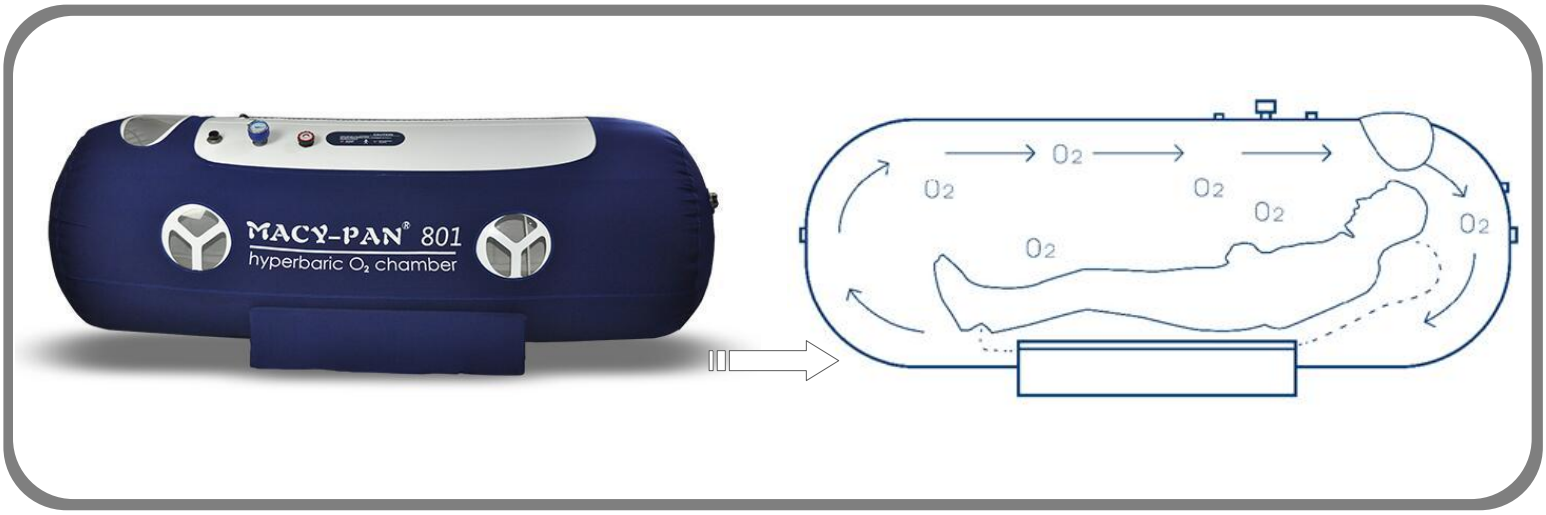
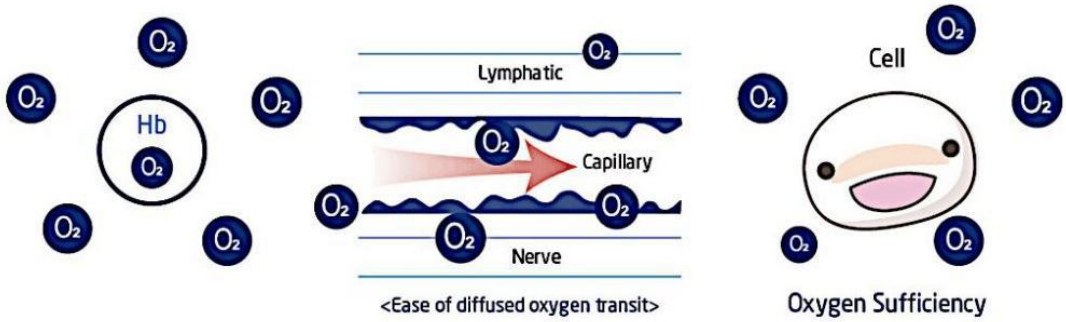
Benefits of Hyperbaric Oxygen Therapy



If the atmospheric pressure of oxygen is high, oxygen will not only readily bind with hemoglobin in red blood cells, the content of dissolved oxygen will be increased, transport across capillary walls will efficient, free movement into the smallest areas of the circulatory systems will become easier and cellular activity will also be increased.



In hyperbaric oxygen therapy, purified oxygen is inhaled under high atmospheric conditions, increasing oxygen concentration within the body and alleviating the effects of oxygen deficiency.

It has long been known that healing many areas of the body cannot take place without appropriate oxygen levels in the tissue. Most illnesses and injuries occur, and often linger, at the cellular or tissue level. In many cases, such as: circulatory problems; non-healing wounds; and strokes, adequate oxygen cannot reach the damaged area and the body's natural healing ability is unable to function properly. Hyperbaric oxygen therapy provides this extra oxygen naturally and with minimal side effects.

Hyperbaric oxygen therapy improves the quality of life of the patient in many areas when standard medicine is not working. Many conditions such as stroke, cerebral palsy, head injuries, and chronic fatigue have responded favorably to HBOT.

Conditions Treated with HBOT:

Conditions Treated With HBOT:

Anyone can benefit from HBOT whether you are an athlete seeking shorter recovery times or a stay at home mom who feels burned out.

-Air or Gas Embolism
-Carbon Monoxide Poisoning
-CO Cyanide Poisoning
-Compartment Syndrome, Crush Injury, or other
Traumatic Ischemia
-Decompression Sickness (Bends)
-Diabetic and Selected Wounds
-Exceptional Blood Loss (Anemia)
-Gas Gangrene
-Intracranial Abscess
-Necrotizing Soft Tissue Infections
-Radionecrosis (cancer therapy wounds)
-Osteoradionecrosis & Radiation
Tissue Damage(following Radiation Therapy)
-Refractory Osteomyelitis (bone infection)
-Compromized Skin Grafts and Flaps
-Thermal Burns
-ISS Hearing Loss (ISSHL)
-Delayed Radiation Injury
-Enhancement of nonhealing wounds

Preparing for a HBOT Therapy:

Wear comfortable, cotton clothing.
Leave your make up at home. You will have to remove any make up you are wearing before HBOT therapy.
Before entering the chamber, use the restroom and eat a protein filled snack.
Consult with doctor before HBOT therapy if you have a sinus infection, are pregnant, or have trouble clearing your ears in the past.

