An Analysis of the Enhanced Risk Cause of Action (Or How I Learned to Stop Worrying and Love Toxic Waste)

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AN ANALYSIS OF THE ENHANCED RISK CAUSE OF ACTION
(OR HOW I LEARNED TO STOP WORRYING AND
LOVE TOXIC WASTE)

I. INTRODUCTION

In November, 1978, officials from Jackson Township, New Jersey informed residents near the Legler landfill that their well water was no longer safe.1 Various toxins from the landfill, which was owned and operated by the township,2 had leached into the area ground water, contaminating the wells.3 As a result, 339 nearby residents brought an action against the township in Ayers v. Jackson Township,4 for decreased quality of life,5 mental distress,6 and expenses for medical surveillance incurred because of the exposure.7 While the residents did not claim that they suffered any present physical injury, they claimed that they suffered an enhanced risk of disease8 and that this risk was presently compensable.

Initially, the trial court granted the township’s motion for summary judgment on the enhanced risk claim.9 The court stated that since this

2. The township owned and operated the Legler landfill from 1972 until 1978. Id. at 567, 525 A.2d at 292.
3. Among the various chemicals found were: acetone, benzene, chlorobenzene, chloroform, dichlorofluoromethane, ethylbenzene, methylene chloride, methyl isobutyl ketone, 1,1,2,2-tetrachloroethane, tetrahydrofuran, 1,1,1-trichloroethane and trichloroethylene. Id. at 568, 525 A.2d at 292. Four of the chemicals are known carcinogens. Id. Other potential health hazards from the chemicals include kidney, liver, blood, reproductive and neurological damage and mutations in genetic material. Id.
5. The Legler area residents were without running water from December, 1978. Ayers, 202 N.J. Super. at 116, 493 A.2d at 1319. The township then began delivering water to the affected homes. Residents often had to haul water barrels weighing 120 pounds in and out of their homes and up and down stairs. Often the delivered water contained debris and had to be replaced. Id. at 116-17, 493 A.2d at 1317. Running water service resumed in July, 1980. Id. at 112, 493 A.2d at 1317.
6. Residents based their emotional distress claims on the fear and anxiety that resulted from the knowledge that they and members of their families had been exposed to the contaminated water. Id. at 115, 493 A.2d at 1318-19.
7. Plaintiffs’ expert witness testified that the residents required annual medical examinations to detect possible diseases resulting from the exposure to the toxins. Ayers, 106 N.J. at 568, 525 A.2d at 292.
8. Id. at 577, 525 A.2d at 297.

(437)
risk was not couched in terms of a reasonable probability, any damages were, as a matter of law, too speculative. On the other claims, however, the jury returned a judgment of over $15,800,000 for the plaintiffs.

The appellate division dismissed the jury awards for medical surveillance and emotional distress and affirmed the trial court's dismissal of the enhanced risk claim. The appellate division held that the medical surveillance claim, like the enhanced risk claim, was too speculative since the plaintiffs could not show that it was more likely than not that the diseases would later materialize. The court also held that the New Jersey Tort Claims Act, which limits the tort liability of public entities, precluded the emotional distress claim.

The New Jersey Supreme Court acknowledged the legitimacy of the residents' concerns, fears and anxiety about contracting disease as a result of their exposure to the toxins. Yet the court determined that the claim for emotional distress was clearly barred by the Tort Claims Act, and it affirmed the dismissal of that claim. However, the court upheld

10. The trial court found that, since the plaintiffs had no present physical injury and could not quantify the risk that the exposure had caused them, there could be no compensation for the possible future harm. Id. at 567-68, 461 A.2d at 187.
11. The aggregate judgment was for $15,854,392.78, and the jury returned an individual award to each plaintiff. The awards for each claim were as follows: $2,056,480 for emotional distress; $5,396,940 for decreased quality of life; and $8,204,500 for future medical expenses. Ayers, 106 N.J. at 565-66, 525 A.2d at 291.
13. Id. at 120-23, 493 A.2d at 132-23. The court noted that the plaintiffs' medical expert had testified that all the residents had a significantly enhanced risk of disease, but that he could not quantify it. Id. at 125-26, 493 A.2d at 1324. The court found that this fact, and the fact that none of the plaintiffs had suffered physical harm, made the medical surveillance claim an unfair "burden" on the township. Id. at 122, 493 A.2d at 1323.
15. Ayers, 202 N.J. Super. at 115-16, 493 A.2d at 1318-19. The pertinent portion of the New Jersey Tort Claims Act is as follows:

No damages shall be awarded against a public entity or public employee for pain and suffering resulting from any injury; provided, however, that this limitation of damages on the recovery for pain and suffering shall not apply in cases of permanent loss of bodily function, disfigurement, or permanent dismemberment where the medical treatment expenses are in excess of $1,000.00...N.J. STAT. ANN. § 59:9-2(d) (West 1987).

