

# TERAPI OKSIGEN HIPERBARIK

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## Abstrak

Terapi oksigen hiperbarik adalah jenis terapi oksigen murni menggunakan ruang kedap bertekanan tinggi. Terapi oksigen hiperbarik efektif menghasilkan suplai oksigen tekanan tinggi kedalam jaringan melalui peningkatan gradien difusi akibat peningkatkan tekanan parsial O<sub>2</sub>. Alat terapi oksigen hiperbarik dibedakan menjadi dua jenis berdasarkan jumlah ruang (chamber) yaitu *monoplace* dan *multiplace chamber*. Sistem kerja terapi oksigen hiperbarik berdasarkan hukum fisika Boyle, Henry dan Charles. Penggunaan klinis terapi oksigen hiperbarik untuk penyakit akut dan kronis yaitu penyakit dekompresi, keracunan gas karbonmonoksida, penyembuhan luka, dan iskemik serebral. Efek samping dan bahaya terapi oksigen hiperbarik yaitu kebakaran, toksisitas oksigen di paru, dan *Paul-Bert effect*. Pengaruh terapi oksigen hiperbarik disebabkan pembentukan radikal bebas akibat oksigen konsentrasi tinggi yaitu peningkatan VE<sub>P1</sub>, FE<sub>F25-75%</sub>, T<sub>LCO</sub>, dan konduktansi saluran napas kecil. Pemberian terapi oksigen hiperbarik harus sesuai indikasi dan diberikan kesempatan menghirup oksigen ruang untuk mencegah toksisitas.

# **HYPERBARIC OXYGEN THERAPY**

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## **Abstract**

Hyperbaric oxygen therapy is a type of pure oxygen therapy uses high-pressure-resistant space. Hyperbaric oxygen therapy effectively generates high-pressure oxygen supply to the organ through an increase in the diffusion gradient due to increasing partial oxygen (O<sub>2</sub>) pressure. Hyperbaric oxygen therapy apparatus can be divided into two types based on the amount of space chamber are monoplace and multi-place chamber. Hyperbaric oxygen therapy systems work based on the laws of physics by Boyle, Henry and Charles. The clinical uses of hyperbaric oxygen therapy for acute and chronic diseases are decompression sickness, carbon monoxide gas poisoning, wound healing, and cerebral ischemia. The side effects and dangers of hyperbaric oxygen therapy are fire accident, oxygen toxicity in the lungs, and Paul-Bert effect. Effect of hyperbaric oxygen therapy due to the formation of free radicals caused by high concentration oxygen, increasing VE<sub>P1</sub>, FEF<sub>25-75%</sub>, TLCO, and small airways conductance. Hyperbaric oxygen therapy should be appropriate indications and given the opportunity for room air breathing to prevent toxicity.