

The Control of Reproductive Hazards in the Workplace: A Prescription for Prevention*

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As workers become more aware that occupational exposure to toxic substances can impair their ability to bring healthy children into the world, they will begin to focus on legal mechanisms for reducing reproductive hazards in the workplace. The authors explore the use of compensatory remedies and anti-discrimination laws to provide an impetus for employers to provide safe workplaces. They investigate using worker protection laws to reach psychological injuries and harm to offspring. They also survey existing preventive tools such as injunctive relief and the right to refuse hazardous work.

I INTRODUCTION

In coming years we may see a shift in the emphasis and intensity of worker initiatives to promote health and safety in the workplace. It is becoming increasingly clear that the effects of occupational exposure to toxic substances are not confined to the worker. More and more, we are learning that occupational exposures can also impair both the health of the worker's future children and his or her ability to have those children. The practical effects of this discovery may be profound. Even if workers are willing to accept a degree of risk to their own health as a condition of employment, they may be far less willing to accept risks to their ability to bring healthy children into the world.

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Reproductive hazards may soon become a major focus of workplace health and safety.

This article explores the principal regulatory and legal mechanisms available to reduce the level of exposure to reproductive hazards in the workplace, and emphasizes the steps that workers can take to set those mechanisms into motion. Its purpose is three-fold:

- to examine the utility of existing legislation designed to provide technical control of reproductive hazards;
- to describe other legal means, both public and private, for preventive action; and
- to address compensatory remedies, and examine the extent to which they provide incentives for prevention.

While this article neither exhaustively compiles all available avenues for relief, nor explores in detail all technical aspects of the remedies discussed, it does set forth a broad, practical framework designed to protect reproductive health and future generations from the hazards of workplace exposures.

II

THE NATURE OF REPRODUCTIVE HAZARDS AND THEIR EFFECTS

Those interested in preventing exposures to reproductive hazards must have a working knowledge of the kinds of hazards which may be present in the workplace. This not only will be important for those who wish to develop a comprehensive control policy, but also workers who wish to take action in response to their own exposure to reproductive hazards. Use of the available regulatory or legal mechanisms to secure abatement of a workplace hazard or to seek compensation for damage caused by past exposure requires the ability to identify the hazard and its specific effects. This information will influence the choice of the remedy or control option to be pursued and the manner in which the claim is presented.

A. Classification of Reproductive Hazards

For the purposes of this analysis, a workplace "reproductive hazard" is any worker exposure that is capable of (a) harming the fetus or prospective child of the exposed worker and/or (b) harming the reproductive system or sexual capacity of the exposed worker.¹ In general, the former can be divided into three categories. *Fetal toxins*, such as

1. This definition of "reproductive hazard" thus does not cover the transmission of a toxic substance from an exposed worker to his or her children after the children are born, as where an exposed worker brings home toxic particles that remain on his or her clothing, or where a nursing child is exposed to toxins through the milk of his or her exposed mother.

lead,² act during pregnancy by passing through the placental barrier and poisoning the fetus, and can cause spontaneous abortion, stillbirth, and various neonatal deficiencies. *Teratogens* also act during pregnancy by passing through the placenta to the fetus, or by altering the physiology of the mother and affecting the fetus without passing through the placental barrier. Rather than "poisoning" the fetus, however, they retard or alter fetal development, and can thus damage the offspring in a number of ways, including deformity, disease, and death. Methylmercury is a common example.³ *Germ cell mutagens* change the genetic structure of a parent's reproductive cell and can also cause deformity, disease, and death. Worker exposure to anesthetic gas, for example, has been linked to dominant lethal mutation.⁴

The interrelationship of these three categories of reproductive hazard is presently under study. In general, while teratogenic agents are usually thought to be fetotoxic as well, not all fetotoxic agents appear to be teratogenic.⁵ Teratogenic effects are largely thought to be limited to one generation, and children suffering the effects of teratogenesis are usually thought to expect no greater incidence of anomalies in *their* children than in the general population.⁶ More recent evidence, however, indicates that certain classic teratogens such as thalidomide may also be mutagens.⁷ If this is the case, then persons exposed to teratogens *in utero* may also expect a general increase in mutations among their offspring. As there has not yet been a comprehensive attempt to correlate teratogenic and mutagenic effects, it is difficult at present to determine the extent to which teratogens may also be mutagens, or to which mutagens may also be teratogens. But both are clearly capable of causing "birth defects." Further, both may be capable of causing

2. See, e.g., Kurzel and Cetrulo, *The Effect of Environmental Pollutants on Human Reproduction, Including Birth Defects*, 15 ENVTL. SCI. & TECH. 626, 635-36 (1981), and the sources cited therein.

3. See, e.g., *id.* at 634-35, and the sources cited therein. For a general discussion of teratogenesis, see J. WILSON & F. FRASER, *HANDBOOK OF TERATOLOGY* (1977-78).

4. Cohen, *A Survey of Anesthetic Health Hazards Among Dentists*, 90 J. AM. DENTAL A. 1291 (1975). But see Knill-Jones, Newman & Spence, *Anesthetic Practice and Pregnancy*, 1975 LANCET 807.

5. Kurzel and Cetrulo, *supra* note 2, at 628.

6. See, e.g., Harbison, *Teratogens*, in CASARETT & DOULL'S TOXICOLOGY: THE BASIC SCIENCE OF POISONS 158, 167 (2d ed. 1980): "Most congenital malformations are not associated with any obvious abnormality of the chromosomes and are not heritable."

7. Thalidomide was introduced into the European market as a sedative in the late 1950's. Shortly thereafter, an association was detected between thalidomide ingestion in pregnant women and the occurrence of phocomelia (shortening or absence of limbs) among the resultant offspring. Although the drug was removed from the market in 1961, an estimated 10,000 children were ultimately deformed by thalidomide. See Harbison, *supra* note 6, at 169. A recent study suggests not only that thalidomide may be a mutagen, but also that its teratogenic mechanism may be mutagenic in nature. Gordon, *Thalidomide Teratogenesis: Evidence for a Toxic Arene Oxide Metabolite*, 78 PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES 2445 (1981).

irreversible damage through only brief exposure.⁸

In addition to mutagens and teratogens, a number of hazards can affect reproductive health without necessarily endangering the offspring. *Gametotoxins*, for example, can impair fertility by damaging or reducing the number of sperm or ova. Other substances can upset male or female hormonal balance, thereby reducing sperm or ova production. Finally, some hazards cause reduction or loss of sexual function, through a decrease either in sexual desire or in male potency. While it is beyond the scope of this article to review the scientific data on reproductive hazards, this information may be obtained from a variety of excellent sources.⁹

B. Damages from Exposure to Reproductive Hazards

A parent or child may suffer specific damage in a variety of ways from the different general hazards discussed above. For affected workers or their families, the ability to pursue the appropriate claim for legal or regulatory relief will depend on the capacity to differentiate among these various categories of damage. They must be able to clearly identify who is or will be injured, and what kinds of injuries have been or are likely to be incurred.

1. The Offspring

The offspring of an exposed worker will suffer the most serious

8. As the process of mutagenesis may begin with only one cell, a one-time exposure to any germ-cell mutagen, including a teratogenic mutagen, may be sufficient to induce mutations. In the great majority of circumstances, of course, mutagenesis will *not* be induced by only one or a few exposures. However, any worker who is exposed risks genetic damage. In addition, depending on a number of factors (such as the stage of embryonic or fetal development and the route of maternal exposure), a non-mutagenic teratogen may induce birth defects with only limited maternal exposure. As noted by Harbison, "fetal defects [may be] easily produced without harm to the mother." Harbison, *supra* note 6, at 164.

9. For a comprehensive, well-referenced and relatively up-to-date compilation of much of the available information on reproductive hazards, see Clement Associates, Inc., *Chemical Hazards to Human Reproduction*, COUNCIL ON ENVIRONMENTAL QUALITY (1981). For a less technical discussion of the relationship between workplace toxins and reproductive injury, see COALITION FOR THE REPRODUCTIVE RIGHTS OF WOMEN (CRROW), *REPRODUCTIVE HAZARDS IN THE WORKPLACE: A RESOURCE GUIDE*, chs. 1-3 (1980). For a recent book by a non-scientist, see C. NORWOOD, *AT HIGHEST RISK: ENVIRONMENTAL HAZARDS TO YOUNG AND UNBORN CHILDREN* (1980). While perhaps not always even-handed or accurate in its interpretation of scientific evidence, the book gives an indication of the personal dimension of human damage from reproductive hazards.

For a discussion of the relevant evaluation methodology, see U.S. ENVIRONMENTAL PROTECTION AGENCY, *ASSESSMENT OF RISKS TO HUMAN REPRODUCTION AND TO DEVELOPMENT OF THE HUMAN CONCEPTUS FROM EXPOSURE TO ENVIRONMENTAL SUBSTANCES* (1981). Finally, union members now have access to data on toxic substances through a computerized information system. This service is available through The Workers' Institute for Safety and Health, 1126 16th St., N.W., Washington, D.C. 20036, (202)887-1987. See also Cohen, *Hazardous Material Information Resources*, in *OCCUPATIONAL HEALTH & SAFETY* 15 (1983).

damage from reproductive hazards. When one or both parents are exposed to a workplace reproductive hazard prior to conception, or a mother is exposed during pregnancy, the child may incur an array of injuries as the result of that exposure. In the prenatal stage, the fetus may abort or be stillborn. For example, an increased risk of involuntary abortion or stillbirth resulting from maternal exposure to lead has long been recognized.¹⁰ If the child survives the pregnancy, a parent's past exposure to a reproductive hazard may cause premature birth or reduced birth weight. Many workplace substances, including lead, formaldehyde, and anesthetic gases have been associated with one or the other of these outcomes.¹¹ Moreover, exposure to a mutagen or a teratogen may cause physical or mental deformities. These deformities may be obvious, or they may be "hidden," not becoming manifest until later in life. Similarly, a child may be born with a chronic or crippling disease, or a latent disease with symptoms that do not appear for many years. For example, many daughters of women who were exposed to diethylstilbestrol (DES) during pregnancy are developing cancer as they enter womanhood.¹² In addition, a parent's exposure can cause damage to his or her child's immune system or other physiological defense mechanisms, resulting in increased susceptibility to diseases unrelated to the exposure.

In conjunction with any one of these physical injuries the child may also suffer serious emotional damage. Children born with obvious physical deformities often suffer mental and emotional anguish as they struggle to transcend the limitations imposed by their hardships.¹³ A different kind of anguish may be experienced by children, such as the daughters of DES mothers, who live knowing that they might develop a devastating disease as a result of their parents' past exposure.

A final category of damage to the offspring is that which results from the inheritance of chromosomal aberrations. Genetic mutations can be transmitted through generations. While some germ cell mutagens will cause readily apparent changes in the child of an exposed parent, others may not cause obvious deformities until future generations.¹⁴ Thus, not only may the full consequences of mutagenic

10. Clement Associates, Inc., *supra* note 9, at IV-25.

11. *Id.* at IV-20 to IV-22.

12. Kurzel & Certrulo, *supra* note 9, at 630 n.1.

13. For three recent treatments of this topic, see Friedrich & Friedrich, *Psychological Aspects of Handicapped and Nonhandicapped Children*, 85 AM. J. MENTAL DEFICIENCIES 551 (1981); Lussier, *The Physical Handicap and the Body Ego*, 61 INT'L J. PSYCHOANALYSIS 117a (1980); Stearns, *Understanding the Psychological Adjustment of Physically Handicapped Children in the Classroom*, 10 CHILD TODAY 12 (1981).

14. Ionizing radiation, for example, is known to be a germ-cell mutagen in animals. See Hobbs & McClellan, *Radiation and Radioactive Materials*, in CASARETT & DOULL'S TOXICOLOGY: THE BASIC SCIENCE OF POISONS 497 (2d ed., 1980): "[Radiation-induced] mutations may be dom-

exposure not be felt until the birth of the grandchildren or great-grandchildren, but the child of an exposed parent must choose whether or not to risk those consequences by having children.

2. *The Parents*

Apart from injury to their offspring, workers themselves may be subject to various types of reproductive damage. Disruption of normal ovulation or sperm production and even full sterility are possible. Exposure to 1, 2-dibromo-3-chloropropane (DBCP), lead, and ethylene dibromide, for example, have all been reported to reduce fertility in men,¹⁵ while exposure to various organochlorine pesticides has been associated with impaired fertility in women.¹⁶ Reduced reproductive capacity can also be caused by disruption of sexual desire or sexual function, as in the cases of male exposure to kepone and carbon disulfide¹⁷ and female exposure to various pesticides.¹⁸ Reproductive hazards may also make workers less willing to conceive. For example, they may not wish to take the risks associated with exposure to mutagens or teratogens. Or a mother may decide not to conceive again after an involuntary abortion or stillbirth for fear of risking physical damage from future pregnancies.

A second category of damage common to both parents is the mental trauma they might suffer as the result of exposure to reproductive hazards. A man or a woman exposed to mutagenic or teratogenic substances must often live with the knowledge that his or her future children may be born with birth defects. Such knowledge could lead to emotional disorders or even psychoses, and may contribute to marital strife and divorce.¹⁹ This type of damage may be particularly severe when the exposure to reproductive hazards is discovered by the mother during pregnancy, and could possibly lead to miscarriage or voluntary abortion.

A third category of damage common to both parents involves the

inant, recessive, or sex-linked recessive. Recessive mutations may require numerous generations prior to their expression." *Id.* at 513.

15. Clement Associates, Inc., *supra* note 9, at IV-20. See also Woolhandler, *Toxic Injury to Male Reproductive Systems: A Review*, in OCCUPATIONAL HEALTH & SAFETY 24 (1983).

16. Clement Associates, Inc., *supra* note 9, at IV-22.

17. *Id.* at IV-20.

18. *Id.* at IV-22.

