

Chapter 6. PCBs, Dioxins, and Related Compounds

1. Agency for Toxic Substances and Disease Registry. 1998. Toxicological profile for chlorinated dibenzo-p-dioxins (update) [Web Page]. Located at: <http://www.atsdr.cdc.gov/toxprofiles/tp104.html>.
2. Agency for Toxic Substances and Disease Registry. 2000. Toxicological profile for polychlorinated biphenyls (update) [Web Page]. Located at: <http://www.atsdr.cdc.gov/toxprofiles/tp17.html>.
3. Alaluusua S, Lukinmaa PL, Pohjanvirta R, Unkila M, Tuomisto J. 1993. Exposure to 2,3,7,8-tetrachlorodibenzo-p-dioxin leads to defective dentin formation and pulpal perforation in rat incisor tooth. *Toxicology* 81:1-13.
4. Alaluusua S, Lukinmaa PL, Torppa J, Tuomisto J, Vartiainen T. 1999. Developing teeth as biomarker of dioxin exposure. *Lancet* 353:206.
5. Anderson HA, Falk C, Hanrahan L, Olson J, Burse VW, Needham L, Paschal D, Patterson D Jr, Hill RH Jr. 1998. Profiles of Great Lakes critical pollutants: a sentinel analysis of human blood and urine. *The Great Lakes Consortium. Environ Health Perspect* 106:279-89.
6. Archibeque-Engle SL, Tessari JD, Winn DT, Keefe TJ, Nett TM, Zheng T. 1997. Comparison of organochlorine pesticide and polychlorinated biphenyl residues in human breast adipose tissue and serum. *J Toxicol Environ Health* 52:285-93.
7. Aronson KJ, Miller AB, Woolcott CG, Sterns EE, McCreedy DR, Lickley LA, Fish EB, Hiraki GY, Holloway C, Ross T and others. 2000. Breast adipose tissue concentrations of polychlorinated biphenyls and other organochlorines and breast cancer risk. *Cancer Epidemiol Biomarkers Prev* 9:55-63.
8. Becher H, Flesch-Janys D. 1998. Dioxins and furans: epidemiologic assessment of cancer risks and other human health effects. *Environ Health Perspect* 106 Suppl 2:623-4.
9. Bertazzi PA. 1991. Long-term effects of chemical disasters. Lessons and results from Seveso. *Sci Total Environ* 106:5-20.
10. Bertazzi PA, Bernucci I, Brambilla G, Consonni D, Pesatori AC. 1998. The Seveso studies on early and long-term effects of dioxin exposure: a review. *Environ Health Perspect* 106 Suppl 2:625-33.
11. Biroš E, Kalina I, Kohut A, Bogyiova E, Salagovic J, Sulla I. 2002. Allelic and haplotype frequencies of the p53 polymorphisms in brain tumor patients. *Physiol Res* 51:59-64.
12. Boersma ER. 2001. Environmental exposure to polychlorinated biphenyls (PCBs) and dioxins. Consequences for longterm neurological and cognitive development of the child. A review. *APMIS* 109 (Suppl 103):S243-53.
13. Boersma ER, Lanting CI. 2000. Environmental exposure to polychlorinated biphenyls (PCBs) and dioxins. Consequences for longterm neurological and cognitive development of the child lactation. *Adv Exp Med Biol* 478:271-87.
14. Brouwer A, Ahlborg UG, van Leeuwen FX, Feeley MM. 1998. Report of the WHO working group on the assessment of health risks for human infants from exposure to PCDDs, PCDFs and PCBs. *Chemosphere* 37:1627-43.
15. Brown NM, Manzillo PA, Zhang JX, Wang J, Lamartiniere CA. 1998. Prenatal TCDD and predisposition to mammary cancer in the rat. *Carcinogenesis* 19:1623-9.
16. Caggana M, Kilgallen J, Conroy JM, Wiencke JK, Kelsey KT, Miike R, Chen P, Wrensch MR. 2001. Associations between ERCC2 polymorphisms and gliomas. *Cancer Epidemiol Biomarkers Prev* 10:355-60.
17. Chao WY, Hsu CC, Guo YL. 1997. Middle-ear disease in children exposed prenatally to polychlorinated biphenyls and polychlorinated dibenzofurans. *Arch Environ Health* 52:257-62.
18. Chauhan KR, Kodavanti PR, McKinney JD. 2000. Assessing the role of ortho-substitution on polychlorinated biphenyl

binding to transthyretin, a thyroxine transport protein. *Toxicol Appl Pharmacol* 162:10-21.

