



Uploaded to VFC Website ~ October 2012 ~

This Document has been provided to you courtesy of Veterans-For-Change!

Feel free to pass to any veteran who might be able to use this information!

For thousands more files like this and hundreds of links to useful information, and hundreds of "Frequently Asked Questions, please go to:

[Veterans-For-Change](#)

*Veterans-For-Change is a 501(c)(3) Non-Profit Corporation
Tax ID #27-3820181*

If Veteran's don't help Veteran's, who will?

We appreciate all donations to continue to provide information and services to Veterans and their families.

https://www.paypal.com/cgi-bin/webscr?cmd=_s-xclick&hosted_button_id=WGT2M5UTB9A78

Note:

VFC is not liable for source information in this document, it is merely provided as a courtesy to our members.

ehp

**ENVIRONMENTAL
HEALTH
PERSPECTIVES**

ehponline.org

**Parental Exposure to Pesticides and
Childhood Brain Cancer: United States Atlantic
Coast Childhood Brain Cancer Study**

Youn K. Shim, Steven P. Mlynarek, and Edwin van Wijngaarden

doi: 10.1289/ehp.0800209 (available at <http://dx.doi.org/>)

Online 13 February 2009



NIEHS

**National Institute of
Environmental Health Sciences**

**National Institutes of Health
U.S. Department of Health and Human Services**

**Parental Exposure to Pesticides and Childhood Brain Cancer: United States Atlantic Coast
Childhood Brain Cancer Study**

Youn K. Shim,¹ Steven P. Mlynarek,² Edwin van Wijngaarden³

Authors' Affiliations:

¹Division of Health Studies, Agency for Toxic Substances and Disease Registry, Atlanta,
GA, USA

²Department of Occupational and Environmental Health, College of Public Health,
University of South Florida, Tampa, Florida, USA

³Department of Community and Preventive Medicine, University of Rochester Medical
Center, Rochester, NY, USA

Corresponding Author:	Youn K. Shim
Express mail address	Division of Health Studies, ATSDR 4770 Buford Highway (MS: F-57) Atlanta, GA, USA 30341-3737
Telephone	770-488-3810
Fax	770-488-7187
E-mail	Yshim@cdc.gov

Acknowledgements:

This study was funded by the Comprehensive Environmental Response, Compensation, and Liability Act trust fund. The authors have no competing financial interests. We thank Drs. Greta Bunin, James Davis, and Susan Preston-Martin for sharing their questionnaires and Dr. Wendy Kaye for her contribution to the original childhood brain cancer study.

Article descriptor: cancer**Running Head:**

Parental Pesticide Exposure and Childhood Brain Cancer

Key Words:

astrocytoma, brain cancer, children, parental exposure, pesticides, PNET

List of Abbreviations:

CI	Confidence interval
DNA	Deoxyribonucleic acid
OR	Odds ratio
PNET	Primitive neuroectodermal tumors
RDD	Random digit dialing

Outline:

ABSTRACT

INTRODUCTION

MATERIALS AND METHODS

Study population

Data collection

Exposure assessment

Statistical analysis

RESULTS

DISCUSSION

REFERENCES

Tables

ABSTRACT

BACKGROUND: The etiology of childhood brain cancer remains largely unknown. However, previous studies have yielded suggestive associations with parental pesticide use.

OBJECTIVES: We aimed to evaluate parental exposure to pesticides at home and on the job in relation to the occurrence of brain cancer in children.

METHODS: We included one-to-one matched 526 case-control pairs. Brain cancer cases were diagnosed at <10 years of age and were identified from statewide cancer registries of four Atlantic Coast states of the United States. Controls were selected by random digit dialing. We conducted computer-assisted telephone interviews with mothers. Using information on residential pesticide use and jobs held by fathers during the 2-year period before the child's birth, we assessed potential exposure to insecticides, herbicides, and fungicides. For each job, two raters independently classified the probability and intensity of exposure; 421 pairs were available for final analysis. We calculated odds ratios (OR) and 95% confidence intervals (CI) using conditional logistic regression, after adjustment for maternal education.

RESULTS: A significant risk of astrocytoma was associated with exposures to herbicides from residential use (OR = 1.9; 95% CI = 1.2–3.0). Combining parental exposures to herbicides from both residential and occupational sources, the elevated risk remained significant (OR=1.8; 95% CI=1.1–3.1). Little association with primitive neuroectodermal tumors (PNET) was observed for any of the pesticide classes or exposure sources considered.

CONCLUSIONS: Our observation is consistent with a previous literature reporting suggestive associations between parental exposure to pesticides and risk of astrocytoma in offspring but not PNET. However, these findings should be viewed in light of limitations in exposure assessment and effective sample size.