19. Evidence of the probable mental and emotional effects of potential reproductive damage can be found in a number of sources. For studies detailing the psychological impact suffered by parents of children who have birth defects, see Friedrich & Friedrich, *supra* note 13; Taylor, *Counseling the Parents of Handicapped Children*, 284 BRIT. MED. J. 1027 (1982). As Taylor notes, these parents are confronted with a profound sense of failure of their reproductive expectations. A recent study also indicates substantial psychological reaction to the possibility of having passed on toxic effects to one's offspring. See Hatcher, *The Psychological Experience in Nursing Mothers Upon Learning of a Toxic Substance in Their Breast Milk*, 45 PSYCHIATRY 172 (1982).

loss of a child as a result of exposure to a workplace hazard. In addition to emotional trauma, the damages here will involve a loss of companionship and a possible hesitancy to have more children. A related injury occurs to the spouse of a worker whose exposure to a reproductive hazard causes decreased sexual desire or function, or decreased reproductive capacity. The resultant lack of consortium might lead to emotional trauma, marital discord, and divorce.

Finally, a woman who is exposed to a reproductive hazard during pregnancy may suffer physical damage apart from any damage to her reproductive capacity. A miscarriage, for example, always involves the risk of serious damage to the mother. And if the fetus dies without aborting, the mother can suffer fatal hemorrhaging.

The human risks posed by reproductive hazards in the workplace are both serious and far-reaching. An effective control strategy, then, must be one that emphasizes prevention. In many cases, the most readily available mechanisms for preventive relief will be those created by federal statute. In other instances, private actions may be required.²⁰

III

LEGISLATIVE AVENUES FOR PROTECTIVE RELIEF

Exposure to reproductive hazards may be deterred through the use of federal regulatory control mechanisms and "self-help" remedies created by federal statute. Whether existing federal statutory remedies will be effective in abating reproductive hazards will depend, of course, on the circumstances of each case. Some general advantages and disadvantages, however, can be identified at the outset. On the positive side, a regulatory statute offers an articulated federal policy of protection and the expertise and resources of a specialized federal agency. Quite often, statutory mechanisms require a smaller investment of personal resources than does a private legal action.²¹ In addition, the statutory mechanism sometimes offers a means for recoupment of attorneys' fees and other personal costs.²² On the negative side, the statutory process can be slow, and may provide an inadequate rem-

20. This article does not discuss the remedies that may be available under the various state statutes. In many situations, however, state legislation will provide complementary avenues of relief, and may in some cases provide relief beyond that which is available under federal statutes.

21. Where the agency response is sufficient one may be able to rely substantially on the agency's resources. Legal fees, expert witness fees, and other costs usually associated with litigation can be minimized or avoided. However, where the agency fails to act, or responds insufficiently, substantial personal expense may be necessary to secure appropriate agency action. In other situations, such as claims for discriminatory action under section 11 of the OSH Act, the regulatory statute specifically provides for legal representation of the claimant worker at government expense. 29 U.S.C. § 660(c)(2) (1976).

22. See *infra* notes 73 and 101.

edy.²³ Further, citizen participants in the regulatory process may find that their interests are subordinated to the interests of the regulatory agency.

A. Regulatory Control of Hazards

There are two comprehensive federal statutes addressing the problem of reproductive hazards in the workplace. The Occupational Safety and Health Act (OSH Act)²⁴ is designed to prevent exposure to workplace hazards in general. Its principal focus is the protection of the worker, and not the protection his or her offspring. On the other hand, the Toxic Substances Control Act (TSCA)²⁵ regulates the general production and use of chemical substances. Its mechanisms clearly can be utilized on behalf of both parents and offspring.

1. The Occupational Safety & Health Act

The OSH Act provides a potentially useful means of controlling reproductive hazards in the workplace. The Act contains two general regulatory provisions for the control of workplace hazards. One is the standard-setting procedure of section 6(b),²⁶ and the other is the general duty provision of section 5(a)(1).²⁷ As both provisions place the principal responsibility for workplace health and safety on the employer, they provide mechanisms designed to encourage employers to abate reproductive hazards before they inflict damage on workers.

a. Occupational Health Standards

Under section 6(b), the Secretary of Labor is responsible for setting new permanent health and safety standards for the workplace. The statutory description of this responsibility suggests that it can be used to develop standards which reduce reproductive hazards:

The Secretary, in promulgating standards dealing with toxic materials or harmful physical agents under this subsection, shall set the standard

23. Injunctive relief through the judicial process, where available, may provide a more timely abatement of a workplace hazard than statutory standard-setting procedures. Further, in most cases, statutory mechanisms will not provide compensatory relief for damages already suffered. Finally, although generalizations are difficult, the regulatory process is perhaps more susceptible to political pressures than is the judicial system, and the results are likely to reflect this fact.

24. 29 U.S.C. §§ 651-678 (1976).

25. 15 U.S.C. §§ 2601-2629 (1976).

26. 29 U.S.C. § 655(b) (1976).

27. 29 U.S.C. § 654(a)(1) (1976). For debate on OSHA's use of the general duty clause, see Morgan & Duvall, *OSHA's General Duty Clause: An Analysis of Its Use and Abuse*, 5 *INDUS. REL. L.J.* 283 (1983), Drapkin, *OSHA's General Duty Clause: Its Use Is Not Abuse—A Response to Morgan & Duvall*, 5 *INDUS. REL. L.J.* 322 (1983), and Morgan & Duvall, *Reply to Drapkin*, 5 *INDUS. REL. L.J.* 334 (1983).

which most adequately assures, to the extent feasible, on the basis of the best available evidence, that *no employee* will suffer *material impairment of health or functional capacity* even if such employee has regular exposure to the hazard dealt with by such standard for the period of his working life.²⁸

To the extent that they pose a danger to the health or functional capacity of the exposed worker—or, perhaps, to that worker's future offspring—reproductive hazards are a proper subject for standard setting under section 6(b).

Physical injuries are certainly within the scope of this provision. Impairment of reproductive or sexual capacity by mutagens or other toxic substances, for example, clearly constitutes a "material impairment of . . . functional capacity." Similarly, damage to a pregnant mother as a result of her fetus' exposure to a teratogen is a "material impairment" of the mother's "health." Further, although OSHA regulations have not yet been extended to the prevention of other than physical damage, section 6(b) would appear to envisage the regulation of reproductive hazards that cause mental or emotional injury to the worker-parent. For while the OSH Act was not designed to produce a trauma-free workplace, it was intended to reduce the health risks posed by physically harmful hazards. The mental health dangers imposed by a worker's physical exposure to teratogens or germ cell mutagens are no less a material impairment of health than a number of physical impairments—such as hearing loss—for which regulations presently exist,²⁹ and should be given consideration in devising appropriate control mechanisms for reproductive hazards.³⁰ Finally, the United States Court of Appeals for the District of Columbia has indicated that the

28. 29 U.S.C. § 655(b) (1976) (emphasis added). Section 6(c) provides for the imposition of an "emergency temporary standard" while the standard setting process of 6(b) is underway:

The Secretary shall provide, without regard to the requirements of chapter 5, title 5, United States Code, for an emergency temporary standard to take immediate effect upon publication in the Federal Register if he determines (A) that employees are exposed to grave danger from exposure to substances or agents determined to be toxic or physically harmful or from new hazards, and (B) that such emergency standard is necessary to protect employees from such danger.

29 U.S.C. § 655(c) (1976). Section 13, 29 U.S.C. § 662 (1976), permits the Secretary to seek immediate injunctive relief in a federal district court against an "imminent danger." Finally, agricultural workers may find additional relief under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), 7 U.S.C. §§ 135-136y (1978), which is administered by the Environmental Protection Agency. Where OSH Act and FIFRA regulations overlap, FIFRA will control.

29. The occupational noise level standard is found at 29 C.F.R. § 1910.95 (1982).

30. The courts have long recognized the fact that mental and emotional trauma can grow out of physical injury, and have allowed recovery for damages for such trauma in both tort and worker compensation actions. See Miller, *Recovery for Psychic Injuries under Workers' Compensation*, CASE & COM. Sep.-Oct. 1982, at 40, for a recent discussion of this topic. There is no reason to believe that Congress was unaware of this precedent when it passed the OSH Act, and there is nothing in the language of Section 6(b) to indicate a limitation to purely *physical* consequences of workplace exposures.

health of future worker offspring must be considered in the setting of OSH Act standards.³¹

The Secretary's authority to regulate reproductive hazards is quite broad. So long as he or she pursues the goal of securing a safe and healthful workplace environment, the Secretary may embrace a variety of regulatory alternatives in setting workplace standards. Indeed, as noted by the United States Court of Appeals for the District of Columbia: "A number of the terms of the statute give OSHA almost unlimited discretion to devise means to achieve [this] Congressionally mandated goal."³² Thus, in addition to devising standards that actually reduce workplace exposure levels—such as source limits, process changes, and protective clothing requirements—the Secretary may develop other regulations to promote employee health.

A mechanism which may prove useful in the regulation of reproductive hazards is medical removal protection (MRP). In essence, MRP involves the relocation of employees who are particularly susceptible to a hazardous exposure to another work area within the plant where the hazard is not present. MRP can also involve a layoff with pay.³³ The D.C. Circuit has approved an MRP program for lead exposure as a valid exercise of the Secretary's authority under section 6(b),³⁴ and the concept may well be appropriate for the protection of workers who prove to be particularly susceptible to damage from reproductive hazards. MRP programs would be sensible, however, only where their cost is exceeded by the cost of actually removing the reproductive hazard from the workplace. When properly utilized, MRP programs ap-

31. The Court of Appeals for the District of Columbia recently indicated that both "workers" and "the children they will hereafter conceive" must be given consideration in the setting of permanent and temporary standards under the OSH Act. *Public Citizen v. Aucter*, 702 F.2d 1150 (D.C. Cir. 1983) (proceedings to set permanent standard for ethylene oxide). Although it is not clear whether a reproductive hazard which affects *only* future offspring is subject to regulation under the OSH Act, the court may be giving tacit recognition to the *emotional* damage suffered by the worker who must face the knowledge that his or her future children may be damaged by a current workplace exposure.

32. *United Steelworkers of Am. v. Marshall*, 647 F.2d 1189, 1230 (D.C. Cir.), *cert. denied*, 453 U.S. 913 (1980).

33. A medical removal *protection* provision should thus be distinguished from a simple medical removal provision, such as is mandated for vinyl chloride, 29 C.F.R. § 1910.1017(k)(5) (1982), which does not include wage or seniority protections, and from various employee exclusion policies whereby fertile workers (usually women) are simply removed from their jobs. *See infra* text accompanying notes 38-47 and 97-114. Current OSHA standards include MRP provisions only for asbestos, 29 C.F.R. § 1910.1001(d)(2)(iv)(c) (1982) and lead 29 C.F.R. § 1910.1025(k) (1982). OSHA has thus far declined to develop a generic MRP policy.

34. *United States Steelworkers of Am.*, 647 F.2d 1189. In *American Textile Mfrs. Inst. v. Donovan*, 452 U.S. 490 (1981), the Supreme Court invalidated an MRP provision for cotton dust, noting that OSHA had failed to make a record for the connection between such a provision and a "safe and healthful work environment." Nonetheless, the court clearly left OSHA free to reinstitute the MRP provision upon proper justification, and noted that such justification "very well may" exist. *Id.* at 539-40.

pear capable both of encouraging beneficial job redesign and of facilitating worker cooperation with programs of periodic biological monitoring.

b. The General Duty Clause

Recognizing that the section 6(b) standard-setting procedure would be incapable of addressing all possible hazards in a timely fashion, Congress imposed an affirmative duty on employers to remove serious hazards from the workplace even where such hazards are not the subject of a specific OSH Act standard. Section 5(a)(1) requires that each employer "furnish to his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees."³⁵

Protection against reproductive hazards would appear to be included within this duty. Section 5(a)(1) was described in a Senate Committee report to Congress as creating a "general and common duty to bring no adverse effects to the life and health of . . . employees."³⁶ A recent decision of the Occupational Safety and Health Review Commission (OSHRC) suggests that this duty extends to all recognized hazards which "alter the physical integrity of employees while they are engaged in work or work-related activities."³⁷ A workplace hazard which impairs the sexual or reproductive process, or which endangers the health of the mother through damage to her fetus, is an affront to the physical integrity of the affected worker. The scope of the general duty clause appears slightly less broad than that of the standard-setting mechanism of section 6(b). The general duty clause is designed to prevent only serious "physical" harm. Purely emotional damage is thus beyond its purview.

While the general duty clause requires the employer to provide a workplace free of "recognized hazards" likely to cause serious physical harm to his workers, the courts have not yet decided whether the OSH

35. 29 U.S.C. § 654(a)(1) (1976). See generally Morey, *The General Duty Clause of the Occupational Safety and Health Act of 1970*, 86 HARV. L. REV. 988 (1973).

36. S. REP. NO. 1282, 91st Cong., 2d Sess. 9, reprinted in 1970 U.S. CODE CONG. & AD. NEWS 5177, 5186 [hereinafter cited as SENATE REPORT].

37. American Cyanamid Co., 9 O.S.H. Cas. (BNA) 1596, 1600 (1981). Judicial interpretations suggest that a "common sense" standard will be employed in determining whether a hazard poses a "serious" risk. See, e.g., *Donovan v. Royal Logging Co.*, 9 O.S.H. Cas. (BNA) 1755, 1761-62 (9th Cir. 1981) (clause applies when a "reasonably prudent employer" would have known abatement required); *National Realty and Constr. Co. v. OSHRC*, 489 F.2d 1257, 1265 n.33 (D.C. Cir. 1973) (one factor to be considered in evaluating the potential for injury is "of course, common sense."). Workplace concentrations of lead below those permitted by the applicable standard have been held by the OSHA Review Commission to constitute a "serious" risk of injury under Section 5(a)(1). *Asarco, Inc.*, 8 O.S.H. Cas. (BNA) 2076 (1980).

