Because checklists may not be practical in the open flight deck during flight, and depending on the manufacturer and make/model of the WSC aircraft, checklists used for climb, en route, and landing may be placards in the flight deck that can be read by the pilot in flight or used on kneeboards as appropriate. Checklists must be secured to prevent their flying through the propeller during taxi or flight.

An additional written checklist that can be used on the ground after landing is taxi, engine shutdown, postflight inspection, and securing aircraft.

Medical Factors

A number of physiological effects can be linked to flying. Some are minor, while others are important enough to require special attention to ensure safety of flight. In some cases, physiological factors can lead to inflight emergencies. Some important medical factors that a WSC pilot should be aware of include hypoxia, hyperventilation, middle ear and sinus problems, spatial disorientation, motion sickness, carbon monoxide poisoning, stress and fatigue, dehydration, heatstroke, and hypothermia. Other factors include the effects of alcohol and drugs, and excess nitrogen in the blood after scuba diving.

A prerequisite to this chapter is the aeromedical factors portion of the Pilot's Handbook of Aeronautical Knowledge (FAA-H-8083-25) which provides detailed information a pilot must consider in all flight operations. All of the aeromedical factors described in that book are applicable to WSC. However, the following are additional topics applicable to WSC not specifically covered.

Fatigue

Because the WSC aircraft moves weight through pilot input, there is significant arm and upper body strength required to fly a WSC aircraft, especially in turbulence. If flying a cross-country flight midday in moderate turbulence for more than an hour, a pilot would require significant strength and endurance. This significantly adds to fatigue, as discussed in the Pilot's Handbook of Aeronautical Knowledge. This is accomplished all the time by experienced pilots, but it is a workout. If this type of workout is combined with dehydration in a desert environment, a greater than anticipated headwind, or flying an unfamiliar cross-country route, the added aeromedical risk factors could lead to a fatal error chain.

Hypothermia

Hypothermia is an important factor and knowledge requirement in the WSC Practical Test Standards. Cold temperatures for long periods reduce the inner body core temperature when the heat produced by the body is less than the amount of heat being lost to the body's surroundings. This loss of heat is highly accelerated in WSC open flight decks with wind chill. The first symptom of flying a WSC aircraft is cold hands because of exposure to wind chill. Symptoms continue with other parts of the body becoming cold until the entire body feels cold. Hypothermia results in weakness, shivering, lack of physical control, and slurred speech followed by unconsciousness and death. Dressing warm and/or aircraft heating systems to help the pilot remain warm during flight prevents hypothermia. Motorcycle gloves and socks that run off the aircraft electric system are commonly used and can keep a pilot from getting cold. *[Figure 1-21]* Also, carrying an appropriate survival kit

Figure 1-21. *Motorcycle gloves and socks hooked to the 12-volt WSC electrical system keep the pilot and passenger warm.*