**Pre-ductal and post-ductal O2 saturation in healthy term neonates after birth.**

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**Abstract**

**Objective:** To determine the pre- and post-ductal oxygen saturation (SpO2) levels during the first minutes after birth in healthy term infants.

**Study design:** In a prospective cohort study, sensors were placed on the right hand and on 1 foot of the neonate. Pre- and post-ductal SpO2 levels were recorded during the first 15 minutes after birth. Exclusion criteria were gestational age <37 weeks, presence of risk factors for asphyxia, emergency cesarean delivery (C/D), congenital anomalies, and multiple pregnancies. Infants who were treated with O2 or positive pressure ventilation were also excluded from the study.

**Results:** The mean (SD) gestational age of the 110 infants was 39 weeks (1.1), and the mean birth weight was 3340 grams (359). At 5 minutes, the mean pre-ductal SpO2 level was 89% (7), and the mean post-ductal SpO2 level was 81% (10). Pre- and post-ductal SpO2 levels were significantly different during the first 15 minutes after birth. The SpO2 level was lower in babies delivered by C/D in comparison to babies born by vaginal delivery.

**Conclusions:** In healthy newly born infants, oxygen saturation rises slowly and does not usually reach 90% in the first 5 minutes of life. A gradient between pre- and post-ductal SpO2 levels remains significant for the first 15 minutes of life.