The appellate division stated that the emotional distress claim constituted pain and suffering as defined in the Act. Therefore, as there was no accompanying injury, the claim was barred. Ayers, 202 N.J. Super. at 116, 493 A.2d at 1319.
16. Ayers, 106 N.J. at 577, 525 A.2d at 297. The court stated that emotional distress was as much an injury as "a broken limb." Id. It also found that in this case, the emotional distress was understandable and very real. Id. However, the court found that the subjective symptoms that constituted such emotional distress (e.g., depression, fear, anxiety and the like) were "pain and suffering" as contemplated by the Tort Claims Act. Therefore, the court held that such a
the residents' claim for medical surveillance. Furthermore, it affirmed the appellate division's dismissal of the enhanced risk claim. The court refused to recognize a cause of action for enhanced risk where that risk was unquantified, although it left open the question of whether such a risk would be compensable if the injury was reasonably probable. Yet the supreme court agreed with the trial court in holding that neither the statute of limitations nor New Jersey's single controversy rule would prevent the plaintiffs from recovering for physical injuries that later developed.

Claim for emotional distress against a governmental entity was clearly barred by the Act. For a further discussion of a claim for emotional distress in a toxic exposure context, see infra notes 138-39 and accompanying text.

17. Ayers, 106 N.J. at 606, 525 A.2d at 312. For a further discussion of a claim for medical surveillance, see infra notes 133-37 and accompanying text.

18. Ayers, 106 N.J. at 598-99, 525 A.2d at 308. For a further discussion of the claim for enhanced risk, see infra notes 114-29 & 140-50 and accompanying text.

19. Ayers, 106 N.J. at 598-99, 525 A.2d at 308. Since plaintiffs' medical expert could not or would not quantify the risk the residents suffered, Ayers, 202 N.J. Super. at 125-26, 493 A.2d at 1324, the court found it unnecessary to decide whether a quantified or "reasonably probable" risk might be actionable. Ayers, 106 N.J. at 398-99, 525 A.2d at 308. The New Jersey Supreme Court had previously refused to address this issue. See Evers v. Dollinger, 95 N.J. 399, 406, 471 A.2d 405, 409 (1984). In Herber v. Johns-Manville Corp., 785 F.2d 79 (3d Cir. 1986), the Third Circuit, applying New Jersey law, predicted that New Jersey would reject the enhanced risk cause of action. Id. at 81-83. The court stated that the claim is "fundamentally at odds with New Jersey's approach to compensable injury," since the plaintiff sought compensation for future injury without demonstrating that the injury was reasonably probable. Id. at 82. In addition, the Third Circuit held that "New Jersey recognizes the cost of preventative monitoring occasioned by a tort as an independent element of damages." Id. at 83. Thus, the court allowed recovery for medical surveillance. Id. Furthermore, the court held that emotional distress caused by fear of future disease was compensable. Id. at 85. The Herber court was not faced with the issue of governmental tort immunity that was present in Ayers. Therefore, it seems the Third Circuit made a fairly prescient prediction of how the New Jersey high court would react to an enhanced risk claim.

20. The single controversy rule is New Jersey's version of the prohibition against claim splitting, res judicata. This rule requires that a party include in an action all related claims against an adversary, and its failure to do so precludes the maintenance of a second action based on that related claim. Aetna Ins. Co. v. Gilchrist Bros. Inc., 85 N.J. 550, 556-57, 428 A.2d 1254, 1257 (1981). The single controversy rule is somewhat broader than traditional res judicata, which prohibits parties from splitting a cause of action into different suits. The single controversy rule forces a party to bring all related claims together, whether or not they constitute one cause of action. Melikian v. Corradetti, 791 F.2d 274, 279 (3d Cir. 1986).

21. The trial court stated that "[i]f and when a plaintiff manifests a physical condition which could be medically attributable to the ingestion of the alleged contaminants, his cause of action will have survived" by virtue of New Jersey's discovery rule. Ayers, 189 N.J. Super. at 568, 461 A.2d at 187-88. The appellate division characterized this as "dictum only." Ayers, 202 N.J. Super. at 125, 493 A.2d at 1324. Subsequently, the supreme court concurred with the trial court's
The situation that the residents of Jackson Township found themselves in is, unfortunately, not unique. The Environmental Protection Agency (EPA) has estimated that there may be as many as 50,000 toxic waste sites in the United States. Any manifestation of disease due to exposure to these chemicals may take place years after the exposure itself. Consequently, an exposure victim may be aware of his or her peril years before he or she suffers any physical harm.

Moreover, there is an abundance of other toxins which may lend themselves to an enhanced risk claim. Many of the people who have been exposed to these toxins have not yet suffered any injuries as a result. If these potential victims wait to bring their claims, they may face determination that the plaintiffs' cause of action would not be barred if latent injury does in fact occur. Ayers, 106 N.J. at 584, 525 A.2d at 300.

