



## **Benefits Hyperbaric Oxygenation**

produces a series of physiological effects that generate many benefits. Among them:

- Regenerates different tissues
- Accelerates neurological rehabilitation processes
- Complex wound healing.

### **Hyperbaric Oxygenation produces:**

- 1- The release of stem cells.
- 2- The increase of neuroblastic cells.
- 3- The activation of neuronal mitochondria.
- 4- Peripheral and central axonal elongation. This significantly stimulates neuroplasticity, making it useful as a complementary therapy to intensive post-stroke and post-cerebral ischemia rehabilitation, even years after having suffered the event.
- 5- In mild and moderate brain traumas, it reduces neuroinflammation, brain edema and reduces post-traumatic stress. Among other effects, mitochondrial reactivation of the neuromuscular plate induces an increase in motor activity as evidenced in children with cerebral palsy, or in recovery from different cerebral hypoxias.
- 6- Hyperbaric oxygen produces an increase in cerebral oxygenation and reactivates lethargic neurons in the post-injury period, so it recovers its activity and rehabilitates some sequelae after ischemic events, including gas poisoning.
- 7- Also, it reduces neuroinflammation and neuronal apoptosis, increases neuroprotection and produces an antioxidant effect.



8-The activation of astrocytes decreases significantly and this slows the advance of some neurodegenerative diseases.

- In Alzheimer's it slows down the progression of memory loss and improves cognitive function.
- In Parkinson's it was observed that it can reduce some complications such as tremors, motor signs and non-motor symptoms such as depression and anxiety.

9- Hyperbaric Oxygenation reactivates mitochondrial function and improves aerobic brain metabolism, which is why it can trigger recovery of repressed memory in patients with Fibromyalgia and memory dissociation.

10-Also in patients with neurosensitive syndromes, it improves neurological perception of pain thanks to its analgesic effect.

In addition, the reactivation of mitochondrial functions improves the states where chronic inflammation and neuroinflammation can contribute to the disease.

11-In the case of autism, it has a positive impact on socialization, eye contact and irritability.

12-Physical rehabilitation is also benefited by the ability of hyperbaric oxygen to regenerate tissues through:

- Angiogenesis
- Collagen synthesis
- Osteogenesis and neuronal regeneration.

Thus, the incorporation of Hyperbaric Oxygen accelerates the physical recovery of different injuries such as:

- a) Bone fractures.
- b) Complex wounds.
- c) Ligamentous and tendon injuries.
- d) Muscle injuries.



13-Osseointegration facilitates the healing and recovery processes of complex surgeries, prostheses and processes associated with radiation damage such as osteoradionecrosis.

14-Hyperbaric Oxygen produces an increase in muscle metabolism and oxygenation, thus decreasing anaerobic metabolism and lactic acid. Thus, it is useful in the rehabilitation of overtraining syndrome, in addition to different sports injuries.

Due to all these physiological effects, hyperbaric oxygen is an adjunct therapeutic tool in the physical and neurological rehabilitation of patients.

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