Act permits the employer to achieve compliance with the clause by excluding employees for whom a particular condition poses a hazard. This is a particularly critical question in the context of reproductive hazards control. A number of employers have implemented policies which exclude fertile females—and, in some cases, non-sterilized males—from jobs involving exposure to certain reproductive hazards.³⁸ Usually instituted in the name of worker protection, employee exclusion policies appear to grow out of a combination of moral and economic concerns. While they do provide some protection for future offspring, the economic benefit of such policies inures largely to the employer, who avoids the cost of removing the reproductive hazard from the workplace while at the same time insuring against future tort liability for damages to the offspring of the exposed workers. To the extent that they discriminate against female employees, policies of this nature may violate Title VII of the Federal Civil Rights Act.³⁹

In addition, such policies may also violate the OSH Act. The American Cyanamid Company imposed a "fetus protection policy" at its Willow Island, West Virginia plant. Under the policy, female workers of child-bearing age cannot work in the plant's lead pigment department unless they have been surgically sterilized.⁴⁰ Acting on a worker complaint, the Occupational Safety and Health Administration (OSHA) determined that the policy itself posed a hazard to the reproductive capacity of the affected female workers, and issued a citation under the general duty clause. The Occupational Safety & Health Review Commission disagreed and vacated the citation. The Review Commission reasoned that the policy cannot be considered a "hazard" under the meaning of section 5 because it is "neither a work process nor a work material" and thus cannot "cause injury or disease by operating directly upon employees as they engage in work or work-related activities."⁴¹ When OSHA failed to appeal this decision, the union sought review in the D.C. Circuit, where the case is now pending.⁴²

38. Reportedly, employers who have implemented exclusionary policies of this nature include: Amax, American Cyanamid, Dupont, General Motors, B.F. Goodrich, Olin, Sun Oil, Gulf Oil, Bunker Hill Smelter, Union Carbide, Allied Chemical, Monsanto, TWA, and Dow Chemical. The Lead Industries Association is reported to have endorsed this "female exclusion" approach in 1974. J. Bertin, *Discriminating Against Women of Child bearing Capacity 2* (January 8, 1982) (paper presented at The Hastings Center). For a reasoned discussion of some of the social issues raised by this trend, see Bayer, *Women, Work, and Reproductive Hazards*, HASTINGS CENTER REPORT 14 (1982).

39. See *infra* text accompanying notes 96-113.

40. These facts are taken from the Review Commission decision in *American Cyanamid Co.*, 9 O.S.H. Cas. (BNA) at 1597.

41. *Id.* at 1600. This was a two-to-one decision, with Commissioner Cottine dissenting.

42. *Oil, Chemical, & Atomic Workers Union, Local 3-499 v. OSHRC*, Docket No. 81-1687. On February 26, 1982, the D.C. Circuit denied American Cyanamid's motion to dismiss, but held that the American Cyanamid Co., and not OSHRC, was the proper defendant. 671 F.2d 643

Whether or not one views the Review Commission's decision as correct depends in large part on the vantage point from which one views the "fetus protection" policy. From the employer's perspective, it is possible to conclude that the policy has no impact on a worker's reproductive capacity, as it does not *require* anyone to seek sterilization. This was the position taken by the Review Commission, which noted that it is "impossible for an employer literally to compel employees to undergo sterilization."⁴³ To the female employee, however, the policy presents the kind of Hobson's choice which is tantamount to compulsion: she must sacrifice either her job or her ability to bear children. Its effect is to encourage the sterilization of female workers.

A careful reading of the OSH Act and its legislative history indicates that the policy should be viewed from the employee's perspective. The OSH Act was designed to make the workplace safe for the worker, and not to make the worker safe for the workplace. It carries with it an underlying directive that the employer, not the employee, bear the principal responsibility for workplace safety.⁴⁴ As American Cyanamid's female-exclusion policy shifts that burden to the employee, it would appear to violate the OSH Act. Further, the policy's discriminatory nature appears to conflict with section 2(b) of the Act, which expresses the congressional purpose "to assure so far as possible *every* working man and woman in the Nation safe and healthful working conditions,"⁴⁵ and with section 6(b)(5), which requires OSHA standards to insure that "*no* employee will suffer material impairment of health."⁴⁶ If an employer truly desires to implement a "fetus protection policy," he can either take the steps necessary to remove reproductive hazards from the workplace, or institute job reassignment/wage retention programs which protect the fetus without sacrificing the mother.⁴⁷

c. *Implementation and Enforcement*

So far, reproductive hazards have been given little attention under

(D.C. Cir.), *cert. denied sub nom. American Cyanimid Co. v. Oil, Chemical, & Atomic Workers Union, Local 3-499*, 12 O.S.H. REP. (BNA) 391 (1982).

43. 9 O.S.H. Cas. (BNA) at 1599 n.14.

44. See SENATE REPORT, *supra* note 36, at 9: "Employers have primary control of the work environment and should insure that it is safe and healthful."

45. 29 U.S.C. § 651(b) (1976) (emphasis added).

46. 29 U.S.C. § 655(b)(5) (1976) (emphasis added). The Court of Appeals for the District of Columbia has noted in dicta that "fertile women can find statutory protection from such discrimination in the OSH Act's own requirement that OSHA standards ensure that 'no employee will suffer material impairment of health' . . ." *United Steelworkers*, 647 F.2d at 1238 n.74.

47. To avoid or mitigate an adverse economic impact, employees can restructure job assignments and, in the long run, incorporate process changes that reduce or eliminate the harmful exposures. Nonetheless, the OSH Act clearly *does* anticipate that OSHA standards may result in economic loss to some employers, and may even result in plant closings. See *Industrial Union Dep't, AFL-CIO v. Hodgson*, 499 F.2d 467 (D.C. Cir. 1974).

the OSH Act. To be sure, workplace exposure to DBCP has been regulated primarily because of its danger as a reproductive hazard.⁴⁸ Further, while compliance with the permissible exposure level for lead will not ensure against reproductive damage,⁴⁹ the lead standard does include an MRP provision intended to protect both male and female workers from reproductive effects.⁵⁰ Most reproductive toxins, however, have thus far escaped regulation under either Section 6(b) or the general duty clause.

One difficulty in regulating reproductive hazards under the OSH Act is the frequent lack of conclusive evidence that a particular substance causes a particular reproductive injury. The precise human effects of many known or suspected mutagens and teratogens may be especially difficult to discern. A degree of uncertainty is almost always a part of the regulatory process, however, and was certainly present in the development of standards for the carcinogens and other toxins which are currently regulated under the OSH Act. Persuasive animal carcinogenicity, even in the absence of confirmatory epidemiological evidence, has been deemed sufficient to regulate a substance as a potential human carcinogen.⁵¹ Indeed, under OSHA's generic cancer policy, "suspect carcinogens" are subject to regulation.⁵²

The OSH Act does not require certainty. Under section 6(b), the Secretary must show that it is more likely than not that a hazard presents a risk of material impairment before it may be subjected to regulation. Interpreting this section in light of Section 3(8) of the Act, the Supreme Court has added the requirement that the probable risk of

48. The standard for DBCP is found at 29 C.F.R. § 1910.1044 (1982). Appendix A to this regulation, at § II.B.2, notes: "Prolonged or repeated exposure to DBCP has been shown to cause sterility in humans."

49. The lead standard is found at 29 C.F.R. § 1910.1025 (1982), with a specific discussion of reproductive effects at Appendix C, § II.5. The inclusion of an MRP provision intended to protect, *inter alia*, against reproductive damage is a clear acknowledgment that such damage can occur under the permissible exposure levels.

50. The medical removal protection provision is found at 29 C.F.R. § 1910.1029 (1982). Although the automatic removal provisions (based on particular blood lead concentrations) will not necessarily protect against reproductive damage, the general removal provisions are applicable: "temporary medical removal may in particular cases be needed for workers desiring to parent a child in the near future or for particular pregnant employees. Some males may need a temporary removal so that their sperm can regain sufficient viability for fertilization . . ."

51. See generally *Industrial Union Dep't v. Petroleum Inst.*, 448 U.S. 607, 657 n.64 (1980) (benzene); *Synthetic Organic Chem. Mfrs. Ass'n v. Brennan*, 503 F.2d 1150 (3d Cir. 1974), *cert. denied*, 420 U.S. 973 (1975) (ethylenzamine).

52. See 29 C.F.R. § 1990 (1982). In light of *Industrial Union Dep't, AFL-CIO v. American Petroleum Inst.*, 448 U.S. 607 (1980), and current Administration policy, the ultimate fate of the generic cancer standard is in doubt. See, e.g., *Proposed Changes in Cancer Policy Withdrawn by Reagan Administration*, 10 O.S.H. REP. (BNA) 1387 (1981); *OSHA Proposes Changes in Policy to Reflect Ruling in Benzene Decision*, 10 O.S.H. REP. (BNA) 1097 (1981); *OSHA Asks Fifth Circuit to Delay Cancer Policy Review; Court Agrees*, 10 O.S.H. REP. (BNA) 795 (1981).

a hazardous occurrence be "significant."⁵³ The general duty clause has been held by six circuits to regulate "reasonably foreseeable" risks.⁵⁴ While these evidentiary burdens cannot be taken lightly, they are far from insurmountable.

The problem is not so much scientific certainty as it is emphasis. OSHA has the flexibility and the statutory mandate to develop mechanisms for legally recognizing potential reproductive hazards and to devise innovative regulatory strategies for reducing those hazards in the workplace. Opportunities for immediate action exist in both areas. Various short-term cell tests, such as the Ames assay or the sister chromatoid exchange test,⁵⁵ may be used to target workplace chemicals for probable mutagenic effects. Although further research is warranted, regulation of a number of reproductive hazards could proceed under the present state of scientific knowledge.⁵⁶

Primary authority for the implementation and enforcement of sections 5(a)(1) and 6(b) rests with OSHA. Workers, however, can do much to encourage the use of these statutory procedures. In the past, the impetus for an OSHA action has often come from worker initiatives. Employees can encourage implementation of the OSH Act's provisions by supplying information regarding reproductive hazards to OSHA, by petitioning OSHA for the appropriate formal action under sections 5(a)(1), 6(b), 6(c), or 13, and, if OSHA fails to act, by filing suit to compel the Secretary of Labor to fulfill his or her obligations under the Act.⁵⁷ A worker contemplating action under the Act, however, should base such action on potential harm to both affected workers and

53. *Industrial Union Dep't, AFL-CIO v. American Petroleum Inst.*, 448 U.S. 671 (1980).

54. *See, e.g., Pratt & Whitney Aircraft v. Secretary of Labor*, 649 F.2d 96, 100-01 (2d Cir. 1981) and the cases cited therein.

55. These are *in vitro* laboratory tests that can be completed in a rather short period of time, and are thought by many to provide a somewhat reliable indication of whether a chemical is likely to prove mutagenic (and, by implication, carcinogenic or teratogenic). *See generally* Ames, *Identifying Environmental Chemicals Causing Mutations and Cancer*, 204 *SCIENCE* 587 (1979), and the references cited therein; Wolff, *Sister Chromatoid Exchange*, *ANN. REV. OF GENETICS* 183 (1977).

56. For example, NIOSH has compiled a list of confirmed and suspected teratogens and mutagens as part of its Registry of the Toxic Effects of Chemical Substances (RTECS). This could provide an excellent starting point for regulatory action. This volume is periodically updated, and contains references from the scientific and medical literature. The latest edition, dated 1980, is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., under GPO 017-033-00399-8. OSHA has taken the position that there is a "limited state of awareness" of reproductive hazards, and has therefore declined to adopt a generic policy or standard for reproductive hazards. *See Scientific Data Insufficient for OSHA to Issue Generic Rule, Vance Testifies*, 12 *O.S.H. REP. (BNA)* 204 (1982).

57. Section 13(d) provides a specific right of mandamus where the Secretary "arbitrarily or capriciously fails to seek relief" under the "imminent danger" provision of that section. 29 U.S.C. § 662(d) (1976). Review of an agency's decision not to act on a particular hazard can generally be secured under the Administrative Procedure Act (APA). *See, e.g.,* 5 U.S.C. §§ 704, 706 (1976). Further, a limited right to what is essentially a mandamus action is available under § 702 of the APA, which provides for relief against "an agency or an officer or employee thereof [that] acted or

their offspring, rather than to offspring alone. In most cases this will be largely a matter of emphasis, and need not meaningfully limit the reproductive hazards subject to OSH Act regulation. As discussed above, most reproductive hazards which harm the child also harm the exposed parent, either through physical or emotional injury.⁵⁸

The OSH Act does not provide for a recovery of attorneys' fees by worker participants. However, as discussed below, it does protect workers from retaliation by the employer for the exercise of their rights under the Act.⁵⁹

2. *The Toxic Substances Control Act*

Regulation of reproductive hazards in the workplace may also be pursued through the Toxic Substances Control Act (TSCA).⁶⁰ TSCA contemplates a two-tiered approach to the control of chemical toxins. It provides a mechanism for the systematic testing of potential toxins to determine whether they present a risk of injury to human health or the environment, and further provides a means to control the production or use of those substances which present an "unreasonable" risk of such injury. Congress intended that TSCA be used to regulate reproductive hazards. Section 4(b)(2)(A) is specific:

The health and environmental effects for which standards for the development of test data may be prescribed include . . . mutagenesis, teratogenesis, behavioral disorders . . . and any other effect which may present an unreasonable risk of injury to health or the environment.⁶¹

Under TSCA, a manufacturer is responsible for testing the potentially dangerous chemical substances it produces.⁶² For a chemical actually in use, section 4(a) requires testing where that chemical "may present an unreasonable risk of injury to health or the environment," or where the chemical is produced in substantial quantities and either "may reasonably be anticipated to enter the environment in substantial quantities" or "there . . . may be significant or substantial human exposure."⁶³ Section 5 imposes similar requirements for new chemicals, and for existing chemicals put to significant new uses. Here, however, additional safeguards exist, as such production or new use may not be-

failed to act in an official capacity or under color of legal authority." 5 U.S.C. § 702 (1976) (emphasis added).

58. See *supra* text accompanying notes 15-20 and the material cited therein. Lead, for example, is both a fetal toxin that can harm potential offspring and a sterilant that can cause reduced fertility in males.

59. See *infra* text accompanying notes 76-95.

60. 15 U.S.C. §§ 2601-2629 (1976).

61. 15 U.S.C. § 2603(b)(2)(A) (1976).