22. INJURIES AND DAMAGES FROM TOXIC WASTES—ANALYSIS AND IMPROVEMENT OF LEGAL REMEDIES, A REPORT TO CONGRESS IN COMPLIANCE WITH SECTION 301(e) OF THE COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT OF 1980 (P.L. 96-510) BY THE "SUPERFUND SECTION 301(e) STUDY GROUP" pts I & II Comm. Print for the Senate Comm. on Env'tl. & Pub. Works No. 97-12, 97th Cong., 2d Sess., app. A at 2 (1982), [hereinafter SUPERFUND STUDY GROUP]. "Estimates of the number of sites that contain hazardous waste range from 50,000 to 4,082. Corresponding estimates of the number of sites that may pose a serious health risk range from 2,000 to 431." Id. These discrepancies indicate that the true nature and extent of the toxic waste problem are unknown. Id.

23. The Ayers court noted that the "long latency period typical of illness caused by chemical pollutants" is one of the primary reasons that the tort system has difficulty in handling toxin exposure suits. Ayers, 106 N.J. at 582, 525 A.2d at 299.

24. As used in this Note, the word "toxin" refers to any substance that has deleterious effects on the human body, and the phrase "toxic tort" refers to any injury resulting from exposure to such a substance. See M. DORE, LAW OF TOXIC TORTS at § 2.02 (listing 10 basic characteristics of toxic torts, two of which being exposure to harmful substance and diseases with long latency periods). The term toxic tort can be used in a wide range of situations, from traditional torts such as negligence to products liability to environmental law. Id. at § 2.01.-02.

25. These toxins include asbestos (see Jackson v. Johns-Manville Sales Corp., 727 F.2d 506 (5th Cir. 1984), on reh'g en banc, 750 F.2d 1314 (5th Cir.), question certified en banc, 757 F.2d 614 (5th Cir. 1985), certification declined en banc, 781 F.2d 394 (5th Cir.), cert. denied, 106 S. Ct. 3339 (1986)), agent orange (see In re Agent Orange Product Liab. Litig., 611 F. Supp. 1223 (E.D.N.Y. 1985), aff'd, 818 F.2d 187 (2d Cir. 1987)); diethylstilbestrol (DES) (see Sindell v. Abbott Laboratories, 26 Cal. 3d 588, 163 Cal. Rptr. 132, 607 P.2d 924, cert. denied, 449 U.S. 912 (1980)); and radioactive waste (see Allen v. United States, 588 F. Supp. 247 (D. Utah 1984), rev'd, 816 F.2d 1417 (10th Cir. 1987), cert. denied, 108 S. Ct. 694 (1988)). Asbestos alone is a staggering problem. Studies have estimated that over 21,000,000 Americans have been exposed to significant amounts of asbestos. Jackson, 750 F.2d at 1337 (citing J. Kakalik, P. Ebener, W. Felstiner, G. Haggstrom & M. Shanley, COSTS OF ASBESTOS LITIGATION 9 (1984)) [hereinafter ASBESTOS LITIGATION]. Over 20,000 personal injury suits have been filed for asbestos-related injuries. Jackson, 750 F.2d at 1336 n.24 (citing ASBESTOS LITIGATION, supra, at 12). By the year 2000, 200,000 people are expected to die due to exposure to asbestos. Jackson, 750 F.2d at 1337 (citing ASBESTOS LITIGATION, supra, at 9).
many barriers to recovery. The New Jersey Supreme Court specifically recognized this problem and addressed a resulting issue: "[A]t what stage in the evolution of a toxic injury should tort law intercede by requiring the responsible party to pay damages?" While the court rejected enhanced risk as a cause of action, it did provide a framework such that those who actually suffer injury in the future may recover.

II. Background

The various toxins produced by a modern industrialized society create problems for the common law tort system beyond the tremendous number of law suits that may result from exposure to such toxins. Many courts and commentators have asserted that the current tort system is ill-suited to toxic torts. Critics see the current tort system as "too cumbersome, costly, and haphazard to accomplish its accident prevention and compensation objectives." The types of injuries suffered by today's toxin exposure victims are unlike those contemplated by the courts that created traditional tort rights, remedies, duties, and doctrines. The burdens created by applying common law tort rules to the