19. Chen PH, Luo ML, Wong CK, Chen CJ. 1982. Comparative rates of elimination of some individual polychlorinated biphenyls from the blood of PCB-poisoned patients in Taiwan. *Food Chem Toxicol* 20:417-25.
20. Chen YC, Guo YL, Hsu CC, Rogan WJ. 1992. Cognitive development of Yu-Cheng ("oil disease") children prenatally exposed to heat-degraded PCBs. *JAMA* 268:3213-8.
21. Cline RE, Hill RH Jr, Phillips DL, Needham LL. 1989. Pentachlorophenol measurements in body fluids of people in log homes and workplaces. *Arch Environ Contam Toxicol* 18:475-81.
22. Craan AG, Haines DA. 1998. Twenty-five years of surveillance for contaminants in human breast milk. *Arch Environ Contam Toxicol* 35:702-10.
23. Crofton KM, Rice DC. 1999. Low-frequency hearing loss following perinatal exposure to 3,3',4,4',5-pentachlorobiphenyl (PCB 126) in rats. *Neurotoxicol Teratol* 21:299-301.
24. Dar E, Kanarek MS, Anderson HA, Sonzogni WC. 1992. Fish consumption and reproductive outcomes in Green Bay, Wisconsin. *Environ Res* 59:189-201.
25. DeVito MJ, Birnbaum LS, Farland WH, Gasiewicz TA. 1995. Comparisons of estimated human body burdens of dioxinlike chemicals and TCDD body burdens in experimentally exposed animals. *Environ Health Perspect* 103:820-31.
26. Dewailly E, Ayotte P, Bruneau S, Gingras S, Belles-Isles M, Roy R. 2000. Susceptibility to infections and immune status in Inuit infants exposed to organochlorines. *Environ Health Perspect* 108:205-11.
27. Dewailly E, Ayotte P, Bruneau S, Laliberte C, Muir DC, Norstrom RJ. 1993. Inuit exposure to organochlorines through the aquatic food chain in Arctic Quebec. *Environ Health Perspect* 101:618-20.
28. Eduljee G. 1999. Secondary exposure to dioxins through exposure to PCP and its derivatives. *Sci Total Environ* 232:193-214.
29. Engwall M, Hjelm K. 2000. Uptake of dioxin-like compounds from sewage sludge into various plant species--assessment of levels using a sensitive bioassay. *Chemosphere* 40:1189-95.
30. Erickson JD, Mulinare J, McClain PW, Fitch TG, James LM, McClearn AB, Adams MJ Jr. 1984. Vietnam veterans' risks for fathering babies with birth defects. *JAMA* 252:903-12.
31. Falk C, Hanrahan L, Anderson HA, Kanarek MS, Draheim L, Needham L, Patterson D Jr. 1999. Body burden levels of dioxin, furans, and PCBs among frequent consumers of Great Lakes sport fish. *The Great Lakes Consortium. Environ Res* 80:S19-S25.
32. Fein GG, Jacobson JL, Jacobson SW, Schwartz PM, Dowler JK. 1984. Prenatal exposure to polychlorinated biphenyls: effects on birth size and gestational age. *J Pediatr* 105:315-20.
33. Fingerhut MA, Haring Sweeney M, Patterson DG Jr, Piacitelli LA, Morris JA, Marlow DA, Hornung RW, Cameron LW, Connally LB, Needham LL and others. 1989. Levels of 2,3,7,8-tetrachlorodibenzo-p-dioxin in the serum of U.S. chemical workers exposed to dioxin contaminated products: interim results. *Chemosphere* 19:835-40.
34. Firestone D. 1973. Etiology of chick edema disease. *Environ Health Perspect* 5:59-66.
35. Fitzgerald EF, Hwang SA, Bush B, Cook K, Worswick P. 1998. Fish consumption and breast milk PCB concentrations among Mohawk women at Akwesasne. *Am J Epidemiol* 148:164-72.
36. Gladen BC, Ragan NB, Rogan WJ. 2000. Pubertal growth and development and prenatal and lactational exposure to polychlorinated biphenyls and dichlorodiphenyl dichloroethene. *J Pediatr* 136:490-6.

37. Gladen BC, Rogan WJ. 1991. Effects of perinatal polychlorinated biphenyls and dichlorodiphenyl dichloroethene on later development. *J Pediatr* 119:58-63.
38. Gladen BC, Rogan WJ, Hardy P, Thullen J, Tingelstad J, Tully M. 1988. Development after exposure to polychlorinated biphenyls and dichlorodiphenyl dichloroethene transplacentally and through human milk. *J Pediatr* 113:991-5.
