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.

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