26. For a discussion of the barriers to recovery, see infra notes 32-113 and accompanying text.
27. Ayers, 106 N.J. at 579, 525 A.2d at 298.
28. For a discussion of the number of toxins that have the potential to cause toxic torts and the massive number of suits that have arisen from asbestos alone, see supra note 25 and accompanying text.
29. See Superfund Study Group, supra note 22, pt. II, apps. A-J at 1-262 (extensive critique of existing remedies for damages due to exposure to hazardous waste); Seltzer, Personal Injury Hazardous Waste Litigation: A Proposal for Tort Reform, 10 B.C. ENVTL. AFF. L. REV. 797, 852 (1982-83) (courts are "an inaccessible forum for relief" for toxin exposure victims due to inability of legal system to adapt to such cases); Trauberman, Statutory Reform of "Toxic Torts:" Relieving Legal, Scientific, and Economic Burdens on the Chemical Victim, 7 HARV. ENVTL. L. REV. 177, 188-89 (1983) (toxin exposure victims must rely on common law theories for recovery and such theories are not suited to legal and practical characteristics of toxic torts); Comment, Increased Risk of Disease from Hazardous Waste: A Proposal for Judicial Relief, 60 WASH. L. REV. 635, 636-37 (1985) [hereinafter Comment, Increased Risk of Disease] (postponing recovery for toxin exposure victims until manifestation of disease is inequitable); Note, Statutes of Limitations and Pollutant Injuries: The Need for a Contemporary Legal Response to Contemporary Technological Failure, 9 HOFSTRA L. REV. 1525, 1530-31 (1981) [hereinafter Note, Statutes of Limitation] (traditional application of statutes of limitation "may foreclose plaintiff from recovery" for toxin-related injuries). See also Jackson, 750 F.2d at 1335 (Rubin, J., dissenting) ("asbestos-related litigation presents a flood of interrelated actions which cannot properly be decided as individual actions or under the legal rules of any single state"); Ayers, 106 N.J. at 581, 525 A.2d at 299 ("The overwhelming conclusion of the commentators who have considered how tort system has adapted to toxic torts is that system has not reacted effectively to problem.")
31. Id. at 852-53 (listing some characteristics of modern toxin exposure cases that differentiate them from traditional torts).
Proving causation is one of the main impediments to recovery. While this is rarely a problem in the average tort suit, for many reasons, proving causation in a toxic tort suit may be a formidable task.

The extended latency period of the diseases that result from toxins is the primary reason for the difficulties that plaintiffs encounter in proving causation. The plaintiff must prove years after exposure that he or she contracted cancer due to exposure to the defendant's toxin. The victim must also show that no intervening causes resulted in the development of the disease. The intervening cause argument may pose particular difficulties for a plaintiff who smokes or lives in a particularly polluted area.

Indeed, the problems that the toxic tort plaintiff encounters in proving causation may be as basic as the definition of "cause" itself, which is often not straightforward. The courts have recognized the difficulties faced by plaintiffs in toxic tort cases and have sought to address these issues through the use of statistical evidence.

32. See Ayers, 106 N.J. at 585, 525 A.2d 301 (court saw causation as most difficult problem facing toxic tort plaintiffs). See generally Rosenberg, supra note 30, at 855-59 ("Under either a negligence or strict liability standard, mass exposure claimants must establish a 'causal connection' between the defendant's tortious conduct and the losses for which recovery is sought." This burden of proof becomes increasingly difficult to meet when there are alternative possible sources of plaintiff's injury); Seltzer, supra note 29, at 809-15 ("[b]y the very nature of hazardous waste pollution-related diseases the causal links in the chain between exposure and injury are seriously attenuated").

33. One court has characterized the general causal connection between the defendant's action and the plaintiff's injury as follows: "Often, the cause-and-effect is obvious: A's vehicle strikes B, injuring him; a bottle of A's product explodes, injuring B; water impounded on A's property flows onto B's land, causing immediate damage." Allen v. United States, 588 F. Supp. 247, 405 (D. Utah 1984), rev'd 816 F.2d 1417 (10th Cir. 1987), cert. denied, 108 S. Ct. 694 (1988). The Allen court went on to explain the difficulties facing plaintiffs in toxin exposure suits and recommended allowing statistical evidence to help resolve the causation issue. 588 F. Supp. at 419.

34. See Ayers, 106 N.J. at 585, 525 A.2d at 301 ("[T]he task of proving causation is invariably made more complex because of the long latency period of illnesses caused by carcinogens or other toxic chemicals.").

35. Id. The Ayers court noted that diseases suffered by exposure victims are often not unique to those who come in contact with the toxins in question. Therefore, plaintiffs must show that no other causes prompted disease. Id.