39. Guo YL, Ryan JJ, Lau BP, Yu ML, Hsu CC. 1997. Blood serum levels of PCBs and PCDFs in Yucheng women 14 years after exposure to a toxic rice oil. *Arch Environ Contam Toxicol* 33:104-8.
40. Hardell L, Lindstrom G, van Bavel B, Wingfors H, Sundelin E, Liljegren G. 1998. Concentrations of the flame retardant 2,2',4,4'-tetrabrominated diphenyl ether in human adipose tissue in Swedish persons and the risk for non-Hodgkin's lymphoma. *Oncol Res* 10:429-32.
41. Harrison N, Wearne S, Gem MG, Gleadle A, Startin J, Thorpe S, Wright C, Kelly M, Robinson C, White S and others. 1998. Time trends in human dietary exposure to PCDDs, PCDFs and PCBs in the UK. *Chemosphere* 37:1657-70.
42. Hauser P, McMillin JM, Bhatara VS. 1998. Resistance to thyroid hormone: implications for neurodevelopmental research on the effects of thyroid hormone disruptors. *Toxicol Ind Health* 14:85-101.
43. Hayabuchi H, Yoshimura T, Kuratsune M. 1979. Consumption of toxic rice oil by 'yusho' patients and its relation to the clinical response and latent period. *Food Cosmet Toxicol* 17:455-61.
44. Holford TR, Zheng T, Mayne ST, Zahm SH, Tessari JD, Boyle P. 2000. Joint effects of nine polychlorinated biphenyl (PCB) congeners on breast cancer risk. *Int J Epidemiol* 29:975-82.
45. Hooper K. 1999. Breast milk monitoring programs (BMMPs): world-wide early warning system for polyhalogenated POPs and for targeting studies in children's environmental health. *Environ Health Perspect* 107:429-30.
46. Hooper K, Chuvakova T, Kazbekova G, Hayward D, Tulenova A, Petreas MX, Wade TJ, Benedict K, Cheng YY, Grassman J. 1999. Analysis of breast milk to assess exposure to chlorinated contaminants in Kazakhstan: sources of 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) exposures in an agricultural region of southern Kazakhstan. *Environ Health Perspect* 107:447-57.
47. Hooper K, McDonald TA. 2000. The PBDEs: An emerging environmental challenge and another reason for breast-milk monitoring programs. *Environ Health Perspect* 108:387-92.
48. Hoque A, Sigurdson AJ, Burau KD, Humphrey HE, Hess KR, Sweeney AM. 1998. Cancer among a Michigan cohort exposed to polybrominated biphenyls in 1973. *Epidemiology* 9:373-8.
49. Huisman M, Eerenstein SE, Koopman-Esseboom C, Brouwer M, Fidler V, Muskiet FA, Sauer PJ, Boersma ER. 1995a. Perinatal exposure to polychlorinated biphenyls and dioxins through dietary intake. *Chemosphere* 31:4273-87.
50. Huisman M, Koopman-Esseboom C, Fidler V, Hadders-Algra M, van der Paauw CG, Tuinstra LG, Weisglas-Kuperus N, Sauer PJ, Touwen BC, Boersma ER. 1995b. Perinatal exposure to polychlorinated biphenyls and dioxins and its effect on neonatal neurological development. *Early Hum Dev* 41:111-27.
51. Iida T, Hirakawa H, Matsueda T, Takenaka S, Nagayama J. 1999. Polychlorinated dibenzo-p-dioxins and related compounds: the blood levels of young Japanese women. *Chemosphere* 38:3497-502.
52. International Agency for Research on Cancer. 1987. Overall evaluations of carcinogenicity: an updating of IARC Monographs Volumes 1 to 42 (Supplement 7). Lyon, France: International Agency for Research on Cancer.
53. International Programme on Chemical Safety. 1998. Assessment of the health risk of dioxins: re-evaluation of the Tolerable Daily Intake (TDI). Geneva: WHO European Centre for Environment and Health.
54. Jacobson JL, Jacobson SW. 1996. Intellectual impairment in children exposed to polychlorinated biphenyls in utero. *N Engl J Med* 335:783-9.

55. Jacobson JL, Jacobson SW. 1997. Evidence for PCBs as neurodevelopmental toxicants in humans. *Neurotoxicology* 18:415-24.
56. Jacobson JL, Jacobson SW, Humphrey HE. 1990. Effects of exposure to PCBs and related compounds on growth and activity in children. *Neurotoxicol Teratol* 12:319-26.
57. Jensen S, Johnels AG, Olsson M, Otterlind G. 1969. DDT and PCB in marine animals from Swedish waters. *Nature* 224:247-50.