Conditions That Benefits from HBOT:

Conditions That benefit from HBOT:

-Autism
-Alzheimer's
-Bell's Palsy
-Spinal Cord Injuries
-Cancer (General)
-Sports Injuries
-Cerebral Palsy
-Stroke
-Chronic Fatique Syndrome
-Traumatic Brain Injury
-Fractures
-Shingles/ Herpes Zoster
-Glaucoma
-Calciphylaxis
-Lyme Disease
-Stevens-Johnson Syndromeo
-Macular Degeneration
-Venous Stasis Ulcer
-Macular Edema
-Pressure Ulcer
-Dental Implants
-Sclerodema, Raynauds
-Fibromyalgia
-Type 1 Diabetes
-Migraine/ Headache
-Psoriasis
-Multiple Sclerosis
-Arthritis
-Near Drowning
-Epilepsy...and other conditions
-Orthopedic and Plastic Surgery Recovery

Enjoy A Healthy Life!

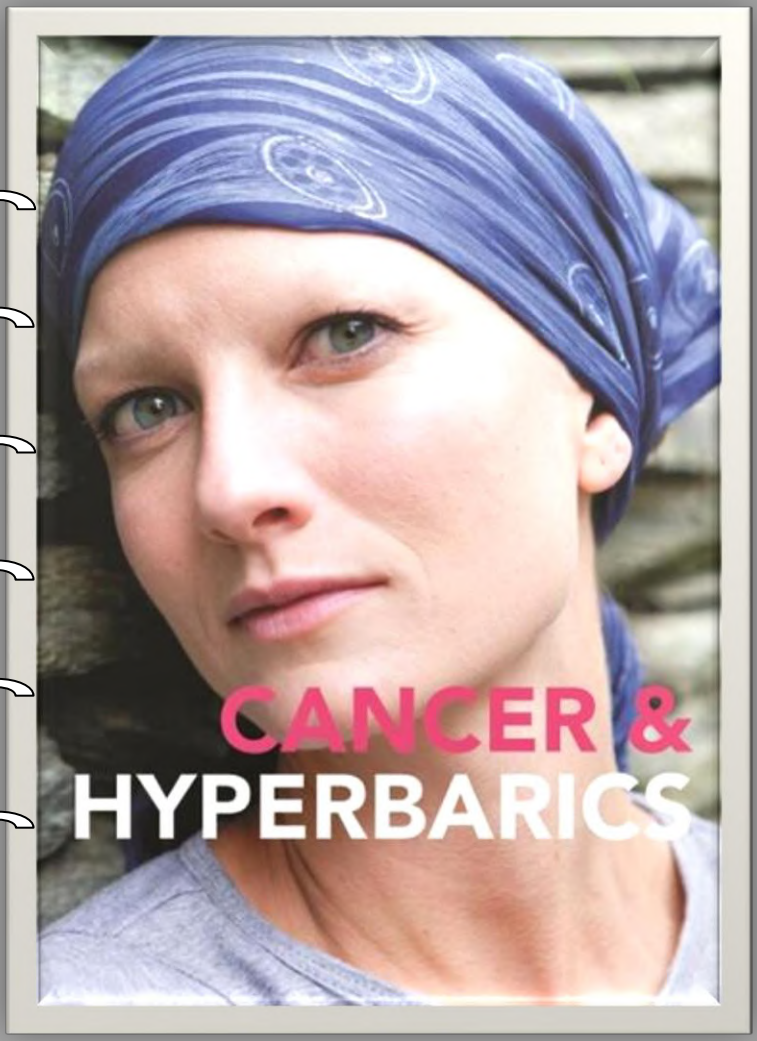
Cancer Treatment with HBOT

In 2013, over 1.6 million people were diagnosed with cancer and over 500,000 cancer-related deaths occurred in the U.S alone. Cancer thrives in hypoxic or low-oxygen environments and HBOT has been shown to increase these oxygen levels to weaken tumors and reduce their aggressiveness.

LITERATURE STUDY:

"Tumor Regression Stimulated by HBOT":

A non-randomized trial was conducted with 29 patients to evaluate the effectiveness of radiotherapy combined with HBOT, in patients with a malignant tumor. Fifteen patients were irradiated daily after HBOT and fourteen other irradiated patients were treated without HBOT. In the HBOT group, 11of 15 patients (73 percent) showed z 50 percent tumor regression. In the non-HBOT group, only four of 14 patients (29 percent) underwent tumor regression. The average survival rate in patients with HBOT doubled that of the non-HBOT group (24 months vs.12 months) respectively. No serious side-effects were observed in the HBOT patients. This provides additional support for HBOT to be a beneficial treatment for malignant tumors.



Enhance IV Cancer Treatments with HBOT:

-Increases Intravenous Vitamin C Therapy Effect

Reduce Tumor Aggressiveness with HBOT:

-Weakens Hypoxic Tumors
-Targets Metastatic Tumors

Increase Natural Killer Cell Activity and Function with HBOT:

-Increases Reactive Oxygen Species Production
-Amplifies Cancer Cell Death
-Regresses Tumor Volume

Enhance "Conventional" Cancer Therapies & Treatments with HBOT:

-Increases Oxygen Levels in Tumors
-Decreases Tumor Drug Resistance
-Allows for Optimal Therapy Dosage to be Attained
-Improves Surgical Results