62. Section 4(b)(3)(B), 15 U.S.C. § 2603(b)(3)(B) (1976).

63. 15 U.S.C. § 2603(a) (1976) (emphasis added).

gin until ninety days after all required testing is completed.⁶⁴

The purpose of this testing requirement is to provide the necessary data for determining whether regulation of a production or use is appropriate. Responsibility for the development of such regulations, and the enforcement of the Act in general, rests principally with the Administrator of the Environmental Protection Agency. The Administrator may impose a temporary production or use standard, pending required testing, under sections 5(e) and (f),⁶⁵ file action in Federal District Court to enjoin the production or use of an "imminent hazard" under section 7,⁶⁶ or impose permanent standards on production or use under section 6.⁶⁷ For toxic substances generally, the Administrator must develop a permanent standard or take other decisive action if there is "a reasonable basis to conclude" that a substance poses an "unreasonable risk to health or the environment."⁶⁸

For carcinogens, mutagens or teratogens, the Administrator is given a more specific statutory directive. Section 4(f) provides that whenever there is information

which indicates to the Administrator that there *may* be a reasonable basis to conclude that a chemical substance or mixture presents or will present a significant risk of serious or widespread harm to human beings from cancer, gene mutations, or birth defects, the Administrator shall . . . initiate appropriate action under [section 5, 6, or 7], to prevent or reduce to a sufficient extent such risk or publish in the Federal Register a finding that such risk is not unreasonable.⁶⁹

Section 9 of TSCA requires EPA to report findings under section 4(f) to OSHA for appropriate action, but does not affect EPA's authority to regulate the suspect chemical itself.⁷⁰

This section potentially provides an excellent mechanism for the control of many serious reproductive hazards. To date, however, EPA has not invoked the provisions of section 4(f) for any suspected teratogen or mutagen. This appears to be a failure to fulfill a direct statutory mandate. While the language of section 4(f) arguably allows the Administrator a degree of discretion in determining whether a substance poses a significant risk, it also clearly anticipates that the Ad-

64. 15 U.S.C. § 2604(a) (1976).

65. 15 U.S.C. § 2604(e), (f) (1976).

66. 15 U.S.C. § 2606 (1976).

67. 15 U.S.C. § 2605 (1976). For a general discussion of § 6(e), see *Environmental Defense Fund v. Environmental Protection Agency*, 636 F.2d 1267 (D.C. Cir. 1980). For a discussion of the exemption provisions of § 6, see *SED, Inc. v. City of Dayton*, 519 F. Supp. 979 (D. Ohio 1981). One court has held that this section does not create a private right of action for damages. *Johnson v. Koppers Co.*, 524 F. Supp. 1182 (D. Ohio 1981).

68. 15 U.S.C. §§ 2604(f), 2605(a) (1976).

69. 15 U.S.C. § 2603(f) (1976) (emphasis added).

70. 15 U.S.C. § 2608 (1976).

ministrator will take regulatory action in the face of scientific uncertainty. Section 4(f) requires some action whenever there "may" be a reasonable basis to conclude that a significant risk exists. Certainly, a number of teratogens and mutagens are eligible for consideration on this basis.

Here again, workers can prompt regulatory action. Citizen petitions for the issuance or amendment of production, use, or testing standards are specifically authorized by section 21 of TSCA,⁷¹ and citizens' suits to compel the Administrator to take non-discretionary action under the Act are authorized by section 20.⁷² Further, the award of attorneys' fees and costs to citizen participants is authorized, but not required, in many sections of the Act,⁷³ and section 23 protects workers from retaliation for their assertion of rights under the Act.⁷⁴

We may soon learn more about the extent to which citizen involvement can motivate regulatory action against reproductive hazards under TSCA. The EPA recently declined to regulate formaldehyde as a potential carcinogen under section 4(f). Suit is being contemplated to compel the Administration to proceed with such regulations.⁷⁵ The outcome of such litigation might well determine how useful 4(f) will be as a regulatory tool against teratogens and mutagens.

B. Statutory Self-Help Mechanisms

In addition to general regulatory controls, federal statutes also provide workers with avenues for individual relief. For reproductive-hazard control, the two most valuable statutory "self-help" mechanisms are the right to refuse hazardous work and the right to be free of sexual discrimination in the workplace.

71. 15 U.S.C. § 2620 (1976). For a discussion of the proper forum for review under this section, see *Environmental Defense Fund v. Environmental Protection Agency*, 636 F.2d at 1273-74.

72. 15 U.S.C. § 2619 (1976). A county has been held to lack standing under this section. *Warren County v. State of North Carolina*, 528 F. Supp. 276 (D.N.C. 1981).

73. 15 U.S.C. §§ 2605(c)(4)(A), 2618(d), 2619(c)(2), and 2620(b)(4)(C) (1976). For a detailed discussion of the award of attorneys fees under TSCA, see *Environmental Defense Fund v. Environmental Protection Agency*, 672 F.2d 42 (D.C. Cir. 1982).

74. 15 U.S.C. § 2622 (1976). The 30-day time limit for filing a complaint under this section has been held not to be jurisdictional. *School Dist. of Allentown v. Marshall*, 657 F.2d 16 (3d Cir. 1981).

75. *Hearings Before a Subcommittee of the Committee on Government Operations*, 97th Cong., 1st Sess. 185, 191 (1981).

1. *The Right to Refuse Hazardous Work*⁷⁶

The National Labor Relations Act (NLRA)⁷⁷ and the OSH Act⁷⁸ provide many employees a limited right to refuse to perform hazardous work.⁷⁹ When properly exercised, this right protects an employee from retaliatory discharge or other discriminatory action for refusing hazardous work, and incorporates a remedy providing both reinstatement and back pay. The nature of this right under the NLRA depends on the relevant collective bargaining agreement, if there is one. Non-union employees, and union employees whose collective bargaining agreements specifically exclude health and safety from a no-strike clause, have the right to stage a safety walkout under section 7 of the NLRA.⁸⁰ If they choose to walk out based on a good faith belief that working conditions are unsafe, they will be protected from retaliation by their employer.⁸¹ Union employees who are subject to a comprehensive collective bargaining agreement may avail themselves to the provisions of section 502 of the NLRA.⁸² Under this section, an employee who is faced with "abnormally dangerous conditions" has an individual right to leave the job site. The right may be exercised, however, only where the existence of abnormally dangerous conditions can be objectively verified.⁸³

Under a 1973 OSHA regulation, the right to refuse hazardous work extends to all employees of private employers, regardless of the existence or nature of a collective bargaining agreement. The scope of this right, however, is not yet clear. Section 11(c) of the OSH Act protects an employee from discharge or other retaliatory action arising out

76. For a detailed discussion of the right to refuse hazardous work, see Ashford & Katz, *Unsafe Working Conditions: Employee Rights Under the Labor Management Relations Act and the Occupational Safety & Health Act*, 52 NOTRE DAME LAW. 802 (1977); Atelson, *Threats to Health and Safety: Employee Self-Help Under the NLRA*, 59 MINN. L. REV. 647 (1975).

77. 29 U.S.C. §§ 151-169 (1976).

78. 29 U.S.C. §§ 651-678 (1976).

79. Some employees, e.g., agricultural workers and workers covered by the Railway Labor Act, are not covered by the NLRA. The OSH Act does cover agricultural workers. This article does not discuss rights to refuse hazardous work other than those available under the NLRA and OSH Act. The Mine Health and Safety Act, for example, has such a provision, and federal employees are afforded a right to refuse hazardous work as a matter of policy.

80. 29 U.S.C., § 157 (1977). See, e.g., *NLRB v. Washington Aluminum Co.*, 370 U.S. 9 (1962).

81. See, e.g., *Union Boiler Co. v. NLRB*, 530 F.2d 970 (4th Cir. 1975), enforcing 213 N.L.R.B. 818, 87 L.R.R.M. (BNA) 1269 (1974). However, a walkout by a minority of employees in derogation of a position taken by the union in a no-strike clause is not protected under section 7. See, e.g., *NLRB v. Sunbeam Lighting Co.*, 318 F.2d 661 (7th Cir. 1963). For a more detailed discussion of this issue, see Ashford & Katz, *supra* note 76, at 803-05.

82. 29 U.S.C., § 143 (1976).

83. *Gateway Coal Co. v. UMW*, 414 U.S. 368, 385-87 (1974). For a more detailed discussion of this issue, see Ashford & Katz, *supra* note 76 at 805-18.

of his or her "exercise" of "any right" afforded by the Act.⁸⁴ The Secretary of Labor has promulgated regulations under this section defining a right to refuse hazardous work in certain circumstances: where an employee reasonably believes that there is a "real danger of death or serious injury," there is insufficient time to eliminate that danger through normal administrative channels, and the employer has failed to comply with an employee request to correct the situation.⁸⁵ In *Whirlpool Corp. v. Marshall*,⁸⁶ this regulation was upheld by the Supreme Court. A unanimous Court held that the Secretary's action was authorized by section 11(c), and noted that the regulation "simply permits private employees of private employers to avoid workplace dangers that they believe pose grave dangers to their own safety."⁸⁷

Although not widely used for this purpose, the right to refuse hazardous work provides a limited means of relief for employees facing reproductive hazards in the workplace.⁸⁸ An employee who contemplates the exercise of one of these three statutory rights should take care to ensure that his or her workplace situation meets the criteria for such exercise. The section 7 right is the broadest of the three, as it permits a subjective determination of workplace danger. As noted, however, it applies only to certain categories of employees, and contemplates "concerted action." This usually means that more than one employee must be involved, although an individual work stoppage may qualify if it is intended to serve the interests of other workers.⁸⁹ Exercise of the section 502 right requires an *objectively* verifiable hazard, and thus does not protect against retaliation when the employee's subjective determination proves to have been incorrect. Under section 11(c) of the OSH

84. 29 U.S.C. § 660(c)(1) (1976). That section provides in pertinent part:

No person shall discharge or in any manner discriminate against any employee because such employee has filed any complaint or instituted or caused to be instituted any proceeding under or related to this chapter or has testified or is about to testify in any such proceeding or because of the exercise by such employee on behalf of himself or others of any right afforded by this chapter.

85. 29 C.F.R. § 1977.12(b)(2) (1982).

86. *Whirlpool Corp. v. Marshall*, 445 U.S. 1, 21 (1980).

87. *Id.*

88. The right to refuse hazardous work appears to have been extended to reproductive hazards in Canada. The Labour Minister recently ruled that a pregnant employee who left her job because she felt that a hepatitis risk at the workplace posed a danger to her unborn child properly exercised her right to refuse unsafe working conditions under the Canadian Occupational Health and Safety Act. The Minister is reported to have ruled that, because "there is no distinction between a pregnant worker and her unborn child," the fetus may be protected under the Act even though there is no specific provision for such protection. See ONTARIO FOUNDATION OF LABOUR, OCCUPATIONAL HEALTH AND SAFETY CENTRE, *Women Can Refuse if Fetus in Jeopardy*, AT THE SOURCE, (March/April, 1983). For a discussion of the right to refuse hazardous work in Canada, see Brown, *Canadian Occupational Health and Safety Legislation*, 20 OSGOODE HALL L.J. 90, 96-102 (1982).

89. See *NLRB v. Interboro Contractors, Inc.*, 388 F.2d 495, 499 (2d Cir. 1967). But see *NLRB v. C & I Air Conditioning, Inc.*, 486 F.2d 977, 978 (9th Cir. 1973).

Act, as noted by the Supreme Court, ". . . any employee who acts in reliance on the regulation runs the risk of discharge or reprimand in the event a court subsequently finds that he acted unreasonably or in bad faith."⁹⁰ Here the standard is one of the reasonableness, not the correctness, of the perception of danger. Proof of the violation of an applicable OSH Act standard or general duty clause citation should provide at least a partial basis for proof of the existence of a hazard, or of the reasonableness of the perception of a hazard.⁹¹

Moreover, an employee exercising either the NLRA section 502 or OSH Act right must demonstrate that the danger was sufficiently "hazardous" to warrant such a refusal to work. Proof of an "abnormally dangerous" condition under section 502 may be particularly difficult in inherently dangerous jobs, as this section is usually applied only to conditions that are not a "normal" part of the job.⁹² For this reason, most reproductive hazards will probably be addressed more easily under the OSH Act right rather than under section 502. Certainly, reproductive hazards commonly present a concrete risk of a "serious" injury. The key question will be whether the hazard presents a real danger of injury before administrative procedures can be utilized. Hazards such as germ cell mutagens, which can cause serious and irreversible harm after only a short-term exposure,⁹³ would appear to meet this criterion.

A final limitation on the right to refuse hazardous work is its uncertain applicability to injuries to a worker's future offspring. The OSH Act appears to apply only to hazards affecting the health and safety of workers. The exercise of this right must be based solely on potential damage to the worker.⁹⁴ The applicable language of the NLRA is not limited to worker health and safety, however, but rather contains broad protections against discriminatory action and coercion,⁹⁵ and may protect workers who refuse to perform work which is causing mental distress. Thus, a workplace teratogen may very well constitute a "dangerous" condition under sections 7 and 502.

2. *The Right to Freedom from Sexual Discrimination*

Title VII of the Civil Rights Act of 1964, as amended in 1978.

90. *Whirlpool Corp. v. Marshall*, 445 U.S. 1, 21 (1980).

91. For a more detailed discussion of this issue, see Ashford & Katz, *supra* note 76, at 831-35.

92. *See id.* at 806, and the cases cited therein.

93. *See supra* text accompanying note 8.

94. The regulation creating the right pertains only to situations "when an employee is confronted with a choice between not performing assigned tasks or subjecting *himself* to serious injury or death . . ." 29 C.F.R. § 1977.12(6)(1) (1982) (emphasis added).

95. Section 7 of the NLRA speaks broadly of the rights of employers to organize for their "mutual aid or protection," 29 U.S.C. § 157 (1976) (emphasis added), and the overall spirit of the Act is freedom from coercion, both physical and emotional.

provides in pertinent part that ". . . women affected by pregnancy, childbirth, or related medical conditions shall be treated the same for all employment-related purposes . . . as other persons not so affected, but similar in their ability or inability to work . . ."⁹⁶ This provision, designed to protect women from sexual discrimination in the workplace, calls into question the legality of the "fetus protection" policies discussed above.⁹⁷ An employer who excludes fertile women from a workplace because they may become pregnant discriminates against those women on the basis of their potential to become "affected by pregnancy, childbirth, or related medical conditions."⁹⁸ A number of commentators have argued that such discrimination violates Title VII.⁹⁹ This interpretation, if accepted by the courts, could provide female workers with a valuable tool for addressing workplace hazards.¹⁰⁰

An employee who believes she is a victim of sexual discrimination may petition for relief under the Civil Rights Act. If she is successful, she will ordinarily be entitled to recovery of attorneys' fees and costs, as well as appropriate redress for the discrimination.¹⁰¹ There are two principal defenses to a Title VII action. One is the bona fide occupational qualification (BFOQ) defense, which requires the employer to

96. 42 U.S.C. § 2000e(k) (1976 & Supp. IV 1981). This section, known as the "Pregnancy Discrimination Act," was a Congressional response to *General Electric Co. v. Gilbert*, 429 U.S. 125 (1976).