58. Kahn PC, Gochfeld M, Nygren M, Hansson M, Rappe C, Velez H, Ghent-Guenther T, Wilson WP. 1988. Dioxins and dibenzofurans in blood and adipose tissue of Agent Orange- exposed Vietnam veterans and matched controls. *JAMA* 259:1661-7.
59. Knox E. 2000. Childhood cancers, birthplaces, incinerators and landfill sites. *Int J Epidemiol* 29:391-7.
60. Koopman-Esseboom C, Huisman M, Weisglas-Kuperus N, Boersma ER, de Ridder MA, Van der Paauw CG, Tuinstra LG, Sauer PJ. 1994. Dioxin and PCB levels in blood and human milk in relation to living areas in The Netherlands. *Chemosphere* 29:2327-38.
61. Koopman-Esseboom C, Weisglas-Kuperus N, de Ridder MA, Van der Paauw CG, Tuinstra LG, Sauer PJ. 1996. Effects of polychlorinated biphenyl/dioxin exposure and feeding type on infants' mental and psychomotor development. *Pediatrics* 97:700-6.
62. Kostyniak PJ, Stinson C, Greizerstein HB, Vena J, Buck G, Mendola P. 1999. Relation of Lake Ontario fish consumption, lifetime lactation, and parity to breast milk polychlorobiphenyl and pesticide concentrations. *Environ Res* 80:S166-S174.
63. Laden F, Neas LM, Spiegelman D, Hankinson SE, Willett WC, Ireland K, Wolff MS, Hunter DJ. 1999. Predictors of plasma concentrations of DDE and PCBs in a group of U.S. women. *Environ Health Perspect* 107:75-81.
64. LaKind JS, Berlin CM, Naiman DQ. 2001. Infant exposure to chemicals in breast milk in the United States: what we need to learn from a breast milk monitoring program. *Environ Health Perspect* 109:75-88.
65. Lanting CI, Fidler V, Huisman M, Boersma ER. 1998. Determinants of polychlorinated biphenyl levels in plasma from 42-month- old children. *Arch Environ Contam Toxicol* 35:135-9.
66. Leung HW, Wendling JM, Orth R, Hileman F, Paustenbach DJ. 1990. Relative distribution of 2,3,7,8-tetrachlorodibenzo-p-dioxin in human hepatic and adipose tissues. *Toxicol Lett* 50: 275-82.
67. Lorick KL, Toscano DL, Toscano WA Jr. 1998. 2,3,7,8-Tetrachlorodibenzo-p-dioxin alters retinoic acid receptor function in human keratinocytes. *Biochem Biophys Res Commun* 243:749-52.
68. Mastroiaco P, Spagnolo A, Marni E, Meazza L, Bertollini R, Segni G, Borgna-Pignatti C. 1988. Birth defects in the Seveso area after TCDD contamination. *JAMA* 259:1668-72.
69. Masuda Y, Yoshimura H. 1982. Chemical analysis and toxicity of polychlorinated biphenyls and dibenzofurans in relation to Yusho. *J Toxicol Sci* 7:161-75.
70. McGregor DB, Partensky C, Wilbourn J, Rice JM. 1998. An IARC evaluation of polychlorinated dibenzodioxins and polychlorinated dibenzofurans as risk factors in human carcinogenesis. *Environ Health Perspect* 106 Suppl 2:755-60.
71. McNulty WP. 1985. Toxicity and fetotoxicity of TCDD, TCDF and PCB isomers in rhesus macaques (*Macaca mulatta*). *Environ Health Perspect* 60:77-88.
72. Meironyte D, Noren K, Bergman A. 1999. Analysis of polybrominated diphenyl ethers in Swedish human milk. A time-related trend study, 1972-1997. *J Toxicol Environ Health* 58:329-41.
73. Mes J. 1994. Temporal changes in some chlorinated hydrocarbon residue levels of Canadian breast milk and infant

exposure. *Environ Poll* 84:261-8.

74. Michalek JE, Pirkle JL, Caudill SP, Tripathi RC, Patterson DG Jr, Needham LL. 1996. Pharmacokinetics of TCDD in veterans of Operation Ranch Hand: 10-year follow-up. *J Toxicol Environ Health* 47:209-20.
75. Michalek JE, Rahe AJ, Boyle CA . 1998. Paternal dioxin, preterm birth, intrauterine growth retardation, and infant death. *Epidemiology* 9:161-7.
76. Mocarelli P, Gerthoux PM, Ferrari E, Patterson DG Jr, Kieszak SM, Brambilla P, Vincoli N, Signorini S, Tramacere P, Carreri V and others. 2000. Paternal concentrations of dioxin and sex ratio of offspring. *Lancet* 355:1858-63.
