Previous research suggests that physical activity may result in decreases in arterial saturation (SaO$_2$) and cerebral blood flow when exposed to a low oxygen environment between aerobically fit and unfit males. **Purpose:** The purpose of this study was to determine differences in SaO$_2$, cerebral blood flow, minute ventilation ($V_E$), and blood lactate between fit and unfit young males during exercise in hypoxia compared to normoxia. **Methods:** Apparently healthy college age males took part in two trials consisting of normobaric normoxia and normobaric hypoxia (12% oxygen). Fit ($n = 3$; $VO_2_{max} = 51.5$ ml $\cdot$ kg$^{-1} \cdot$ min$^{-1} \pm 3.1$) and Unfit ($n = 3$; $VO_2_{max} = 34.4$ ml $\cdot$ kg$^{-1} \cdot$ min$^{-1} \pm 5.6$) males cycled at 50% of their altitude adjusted $VO_2_{max}$ (-26% of normoxia $VO_2_{max}$) for one hour after a two-hour baseline. **Results:** SaO$_2$, cerebral blood flow, and RER were significantly decreased during hypoxia in all subjects ($P < 0.05$), but did not differ between groups. An interaction showed that Fit subjects had a higher SaO$_2$ during exercise in hypoxia ($P < 0.05$). $V_E$ and lactate was greater during hypoxia ($P < 0.05$). The Fit group demonstrated a higher $V_E$ during exercise in hypoxia ($P < 0.05$). No differences in blood lactate were found between the two groups. **Conclusion:** The data suggests that when exposed to hypoxia aerobically unfit males may demonstrate decrements in oxygen utilization which may lead to decreases in physical activity and/or performance.