97. See *supra* text accompanying notes 38-47.

98. 42 U.S.C. § 2000e(k) (1976 & Supp. IV 1981).

99. Five somewhat divergent viewpoints, all coming to this same general conclusion, are represented in Mattson, *The Pregnancy Amendment: Fetal Rights and the Workplace*, 86 CASE & COM., No. 6, at 33 (1981); Nothstein and Ayres, *Sex-Based Considerations of Differentiation in the Workplace: Exploring the Biomedical Interface Between OSHA and Title VII*, 26 VILL. L. REV. 239 (1981); Williams, *Firing the Woman to Protect the Fetus: The Reconciliation of Fetal Protection with Employment Opportunity Goals Under Title VII*, 69 GEO. L.J. 641 (1981); J. Bertin, *Discrimination Against Women of Childbearing Capacity*, presented at the Hastings Center (January 8, 1982); Stillman, *The Law in Conflict: Accommodating Equal Employment and Occupational Health Obligations*, presented at the American Occupational Health Conference, Anaheim, California (May 2, 1979). As noted by Ronald Bayer of The Hastings Center, underlying the Title VII furor over female exclusionary policies is "a recognition that the American economy so limits the possibilities of its women workers that they would demand, as a sign of liberation, the right to share with men access to reproductive risks." Bayer, *supra* note 38, at 19.

100. A circuit court decision that construes the 1978 amendment in the context of a fetal protection policy is *Wright v. Olin Corp.*, 697 F.2d 1172 (4th Cir. 1982). Under Olin's "fetal vulnerability" policy, all women up to age 63 are assumed to be fertile, and are excluded from certain jobs which may require exposure to teratogenic or abortifacient agents unless Olin's doctors determine that they cannot bear children. In addition, most pregnant women are excluded from certain other jobs which involve more limited exposure to these substances, and non-pregnant women may work in such jobs only after signing acknowledgments of risk. In reversing the district court decision in *EEOC v. Olin Corp.*, 24 Fair. Empl. Prac. Cas. (BNA) 1646 (W.D.N.C. 1980), the Fourth Circuit held that "the existence and operation of the fetal vulnerability program established as a matter of law a *prima facie* case of Title VII violation." 697 F.2d at 1187. The court remanded the case to the district court to allow Olin an opportunity to attempt to demonstrate that the policy was justified by business necessity. See *infra* note 107.

101. 42 U.S.C. § 2000e-5(k) (1976).

demonstrate that the policy of discrimination was reasonably necessary both to "the essence of its business" and to the promotion of worker safety or efficiency.¹⁰² A "fetus protection" policy thus would require a strong showing that women of child-bearing capacity are unable to efficiently and safely perform their jobs. The second defense is based on business necessity, and requires the employer to demonstrate that the discriminatory policy is absolutely essential to the continuation of the business, and that the business cannot be protected through any reasonable alternative.¹⁰³ Both defenses have been rather narrowly construed by the courts,¹⁰⁴ and some commentators have concluded that an employer seeking to justify a fetal protection policy will have difficulty in successfully asserting either defense.¹⁰⁵

In the past, the business-necessity defense has been available only where the policy in question was not discriminatory on its face.¹⁰⁶ Therefore, as discrimination "on the basis of pregnancy, childbirth or related medical conditions" has been specifically designated as sex discrimination under Title VII, this defense would not appear to be available where the "fetus protection" policy applies only to fertile women. Nonetheless, the Fourth Circuit has characterized one such policy as "literally expressed in gender-neutral terms," and has held that business necessity, if properly established, is an appropriate defense.¹⁰⁷

102. The defense arises from statutory language. See 42 U.S.C. § 2000e-2(e) (1976). Principal cases defining the defense are: *Arrit v. Grisell*, 567 F.2d 1267, 1271 (4th Cir. 1977); *Usery v. Tamiami Trail Tours, Inc.*, 531 F.2d 224, 236 (5th Cir. 1976); *Hodgson vs. Greyhound Lines, Inc.*, 499 F.2d 859, 861-63 (7th Cir. 1974). *Mattson*, *supra* note 99, at 34, argues that the defense will not be successful in "fetus protection" cases "unless it can be shown that there is a definite nexus between pregnancy risks and job performance, as opposed to a potential risk to the fetus."

103. The business-necessity defense was judicially created. See *Griggs v. Duke Power Co.*, 401 U.S. 424, 431 (1971).

104. The Supreme Court has characterized the BFOQ defense as an "extremely narrow exception" to the prohibition against sex discrimination. *Dothard v. Rawlinson*, 433 U.S. 321, 334 (1977). In *Albermarle Paper Co. v. Moody*, 422 U.S. 405 (1975), the Court indicated that the availability of an alternative policy which would meet the same business necessity "would be evidence that the employer was using [the challenged policy] merely as a 'pretext' for discrimination." *Id.* at 425. In *Griggs v. Duke Power Co.*, the Court characterized the business-necessity test as requiring a "manifest relation to the employment in question." 401 U.S. at 431. See also, *Robinson v. Lorillard Corp.*, 444 F.2d 791 (4th Cir.), *cert. denied*, 404 U.S. 1006 (1971).

105. Again, though they do not always agree on particulars, this is the general conclusion reached by many commentators. See *supra* note 99.

106. The defense was developed by the Supreme Court in conjunction with the court's recognition that an employment practice that was neutral *on its face* could still violate Title VII if it was discriminatory *in its effect*. *Griggs v. Duke Power Co.*, 401 U.S. at 431. The defense has not been extended to facially discriminatory policies.

107. *Wright v. Olin Corp.*, 697 F.2d 1172 (4th Cir. 1982). In describing Olin's "fetus vulnerability" policy as "gender-neutral," the court appears to have rejected the argument that discrimination on the basis of childbearing capacity was sex discrimination *on its face*, and thus to have found the policy discriminatory only *in its effect*. As noted, application of the business-necessity defense would be consistent with such a determination of facial neutrality. The court indicated that protection of the fetus was an appropriate business purpose under that defense:

This position conflicts with that taken by some commentators,¹⁰⁸ as well as with the articulated position of at least one federal district court,¹⁰⁹ and appears inconsistent with the plain language of the Civil Rights Act.¹¹⁰

One commentator, Wendy W. Williams of Georgetown University, has argued that Title VII will permit fetal protection policies only if they are applied equally to fertile employees of *both* sexes.¹¹¹ Indeed, as discussed previously, scientific evidence suggests that a policy of isolating fertile women from reproductive hazards without also isolating fertile men is insufficient. A recent report of the Council on Environmental Quality summarizes the available information as follows:

The scientific basis for differential regulation is limited. Reproduction involves a wider range of processes in females than in males, and some processes in females involve critical periods of differential development. However, it does not necessarily follow that women are more sensitive to the action of any given agent. Where extensive data have been compiled on both sexes (e.g., for anesthetic gases and smelter emissions), evidence has been found for adverse effects resulting from exposure of both men and women, including some evidence for adverse fetal effects following exposure of males.¹¹²

When employers realize that they may face liability as a result of the

... we believe the safety of unborn children is ... appropriately analogized to the safety of personal service customers of the business ... We cannot believe that Congress meant by Title VII absolutely to deprive employers of the right to provide any protection for licensees and invitees legitimately and necessarily upon their premises by any policy having a disparate impact upon certain workers.

Id. at 1189. In setting forth guidelines for cases of this nature, the court indicated that the burden of establishing the defense is on the employer, that it must be established by independent, objective evidence, and that it must be supported by the opinion evidence of qualified scientific experts. The court further indicated that the employer need not show a scientific consensus, but must show that there is so considerable a body of opinion that (1) significant risk to unborn children exists and (2) such risk is *confined to the exposure of women workers*, that an informed employer could not responsibly fail to act. Finally, the court indicated that the defense, if established, may be rebutted by proof of acceptable alternative policies or practices.

108. See Nothstein & Ayres, *supra* note 99, at 306-12; Williams, *supra* note 99, at 667-78.

109. The Western District of Michigan has offered the following statement of the law: "... in evaluating employment practices subsequent to [the Pregnancy Discrimination Act], policies which create distinctions or discriminate on the basis of pregnancy are in violation absent a showing of a bona fide occupational qualification." *Thompson v. Board of Education of Romeo Community Schools*, 526 F. Supp. 1035, 1039 (W.D. Mich. 1981).

110. Although the rather direct language of the Pregnancy Discrimination Act would appear to be central to any analysis of the treatment of "fetus protection" policies under Title VII, the court does not address this language in any detail. The apparent inconsistency between it and the court's position may well be reconcilable, but the rationale for such a reconciliation does not appear to be found in the decision. Rather, the court simply notes that if it were to limit the employer to the BFOQ defense, it would "prevent the employer from asserting a justification defense which under developed Title VII doctrine it is entitled to present." 697 F.2d at 1185 n.21.

111. Williams, *supra* note 99.

112. *Clement Associates, Inc.*, *supra* note 9, at VII-4. See also Bollin, *Genes and Gender in the Workplace*, OCCUPATIONAL HEALTH AND SAFETY, Jan. 1982, at 16.

exposure of male employees to a reproductive hazard, they may begin to provide safer work environments. As noted by Williams:

The option of excluding workers at risk may well seem less attractive in light of such evidence than it did when the employer assumed that only women workers transmitted fetal hazards. A workplace composed exclusively of sterile men and women and post-menopausal women will be unappealing to most employers. Under these circumstances, the employer may be inspired to develop solutions short of exclusion, thus not only protecting itself from liability and advancing the health of offspring but promoting the employment interests of workers as well.¹¹³

IV

OTHER MECHANISMS FOR PROTECTIVE RELIEF

In addition to specific statutory remedies, more general avenues of relief are available. The two most important of these are the equitable injunction and the collective bargaining agreement.

A. Injunctive Relief

Through injunctive relief one can, under appropriate circumstances, obtain a court order prohibiting another from taking or continuing a particular action. The injunction has often been used to protect health or safety by preventing hazardous activity or by abating hazardous conditions.¹¹⁴ Landowners, for example, have been granted injunctions against neighboring factories to prevent excessive noise, production of noxious fumes, and a host of other hazards.¹¹⁵ Although the availability of injunctive relief varies with the facts of each case, the right to an injunction is based on three factors: continuing or recurrent risk of irreparable harm, a legal duty to refrain from causing such harm, and the inadequacy of other available remedies at law.¹¹⁶ As a

113. Williams, *supra* note 99, at 703-04.

114. A general discussion of the availability of injunctive relief to abate workplace hazards can be found in Blumrosen, Ackerman, Kligerman, VanSchaick & Sheehy, *Injunctions Against Occupational Hazards: The Right to Work Under Safe Conditions*, 64 CALIF. L. REV. 702 (1976), 1 INDUS. REL. L.J. 25 (1976) [hereinafter cited as Blumrosen].

115. See, e.g., *Proulx v. Basbanes*, 354 Mass. 559, 238 N.E.2d 531 (1968) (laundry and dry cleaning business enjoined from causing excessive noise and vibrations); *Terhune v. Trustees of Methodist Episcopal Church*, 87 N.J. Eq. 195, 100 A. 342 (1917) (trustees of church enjoined from ringing 2,050 pound bell announcing the hour); *Lunda v. Matthews*, 46 Or. App. 701, 613 P.2d 63 (1980) (injunction lodged against cement plant producing dust, noise, and noxious fumes).

116. Certainly, trial courts exercise discretionary power to grant or deny an injunction. See, e.g., *Chicago Stadium Corp. v. Scallen*, 530 F.2d 204 (8th Cir. 1976). The decision will depend on the facts of each case, the jurisdiction, and the statute or common-law principle upon which relief is sought. Nonetheless, evidence of irreparable harm, a legal duty to refrain from causing the harm, and inadequacy of alternative relief is a prerequisite for obtaining an injunction. See generally 42 AM. JUR. 2D *Injunctions* §§ 23-68 (1969). When seeking a temporary injunction, the plaintiff must also demonstrate the likelihood of ultimate success on the merits. See generally Leubsdorf, *The Standard for Preliminary Injunctions*, 91 HARV. L. REV. 525 (1978), which dis-

number of reproductive hazards in the workplace appear to meet these criteria, injunctive relief may be a useful mechanism for abatement. Injunctions may prove especially valuable in dealing with hazards primarily affecting offspring, rather than parents, as most states provide rights of action for such hazards at common law.¹¹⁷

A threshold question is whether federal and state statutes governing worker health and safety preclude injunctions against workplace hazards. The OSH Act clearly does not. Section 4(b)(4) of the Act expressly disclaims any attempt to "affect . . . the common law,"¹¹⁸ and the legislative history of the general duty clause specifically acknowledges an employer's duty under state law to provide a safe and healthful place of employment.¹¹⁹ In general, state workers' compensation statutes specifically preempt actions "at law" for workplace injuries.¹²⁰ The unquestioned goal of workers' compensation, however, is to provide a uniform mechanism for the *compensation* of particular workplace injuries after they have occurred,¹²¹ and not to provide a specific mechanism for the *prevention* of those injuries. It is therefore reasonable to conclude that, in the absence of an express provision precluding *injunctive* relief, workers' compensation poses no bar to the use of the equitable injunction to abate workplace hazards. A recent commentary,¹²² and a recent decision of the New Jersey Superior Court,¹²³

cusses the rationale for the standard governing the availability of interlocutory injunctions. The RESTATEMENT (SECOND) OF TORTS sets forth a more detailed scheme for determining which factors are relevant when deciding whether to grant or deny permanent or temporary injunctions. It states:

(1) The appropriateness of the remedy of injunction against a tort depends upon a comparative appraisal of all of the factors in the case, including the following primary factors: (a) the nature of the interest to be protected, (b) the relative adequacy to the plaintiff of injunction and of other remedies, (c) any reasonable delay by the plaintiff in bringing suit, (d) any related misconduct on the part of the plaintiff, (e) the relative hardship likely to result to defendant if an injunction is granted and to plaintiff if it is denied, (f) the interests of third persons and of the public, and (g) the practicability of framing and enforcing the order or judgment.