77. Mocarelli P, Marocchi A, Brambilla P, Gerthoux P, Young DS, Mantel N. 1986. Clinical laboratory manifestations of exposure to dioxin in children. A six-year study of the effects of an environmental disaster near Seveso, Italy. *JAMA* 256:2687-95.
78. Moore JA, Hardisty JF, Banas DA, Smith MA. 1994. A comparison of liver tumor diagnoses from seven PCB studies in rats. *Regul Toxicol Pharmacol* 20:362-70.
79. Nagayama J, Tsuji H, Iida T, Hirakawa H, Matsueda T, Okamura K, Hasegawa M, Sato K, Ma HY, Yanagawa T and others. 1998. Postnatal exposure to chlorinated dioxins and related chemicals on lymphocyte subsets in Japanese breast-fed infants. *Chemosphere* 37:1781-7.
80. Nebert DW, Roe AL, Dieter MZ, Solis WA, Yang Y, Dalton TP. 2000. Role of the aromatic hydrocarbon receptor and [Ah] gene battery in the oxidative stress response, cell cycle control, and apoptosis. *Biochem Pharmacol* 59:65-85.
81. Needham LL, Gerthoux PM, Patterson DG Jr, Brambilla P, Turner WE, Beretta C, Pirkle JL, Colombo L, Sampson EJ, Tramacere PL and others. 1997-1998. Serum dioxin levels in Seveso, Italy, population in 1976. *Teratog Carcinog Mutagen* 17:225-40.
82. Needham LL, Patterson DG Jr, Burse VW, Paschal DC, Turner WE, Hill RH Jr. 1996. Reference range data for assessing exposure to selected environmental toxicants. *Toxicol Ind Health* 12:507-13.
83. Nestruck TJ, Lamparski LL, Frawley NN, Hummel RA, Kocher CW, Mahle NH, McCoy JW, Miller DL, Peters TL and others. 1986. Perspectives of a large scale environmental survey for chlorinated dioxins. Overview and soil data. *Chemosphere* 15:1453-60.
84. Newsome WH, Iverson F, Ryan JJ, Lau PY, McLeod HA. 1984. Chlorinated compounds in tissues of chickens raised on pentachlorophenol-contaminated litter. *Food Addit Contam* 1:3-9.
85. Noren K, Meironyte D. 2000. Certain organochlorine and organobromine contaminants in Swedish human milk in perspective of past 20-30 years. *Chemosphere* 40:1111-23.
86. Okey AB, Riddick DS, Harper PA . 1994. The Ah receptor: mediator of the toxicity of 2,3,7,8-tetrachlorodibenzo- p-dioxin (TCDD) and related compounds. *Toxicol Lett* 70:1-22.
87. Orban JE, Stanley JS, Schwemberger JG, Remmers JC. 1994. Dioxins and dibenzofurans in adipose tissue of the general US population and selected subpopulations. *Am J Public Health* 84:439-45.
88. Patandin S, Dagnelie PC, Mulder PG, Op de Coul E, van der Veen JE, Weisglas-Kuperus N, Sauer PJ. 1999. Dietary exposure to polychlorinated biphenyls and dioxins from infancy until adulthood: A comparison between breast-feeding, toddler, and long- term exposure. *Environ Health Perspect* 107:45-51.
89. Patandin S, Koopman-Esseboom C, de Ridder MA, Weisglas-Kuperus N, Sauer PJ. 1998. Effects of environmental exposure to polychlorinated biphenyls and dioxins on birth size and growth in Dutch children. *Pediatr Res* 44:538-45.
90. Patandin S, Lanting CI, Mulder PG, Boersma ER, Sauer PJ, Weisglas-Kuperus N. 1999. Effects of environmental exposure to polychlorinated biphenyls and dioxins on cognitive abilities in Dutch children at 42 months of age . *J Pediatr* 134:33-41 .

91. Patandin S, Weisglas-Kuperus N, de Ridder MA, Koopman-Esseboom C, van Staveren WA, van der Paauw CG, Sauer PJ. 1997. Plasma polychlorinated biphenyl levels in Dutch preschool children either breast-fed or formula-fed during infancy. *Am J Public Health* 87:1711-4.
92. Patterson DG Jr, Needham LL, Pirkle JL, Roberts DW, Bagby J, Garrett WA, Andrews JS Jr, Falk H, Bernert JT, Sampson EJ and others. 1988. Correlation between serum and adipose tissue levels of 2,3,7,8- tetrachlorodibenzo-p-dioxin in 50 persons from Missouri. *Arch Environ Contam Toxicol* 17:139-43.