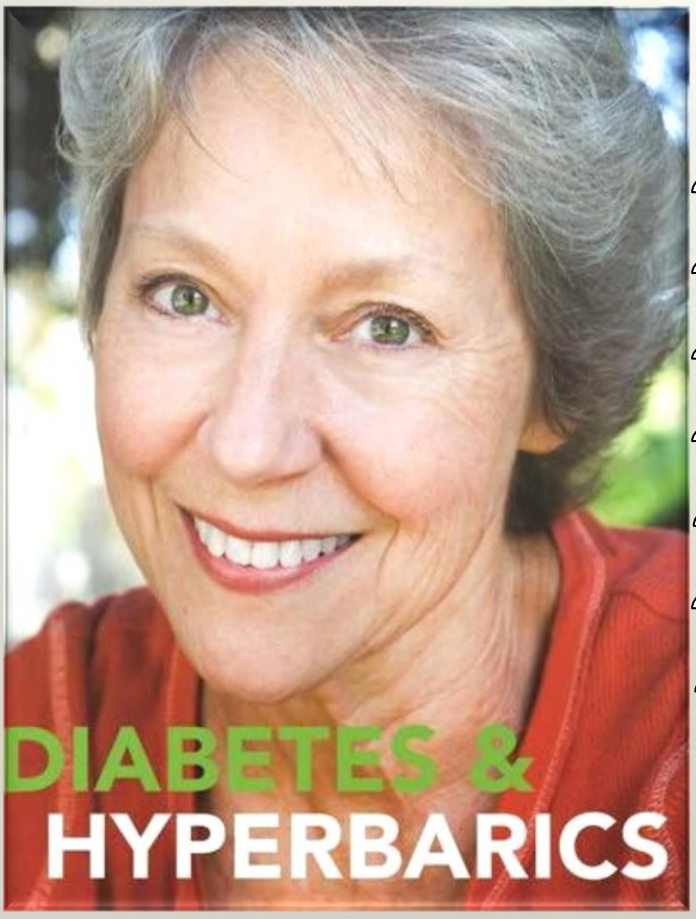
Reduce Side Effects of "Conventional" Cancer Therapies & Treatments with HBOT:

-Reduces Radiation Therapy Side Effects
-Decreases Chemotherapy Side Effects
-Accelerates Post-Operative Healing & Prevents Infection
-Reduces Chemo-Brain Syndrome Symptoms

Cancer Prevention with HBOT:

Decreases Inflammatory Markers
Normalizes Intracellular Oxygen Levels
Stimulates Cellular Detoxification
Reduces Risk of Pathogenic Inflammatory-Related Tumors
Supports Cellular Energy Processes for Optimal DNA Repair

Diabetes Treatment with HBOT



Diabetes affects more than 12 million people and is the seventh leading cause of death in the U.S. Research has shown that HBOT can lower blood sugar levels by increasing cellular sensitivity to insulin and skeletal muscle reception of glucose.

LITERATURE STUDY:

"Amputation Rate Decreased with HBOT":

A study published in 2008 evaluated the effectiveness of HBOT with respect to decreasing amputation rates for patients with diabetic foot ulcer. A total of 184 consecutive patients received an average of 39 HBOT sessions (60 to120 minutes a day, six times a week with patients progress evaluated at3, 6& 12 months) in conjunction with standard treatments for diabetic foot ulcer. Following treatment, 115 (62 percent) were completely healed, 31 (17 percent) showed no improvement and 38 (21 percent) underwent amputation. This study confirmed that HBOT can help to reduce major amputation rates in diabetic foot ulcers by repairing tissue.

Association Improve Blood Chemistry Profile with HBOT:

-Fasting Blood Sugar
-Hemoglobin HbA1C
-Lipid Profiles

Advance Glycemic Control with HBOT:

-Enhances Production of Insulin
-Improves Insulin Sensitivity
-Increases Skeletal Muscle Reception of Glucose

Decrease Cardiovascular Risk with HBOT:

-Promotes Long-Term Blood Pressure Control
-Attenuates Metabolic Syndrome
-Reduces Risk of Sudden Heart Attack Due to Ventricular Arrhythmias

Enhance Internal/External Healing with HBOT:

-Facilitates Collagen Tissue Production
-Decreases Risk of Infection, Including Osteomyelitis
-Promotes Closure of Non-Healing Wounds
-Helps Control Diabetic Foot Ulcers

Stimulate the Creation of New Blood Vessels & Reduce Inflammation with HBOT:

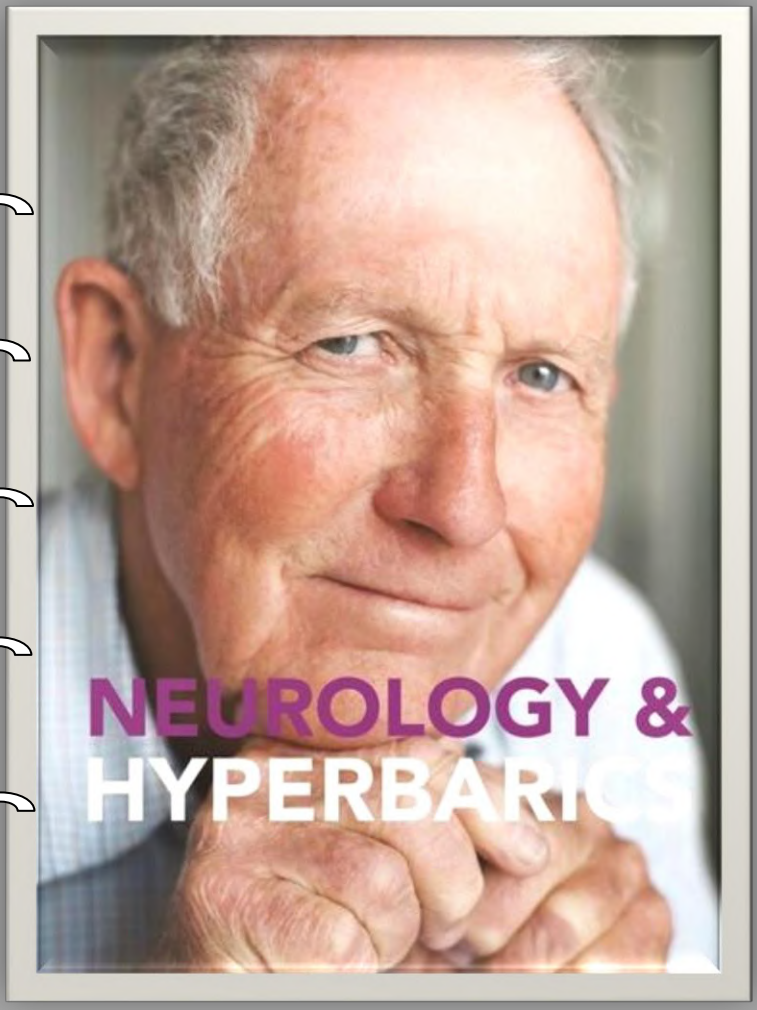
Improves Brain Function & Reduces Risk of Stroke
Enhances Heart Function & Reduces Risk of Heart Attack
Reduces Risk of Diabetic Eye Disease
Decreases Risk of Diabetic Nerve Damage
Minimizes Risk of Diabetic Kidney Disease
Combats Cellulitis

Neurology Treatment with HBOT

Approximately 1 billion people, of all ages, are currently affected by neurological disorders. New evidence presents how hyperbaric oxygen therapy (HBOT) is helping individuals regain neurological activity and functionality.

