Oxygen Ear

What is "oxygen ear"?

Answer from DAN experts:

Also known as middle-ear oxygen absorption syndrome, oxygen ear describes a gas volume imbalance in the middle ear after diving with breathing gas that has a higher oxygen fraction than air. The phenomenon is commonly associated with open-circuit diving using nitrox and closed-circuit rebreather diving. The high-oxygen-content gas fills the middle-ear space over the course of the dive. Post dive, the tissues metabolize the oxygen, reducing the total gas volume below what it would be if the space were filled with air. If this loss in gas volume is not equalized, relative negative pressure will develop. This is in effect a squeeze, which can present as ear fullness, mild discomfort and /or impaired hearing. This problem can be avoided easily with occasional equalization for several hours after diving. A person who is active, talking and/or laughing during this period may have no need to actively equalize. On the other hand, a person who goes to bed immediately after diving might wake up several hours later with mild discomfort. Full resolution is best achieved using gentle equalization techniques.