93. Patterson DG Jr, Todd GD, Turner WE, Maggio V, Alexander LR, Needham LL. 1994. Levels of non-ortho-substituted (coplanar), mono- and di-ortho-substituted polychlorinated biphenyls, dibenzo-p-dioxins, and dibenzofurans in human serum and adipose tissue. *Environ Health Perspect* 102 Suppl 1:195-204.
94. Pesatori AC, Consonni D, Tironi A, Zocchetti C, Fini A, Bertazzi PA. 1993. Cancer in a young population in a dioxin-contaminated area. *Int J Epidemiol* 22:1010-3.
95. Pinsky PF, Lorber MN. 1998. A model to evaluate past exposure to 2,3,7,8-TCDD. *J Expo Anal Environ Epidemiol* 8:187-206.
96. Pocchiari F, Silano V, Zampieri A. 1979. Human health effects from accidental release of tetrachlorodibenzo-p-dioxin (TCDD) at Seveso, Italy. *Ann N Y Acad Sci* 320:311-20.
97. Ribas-Fito N, Sala M, Kogevinas M, Sunyer J. 2001. Polychlorinated biphenyls (PCBs) and neurological development in children: a systematic review. *J Epidemiol Community Health* 55:537-46.
98. Rice DC. 1996. PCBs and behavioral impairment: are there lessons we can learn from lead? *Neurotoxicol Teratol* 18:229-32.
99. Rice DC. 1997. Effect of postnatal exposure to a PCB mixture in monkeys on multiple fixed interval-fixed ratio performance. *Neurotoxicol Teratol* 19:429-34.
100. Rodriguez-Pichardo A, Camacho F, Rappe C, Hansson M, Smith AG, Greig JB. 1991. Chloracne caused by ingestion of olive oil contaminated with PCDDs and PCDFs. *Hum Exp Toxicol* 10:311-22.
101. Rogan WJ, Gladen BC. 1991. PCBs, DDE, and child development at 18 and 24 months. *Ann Epidemiol* 1:407-13.
102. Rogan WJ, Gladen BC, Hung KL, Koong SL, Shih LY, Taylor JS, Wu YC, Yang D, Ragan NB, Hsu CC. 1988. Congenital poisoning by polychlorinated biphenyls and their contaminants in Taiwan. *Science* 241 :334-6.
103. Rogan WJ, Gladen BC, McKinney JD, Carreras N, Hardy P, Thullen J, Tinglestad J, Tully M. 1986. Neonatal effects of transplacental exposure to PCBs and DDE. *J Pediatr* 109:335-41.
104. Rothman N, Cantor KP, Blair A, Bush D, Brock JW, Helzlsouer K, Zahm SH, Needham LL, Pearson GR, Hoover RN and others. 1997. A nested case-control study of non-Hodgkin lymphoma and serum organochlorine residues. *Lancet* 350:240-4.
105. Rubin CH, Lanier A, Socha M, Brock JW, Kieszak S, Zahm S. 2001. Exposure to persistent organochlorines among Alaska Native women. *Int J Circumpolar Health* 60:157-69.
106. Ryan JJ, Gasiewicz TA, Brown JF Jr. 1990. Human body burden of polychlorinated dibenzofurans associated with toxicity based on the Yusho and Yucheng incidents. *Fundam Appl Toxicol* 15:722-31.
107. Rylander L, Stromberg U, Hagmar L. 1996. Dietary intake of fish contaminated with persistent organochlorine compounds in relation to low birthweight. *Scand J Work Environ Health* 22:260-6.
108. Safe S. 2001. Molecular biology of the Ah receptor and its role in carcinogenesis. *Toxicol Lett* 120:1-7.
109. Schecter A, Cramer P, Boggess K, Stanley J, Papke O, Olson J, Silver A, Schmitz M. 2001. Intake of dioxins and related compounds from food in the U.S. population. *J Toxicol Environ Health A* 63:1-18.

110. Schecter A, Jiang K, Papke O, Furst P, Furst C. 1994. Comparison of dibenzodioxin levels in blood and milk in agricultural workers and others following pentachlorophenol exposure in China. *Chemosphere* 29:2371-80.
111. Schecter A, Li L. 1997. Dioxins, dibenzofurans, dioxin-like PCBs, and DDE in U.S. fast food, 1995. *Chemosphere* 34:1449-57.
112. Schecter A, Ryan JJ, Constable JD, Baughman R, Bangert J, Fuerst P, Wilmers K, Oates RP. 1990. Partitioning of 2,3,7,8-chlorinated dibenzo-p-dioxins and dibenzofurans between adipose tissue and plasma lipid of 20 Massachusetts USA Vietnam veterans. *Chemosphere* 20:951-8.
