

# Rapid Recovery Hyperbarics

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## Research on Avascular Necrosis of Femoral Head

- **Hyperbaric Medicine in Israel – The 25 Year Struggle**
- **Yehuda Melamed**
- **Avascular Necrosis of the head of the femur:**
- **Results of treatment of stage I by Hyperbaric Oxygen as compared to an untreated control group.**

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**Purpose:** To compare the use of hyperbaric oxygen (HBO) and non-weight bearing in the treatment of Stage I avascular necrosis of the femur head (AVNHF) with treatment by non-weight bearing (NWB) only.

**Methods:** Vande Berg et al.'s (1) criteria for irreversibility of sub-chondral lesions assessed for thickness and length in AVNHF grade I were used to compare 16 AVN hips treated by HBO with Vande Berg et al.'s group treated by NWB only. 15 hips were "Idiopathic" AVNHF and 1 hip was in a steroid treated Lupus Erythematosus. Only AVNHF grade I was included: cases of bone marrow edema only or transient osteoporosis were strictly excluded as were higher grades of AVNHF.

**Results:** Irreversibility likelihood was 88% for thickness of lesion for the control group and 10% for the HBO group. For lesion length irreversibility likelihood was 73% in the controls as compared to 0% in the HBO treated group. Altogether the HBO group registered > 90% total resolution or reduction in size of the sub-chondral lesions (15 hips). The single failure was in the steroid treated Lupus case.

**Conclusions: HBO treatment is highly effective in Idiopathic Stage I AVNHF.**

*Ref. Vande Berg BC, Malghem JJ, Lecouvet FE, Jamart J, Maldague BE: Idiopathic Bone Marrow Edema Lesions of the Femoral Head: Predictive Value of MR Imaging Findings. Radiology 1999; 212:527-535.*