

Courtesy of: Mayo Clinic in Rochester

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## Study Concludes that Pesticide Use Increases Risk of Parkinson's in Men

ROCHESTER, Minn.--Mayo Clinic researchers have found that using pesticides for farming or other purposes increases the risk of developing Parkinson's disease for men. Pesticide exposure did not increase the risk of Parkinson's in women, and no other household or industrial chemicals were significantly linked to the disease in either men or women.

Findings will be published in the June issue of the journal *Movement Disorders*.

"This confirms what has been found in previous studies: that occupational or other exposure to herbicides, insecticides and other pesticides increases risk for Parkinson's," says Jim Maraganore, M.D., Mayo Clinic neurologist and study investigator. "What we think may be happening is that pesticide use combines with other risk factors in men's environment or genetic makeup, causing them to cross over the threshold into developing the disease. By contrast, estrogen may protect women from the toxic effects of pesticides."

The investigators identified all those in Olmsted County, Minn., home of Mayo Clinic, who had developed Parkinson's disease between 1976 and 1995. Each person with Parkinson's disease was matched for comparison to someone similar in age and gender who did not have the disease. The researchers conducted telephone interviews with 149 of those with Parkinson's and 129 of those who did not have the disease, or a proxy for these people, to assess exposure to chemical products via farming occupation, non-farming occupation or hobbies. The investigators were unable to determine through these interviews the exact exposure levels of these individuals or the cumulative lifetime exposure to pesticides.

Overall, the study found that the men with Parkinson's were 2.4 times more likely to have had exposure to pesticides than those who did not have Parkinson's. Women who had Parkinson's, on the other hand, had a far lower frequency of exposure to pesticides than men with the disease.

This study was undertaken due to conflicting results from previous studies of pesticides and other chemical products and risk for Parkinson's.

Funding for the study is from two grants from the National Institutes of Health. The medical-records linkage system of the [Rochester Epidemiology Project](#) also made this study possible.

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### Additional Resources

For appointments or more information, call the Central Appointment Office at 507-284-2111.

Other Web Resource:  
[Patient's Guide](#)

### Journalists:

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