113. Schecter A, Ryan JJ, Papke O. 1998. Decrease in levels and body burden of dioxins, dibenzofurans, PCBs, DDE, and HCB in blood and milk in a mother nursing twins over a thirty- eight month period. *Chemosphere* 37:1807-16.
114. Schecter A, Startin J, Wright C, Papke O, Ball M, Lis A. 1996. Concentrations of polychlorinated dibenzo-p-dioxins and dibenzofurans in human placental and fetal tissues from the U.S. and in placentas from Yu-Cheng exposed mothers. *Chemosphere* 32:551-7.
115. Scheele J, Teufel M, Niessen KH. 1992. Chlorinated hydrocarbons in the bone marrow of children: studies on their association with leukaemia. *Eur J Pediatr* 151:802-5.
116. Schiestl RH , Aubrecht J, Yap WY, Kandikonda S, Sidhom S. 1997. Polychlorinated biphenyls and 2,3,7,8-tetrachlorodibenzodioxin induce intrachromosomal recombination in vitro and in vivo. *Cancer Res* 57:4378-83.
117. Schnorr TM, Lawson CC, Whelan EA, Dankovic DA, Deddens JA, Piacitelli LA, Reefhuis J, Sweeney MH, Connally LB, Fingerhut MA. 2001. Spontaneous abortion, sex ratio, and paternal occupational exposure to 2,3,7,8-tetrachlorodibenzo-p-dioxin. *Environ Health Perspect* 109:1127-32.
118. Scientific Committee on Food EC. 2000. Opinion of the Scientific Committee on Food on the risk assessment of dioxins and dioxin-like PCBs in food [Web Page]. Located at: http://europa.eu.int/comm/food/fs/sc/scf/out78_en.pdf.
119. Seegal RF, Brosch KO, Okoniewski RJ. 1997. Effects of in utero and lactational exposure of the laboratory rat to 2,4,2',4'- and 3,4,3',4'-tetrachlorobiphenyl on dopamine function. *Toxicol Appl Pharmacol* 146:95-103.
120. Seegal RF, Bush B, Brosch KO. 1991. Comparison of effects of Aroclors 1016 and 1260 on non-human primate catecholamine function. *Toxicology* 66:145-63.
121. Seegal RF, Bush B, Shain W. 1990. Lightly chlorinated ortho-substituted PCB congeners decrease dopamine in nonhuman primate brain and in tissue culture. *Toxicol Appl Pharmacol* 106:136-44.
122. Shain W, Bush B, Seegal R. 1991. Neurotoxicity of polychlorinated biphenyls: structure-activity relationship of individual congeners. *Toxicol Appl Pharmacol* 111:33-42.
123. Shertzer HG, Nebert DW, Puga A, Ary M, Sonntag D, Dixon K, Robinson LJ, Cianciolo E, Dalton TP. 1998. Dioxin causes a sustained oxidative stress response in the mouse. *Biochem Biophys Res Commun* 253:44-8.
124. Slorach SA, Vaz R. 1985. PCB levels in breast milk: data from the UNEP/WHO pilot project on biological monitoring and some other recent studies. *Environ Health Perspect* 60:121-6.
125. Soong DK, Ling YC. 1997. Reassessment of PCDD/DFs and Co-PCBs toxicity in contaminated rice-bran oil responsible for the disease "Yu-Cheng". *Chemosphere* 34:1579-86.
126. Taylor PR, Lawrence CE, Hwang HL, Paulson AS. 1984. Polychlorinated biphenyls: influence on birthweight and gestation. *Am J Public Health* 74:1153-4.
127. Taylor PR, Stelma JM, Lawrence CE. 1989. The relation of polychlorinated biphenyls to birth weight and gestational age in the offspring of occupationally exposed mothers. *Am J Epidemiol* 129:395-406 .
128. Tilden J, Hanrahan LP, Anderson H, Palit C, Olson J, Kenzie WM. 1997. Health advisories for consumers of Great

Lakes sport fish: is the message being received? *Environ Health Perspect* 105:1360-5.

129. Tognoni G, Bonaccorsi A. 1982. Epidemiological problems with TCDD (a critical view). *Drug Metab Rev* 13:447-69.
130. Travis CC, Hattemer-Frey HA. 1989 . A perspective on dioxin emissions from municipal solid waste incinerators. *Risk Anal* 9:91-7.