LITERATURE STUDY:

"Brain Function Improves with HBOT":
A prospective, randomized, crossover, controlled trial was published in 2013. A total of 56 patients, 1-5 years after injury, with prolonged post-concussion syndrome were evaluated. Patients in the treated group
were assessed prior to HBOT and after 4O HBOT sessions. Whereas patients in the crossover group were evaluated three times: prior to HBOT, after a 2-month control period of no HBOT and after 2-months of 40 HBOT sessions. Significant improvements were confirmed in cognitive function and quality of life in both groups after HBOT, however, no significant improvement was observed following the control period. HBOT was shown to induce significant brain function improvements, the creation of new brain connections and increased brain activity.



Improve Brain Repair & Recovery with HBOT:

-Recovers & Repairs Damaged Brain Tissue
-Develops & Regains Cognitive/Motor Functions

Increase Regeneration of the Nervous System with HBOT:

-Stimulates the Creation of New Brain Cells
-Promotes the Construction of New Brain Tissue
-Facilitates the Formation of New Brain Connections

Improve Brain Functioning & Performance with HBOT:

-Increases Circulatory Pathways in the Brain
-Improves Oxygenation to the Brain
-Enhance Memory and Mental Performance

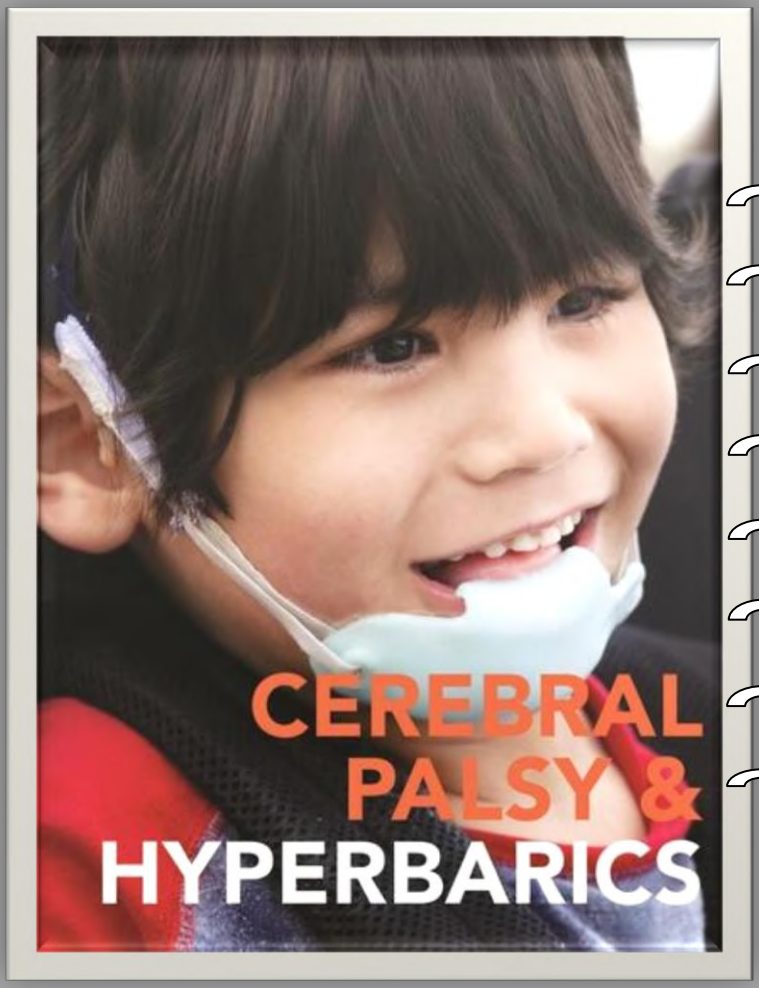
Attenuate Nervous System Inflammation with HBOT:

-Reduces Brain Swelling
-Reduces Risk of Compromised Blood Flow to the Brain
-Decreases Pressure within the Skull
-Minimizes Oxidative Stress

Improve Neurological Conditions with HBOT:

-Neurodevelopmental Conditions (Autism, Cerebral Palsy, Fetal Alcohol Syndrome)
-Neurodegenerative Conditions (Alzheimer's, Parkinson's, Huntington's Disease)
-Neurological Injuries (Stroke, Traumatic Brain & Spinal Cord Injuries, Concussions)

Cerebral Palsy Treatment with HBOT



Cerebral Palsy (CP) affects 1 in 303 children in the U.S. (8,000 new cases every year) making it the most devastating motor disability in childhood. HBOT has been shown to be a promising treatment with multiple studies reporting improvements with its application.

LITERATURE STUDY:

"Motor Function Improved with HBOT":
A study conducted with 25 participants assessed the effects of HBOT with children diagnosed with spastic diplegic CP. The children were evaluated after 20, one hour HBOT sessions. The results affirmed improvements in gross motor function (three of the five items) using the gross motor function measure (GMFM) and the fine motor function (three of six hand tests) utilizing the Jebsen Test for hand function. Additionally, reduced spasticity in three of the four muscle groups was confirmed by means of the modified Ashworth Scale. All tests where assessed by a physician specializing in CP.

