

Children at Greatest Risk From Oil Spill

Children live and breathe closer to the ground where toxics from the Gulf oil spill are more concentrated.

By [Larry O'Hanlon](#) | Thu Jun 24, 2010 08:51 AM ET

There are some very thin-skinned, rather careless people along the Gulf Coast who are the most at risk from the BP oil spill.

They're children, and they are not only more vulnerable to the chemicals in the oil, but are suffering from psychological stresses as well, said health experts who were called together this week by the Institute of Medicine of the National Academies to discuss the human health effects of the BP oil spill.

"Children are about 25 percent of the population and have really been under researched," said Irwin Redlener of the National Commission on Children and Disasters.

He counted the ways in which children are fundamentally different from adults when it comes to being exposed to toxics in oil, fumes and tar.

"Children live and breathe closer to the ground where heavier-than-air compounds are more concentrated, and they breathe faster," Redlener said, referring especially to the sorts of compounds that make up gasoline which are found in crude oils.

Children also have a very large skin-to-body mass ratio, he said. That essentially means they can absorb through their skin more toxics relative to their size than adults.

Some kids, like toddlers can also ingest toxics because they tend to put things in their mouths, he explained. At the other end of the childhood spectrum, adolescents are far more likely to ignore rules and regulations regarding decontamination.

"I'm just making the point here that this is a very special population," said Redlener, who had been called together with other health experts by the Institute of Medicine of the National Academies to discuss the oil spill's health hazards.

"Children are different," agreed reproductive health researcher Brenda Eskenazi of the University of California at Berkeley. "They are not little adults."

Research has revealed that children don't even have the biochemical tools to deal with some toxics until the age of seven, Eskenazi said. Making matters worse is that research suggests that combining stress with exposure to petrochemicals compounds amplifies the effects of both, she said.

"The really big issue in our view is toxic stress," said Redlener. "The kids are now experiencing round two. It's Katrina, it's the recession, it's the oil spill and now it's the possibility of another big hurricane season."

Even the unborn are facing dangers, said Eskenazi. It's known that petrochemicals can reach fetuses through a mother's placenta and be ingested by infants through breast milk.

"We're also concerned about transgenerational effects," Eskenazi said, referring to effects that can be passed onto future generations. Studies on female mother rats have shown that exposure of just the mother to some petrochemicals can affect sperm counts in males four generations beyond.

Even in humans it's been found that fathers exposed to some toxic petrochemicals can develop sperm with chromosome abnormalities which, in turn, can lead to genetic disorders for their offspring.

"One take-home message is that paternal exposure can affect offspring," Eskenazi said.

Another take-home message: "We have very little information about these chemicals. What we don't know is much greater than what we do know."