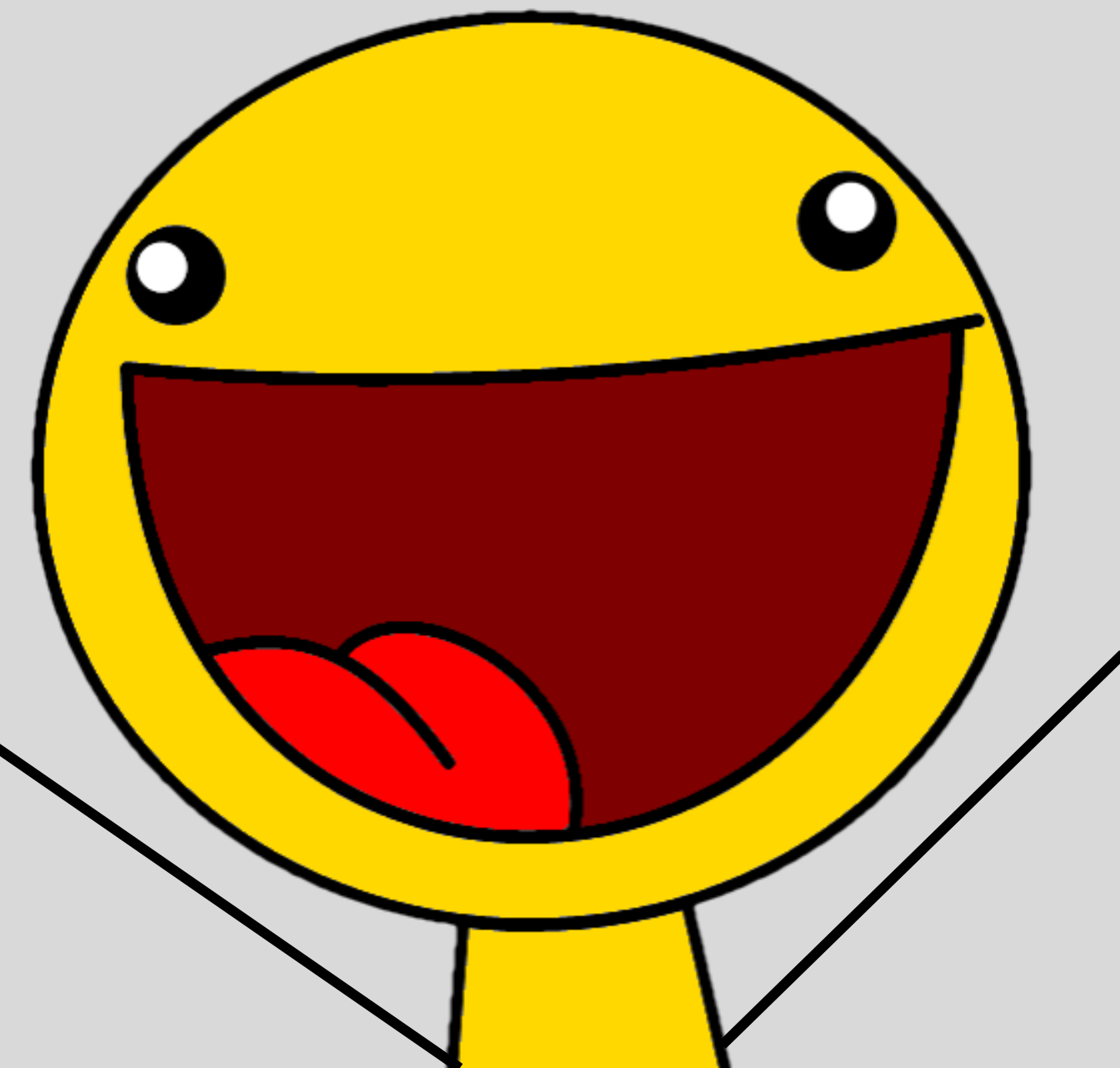
10 - 20
before stem cell
infusion

10 - 20
after stem cell
infusion

Home HBOT
Chamber

5 - 7 days/wk
1 month before
stem cell infusion

5 - 7 days/wk
2 - 9 months after
stem cell infusion



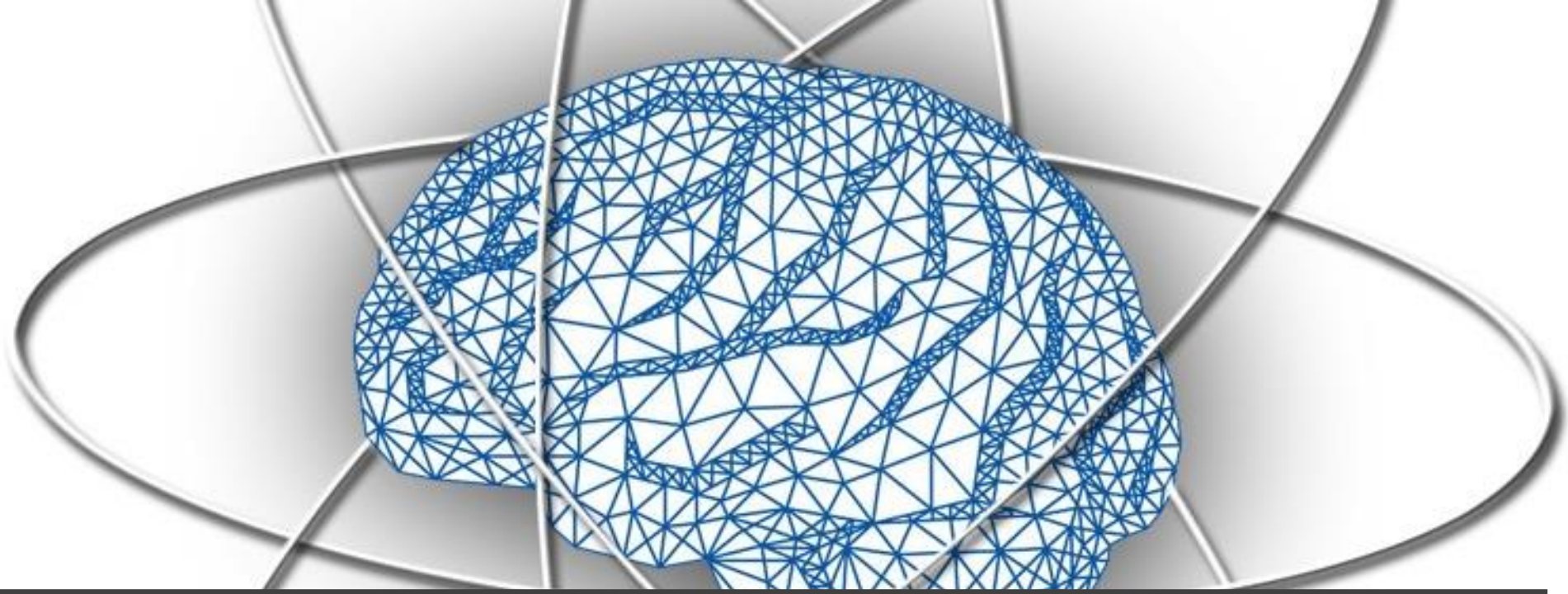
CLINICAL RESULTS

- Improved cognitive status
- Improved memory performance
- Improved quality of life



PATIENTS REPORT

- Improved energy
- Improved sleep
- Less headache pain
- Improved mood



Q&A

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