36. See, e.g., Dartez v. Fibreboard Corp., 765 F.2d 456, 466-67 (5th Cir. 1985); Gideon v. Johns-Manville Sales Corp., 761 F.2d 1129, 1139 (5th Cir. 1985). In Dartez, the court refused to allow a plaintiff with asbestosis to recover for an increased risk of cancer. Dartez, 765 F.2d at 467. The court found it significant that the plaintiff smoked, as there was evidence indicating that if he had stopped smoking, his risk of cancer would have been reduced by one-third. Id. at 466-67. In Gideon, the plaintiff also smoked, but he was allowed to recover despite the defendant's contention that smoking caused his disease. Gideon, 761 F.2d at 1139.
since the medical definition of cause differs from the legal definition.\textsuperscript{37} While scientific cause refers to a general propensity of a given substance to cause harm, legal cause assumes that the harm has in fact occurred and refers to the issue of what has prompted it.\textsuperscript{38} Consequently, when a physician testifies as to the effects of a toxin, his or her use of the word "cause" may obfuscate rather than clarify the nature of the chemical and the legal consequences of exposure to it.

Moreover, toxic exposure may begin, last for a period of years, and then end without the victim ever knowing that exposure took place. After exposure ends, victims have difficulty showing precisely what toxins they were exposed to, as well as the extent and duration of the exposure. In the period between the exposure to the toxin and development of disease, much of the evidence of causation may be lost.\textsuperscript{39} Records may be destroyed. Over time, toxins may combine with other elements in the environment or waste sites in which they are stored.\textsuperscript{40} Toxicologists\textsuperscript{41} may therefore be unable to discern exactly what constituted a

\textsuperscript{37} What scientists mean when they say that a substance "causes" a disease is that a certain number of people exposed to that substance will contract the disease. Trauberman, \textit{supra} note 29, at 198. Not everyone, often not even a majority of those who are exposed, will get the disease, no matter how deadly the toxin is. Seltzer, \textit{supra} note 29, at 810. Legal cause demands a more direct connection between the conduct of an individual and its consequences before liability can be imposed. \textit{See W. Keeton, D. Dobbs, R. Keeton \& D. Owen, Prosser and Keeton on Torts § 41, at 263 (5th ed. 1984) [hereinafter Prosser and Keeton] ("An essential element of the plaintiff's cause of action . . . is that there be some reasonable connection between the act or omission of the defendant and the damage which the plaintiff has suffered.").

\textsuperscript{38} A trial court noted the distinction between medical and legal cause in \textit{Wells v. Ortho Pharmaceutical Corp.}, 615 F. Supp. 262 (D. Ga. 1985), \textit{modified as to damages}, 788 F.2d 741 (11th Cir.), \textit{cert. denied}, 107 S. Ct. 437 (1986). In that case a mother and her daughter sued for injuries allegedly caused by the mother's use of the defendant's spermicide. The daughter was born horribly disabled. \textit{Id.} at 267. In assessing the medical testimony after a bench trial, the court stated that

the plaintiffs' ultimate burden was not to produce an unassailable scientific study which proves that spermicides have caused birth defects in rats, rabbits or members of a large group health plan, but rather to show from \textit{all} the evidence presented, to a reasonable degree of medical certainty, that the spermicide caused some or all of Katie Wells' [the plaintiff daughter] birth defects. \textit{Id.} at 266 (emphasis in original).

Thus, the court distinguished between medical causation concepts and the specific evidence required by tort law.


\textsuperscript{40} \textit{Id.} at 922 (chemicals may combine with other substances and/or change characteristics upon release into environment); Soble, \textit{A Proposal for the Administrative Compensation of Victims of Toxic Substance Pollution: A Model Act}, 14 Harv. J. on Legis. 683, 707 (1977) (noting difficulties in using technical and scientific data in exposure cases, including synergistic effects of chemical substances).

\textsuperscript{41} Toxicologists study "the science dealing with the effects, antidotes, de-
given exposure.

Causation is not the only difficulty facing the toxic tort plaintiff. Toxic waste sites often change hands several times between their first use and the discovery of exposure. Ownership of the plants and manufacturing facilities that produce toxic waste often changes over what can be the long period between exposure and development of disease. Plaintiffs may, therefore, find it extremely difficult to show which owner was responsible for their injuries.\textsuperscript{42}

The statute of limitations may pose further difficulties for plaintiffs.\textsuperscript{43} The general rule is that a cause of action accrues at the time of the tortfeasor’s tortious act or omission.\textsuperscript{44} With the advent of industrialized society and toxins which cause latent diseases, this rule began to work great hardship on plaintiffs.\textsuperscript{45} As a result, most jurisdictions have adopted a version of the “discovery rule” under which the statute of limitations begins to run after manifestation of the disease.\textsuperscript{46} In states

\textsuperscript{42} See \textit{Superfund Study Group, supra} note 22, app. C, at 80 (problems in toxic tort litigation are compounded by multiplicity of parties in both production and disposal of hazardous waste); Ginsberg & Weiss, \textit{supra} note 39 at 927 (despite number of parties on which liability may attach, plaintiffs often cannot find solvent, responsible parties from which to recover damages).