Enhance Neurological Repair & Regeneration with HBOT:
-Reduces the Effects of Low Oxygen Levels on the Neonatal Brain
-Promotes the Creation of New Brain Cells
-Moderates Mitochondrial Disorders
-Enhances Stem Cell Growth & Mobilization
-Increases Brain Tissue Healing
-Escalates the Creation of New Brain Connections

Improve Overall Function with HBOT:
-Advances Cognitive Function
-Improves Gross/Fine Motor Skills
-Enhances Speech & Language
-Improves Memory and Concentration
-Alleviates Spasticity
-Lessens Frequency of Seizures
-Stimulates Better Eye Contact
-Improves Balance & Walking

How does hyperbaric oxygen help a child with cerebral palsy (CP) or traumatic brain injury (TBI)?

In CP and TBI patients, some of the injured brain tissues may be "dormant" and non-functioning. HBOT can stimulate these "dormant" tissues and return them to more normal function. In young children, gross motor function, fine motor function, cognitive processing and spasticity can be improved.

Hyperbaric oxygen therapy, used in conjunction with other therapies, ensures the best recovery possible for children with cerebral palsy and traumatic brain injury. In a 2007 article by Dr. Pierre Marois, MD, pediatric physiatrist from Ste Justin's Hospital Montreal, Dr. Marois compared the effectiveness of Hyperbaric Oxygen against other therapeutic inventions for CP andf ound HBOT to be significantly more effective in providing quality of life changes in patients with cerebral palsy.

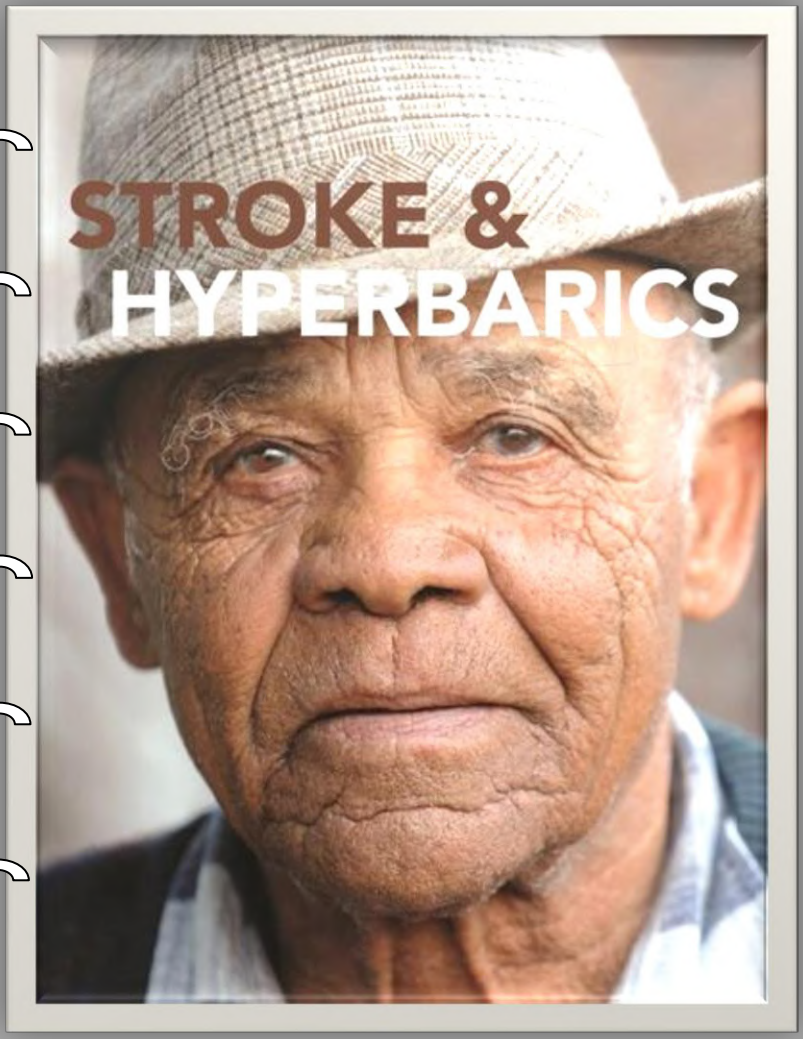
Stroke Treatment with HBOT

Stroke is the fourth leading cause of death in the US. Hyperbaric oxygen therapy (HBOT) has been shown to help prevent and treat stroke through a number of different mechanisms.

LITERATURE STUDY:

"Neurological Function Improved in Post-Stroke Patients with HBOT":

In January 2013 a randomized trial focused on the introduction of HBOT to post- stroke patients. A total of 59 participants, who had suffered a stroke 6 to 36 months prior to inclusion and had at least one motor dysfunction, were randomly assigned to treated and cross-over groups. The treated group received two months of 40, one hour HBOT sessions, five days a week. Whereas the cross-over group was evaluated after one month with no HBOT and again after one month following HBOT, utilizing the same treatment protocol. The evaluating physicians found that neurological function, brain activity and quality of life of all treated patients improved after HBOT. Brain scan results directly correlated with clinical improvements and indicated that HBOT can lead to significant neurological improvements in post-stroke patients, even at chronic late stages.



Stroke Recovery with HBOT:

-Faster Overall Recovery
-Improves Vision and Speech
-Reduces Paralysis
-Accelerates Gross/Fine Motor Skills Recovery
-Increases Brain Tissue Recovery
-Stimulates the Creation of Blood Vessels to Reclaim
-Damaged Brain Tissue
-Promotes the Creation of New Brain Cells
-Escalates the Creation of New Brain Connections
Alleviates Spasticity

