

Fact sheet: A clinical approach to initial evaluation for disease processes caused by exposure to crude oil, organic solvents, petroleum distillate, dispersants & related agents.

Target audience: Medical care providers presented with patients exhibiting symptoms and/or signs consistent with processes caused by exposure to Gulf oil spill chemicals in crude oil and dispersants.

Background: Many medical care providers have seen only a limited number of persons with disease processes attributable to exposure to chemicals generated by the current Gulf of Mexico oil spill. The following does not constitute comprehensive medical advice and should not be construed to be patient care in any individual presentation. It does offer an approach to evaluation of this patient population and does constitute the initial steps which clinicians may wish to adopt in their care of patients in the non-emergency room setting.

- An exposure history directed toward times and places of exposure and a characterization of exposures should be obtained. The guide to Taking an Exposure History by ATSDR/CDC can be very helpful: http://www.atsdr.cdc.gov/csem/exphistory/ehexposure_form.html.
- A complete history and physical should be performed.
- Testing should, of course, depend on the individual clinical presentation, but often includes special attention to the respiratory apparatus, the skin, the central nervous system, neuropsychological changes and establishing a baseline to which future hematologic and other possibly mutagenic and/or carcinogenic indicators may be compared.

In the Environmental Cancer Program at the Karmanos Cancer Institute in Detroit*, persons presenting with applicable signs or symptoms of exposures would, at a minimum, receive the following:

- complete pulmonary function testing, including diffusion capacity
- gamma-glutamyltransferase
- beta-2 microglobulin
- a complete blood count
- serum protein electrophoresis with immunofixation
- urinalysis
- antihistamine antibody
- a mental status examination
- a minimum of a chest x-ray and if pertinent abnormalities are found on the radiographs or other applicable studies, a high-resolution CT on the 64 slice unit

Pregnancy presents additional concerns not only to the mother; the fetus may be at even greater risk of birth abnormality or for the development of the consequences of mutagenic and carcinogenic exposures.

Treatment decisions should be based on clinical presentation and objective evidence and usually do not vary from non-toxin induced presentations of the same condition, with the exception of cancer surveillance.

At present there is no readily available clinical blood test proven to be broadly reliable for measurement of organic solvent level. Furthermore, obtaining these levels is of unclear clinical significance. Additionally, air sample or water levels should generally not be used to make individual patient treatment decisions.

Questions regarding diagnosis and treatment may be directed to Dr. Harbut at noraianc@karmanos.org

Report on health hazards of crude oil & dispersants: <http://www.sciencecorps.org/crudeoilhazards.htm>

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