131. U.S. Environmental Protection Agency. 2000. Draft dioxin reassessment. Draft exposure and human health reassessment of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin (TCDD) and related compounds [Web Page]. Located at: <http://cfpub.epa.gov/ncea/cfm/dioxin.cfm>.
132. U.S. Food and Drug Administration. 2000. Unavoidable contaminants in food for human consumption and food-packaging material [Web Page]. Located at: <http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm?FR=109.15>.
133. Urabe H, Asahi M. 1985. Past and current dermatological status of Yusho patients. *Environ Health Perspect* 59:11-5.
134. van den Berg M, Peterson RE, Schrenk D. 2000. Human risk assessment and TEFs. *Food Addit Contam* 17:347-58.
135. Vanden Heuvel JP, Lucier G. 1993. Environmental toxicology of polychlorinated dibenzopdioxins and polychlorinated dibenzofurans. *Environ Health Perspect* 100:189-200.
136. Vartiainen T, Jaakkola JJ, Saarikoski S, Tuomisto J. 1998. Birth weight and sex of children and the correlation to the body burden of PCDDs/PCDFs and PCBs of the mother. *Environ Health Perspect* 106:61-6.
137. Walkowiak J, Wiener JA, Fastabend A, Heinzow B, Kramer U, Schmidt E, Steingruber HJ, Wundram S, Winneke G. 2001. Environmental exposure to polychlorinated biphenyls and quality of the home environment: effects on psychodevelopment in early childhood. *Lancet* 358:1602-7.
138. Ward EM, Schulte P, Grajewski B, Andersen A, Patterson DG Jr, Turner W, Jellum E, Deddens JA, Friedland J, Roeleveld N and others. 2000. Serum organochlorine levels and breast cancer: a nested case-control study of Norwegian women. *Cancer Epidemiol Biomarkers Prev* 9:1357-67.
139. Weisglas-Kuperus N, Patandin S, Berbers GA, Sas TC, Mulder PG, Sauer PJ, Hooijkaas H. 2000. Immunologic effects of background exposure to polychlorinated biphenyls and dioxins in Dutch preschool children. *Environ Health Perspect* 108:1203-7.
140. Whitlock JP Jr. 1999. Induction of cytochrome P4501A1. *Annu Rev Pharmacol Toxicol* 39:103-25.
141. Wilson CL, Safe S. 1998. Mechanisms of ligand-induced aryl hydrocarbon receptor-mediated biochemical and toxic responses. *Toxicol Pathol* 26:657-71.
142. Wolfe WH, Michalek JE, Miner JC, Pirkle JL, Caudill SP, Patterson DG Jr, Needham LL. 1994. Determinants of TCDD half-life in veterans of operation ranch hand. *J Toxicol Environ Health* 41:481-8.
143. Wolfe WH, Michalek JE, Miner JC, Rahe AJ, Moore CA, Needham LL, Patterson DG Jr. 1995. Paternal serum dioxin and reproductive outcomes among veterans of Operation Ranch Hand. *Epidemiology* 6:17-22.
144. Wolff MS, Schecter A. 1991. Accidental exposure of children to polychlorinated biphenyls. *Arch Environ Contam Toxicol* 20:449-53.
145. Wolff MS, Toniolo PG. 1995. Environmental organochlorine exposure as a potential etiologic factor in breast cancer. *Environ Health Perspect* 103 Suppl 7:141-5.
146. Wong PW, Brackney WR, Pessah IN. 1997. Ortho-substituted polychlorinated biphenyls alter microsomal calcium transport by direct interaction with ryanodine receptors of mammalian brain. *J Biol Chem* 272:15145-53.
147. Wong PW, Garcia EF, Pessah IN. 2001. Ortho-substituted PCB95 alters intracellular calcium signaling and causes

cellular acidification in PC12 cells by an immunophilin-dependent mechanism. *J Neurochem* 76:450-63.

148. World Health Organization. 2000. Consultation on assessment of the health risk of dioxins; re-evaluation of the tolerable daily intake (TDI): executive summary. *Food Addit Contam* 17:223-40.
149. Yamashita F, Hayashi M. 1985. Fetal PCB syndrome: clinical features, intrauterine growth retardation and possible alteration in calcium metabolism. *Environ Health Perspect* 59: 41-5.
150. Yoshimura T, Kaneko S, Hayabuchi H. 2001. Sex ratio in offspring of those affected by dioxin and dioxin-like compounds: the Yusho, Seveso, and Yucheng incidents. *Occup Environ Med* 58:540-1.
151. Yu ML, Hsin JW, Hsu CC, Chan WC, Guo YL. 1998. The immunologic evaluation of the Yucheng children. *Chemosphere* 37:1855-65.