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## **Treatment Recommendations for Carbon Monoxide Poisoning Related to Hurricane Isabel**

In the aftermath of Hurricane Isabel cases of carbon monoxide poisoning have been reported, including fatalities. Carbon monoxide, or CO, is an odorless, colorless gas that can cause sudden illness and death. Carbon monoxide is found in combustion fumes, such as those produced by cars and trucks, small gasoline engines, stoves, lanterns, burning charcoal and wood, and gas ranges and heating systems. Carbon monoxide from these sources can build up in enclosed or semi-enclosed spaces. People and animals in these spaces can be poisoned by breathing it.

Clinicians and hospital staff should be alert for signs of carbon monoxide poisoning among patients in areas where power outages have occurred. Common symptoms of carbon monoxide poisoning include headache, dizziness, weakness, nausea and vomiting, difficulty concentrating or confusion, shortness of breath, visual changes, chest pain, loss of consciousness, abdominal pain, and muscle cramping. None of these symptoms is diagnostic of CO poisoning and these symptoms may be mistaken for a variety of other common illnesses. The presence of these symptoms in persons who have had a common exposure, such as among family members, may be a clue to the diagnosis of carbon monoxide poisoning and should prompt questioning about exposure to combustion.

After removing the patient from the source of carbon monoxide, the primary treatment for CO poisoning is 100% oxygen therapy. Oxygen should be administered until the carboxyhemoglobin level is normal.

Hyperbaric oxygen therapy can speed the return of carboxyhemoglobin levels to normal. A recent study has demonstrated a lower rate of neurologic sequelae in persons with acute carbon monoxide poisoning who received three 120 to 150 min periods of hyperbaric oxygen therapy within 24 hours compared with three periods with normobaric oxygen. In this study of 76 patients, 65 had carboxyhemoglobin levels >10%.

Information on the availability of hyperbaric oxygen therapy is available 24 hours a day at the Divers Alert Network at Duke University at 919-684-8111.

Reference: Hyperbaric Oxygen for Acute Carbon Monoxide Poisoning. Lindell K. Weaver, M.D., Ramona O. Hopkins, Ph.D., Karen J. Chan, B.S., Susan Churchill, N.P., C. Gregory Elliott, M.D., Terry P. Clemmer, M.D., James F. Orme, Jr., M.D., Frank O. Thomas, M.D., and Alan H. Morris, M.D.. N Engl J Med 2002; 347:1057-1067, Oct 3, 2002.

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**DEPARTMENT OF HEALTH AND HUMAN SERVICES**