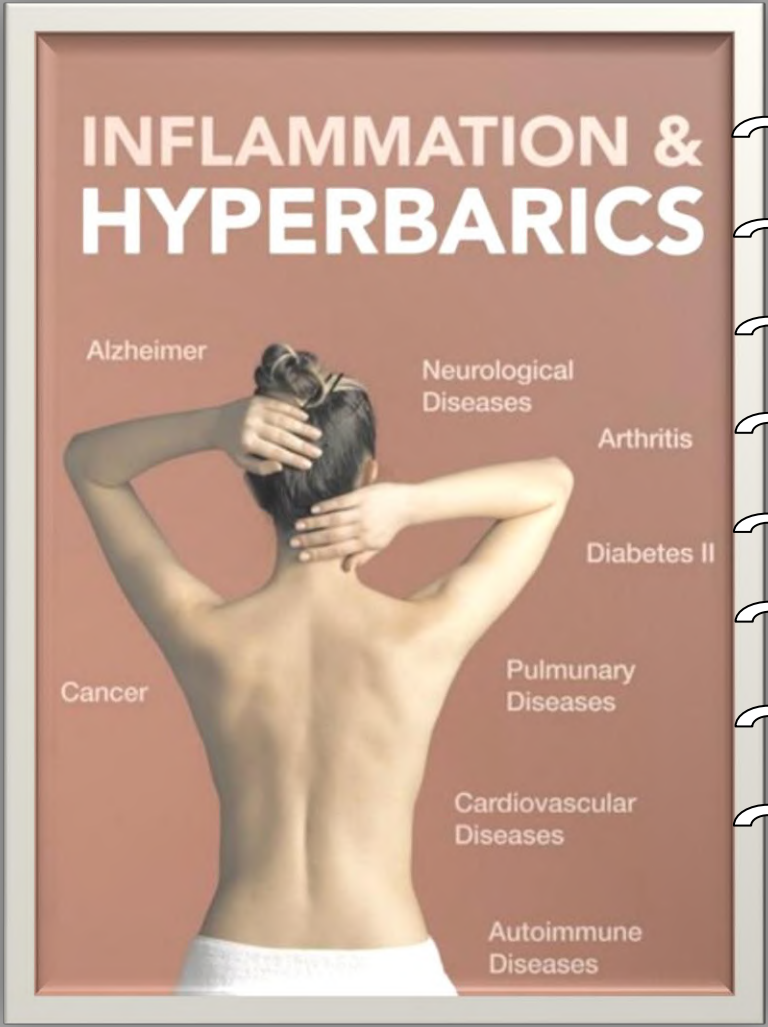
Association Stroke Prevention with HBOT:

-Stimulates the Creation of New Blood Vessels
-Promotes Optimal Blood Flow
-Decreases Oxidative Stress in the Brain
-Preconditions the Brain to Enable Neuroprotective Properties

How does Hyperbaric Oxygen Therapy help brain injury or stroke?

When cells in the brain die, either from trauma or lack of oxygen, blood plasma leaks out into surrounding brain tissue causing swelling and reducing blood flow. These otherwise normal cells go dormant because they can't function without the appropriate amount of oxygen. HBOT dramatically increases the oxygen carried in the blood plasma, making oxygen available to heal damaged capillary walls, preventing plasma leakage and reducing swelling. As the swelling decreases, blood flow can be restored to tissues preventing further damage. When the blood flow has been impaired for an extended period, it may be necessary to establish new blood vessels into the dormant tissue (neovascularization) and in many cases once availability of oxygen is established to these cells their potential to function again returns.

Inflammation Treatment with HBOT



Inflammation is an integral part to numerous medical conditions and coincides with nearly all types of injuries and insults to the body. Hyperbaric oxygen therapy (HBOT) has been demonstrated to substantially decrease inflammation throughout the body.

LITERATURE STUDY:

"Inflammation & Hardening of the Arteries Decreased with HBOT":

A study published in July 2008 examined the effects of HBOT on compromised blood flow due to hardening of the arteries with mice. Two groups of mice were treated with either 5 or 10 weeks of HBOT, whereas two other groups remained untreated and used as a control group. After the introduction of increased cholesterol levels, the treated group exhibited positive changes in the immune/inflammatory after HBOT. This study demonstrated that HBOT significantly reduced circulating levels of cholesterol that can cause heart disease, kidney disease and stroke. Additionally, HBOT resulted in a substantial decrease in the production of pro-inflammatory proteins and showed a marked increase in the production of anti-inflammatory proteins.

Decrease Gastrointestinal Inflammation with HBOT:

-Remediates Inflammatory Bowel Disease
-Helps Improve Ulcerative Colitis
-Improves Nutritional Absorption

Relieve Soft Tissue/Joint Inflammation with HBOT:

-Remediates Arthritis
-Reduces Tendinitis
-Accelerates Recovery from Sports-Related & High Impact Injuries

Reduce Brain Inflammation with HBOT:

-Reduces Severity of Autism Symptoms
-Supports the Prevention and Treatment of Stroke
-Reduces Risk of Alzheimer's and Parkinson's Disease

Support Anti-Inflammatory Process at the Cellular Level with HBOT:

-Decreases Acute/Chronic Inflammation
-Minimizes Pain & Discomfort
-Reduces Inflammatory Proteins
-Promotes Anti-Inflammatory Proteins
-Accelerates Tissue Repair and Healing

Prevent the Onset of Chronic Inflammatory-Related Diseases with HBOT:

-Decreases Cancer Risk & Progression
-Reduces Risk of Coronary Heart Disease, Heart Attack & Stroke
-Improves Diabetic Conditions Linked to Inflammation