(2) The appropriateness of an interlocutory injunction against a tort is determined in the light of the factors listed in Subsection (1), as presented prior to final hearing, but depends primarily upon the following special factors: (a) the extent of the threat of irreparable harm to the plaintiff if the interlocutory injunction is not granted, (b) the consequences that the interlocutory relief may have upon the defendant, (c) the probability that the plaintiff will succeed on the merits, and (d) the public interest.

Id. § 936.

117. See generally *infra* text accompanying notes 168-171, and the material cited therein.

118. 29 U.S.C. § 653(b)(4) (1976).

119. SENATE REPORT, *supra* note 36, acknowledges "a long-established statutory precedent in both state and Federal law to require employers to provide a safe and healthful place of employment." *Id.* at 10.

120. See, e.g., 81 AM. JUR. 2D, *Workmen's Compensation*, § 52 (1976).

121. See, e.g., *Morris v. Baker Auto Parts*, 57 Mich. App. 65, 225 N.W.2d 179 (1974); *Cline v. Avery Abrasives, Inc.*, 96 Misc.2d 258, 263-64, 409 N.Y.S.2d 91, 95 (1978). Both cite compensation as the "primary purpose" of workers' compensation legislation.

122. Blumrosen, *supra* note 114, 64 CALIF. L. REV. at 720, 1 INDUS. REL. L.J. at 43.

are in accord with this view.

Nonetheless, the successful suit to enjoin an employer from maintaining a reproductive hazard in the workplace will demand both creativity and diligent preparation. While a state common law or statutory duty to provide a healthful workplace may not be difficult to establish, many of the hazards for which abatement is sought will be those inherent in the normal operation of the industry in question. In this situation, the maintenance of the hazard may well be consistent with the generally accepted standards of care within the industry. Although an inadequate industry-wide standard of care need not bar an action to enforce a duty to provide a healthful work environment,¹²⁴ the courts will probably consider carefully the economic consequences of a more stringent standard.¹²⁵ Those seeking the injunction should thus be in a position to demonstrate that abatement of the hazard will be economically viable. This will commonly require identification of the control mechanisms or alternative production methods which are available to abate the hazard, and an approximation of the costs and benefits flowing from their adoption.

The harm in question should be carefully described. While injury to reproductive health is clearly "irreparable," in that it cannot be adequately compensated by monetary damages, the risk of that injury must be concrete and demonstrable, not merely speculative.¹²⁶ In the case of mutagens and teratogens, then, plaintiffs may need to present a quantitative estimate of increased human risk in the workplace. If the increased risk to the individual worker is small, all similarly situated workers within the industry could be joined in a class-action suit.¹²⁷

Finally, plaintiffs will need to show the inadequacy of other available remedies. Compensatory remedies are usually inadequate to address continuing hazards, as effective compensation necessarily

123. *Shimp v. New Jersey Bell Tel. Co.*, 145 N.J. Super. 516, 524, 368 A.2d 408, 412 (1976).

124. The principle that courts, not industry, must ultimately set legal standards finds perhaps its most famous pronouncement in the following words of Justice Learned Hand in *The T.J. Hooper*, 60 F.2d 737, 740 (2d Cir. 1932): "Courts must in the end say what is required: there are precautions so imperative that even their universal disregard will not excuse their omission." See also *Helling v. Carey*, 83 Wash. 2d 514, 519 P.2d 981 (1974) (court held ophthalmologist negligent for failing to administer glaucoma test to patient under age 40, in spite of universal practice not to test such patients).

125. Generally, courts compare the probable consequences of imposing an injunction with the probable consequences of granting other remedies. RESTATEMENT (SECOND) OF TORTS §§ 934(1), 936(1)(e).

126. The general rule that an injunction will not issue "upon mere fear, apprehension, or possibility of injury" can be found in *Arkansas La. Gas. Co. v. Fender*, 593 S.W.2d 122, 123 (Tex. Civ. App. 1979). For similar language in a case involving an allegation of possible exposure to future nuclear power hazards, see *Mid-Hudson Nuclear Opponents, Inc. v. Consolidated Edison Co.*, 100 Misc. 2d 158, 162-63, 418 N.Y.S.2d, 883, 886 (1979).

127. See generally FED. R. CIV. P. 23.

involves a multiplicity of claims for the same hazard.¹²⁸ Compensatory mechanisms are especially inadequate in the case of workplace reproductive hazards, since worker suits for ordinary negligence are barred by workers' compensation laws, and those laws may provide little or no compensation for reproductive injuries.¹²⁹

Plaintiffs must also demonstrate that effective relief will not be available under the OSH Act. This may require proof of OSHA's failure to take timely and adequate steps to abate the hazard in response to a worker request.¹³⁰ In addition, plaintiffs will need to demonstrate that the hazard cannot be addressed effectively through control measures less costly than those being sought.¹³¹

In some cases, OSHA may already have made a regulatory decision regarding the hazard in question. That decision will play an important part in the action for injunctive relief. Although it will not be determinative, proof that the conduct sought to be enjoined violates an OSHA standard will be some evidence of the health effects of the exposure in question and could buttress a claim for injunctive relief. The party seeking the injunction, however, must first demonstrate why adequate relief could not be secured through an action to compel OSHA to enforce the standard.¹³² On the other hand, the employer may offer proof that OSHA considered the health effects of the exposure and chose not to set a standard, or set a standard deemed inadequate by the

128. See generally Blumrosen, *supra* note 112, 64 CALIF. L. REV. at 715, 1 INDUS. REL. L.J. at 38. A scheme for evaluating the adequacy of compensatory tort mechanisms is set forth in RESTATEMENT (SECOND) OF TORTS § 944.

129. As reproductive injury does not usually cause a loss of earning or earning capacity—except in the case of a pregnant worker forced to leave the job because of exposure to a fetal toxin, mutagen, or teratogen—compensation would probably be most often extended for loss of faculty. As reproductive damage, to worker or offspring, is not usually listed on the formal schedule, compensation would probably be extended under an "other cases" clause in the statute, where one exists. Compensation under these clauses tends to be rather low. See, e.g., MASS. GEN. LAWS ANN. ch. 152, § 36(j) (West 1981) (limiting award to \$8500).

130. As a practical matter, requesting OSHA action will often precede a decision to seek injunctive relief. Thus, the adequacy or inadequacy of OSHA's response will commonly be a matter of record. Nonetheless, Blumrosen, *supra* note 112, provides a spirited and informative argument against requiring exhaustion of all OSH Act remedies as a prerequisite to injunctive relief.

131. For example, if the injunctive relief requested is the source-point control of a gaseous emission, the evidence should indicate that worker health cannot be protected through the mere installation of fans to improve workplace ventilation.

132. Where a right of mandamus against OSHA is deemed an adequate alternative remedy, see *supra* note 59, an action for injunction may not lie. See generally, 42 AM. JUR. 2D Injunctions § 43 (1969). Thus, in order to exhaust all available administrative remedies, an employee should sue for injunction only after OSHA declined to take appropriate action, or has indicated its unwillingness to enforce their standard. Alternatively, the plaintiff could join the action against OSHA with the suit for injunction and thus bring all principal parties into a single tribunal. The court could then determine the proper avenue for judicial relief. This approach, however, requires the plaintiff to file the action in federal court.

exposed worker, as an argument against injunctive relief. Here again, the OSHA position may not be determinative, but the party seeking the injunction must be prepared, nonetheless, to demonstrate why OSHA's response was inadequate, and why an action against OSHA would not suffice.¹³³

A practical impediment to an action for injunctive relief may be the fear of employer reprisal. It need not be. In addition to the protection against discrimination offered by the OSH Act, TSCA, and applicable collective bargaining agreements,¹³⁴ recent decisions in many states have recognized an employee's common-law right to be free from retaliatory employment practices, and have imposed tort liability on employers who engage in such practices.¹³⁵ Some states have enacted "whistle blower" statutes which offer protection to employees who exercise their legal rights in job-related matters.¹³⁶ Thus, a worker who brings a good-faith action to enjoin an employer from maintaining a workplace hazard may well have a right of redress if the employer retaliates. Indeed, if the worker suspects that retaliation will occur, he or she should request an injunction against retaliation in the pleadings.

B. *The Collective Bargaining Agreement*

Another useful preventive mechanism is the collective bargaining process. Health and safety considerations are a mandatory subject of

133. See *supra* note 132. An agency standard, or other evidence of regulatory action, may not always be admissible in court. The trend, however, is clearly toward admissibility. A recent survey of reported tort decisions found that such evidence was admitted in about 75% of the cases. Heaton, Allar & Maier, *The Uses of Regulatory Evidence in Tort Actions: Automobiles, Consumer Products, and Occupational Safety and Health*, 4 J. PRODUCTS LIABILITY 231, 252 (1981).

134. See OSH Act § 11(c), 29 U.S.C. § 660(c)(1) (1976); TSCA § 23, 15 U.S.C. § 2622 (1976). Provisions in collective bargaining agreements, of course, will vary widely; many agreements will not be helpful.

135. See, e.g., *Palmateer v. International Harvester Co.*, 85 Ill. 2d 124, 421 N.E.2d 876 (1981) (tort of retaliatory discharge recognized when employee discharged for informing police of a fellow employee's suspected criminal behavior); *Lally v. Copygraphics*, 85 N.J. 668, 428 A.2d 1317 (1981) (court recognized a cause of action for wrongful discharge of an employee who had filed a workers' compensation claim); *Barrett v. Sam P. Wallace Co.*, C81-691R (W.D. Wash. Aug. 17, 1981) (order dismissing certain claims) (employee had a viable claim under Washington law when he alleged that he had been discriminated against because he opposed his employer's policy restricting an employee's right to report safety violations to the Nuclear Regulatory Commission). See also 81 AM. JUR. 2D *Workmen's Compensation* § 55 (Supp. 1982) (citing recent cases on this topic). But see *Green v. Amerada-Hess Corp.*, 612 F.2d 212 (5th Cir.), *cert. denied*, 449 U.S. 952 (1980) (no cause of action under Mississippi statutes or common law for retaliatory employment practices).

136. Michigan's Whistleblowers' Protection Act, MICH. COMP. LAWS ANN. § 15.361-369 (West 1981), for example, prohibits retaliatory action against an employee because he or she "reports or is about to report . . . a violation or suspected violation of a law or regulation . . ." *Id.* § 15.362. An employee attempting to enforce an OSHA standard, or to enforce compliance with the general duty clause of Section 5 of the OSH Act, would appear to be within the purview of this protective statute.

collective bargaining. As workers learn of the potential effects of workplace hazards on their ability to bear children, they may seek to include abatement or reduction of reproductive hazards as a term of their collective bargaining agreement.¹³⁷ Union negotiators, however, should be sure not to waive the right to utilize any other avenues of relief.¹³⁸

V

COMPENSATORY MECHANISMS AS PROTECTIVE RELIEF

Prevention of damage to reproductive health is obviously preferable to monetary compensation for such damage once it has occurred. Nonetheless, actions seeking compensation for past injuries will often have the effect of preventing similar injuries in the future. The potential for such a prophylactic effect is certainly present in the case of workplace reproductive hazards. An award of monetary damages in a successful suit for serious reproductive injury is likely to be high. A 21-year-old woman who contracted vaginal cancer as a result of her mother's exposure to DES, for example, was recently awarded \$2.25 million in a claim against the manufacturer.¹³⁹ An award for congenital malformation, or for the sterility of a childless spouse, may also be substantial. The size of these awards will not go unnoticed by those who may have to pay them. As suits for reproductive hazards in the workplace become more prevalent, employers will have strong financial incentives to reduce their exposure to future liability. The critical task, of course, will be to ensure that the precautions taken are proper.

As discussed above, employers have already indicated concern over potential liability for damage inflicted on a fetus by workplace teratogens.¹⁴⁰ Rather than reducing the level of teratogenic hazard, however, many have sought merely to exclude fertile women from the workplace.¹⁴¹ Similarly, manufacturers facing potential products liability claims have lobbied for legislation which would make it more difficult to file such claims.¹⁴² If compensatory mechanisms are to

137. This possibility was raised by Anthony Mazzocchi of the Oil, Chemical, and Atomic Workers International Union in a lecture delivered at the Harvard School of Public Health in October 1981.

138. For a general discussion of the extent to which unions may permissibly waive the rights of its members, see Harper, *Union Waiver of Employee Rights Under the NLRA: Part I*, 4 INDUS. REL. L.J. 335 (1981).

139. *Axler v. E.R. Squibb & Sons*, 10 PROD. SAFETY & LIAB. REP. (BNA) 298 (Pa. C.P. Philadelphia County, March 24, 1982).

140. See *supra* text accompanying note 38.

141. See *supra* text accompanying note 39.

142. This has been an ongoing effort on both the federal and state level. The recent drive has been for the passage of a uniform federal products liability law which would preempt the common law and statutory remedies now available in the various states. The proposal is intended to benefit

serve as a meaningful incentive for prevention, action to counter such efforts may also be needed.

There are two principal means of compensation for damages resulting from exposure to workplace hazards: workers' compensation laws, and common-law and statutory tort remedies. Most workers' compensation statutes provide inadequate coverage for reproductive injuries.¹⁴³ The tort system may thus be far more effective in preventing reproductive hazards. Four principal defendants may face tort liability for reproductive injuries: the employer, the manufacturer, and supervisor, and the medical professional.