\textsuperscript{43} See \textit{Note, Statutes of Limitations, supra} note 29, at 1527 (statutes of limitation “may pose significant and sometimes insurmountable obstacles to recovery in hazardous- and toxic-waste-disposal cases where private parties seek compensation for latent or progressive personal injuries.”).

\textsuperscript{44} \textit{Superfund Study Group, supra} note 22, app. B, at 15. This rule was developed at a time when the tortious act and injury were generally simultaneous. \textit{Id.}

\textsuperscript{45} The United States Supreme Court noted that the statute of limitations could work an injustice in toxic injury cases as early as 1949 in \textit{Urie v. Thompson}, 337 U.S. 163 (1949). In that case, the Court noted that if the statute of limitations was held to begin at exposure, the law could provide only a "delusive remedy" to exposure victims. \textit{Id.} at 169.

\textsuperscript{46} There are several versions of the discovery rule. Under the most common, the statute begins to run when the plaintiff knew or should have known of his or her disease. \textit{Id.} at 170; \textit{Krug v. Sterling Drug}, 416 S.W.2d 143, 150 (Mo. 1967). See generally 51 Am. Jur. 2d \textit{Limitations of Actions} § 137, at 707-08 (since disease may go undiscovered for long time, statute begins to run at time of manifestation of disease, or when its existence was or should have been discovered); \textit{Developments in the Law: Statutes of Limitation}, 63 \textit{Harv. L. Rev.} 1176, 1203-05 (1950) (exception to general rule that knowledge of injury is irrelevant is desirable when plaintiff is unlikely to learn of injury before statute has expired). New Jersey has a somewhat more liberal version of the discovery rule. In New Jersey, the statute runs from the time the plaintiff knew or should have known of the disease and of the facts indicating there was a cause of action. \textit{Ayers}, 106 N.J. at 582, 525 A.2d at 299-300.

For a comprehensive summary of the statutes of limitation of all the states, see 1A F. Grad, \textit{TREATISE ON ENVIRONMENTAL LAW} § 4A.03, at 150.1-152 (1987).

In addition, a recent amendment to the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), \textit{Superfund Amendments and Reauthorization Act of 1986, Pub. L. No.} 99-499, 100 Stat. 1613, 1695-96
without a discovery rule, victims whose symptoms manifest themselves many years after exposure to toxins are left without a remedy. The statute of limitations may run before a vast majority of exposure victims suffers any injury. The possibility that a defendant may become insolvent is another difficulty facing toxic tort plaintiffs. When the Johns-Manville Corporation filed for bankruptcy in 1982, its claim of insolvency was based wholly on the fact that it faced over 15,000 plaintiffs in asbestos-related litigation nationwide. A defendant filing for bankruptcy may not pre-

(codified at 42 U.S.C.A. § 9658 (West Supp. 1987)), has ameliorated the problem somewhat. CERCLA now mandates that the states apply the Act's discovery rule provisions in actions for personal injuries resulting from toxic waste exposure. 42 U.S.C.A. § 9658. See Ayers, 106 N.J. at 582-83, 525 A.2d at 300 (CERCLA now pre-empts state statutes of limitations providing for minimum commencement date as "date plaintiff knew (or reasonably should have known) that the . . . injury . . . or damages were caused or contributed to by the hazardous substance concerned"). Under the CERCLA discovery rule, the statute of limitations begins to run when the plaintiff knew or should have known of the injury. 42 U.S.C.A. § 9658.

Yet, CERCLA regulates "hazardous substances" which are defined as "such elements, compounds, mixtures, solutions, and substances which, when released into the environment may present substantial danger to the public health or welfare or the environment." 42 U.S.C.A. § 9602. Thus, CERCLA deals with toxic wastes, not the consumer products and other goods that also may cause toxic torts. For a discussion of the wide scope of the term "toxic tort," see supra note 24.

47. New York provides a good case in point. As late as 1981, the New York Court of Appeals had refused to depart from its longstanding "last injurious exposure" rule. Steinhardt v. Johns-Manville Corp., 54 N.Y.2d 1008, 1010, 446 N.Y.S.2d 244, 246, 430 N.E.2d 1297, 1299 (1981), cert. denied and appeal dismissed, 456 U.S. 967 (1982). Under this rule, the statute of limitations begins to run at the date of the last exposure to the harmful substance. Id. The court took the position that a change in the statute of limitations was a matter for the legislature, not the courts. Id. at 1010-11, 446 N.Y.S.2d at 246, 430 N.E.2d at 1299. The court of appeals had maintained this position since 1936. Schmidt v. Merchant's Dispatch Transp. Co., 270 N.Y. 287, 301-02, 200 N.E.2d 824, 827-28 (1936). Until the legislature acted, federal courts had attempted to circumvent the rule or use it to the plaintiffs' advantage. See Ward v. Deschem Co., 771 F.2d 663, 666-67 (2d Cir. 1985) (plaintiff who had discovered injury three and one-half years before filing suit was not barred by three year statute of limitations because he had been exposed to injurious substance after discovery of injury). The New York legislature had previously made an exception to the last injurious exposure rule solely for agent orange victims. N.Y. Civ. Prac. L. & R. § 214-b (McKinney 1987). However, as late as 1985, most toxin exposure victims were virtually without a remedy in New York. In 1986, the New York legislature finally adopted a discovery rule. 1986 N.Y. Laws ch. 682 § 2 (codified at N.Y. Civ. Prac. L. & R. § 214-c (McKinney 1987)).


