common practice for the flow rate to be adjusted such that the pressure differential between the ambient pressure and the breathing pressure is zero. Other exemplary methods for estimating the demand for oxygen involve measuring the amount of carbon dioxide exhausted by the person, measuring the rate of breathing, measuring the flow rate, and measuring the level of activity of a person.

[0011] It is also known to control the demand for oxygen by varying the concentration of the oxygen being administered. This is typically effectuated by providing a supply of ambient air mixed with pure oxygen. Since the concentration of oxygen decreases as altitude increases, compensation for this differential can be achieved by increasing the proportion of pure oxygen administered to an individual for a higher altitude.

[0012] As indicated above, there are several known techniques for treating the immediate effects of oxygen deprivation. But, these techniques do not consider the negative effects that may occur subsequent to exposure to a reduced oxygen partial pressure environment. Accordingly, there exists a need to develop a preventative measure or technique to compensate for an exposure to a reduced oxygen partial pressure environment in order to minimize or eliminate the occurrence of delayed effects from the exposure, specifically in persons having special sensitivities.

SUMMARY

[0013] The present disclosure provides a description of methods for minimizing the delayed effects on an individual resulting from exposure to reduced oxygen partial pressure via the administration of supplemental oxygen. The present disclosure also relates to a post-flight seizure prevention method.

[0013a] In one aspect, the present disclosure refers to a use of supplemental oxygen in the manufacture of a medicament for preventing post-flight seizure or for minimizing delayed effects of exposure to a reduced oxygen partial pressure, wherein the supplemental oxygen is provided by a source suitable for transport on an aircraft during a flight at altitude; wherein the supplemental oxygen is to be administered to a person during air transport on the aircraft to compensate for a

reduced oxygen partial pressure existing in the aircraft during the flight; and wherein the supplemental oxygen is to be administered in an amount such that the person experiences an oxygen partial pressure that substantially mimics a target oxygen partial pressure, wherein the target oxygen partial pressure is adjusted, automatically or manually, during the flight from an initial target oxygen partial pressure to an end target oxygen partial pressure, and wherein the oxygen partial pressure of a departure city is set as the initial target oxygen partial pressure and the oxygen partial pressure of an arrival city is set as the end target oxygen partial pressure.

[0014] In one example, a method for minimizing delayed effects of exposure to a reduced oxygen partial pressure involves providing a source of supplemental oxygen. Because reduced oxygen partial pressure is known to occur on flights at altitude, the source of supplemental oxygen should be suitable for transport on an aircraft during a flight at altitude. The supplemental oxygen is administered to a person during air transport on the aircraft to compensate for the reduced oxygen

partial pressure that exists in the aircraft during the flight. Further, the supplemental oxygen is administered to maintain a target oxygen partial pressure for a period of time such that the person receiving the supplemental oxygen experiences substantially no change in the oxygen partial pressure. The target oxygen partial pressure is an oxygen partial pressure to which the person receiving the supplemental oxygen is routinely accustomed or acclimatized.

[0015] In another example, a method for minimizing delayed effects of exposure to a reduced oxygen partial pressure involves providing a portable source of supplemental oxygen. An amount of supplemental oxygen that closely mimics a target oxygen partial pressure is administered to an individual presently exposed to a reduced oxygen partial pressure. The supplemental oxygen is administered to maintain a target oxygen partial pressure for a period of time such that the person receiving the supplemental oxygen experiences little to no change in the oxygen partial pressure. The target oxygen partial pressure is an oxygen partial pressure to which the person receiving the supplemental oxygen is routinely accustomed or acclimatized.

[0016] In yet another example, there is disclosed a post-flight seizure prevention method. The post-flight seizure prevention method involves providing a portable source of supplemental oxygen suitable for transport on an aircraft during a flight at altitude and administering the supplemental oxygen to a person during air transport on the aircraft to compensate for a reduced oxygen partial pressure existing in the aircraft during the flight. The supplemental oxygen is administered in an amount such that the person receiving the supplemental oxygen experiences an oxygen partial pressure that substantially mimics a target oxygen partial pressure. In some instances, the target oxygen partial pressure is an oxygen partial pressure to which the person receiving the supplemental oxygen is routinely accustomed or acclimatized.

DESCRIPTION OF DRAWING FIGURES

[0017] FIG. 1 is a block diagram illustrating a system for providing a source of supplemental oxygen to minimize delayed effects of exposure to a reduced oxygen partial pressure in accordance with exemplary embodiments.

WHAT IS CLAIMED IS:

1. Use of supplemental oxygen in the manufacture of a medicament for preventing post-flight seizure or for minimizing delayed effects of exposure to a reduced oxygen partial pressure, wherein the supplemental oxygen is provided by a source suitable for transport on an aircraft during a flight at altitude;

wherein the supplemental oxygen is to be administered to a person during air transport on the aircraft to compensate for a reduced oxygen partial pressure existing in the aircraft during the flight; and

wherein the supplemental oxygen is to be administered in an amount such that the person experiences an oxygen partial pressure that substantially mimics a target oxygen partial pressure, wherein the target oxygen partial pressure is adjusted, automatically or manually, during the flight from an initial target oxygen partial pressure to an end target oxygen partial pressure, and wherein the oxygen partial pressure of a departure city is set as the initial target oxygen partial pressure and the oxygen partial pressure of an arrival city is set as the end target oxygen partial pressure.

2. The use of claim 1, wherein the target oxygen partial pressure is the oxygen partial pressure to which the person is routinely accustomed.

3. The use of claim 1, wherein the source of supplemental oxygen is obtained from a designated location in a departure airport prior to departure, the source of supplemental oxygen being a portable device.

4. The use of claim 1, wherein the supplemental oxygen is to be administered continuously such that the target oxygen partial pressure is substantially maintained during the flight.

5. The use of claim 1, wherein the supplemental oxygen is to be administered for at least a portion of the flight.

6. The use of claim 1, wherein the person receiving the supplemental oxygen has a pre-existing neurological condition or a special sensitivity.

7. The use of claim 6, wherein the preexisting neurological condition is epilepsy.