Sports with HBOT

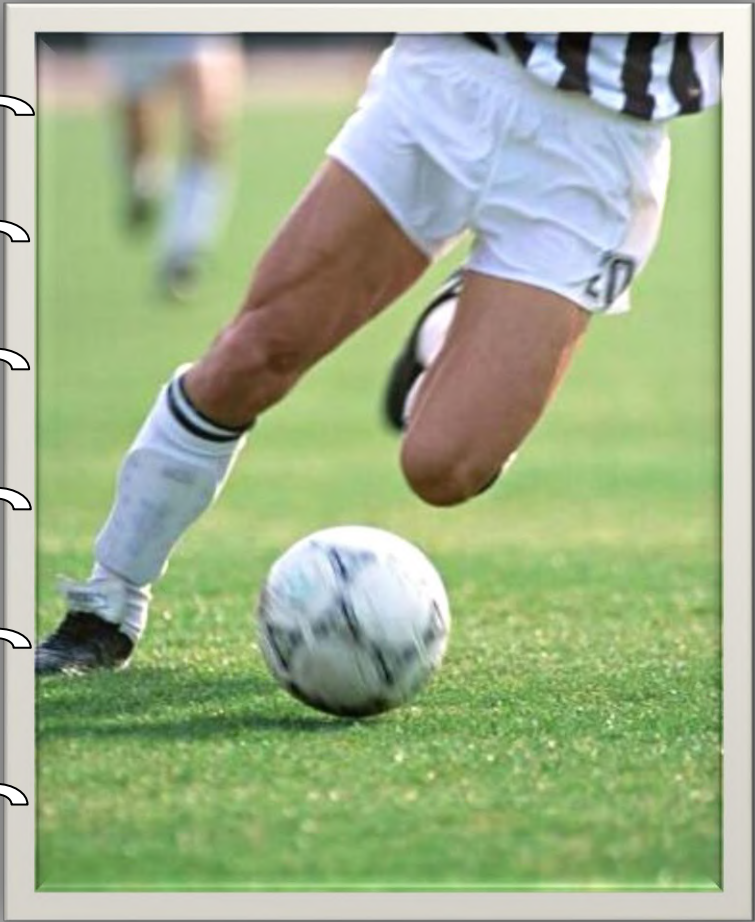
Injuries caused by sports related activities are a substantial concern among players, coaches and parents alike. As inflammation and pain play primary roles with respect to recovery, hyperbaric oxygen therapy (HBOT) has been shown to significantly reduce inflammation and ameliorate pain.

How do HBOT helps athletes recovery from injuries:

Hyperbaric oxygen therapy allows a massive increase in the amount of oxygen carried in a tissue, which under normal conditions leads to increased density of capillaries (the so-called process of angioneogenesis). A dense network of capillaries allows a supercharged oxygenation of the locomotor system, resulting in performance and increased endurance.

In the case of trauma and fractures, one of the most basic ingredients needed to repair tissue is oxygen that has a major importance in the post traumatic recovery. Studies abroad show that fractures treated with HBOT (hyperbaric oxygen therapy) recover five times faster.

For ligament ruptures, hyperbaric oxygen also leads to shorten the recovery time (eg. in case of a cruciate ligament recovery is reduced from 6 months to 3 months).



Enhance Performance with HBOT:

-Improves Concentration
-Increases Serotonin Levels
-Accelerates Jet Lag Recovery
-Decreases Lactic Acid

Amplify Recovery From Intensive Training with HBOT:

-Accelerates Healing from Muscle Strain
-Improves Blood Flow
-Increases Energy Levels

Concussion and TBI treatment:

Some of the athletes may face concussion or traumatic brain injury (TBI). HBOT treatment can be a great benefit to such athletes. The HBOT treatment which has increased pressure and is rich in oxygen will help the body to heal after concussion. It can decrease the fatigue and other symptoms that are related to traumatic brain injury.

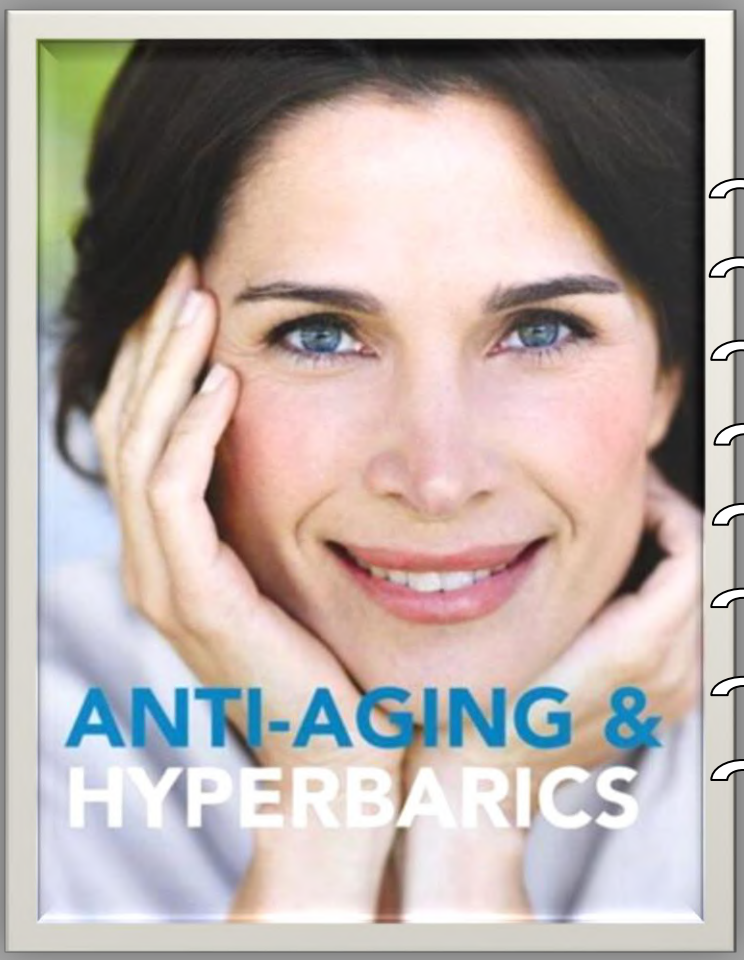
Faster Recovery From Surgeries with HBOT:

-Accelerates & Enhances Healing
-Reduces Inflammation for Optimal Pre- Surgical Conditions
-Reduces Risk of Infection
-Stimulated the Creation of New Stem Cells
-Decreases Hospital Time

Accelerate Recovery From Sports- Related Injuries with HBOT:

-Increases Collagen Production
-Reduces Inflammation & Pain
-Faster & Better Recovery from Sprains, Tears & Bone Fractures
-Stimulates the Creation of New Blood Vessels
-Enhances Recovery from Medial Collateral Ligament (MCL) & Anterior Cruciate Ligament (ACL) Injuries
-Decreases Susceptibility Towards Reinjuring Target Areas
-Improves Brain Scan Results

Anti-Aging with HBOT



Formation Age-related diseases are a growing concern world-wide. Hyperbaric oxygen therapy (HBOT) has been shown, in some studies, to help combat degeneration by contributing to the regeneration of tissue and blood vessels.