50. See In re Johns-Manville Corp. v. Asbestos Litig. Group, 26 Bankr. 420,
vent eventual recovery by exposure victims. Yet, it will almost surely lengthen already protracted lawsuits and perhaps reduce awards.\textsuperscript{51}

The doctrine of \textit{res judicata}\textsuperscript{52} may also prevent recovery. The typical toxin exposure victim may already have suffered some injury in the form of physical harm or property damage.\textsuperscript{53} If the victim brings suit immediately, \textit{res judicata} may require that he or she recover in one action damages for all injuries that have already occurred or may occur in the future.\textsuperscript{54} However, at that point, the victim may not have suffered other serious consequences of the exposure, and any future damages may be too speculative for recovery. Nonetheless, courts have held that \textit{res judicata} bars a subsequent suit to recover for injuries resulting from exposure to the toxic substance.\textsuperscript{55} On the other hand, if the victim waits


\textsuperscript{51.} \textit{Id.} at 421-22. This action was for a stay of various asbestos-related litigation. \textit{Id.}

\textsuperscript{52.} Generally, \textit{res judicata} is called the rule against claim splitting and is defined as follows:

[A] valid, final judgment on the merits is a bar to a subsequent action between the parties, or those in privity with them upon the same claim or demand . . . . Such a judgment precludes the subsequent litigation both of the issues actually decided in determining the claim asserted in the first action and of issues that could have been raised in the adjudication of that claim.

\textsuperscript{53.} See Comment, \textit{Increased Risk of Disease}, supra note 29, at 636-37 n.9 (courts may assert that exposure to toxic waste creates one cause of action and therefore all damages must be recovered in that one action).

\textsuperscript{54.} See, \textit{e.g.}, \textit{Hagerty v. L \& L Marine Servs.}, 788 F.2d 315 (5th Cir. 1986) "The victim of exposure to toxic substances which cause present harm and which may at some future time cause cancer or other serious disease is further victimized by the single cause of action rule." \textit{Id.} at 320. Hagerty was doused twice with carcinogenic chemicals. He suffered some mild effects immediately, but was forced to recover in his first suit for all physical injuries he might later suffer. \textit{Id.}\n
\textsuperscript{55.} \textit{See also} \textit{Carbonaro v. Johns-Manville Corp.}, 526 F. Supp. 260 (E.D. Pa. 1981), \textit{aff'd}, 688 F.2d 819 (3d Cir. 1982). In \textit{Carbonaro}, the plaintiff sued Johns-Manville for asbestos-related injuries in state court and lost. 526 F. Supp. at 261. After he later contracted colon cancer, he instituted an action in federal court. \textit{Id.} The district court concluded that, under Pennsylvania law, both the state and federal actions were based on the same claim, and therefore, \textit{res judicata} precluded the second action. \textit{Id.} at 264. \textit{Cf.} \textit{Larson v. Johns-Manville Sales Corp.}, 427 Mich. 301, 399 N.W.2d 1 (1986). Although the \textit{Larson} court concentrated on when a cause of action accrued for statute of limitations purposes, the court also implicitly considered the \textit{res judicata} issue. The court stated that "plaintiffs who develop cancer which may be related to asbestos exposure, and who have not brought an earlier action for asbestosis" may recover for the can-
until the future consequences manifest themselves, the statute of limitations may have run, notwithstanding the discovery rule. This dilemma can be a serious one for some toxic tort plaintiffs, as it may effectively prevent full recovery.