A. Claims Against the Employer

Most claims against an employer will be based on allegations of negligence or intentional conduct. As most employee claims for negligence will be barred by workers' compensation laws, negligence actions will most commonly be filed on behalf of offspring,¹⁴⁴ or by spouses seeking damages for loss of consortium.¹⁴⁵ A plaintiff must establish both a breach of a duty to adhere to a particular standard of care and an injury which arose as a proximate result of that breach. Mere citation of an employer's common-law duty to provide a safe and healthful workplace may not be sufficient to establish the desired standard of care. As discussed above, the maintenance of a reproductive hazard may be consistent with generally accepted industry practice.¹⁴⁶ Accordingly, plaintiffs will often need to demonstrate that the standard of care imposed by law is more exacting than that practiced within the

industry, as is apparent from the identity of its sponsors. The recently formed American Corporate Counsel Association, for example, endorsed the concept as one of its first acts. *Group of Corporate Lawyers Endorses Federal Tort Reform*, 10 PROD. SAFETY & LIAB. REP. (BNA) 346 (1982). The National Association of Manufacturers is sponsoring a letter-writing campaign to persuade the Administration to support the proposal. *Write to DOC, White House, Industry Group Urges Companies*, 10 PROD. SAFETY & LIAB. REP. (BNA) 383 (1982).

143. 2 A. LARSON, THE LAW OF WORKMEN'S COMPENSATION §§ 57.14, 58.33 (1981).

144. The right of the child to sue for his or her own damages caused by exposure of a parent to a reproductive hazard is consistent with conventional tort doctrine, and has been recognized in a growing number of jurisdictions. See *infra* notes 168-71 and accompanying text.

145. The right of a spouse to sue for loss of consortium is, at this point, less well-recognized. In some states an individual has an independent right of action against his or her spouse's employer for negligent or intentional impairment of the marital relationship caused by work-related injuries, even where the spouse has already received workers' compensation. *Copelin v. Reed Tool Co.*, 610 S.W.2d 736 (Tex. 1980) (cause of action if employer's conduct intentional). In *Ferriter v. Daniel O'Connell's Sons, Inc.*, 1980 Mass. App. Ct. Adv. Sh. 2075, 413 N.E.2d 690 (1980), the spouse and the minor children were held to have such a right. Other states have adopted a contrary position, holding that a workers' compensation statute destroys the spouse's common law action for loss of consortium. *E.g.*, *Cassaccia v. Green Valley Disposal Co.*, 62 Cal. App. 3d 610, 133 Cal. Rptr. 295 (1976).

146. See *supra* text accompanying notes 124-125.

industry.¹⁴⁷ At least three approaches may aid plaintiffs in such efforts.

If the employer's conduct in exposing the worker to the hazard violated an applicable OSH Act or TSCA regulation, or any other federal or state health or safety regulation, the employer may be found negligent as a matter of law.¹⁴⁸ Also, if it can be shown that the industry standard was "recognized" as hazardous within the industry, or by the employer in question, a violation of the OSH Act's general duty clause may be established.¹⁴⁹ Such proof might also establish a corresponding common-law duty of care. Finally, in the absence of an existing regulatory directive or specific employer or industry knowledge, plaintiffs must challenge the adequacy of the industry standard and advocate a stricter common-law duty to protect worker health.¹⁵⁰

In addition to breach of an appropriate standard of care, the plaintiff must also establish that his or her injury was proximately caused by the exposure in question. Proof of a causal connection is difficult in any lawsuit involving environmental exposure to toxic substances. It is generally impossible to conclusively establish that a particular injury grew out of a particular exposure. However, the injured party generally need only establish the causal connection by a preponderance of the evidence.¹⁵¹ This burden, while substantial, is not impossible to meet in appropriate circumstances. Expert testimony regarding causation, however, should always be buttressed by relevant epidemiological and/or toxicological data, and medical testimony which tends to rule out other means of causation.¹⁵² This approach is particularly appropriate in cases involving reproductive hazards, since many of the resultant injuries are relatively rare.¹⁵³

In addition to claims for negligence, a worker's offspring or spouse

147. See *supra* note 124.

148. Heaton, Allar & Maier, *supra* note 133.

149. See *supra* text accompanying notes 35-37.

150. Courts may be willing to impose a higher standard for reproductive hazards than for other workplace hazards, since reproductive hazards directly affect both workers and their children.

151. The appropriate standard is whether it is *more likely than not* that the injury in question was caused by the suspect exposure. See generally 30 AM. JUR. 2D *Evidence* § 1164 (1967).

152. See, e.g., *Miller v. Nat'l Cabinet Co.*, 8 N.Y.2d 277, 168 N.E.2d 811, 204 N.Y.S.2d 129 (1960).

153. For example, although male sterility can be caused by factors other than occupational exposure, *E.g.* Woolhandler, *supra* note 15, it is something less than an everyday occurrence. An increased incidence of sterility among male employees at a particular workplace will likely raise considerable suspicion. If the workplace environment contains a known chemical sterilant, the cases of sterility can be correlated statistically with exposure to that chemical, and other potential causes can be excluded or discounted, the evidence would arguably be sufficient to survive a defendant's motion for summary judgment or dismissal. The evidence would then be submitted to the trier of fact on the issue of probable causation and the traditional criteria—such as the credibility of lay and expert witnesses and the persuasiveness of arguments on causality—would be determinative.

may, in the appropriate case, sue the employer for intentional infliction of reproductive damage. Significantly, this may also provide the *worker* with a direct avenue of relief against the employer, as the right to bring suit for intentional torts is in many states not barred by workers' compensation.¹⁵⁴ In addition to proof of the necessary causal connection, a successful suit for intentional tort requires proof that the defendant intended to cause the injury in question. The concept of "intentional" action, however, could be interpreted broadly in the area of toxic substance exposure. Indeed, recent cases indicate that an employer runs a significant risk of liability in intentional tort if it willfully or recklessly exposes its employees to substances which it knows to be dangerous.¹⁵⁵ Further, employers have been held liable in intentional tort for fraudulently concealing from a worker the fact that he or she was suffering adverse effects from toxic substance exposure in the workplace.¹⁵⁶ Similarly, an employer might also be held liable for intentionally concealing the fact of exposure itself, or the toxic nature of the exposure.

In appropriate circumstances, an employer that knowingly exposes its employees to toxic substances might also be liable for the tort of outrage, or the related tort of intentional infliction of emotional harm. In either case, liability could be imposed where the employer's action in permitting the exposure was so egregious as to exceed the bounds "usually tolerated by decent society."¹⁵⁷ Imposition of such liability would appear particularly appropriate in the case of employers who willfully expose their employees to reproductive hazards with full knowledge of the potential consequences. The intentional infliction of sterility or birth defects, certainly, shocks the ordinary conscience.

A question that may come shortly to the fore is whether employees may voluntarily *wave* their right to sue their employer in tort for dam-

154. Although benefits provided under a workers' compensation statute are generally specified to be the exclusive remedy available to the employee for claims against the employer, many workers' compensation statutes specifically preserve an employee's right to sue the employer for intentional torts. For a discussion of cases construing these statutory provisions, see Annot., 96 ALR 3d 1064 (1979).

155. *E.g.*, Blankenship v. Cincinnati Milacron Chems. Inc., 69 Ohio St. 2d 608, 433 N.E.2d 572 (1982). See generally Annot., 96 ALR 3d 1064 (1979) (division of authority as to the extent that "reckless" conduct is beyond the exclusivity bar of workers' compensation).

156. *E.g.*, Johns-Manville Prods. Corp. v. Superior Court, 27 Cal. 3d 465, 165 Cal. Rptr. 858, 612 P.2d 948 (1980).

157. W. PROSSER, LAW OF TORTS 56 (4th ed. 1971). This cause of action is for mental and emotional, as distinct from physical, injury. Regardless of whether suits for intentional conduct are beyond the exclusivity bar of workers' compensation, suits for essentially emotional harm may escape the exclusivity bar whenever the applicable workers' compensation statute provides no remedy for mental or emotional injury. *E.g.*, Broaddus v. Ferndale Fastner Div., 84 Mich. App. 593, 269 N.W.2d 689 (1978). See generally Annot., 86 A.L.R.3d 454 (1978 & Supp. 1982) (availability of causes of action for emotional harm in the workplace context).

ages to reproductive health. May an employer require such a waiver as a condition of employment? Clearly, a worker's agreement to waive a future child's right to sue for fetal damage would be unenforceable.¹⁵⁸ And, while the issue may be less clear, an employee's waiver of his or her own right to sue may be equally unenforceable. Certainly an adult may, in appropriate circumstances, agree to give up his or her right to bring an action in tort. But given the strong public policy favoring a safe and healthful workplace, and the likely inequality of bargaining power between employer and employee, a waiver secured as a condition of further employment should be viewed with disfavor by the courts.¹⁵⁹

B. Claims Against the Manufacturer

The manufacturer of a chemical substance may also be liable for damage to reproductive health caused by the use of that substance in the workplace. If such use was reasonably foreseeable at the time the product was distributed, the manufacturer could be either strictly liable or liable in negligence for the resultant damages. Proof of negligence will be difficult when the manufacturer's methods of production comport with industry standards. The plaintiff may find it necessary to advocate a common-law standard of care which is more stringent than industry practice.¹⁶⁰ Breach of an applicable TSCA standard, however, may establish negligence as a matter of law.¹⁶¹ When there is no breach of statute or regulation, the most promising avenue for recovery will be an action based on a theory of strict liability, which requires proof that the product is both unreasonably dangerous and "defective." Although the elements of this cause of action vary somewhat from jurisdiction to jurisdiction, a "defect" may exist if either the manufacturer failed to take adequate steps to warn prospective users of the

158. The public policy here is similar to that which prevents divorced or separated parents from binding their children to a custody arrangement or a particular level of child support. The contractual rights of the parent in establishing an agreement on child support is inferior to the child's right to an appropriate custodial arrangement and an adequate level of support. *E.g.* *Yee v. Yee*, 48 Hawaii 439, 404 P.2d 370 (1965); *Leeming v. Leeming*, 87 Nev. 530, 535-36, 490 P.2d 342, 345-46 (1971); *Hehr v. Tucker*, 256 Or. 254, 257-58, 472 P.2d 797, 798-99 (1970). Note, however, that waiver of the right to bring a statutory wrongful death claim for the death of the child or fetus may be effective where the wrongful death statute is designed to provide compensation for damage to the child's heirs rather than for damage to the child.

159. One commentator has taken this position, noting that such a waiver is "probably against public policy and, therefore unenforceable." Stillman, *supra* note 97, at 16. Another, however, suggests without discussion that employers "require susceptible workers who voluntarily choose to remain in the workplace to sign a release of liability (on behalf of themselves and, if applicable, the fetus) after consultation with a physician." Nothstein & Ayres, *supra* note 99, at 320.

160. *See supra* note 124.

161. Heaton, Allar & Maier, *supra* note 133.

product of its potential danger,¹⁶² or there was an alternative method of manufacturing the product which would have avoided the danger, and the social benefit of adopting that alternative outweighed its social cost.¹⁶³ Upon proof of a defect, the manufacturer of an unreasonably dangerous product will be held strictly liable for all damages proximately caused by the product's foreseeable use. Depending on the circumstances, such proof might also establish liability for the tort of outrage.¹⁶⁴

Products liability suits would encourage reduction of workplace reproductive hazards in two important ways. Fear of liability would prompt manufacturers to more thoroughly advise the employer of the reproductive health hazards of their products. This, in turn, should trigger the employer's fear of liability, and encourage implementation of process change or control technology in the workplace. Further, a successful products liability suit based on the "alternative method" approach should encourage the chemical industry to develop products that perform their intended function without endangering reproductive health.

C. Claims Against Supervisory Personnel

Liability for workplace health hazards need not be limited to the employer and manufacturer. In some cases supervisory personnel of the employer or manufacturer, or treating or examining physicians or nurses, may share in liability. For example, if a plant safety supervisor knows of a reproductive hazard but refuses to remedy the problem she may be personally liable for any resultant damage. Similarly, a supervising chemist who approves a particular chemical for commercial production despite doubts about its safety could be personally liable if those doubts proved justified. Key management personnel, such as cor-

162. *E.g.* *Karjala v. Johns-Manville Prods. Corp.*, 523 F.2d 155, 158-59 (8th Cir. 1975); *Leichtamer v. American Motors Corp.*, 67 Ohio St. 2d 456, 469, 424 N.E.2d 568, 578 (1981); RESTATEMENT (SECOND) OF TORTS § 402A comment j (1965). This is sometimes referred to as the "consumer expectation test": the duty to warn extends to all dangers which were not reasonably expected by a consumer putting the product to its intended use. Recently, a question has arisen as to the applicability of this doctrine where the manufacturer did not discover the danger, and could not reasonably have been expected to discover it, at the time of the product's manufacture and distribution. While acknowledging that this might well be a defense to a claim for negligence, the Supreme Court of New Jersey nonetheless rejected it as a defense to a claim grounded in strict liability. The court held that a strict liability claim for failure to warn would be viable even where the manufacturer could not reasonably have known about the danger. *Beshada v. Johns-Manville Prods. Corp.*, 10 PROD. SAFETY & LAB. REP. 481 (BNA) (1982). *Contra Karjala*, 523 F.2d at 158-59.

163. *Baker v. Lull Eng'g Co.*, 20 Cal. 3d 413, 430-31, 573 P.2d 443, 454-55, 143 Cal. Rptr. 225, 236-37 (1978); *Knitz v. Minister Mach. Co.*, 69 Ohio St. 2d 460, 432 N.E.2d 814, 818 (1982). This is still an emerging doctrine and has not been applied in many jurisdictions.

164. *See supra* text accompanying note 157.

porate officers and directors, may also face personal liability if, with knowledge of its adverse effects, they decide to sell or use a reproductive toxin.

Thus far, attempts to impose this form of personal liability have been used infrequently. This may be because plaintiffs believe that supervisors lack the personal resources to satisfy judgments and because the doctrine of *respondeat superior* ordinarily holds the employer or manufacturer liable for the acts of its agents and employees.¹⁶⁵ If those in positions of responsibility know they are subject to substantial personal liability, they may agitate for management decisions that reduce the likelihood of workplace damage to reproductive health.¹⁶⁶

D. Claims Against Medical Professionals

The medical profession, too, may bear liability for damages arising out of reproductive hazards in the workplace. Typically, a physician or nurse practitioner will see an employee periodically during the course of his or her employment. Where the employment involves exposure to a reproductive hazard, and where damage ultimately results as a consequence of such exposure, a cause of action for professional negligence may arise. A case for malpractice would require proof of three factors: that the medical professional knew, or reasonably should have known, that the worker was exposed to the hazard; that he or she had a duty to render proper medical advice or take action with regard to the exposure; and that he or she breached that duty.