LITERATURE STUDY:

"Skin Damaged from Ultraviolet Radiation Prevented with HBOT":
A study published in 2012 focused on the effects of HBOT preconditioning
and its protective properties against Ultraviolet-A (UV-A) induced skin damage. Three groups of hairless mice were exposed to UV-A, three days a week for22 weeks, with two of the groups receiving HBOT pretreatment either two or four times a week. UV-A exposure amplified skin cell death, signifying elevated levels of skin damage. Pretreatment with HBOT substantially reduced UV-A induced cell death. In addition, HBOT pretreatment prevented skin creasing and maintained skin elasticity.

Circulation and General Blood Flow with HBOT:

-Stimulates the Formation of New Blood Vessels
-Combats & Prevents Circulatory Diseases, Including Coronary Heart Disease & Diabetes

The Brain with HBOT:

-Stimulates the Creation of New Brain Cells
-Promotes the Creation of New Brain Connections
-Improves Memory and Reaction time

The Heart with HBOT:

-Improves Oxygenation to Cardiac Tissue
-Reduces Risk of Heart Attack
-Improves Heart Muscle Functioning After Heart Attack

The Joints, Soft Tissue & Bones with HBOT:

-Enhances Treatment for Arthritis
-Accelerates Healing
-Reduces Inflammation & Pain
-Improves Mobility & Stamina

The Skin with HBOT:
-Reduces Excessive Skin Damage From Ultraviolet Radiation Exposure
Promotes Collagen Production & Maintains Skin Elasticity
Improves Wound Healing & Reduces Scar Formation
Age

General Health with HBOT:

-Increases Energy levels
-Promotes the Creation of New Stem Cells
-Decreases Risk of Infection
-Reduces Stress & Anxiety
-Supports the Immune System

Cases of Oxygen Therapy

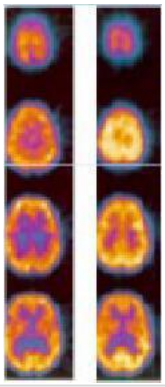
HBOT for Diabetic Ulcer:

A diabetic patient was referred for HBOT of his Wagner Grade III diabetic foot ulcer which was non-healing after one year, with amputation planned within 24 hours.

After 3 weeks (26 HBOT sessions) his wound showed considerable healing.

After 50 completed HBOT sessions healing is evident.

HBOT for Cerebral Palsy Treatment:



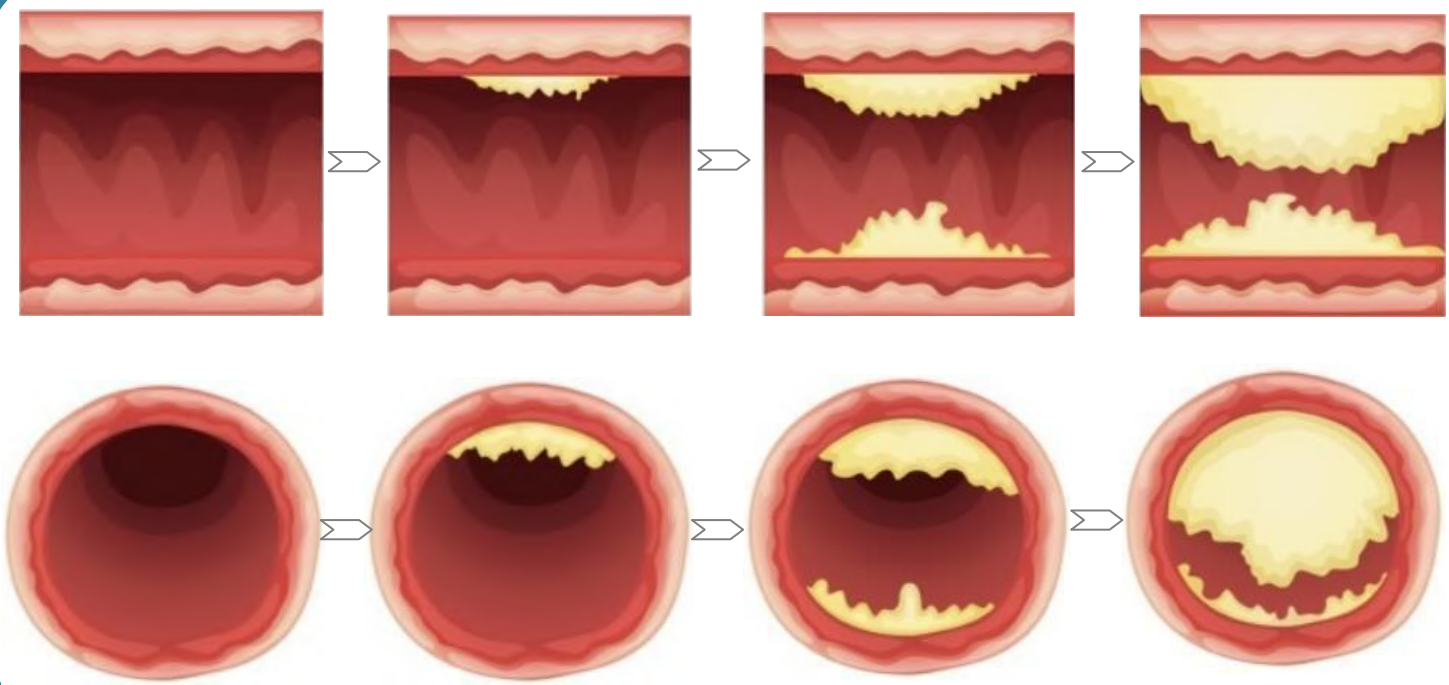
Scan#1 Scan#2

John, an 8 year old with Cerebral Palsy:
First Scan Pre Hyperbaric-showed prominent abnormalities in temporal lobes, especially on left side.

Second Scan Post Hyperbaric-showed improvement in blood flow with greater amount of yellow of the slices on the far right picture. Improved blood flow to both temporal lobes.

Cases of Oxygen Therapy

HBOT for Hardening of the Arteries:



HBOT for Autism Treatment: