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Private Pilot Research - Aeromedical Factors (Hyperventilation)

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Understanding Hyperventilation and its differences from Hypoxia are extremely important for pilots because of the safety and health risks posed by both during flight. Unlike Hypoxia, which is caused by a shortage of oxygen, Hyperventilation is caused by a shortage of carbon dioxide. In other words, these two conditions can be considered opposites. While Hypoxia requires pilots to use supplemental oxygen, Hyperventilation requires pilots to instead use supplemental carbon dioxide.

The reason why understanding these two very different conditions is important is because of how similar the symptoms of each condition are. In fact, pilots very often mistake one for the other. When the pilot uses the wrong treatment method it actually makes the condition worse. This is because the treatment of one is the cause of the other.

The symptoms of Hyperventilation include the following: visual impairment, unconsciousness, lightheadedness, dizziness, tingling, hot flashes, cold flashes, and muscle spasms. In order to combat these conditions, the pilot can either slow down breathing or breathe in a bag, which both restore carbon dioxide levels back to normal.