In many cases, the existence of these requisite elements may depend on the relationship between the medical professional and the workplace. A physician who treats a number of workers from a particular workplace, such as a company doctor or an employee of a health-maintenance organization that has contracted to provide medical services as part of a workplace health-care plan, is likely to be in a better position to know about the various chemicals present in the workplace. Additionally, a physician or nurse who specializes in occupational health may be held to a higher standard of care than the average practitioner. The professional duty will vary with the circumstances of the case, but will probably encompass an obligation to adequately warn

165. The exclusivity provisions of workers' compensation statutes will present a major difficulty in suits against supervisors. Where the supervisor is the agent of the employer, a worker's suit for negligence will ordinarily be barred by workers' compensation. However, where the supervisor is an independent contractor, is acting outside the scope of his or her employment, or acts "intentionally," a cause of action for personal liability may be viable. See generally, Annot., 21 A.L.R.3d 845 (1968 & Supp. 1982).

166. For an indication of industry concern about the potential for lawsuits of this nature, see Kent, *Civil and Criminal Liability of Engineering Executives*, CHEMICAL ENGINEERING PROGRESS, Mar. 1978, at 11; Dale Martin, *Sue Who?*, CHEMTECH, Mar. 1977, at 159.

workers of the potential consequences of further exposure.¹⁶⁷

E. The Expanding Tort Rights of the Child and Fetus

Since many workers will bring compensatory actions for reproductive damage on behalf of the offspring, the growing judicial recognition of a right to recover in tort for damage to the fetus is significant. Initially, the right was limited to recovery for damages resulting from a prenatal exposure occurring *after* conception.¹⁶⁸ More recently courts have recognized a child's right to bring suit for damages caused by parental exposure occurring prior to conception.¹⁶⁹ The trend toward recognition of this right seems likely to continue, as it is consistent with the growing scientific proof that parental exposure to toxic substances can indeed affect the health of a fetus conceived years later.

The rights of the stillborn child or the child not carried to full term are more problematic. On the one hand, the fetus may be damaged as a result of a workplace exposure, but die or spontaneously abort from other unrelated causes. The fetus in this situation would have no right to recover for damage caused by the workplace exposure.¹⁷⁰ In many instances, however, the stillbirth or spontaneous abortion will actually be caused by the exposure. While the law is unclear, recent decisions indicate that fetal rights in this case will depend on viability: where the fetus is viable, a right of action may exist.¹⁷¹ As this could leave the

167. For a discussion of the duty of a company doctor who undertakes to advise an employee about the health effects of an occupational exposure, see *Hoover v. Williamson*, 236 Md. 250, 203 A.2d 861 (1964); Annot., 10 A.L.R.3d 1071 (1966). For a discussion of the extent to which worker suits against treating physicians—especially company doctors—may be barred by the exclusivity provisions of workers' compensation statutes, see Annot., 28 A.L.R.3d 1066 (1969).

168. This is the position taken in Second Restatement of Torts. RESTATEMENT (SECOND) OF TORTS § 869 comment d (1977). The original Restatement provided no cause of action for negligent prenatal injuries. RESTATEMENT OF TORTS, § 869 (1939).

169. *Jorgensen v. Meade Johnson Laboratories*, 483 F.2d 237 (10th Cir. 1973); *Bergstreser v. Mitchell*, 448 F. Supp. 10 (D. Mo. 1977); *Renslow v. Mennonite Hospital*, 67 Ill. 2d 348, 367 N.E.2d 1250 (1977); *Park v. Chessin*, 88 Misc. 2d 222, 387 N.Y.S.2d 204 (Sup. Ct. 1976), *aff'd*, 60 A.D.2d 80, 400 N.Y.S.2d 110 (App. Div. 1977), *modified*, 46 N.Y.2d 401, 386 N.E.2d 807 (N.Y. 1978). See also Annot., 91 A.L.R.3d 316 (1979).

170. The argument here is that, where the prenatal injury does not cause abortion or stillbirth, the fetus suffers no actionable damage from that injury except to the extent that the injury contributes to post-natal difficulties. Perhaps because the impediments to recovery appear so strong, the question appears not to have been litigated often. However, in a dissent to *Todd v. Sandridge Constr. Co.*, 341 F.2d 75, 80 n.9 (4th Cir. 1964), Judge Haynsworth cites the hypothetical case of a non-fatal prenatal injury which is eclipsed by the subsequent drowning of mother and fetus, and argues that there would be no actionable damage to the fetus from the first injury. (A cause of action for emotional damage to the *parents*, however, might still lie.)

171. A majority of the reported cases allow a cause of action where the fetus was viable. For cases holding that there is no right of action if the fetus was not viable, see, e.g., *Rapp vs. Hiemenz*, 107 Ill. App. 2d 382, 246 N.E.2d 77 (1969); *Toth v. Goree*, 65 Mich. App. 296, 237 N.W.2d 297 (1975). In both states, there is a right of action if the fetus was viable. See, e.g., *Chrisafogeorgis v. Brandenburg*, 55 Ill. 2d 368, 304 N.E.2d 88 (1973); *O'Neill v. Morse*, 385 Mich.

aborted fetus without a remedy, an expansion of fetal rights may be warranted if fetal damage from workplace hazards is to be adequately addressed.

VI

THE USE OF SCIENTIFIC AND TECHNICAL INFORMATION AS AN AID TO PROTECTIVE MECHANISMS

As discussed at the outset, effective use of the various avenues of preventive and compensatory relief outlined above will require the ability to identify reproductive hazards and their specific effects. In many cases, it will also require the ability to acquire and disseminate relevant scientific and technical information in timely fashion.

Federal agencies are useful as sources of information on reproductive hazards. Reproductive hazards potentially can be regulated by a variety of federal agencies. The most likely sources of regulation are: the EPA under TSCA¹⁷² and the air,¹⁷³ water,¹⁷⁴ and pesticide acts;¹⁷⁵ the Food and Drug Administration under the Food, Drug, and Cosmetic Act;¹⁷⁶ the Consumer Products Safety Commission under the Consumer Products Safety Act;¹⁷⁷ and OSHA under the OSH Act.¹⁷⁸ Other federal agencies, such as the National Institute for Occupational Safety and Health (NIOSH), compile and maintain relevant information on toxic substances. Where not protected by federal privacy or trade secret laws, such information may be obtained either through written request or the Freedom of Information Act.¹⁷⁹

Information obtained from an agency may shed light on whether an employer or manufacturer recognized the potential danger of a particular workplace hazard prior to exposing workers. Section 8(e) of TSCA, for example, requires the manufacturer of a chemical substance "who obtains information which reasonably supports the conclusion that such substance . . . presents a substantial risk of injury to health"

130, 188 N.W.2d 785 (1971). See also Annot., 84 A.L.R.3d 411 (1978). The existence and extent of the right will vary with the wording of the applicable wrongful death statute, and may be influenced by inheritance statutes which treat the rights of heirs of the unborn or stillborn. Where no action is allowed on behalf of the fetus, the *parents* may still have an action for emotional damages, and the mother may have an action for physical damages.

172. 15 U.S.C. §§ 2601-2629 (1976).

173. Clean Air Act, 42 U.S.C. §§ 7401-7642 (1976 & Supp. IV 1980).

174. Clean Water Act of 1977, 33 U.S.C. §§ 1251-1376 (1976 & Supp. IV 1980); Safe Drinking Water Act, 42 U.S.C. §§ 300f (Supp. IV 1980).

175. Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. §§ 135-136y (1976 & Supp. V 1981).

176. 21 U.S.C. § 301-379 (1976 & Supp. V 1981).

177. 15 U.S.C. §§ 2051-2084 (1981).

178. 29 U.S.C. §§ 651-678 (1976).

179. 5 U.S.C. § 552 (1976).

to "immediately" provide such information to EPA.¹⁸⁰ Information supplied in accordance with this section could prove valuable to a prospective plaintiff in a products liability action.

In some situations workers may be able to compel a federal agency to compile information on their behalf. Section 20(a)(6) of the OSH Act, for example, authorizes an employee, through his or her employee representative, to request that NIOSH investigate the potential health effects of a suspected workplace hazard.¹⁸¹ Such investigations, termed "Health Hazard Evaluation Surveys," could provide useful information for future remedial action.¹⁸² Even if the results of the survey do not prompt regulatory action they may provide a basis for a worker's refusal to perform hazardous work or for private injunctive relief. Additionally, they may prove helpful in future actions for compensatory relief.

The timely *dissemination* of data is equally important. From a practical and legal standpoint, dissemination of data about potential reproductive hazards to those who may have a duty to alleviate such hazards may lead to abatement. For example, OSHA or EPA may find it more difficult to avoid the regulation of a particular chemical exposure if the agency is presented with detailed information regarding the risk posed by such exposure. Similarly, an employer or manufacturer who is provided with such information may not be able to justify a subsequent failure to reduce or eliminate the exposure. The dissemination of relevant information to these potential defendants will be helpful in establishing future tort actions. More importantly, it may tend to facilitate the correction of workplace reproductive hazards before litigation becomes necessary. Dissemination of information may also establish a medical malpractice case. Where a physician or nurse is not familiar with the various occupational exposures within a workplace, there may be no duty to provide medical advice regarding those exposures. The worker/patient can impose such a duty, however, by informing the medical professional about the specific exposures and requesting information about their impact on reproductive health.

A word of caution is appropriate here. A worker who is aware of the potential consequences of occupational exposures may find her right to tort relief barred or restricted by defenses predicated on such knowledge. Depending on the law of the jurisdiction and the circumstances of the case, a plaintiff may be frustrated by claims of compara-

180. 15 U.S.C. § 2607(e) (1976).

181. 29 U.S.C. § 669(a)(6) (1976).

182. For examples of Health Hazard Evaluation Surveys already completed, see NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY & HEALTH, HEALTH HAZARD EVALUATION SUMMARIES (1982) (available from U.S. Dept. of Health and Human Services, Public Health Service, Centers for Disease Control, National Institute for Occupational Safety & Health, Cincinnati, Ohio 45226).

tive negligence, contributory negligence, or assumption of risk.¹⁸³ Further, she may be unable to successfully maintain a products liability action under the "failure to warn" doctrine.¹⁸⁴ Since prevention is the goal, however, the risk is acceptable. If a worker instigates the appropriate preventive measures after learning of the existence of a reproductive hazard, future action for compensation may not be necessary.

VII CONCLUSION

The remedies outlined above, if properly utilized, can do much to reduce occupational exposure to reproductive hazards. But the effort cannot be piecemeal. These various actions will provide incentives for change at different levels of the industrial process. Their integrated use will bring about the most meaningful and pervasive reduction of damage to reproductive health.

Industrial control of reproductive hazards—whether through the reduction of exposure from existing processes or through a shift to less hazardous technology—will come in two principal ways. Either industry will change on its own in response to economic constraints, or it will change in compliance with government regulation. Both the OSH Act and TSCA provide attractive avenues for regulatory relief, as both articulate a comprehensive federal policy for the control of occupational toxins. Nonetheless, the limitations of the regulatory process and the apparent unwillingness of OSHA and EPA to act aggressively against

183. These defenses will always be available in a negligent design case. Although the negligence of the plaintiff is ordinarily not a defense to a strict liability action, there are some limitations to this doctrine. See, e.g., *Sanford v. Chevrolet Div. of General Motors Corp.*, as reported in 10 PROD. SAFETY & LIAB. REP. (BNA) 252 (Ore. 1982), where negligence not involving the negligent failure to discover the dangerous condition was held to reduce the plaintiff's award under Oregon's comparative negligence law. Further, as discussed in the following note, assumption of risk remains a viable defense to a strict liability action.

184. The fact that the plaintiff knows of the dangerous condition might well constitute assumption of risk, which is the defense both to negligence and strict liability actions. RESTATEMENT (SECOND) OF TORTS § 402A, comment n (1965). Further, it might obviate the argument that the manufacturer's failure to warn was the proximate cause of injury. See *Martinez v. Dixie Carriers, Inc.*, 529 F.2d 457 (5th Cir. 1976); *Burton v. L.O. Smith Foundry Products Co.*, 529 F.2d 108 (7th Cir. 1976); *Cunningham v. Charles Pfizer and Co.*, 532 P.2d 1377 (Okl. 1975). But see *Micallef v. Miehle Co.*, 39 N.Y.2d 376, 384 N.Y.S.2d 115 (1976), where the court held that the manufacturer could be held liable for negligent misdesign even where the plaintiff knew of the danger if the manufacturer could reasonably have guarded against the problem. See also *Palmer v. Massey-Ferguson, Inc.*, 3 Wash. App. 508, 476 P.2d 713 (1970), where the court came close to favoring a policy that would reject assumption of risk in products liability cases. *Id.* at 517, 476 P.2d at 718-19.

It seems to us that a rule which excludes the manufacturer from liability if the defect of the design of his product is patent but applies the duty if such a defect is latent is somewhat anomalous. The manufacturer of the obviously defective product ought not to escape because the product was obviously a bad one. The law, we think, ought to discourage misdesign rather than encouraging it in its obvious form.

reproductive hazards suggest the need to pursue other avenues of control. The available "self help" mechanisms—both for prevention and compensation—can provide an important complement to agency regulation. On the one hand, they can provide economic—and, in the case of injunctive relief, judicially-imposed—incentives for changes in industrial behavior. On the other hand, by focusing on a particular problem, they can bring about comprehensive regulation.

In utilizing and refining the various regulatory and legal mechanisms discussed here, however, one should not lose sight of the underlying political context. These remedies developed, in large part, out of a strong and organized concern for workplace health and safety. Without a concentrated effort to maintain that level of concern, we could see some of these avenues of relief narrowed, or even eliminated. It is perhaps the extent to which they can be used as political, as well as legal, tools that will ultimately determine whether they can safeguard the reproductive health of workers and their offspring.