Researchers believe that MS happens when genes and environmental factors lead the body to attack the myelin sheaths or coverings of the nerves and their fibres (axons) in the central nervous system (brain and spinal cord). The inflammation and loss of the myelin and axonal damage impede the normal flow of nerve impulses along the nerve fibres, resulting in a wide-range of symptoms: visual disturbances, fatigue, coordination and balance problems, weakness in limbs and muscle stiffness among others.

**MS RISK GREATER IN MATERNAL HALF-SIBLINGS**

A recent study led by Canadian researchers suggests that mothers have a significant effect on risks their children will develop MS. The researchers collected and analyzed data about the occurrence of MS in full-siblings and half-siblings to see if there were so-called "parent of origin effects." They found that for maternal half-siblings, the risk of developing the disease was 2.35%, while the risk for paternal half-siblings was 1.31%. The research also showed that full-siblings risk of developing the disease was 3.11%.

Doctors A.D. Sadovnick of the Department of Medical Genetics and Faculty of Medicine, at the University of British Columbia, and George Ebers of the Department of Clinical Neurology, Oxford University, U.K., were the lead researchers for the study. "While the results show a maternal effect on the risk of developing MS, this certainly does not imply a clear-cut causal relationship," Sadovnick cautions. "This is just one of many factors," she says. The study's findings, coupled with other research Drs. Ebers and Sadovnick have done as part of the Canadian Collaborative Project on Genetic Susceptibility to MS, indicate that interventions to prevent MS or reduce the risk of developing it may need to happen in the prenatal or early pregnancy period. "This study gives clear indications that we will have to consider early intervention," adds Dr. Sadovnick.

**GIVING PARENTS INFORMATION THEY NEED**

Dr. William J. McIlroy, National Medical Advisor for the Multiple Sclerosis Society of Canada, points out that the half-sibling study is part of the genetics susceptibility study and this research will help those interested in bearing children. "The half-sibling results mean that people with MS and their relatives can now be given concrete practical information about the risk of developing MS themselves, and the risk to unborn offspring," he says. These studies hold out hope for people with MS and their families, not just of better treatments and more knowledge, but also for prevention.