Some courts have stated that policy considerations warrant the suspension of *res judicata* in toxic tort cases. The basic policies behind *res judicata* include the need for finality of actions and the desire to promote judicial economy. Courts have noted the unfairness of the rule and provided that they sue within the statute of limitations. *Larson*, 427 Mich. at 319, 399 N.W.2d at 9. This begins to run, the court said, upon the discovery of the cancer. *Id.* Thus, the Michigan Supreme Court impliedly held that *res judicata* would bar a subsequent suit for cancer where the plaintiff had previously sued to recover for asbestosis. *See also* Johnson v. Armstrong Cork Co., 645 F. Supp. 764, 769 (W.D. La. 1986) ("the single cause of action rule bars a plaintiff from filing a second suit to recover for future complications arising out of a single injury" and must be applied in asbestos cases despite the inequity it works); Page v. Illinois Central Gulf R. R., 162 Ill. App. 3d 744, 744, 516 N.E.2d 431, 433 (III. App. 1987) (plaintiff's claim for aggravation of injuries from exposure to toxic fumes at work was dismissed as plaintiff had previously recovered damages from exposure and no new exposure was alleged). *But see In re Moorenovich*, 634 F. Supp. 654, 667 (D. Me. 1986) (emotional distress claim due to asbestos exposure was allowed absent injury; court stated that later action for disease itself should not be barred by *res judicata*); Parris v. Appalachian Power Co., 2 Va. App. 219, 343 S.E.2d 455 (1986) (plaintiff's second workmen's compensation claim for asbestos related injuries, brought two years after first such claim, was allowed, despite fact that first had been denied, since second claim was based on new medical evidence).

56. Hagerty v. L & L Marine Servs., 788 F.2d 315 (5th Cir. 1986). The discovery rule permits the victim to wait until the injury manifests itself. Once any injury appears, the victim's cause of action accrues and the statute of limitations may begin to run on all claims resulting from the tortious conduct. *Id.* But see Larson v. Johns-Manville Sales Corp., 427 Mich. 301, 319, 399 N.W.2d 1, 9 (recovery for cancer caused by asbestos exposure was allowed if suit was brought within three years of discovery of cancer, provided no previous action for effects of asbestos exposure had been brought).

57. For a thorough discussion of the problems that *res judicata* may cause toxic tort plaintiffs, see Eagle-Picher Indus., Inc. v. Cox, 481 So. 2d 517 (Fla. Dist. Ct. App. 1985), review denied, 492 So. 2d 1311 (Fla. 1986). *See also* Hagerty v. L & L Marine Servs., 788 F.2d 315 320-21 (5th Cir. 1986); Jackson v. Johns-Manville Sales Corp., 727 F.2d 506, 516-22 (5th Cir. 1984), on reh'g en banc, 750 F.2d 1314 (5th Cir.), *question certified*, 757 F.2d 614 (5th Cir.), *certification declined en banc*, 469 So. 2d 99 (Miss.), *aff’d en banc*, 781 F.2d 394 (5th Cir. 1985), *cert. denied*, 106 S. Ct. 3339 (1986). These cases note the problems concerning the doctrine of *res judicata* in toxic tort litigation and the viability of the doctrine in that context.

58. *See, e.g.*, Hagerty v. L & L Marine Servs., 788 F.2d 315, 320-21 (5th Cir. 1986); Jackson v. Johns-Manville Sales Corp., 727 F.2d 506, 516-22 (5th Cir. 1984), on reh'g en banc, 750 F.2d 1314 (5th Cir.), *question certified*, 757 F.2d 614 (5th Cir.), *certification declined en banc*, 469 So. 2d 99 (Miss.), *aff’d en banc*, 781 F.2d 394 (5th Cir. 1985), *cert. denied*, 106 S. Ct. 3339 (1986); Eagle-Picher Indus. Inc. v. Cox, 481 So. 2d 517, 521-23 (Fla. Dist. Ct. App. 1985), review denied, 492 So. 2d 1311 (Fla. 1986).

59. For a discussion of the policies promoted by *res judicata*, see infra note 63 and accompanying text.
the hardship it works on toxin exposure victims.\textsuperscript{60} One Florida court, in \textit{Eagle-Picher Industries, Inc. v. Cox},\textsuperscript{61} "balanc[ed] the need for finality against countervailing factors which militate in favor of the splitting of the actions."\textsuperscript{62} The court found that while the rule against claim splitting is founded on very real and legitimate policy goals,\textsuperscript{63} it "is not an absolute [bar] and that the procedural rule against splitting causes of action must be relaxed when equitable considerations demand it."\textsuperscript{64} Therefore, the court held, in rejecting an enhanced risk claim, that \textit{res judicata} will not bar a subsequent suit if the plaintiff later develops cancer.\textsuperscript{65} The court asserted that because the second action was no longer barred, the rationale for enhanced risk vanished.\textsuperscript{66} Other courts have agreed with the reasoning in \textit{Eagle-Picher}, but were nevertheless reluctant to modify \textit{res judicata}, as they stated they lacked the authority to make such a change.\textsuperscript{67}

Moreover, toxic tort litigation is generally extremely expensive and

\textsuperscript{60} For a discussion of the hardships created by \textit{res judicata} and the response to it in toxic tort cases, see \textit{supra} notes 52-57 and accompanying text.

\textsuperscript{61} 481 So. 2d 517 (Fla. Dist. Ct. App. 1985), review denied, 492 So. 2d 1331 (Fla. 1986). In \textit{Eagle-Picher}, the plaintiff received a substantial money judgment at trial for asbestosis, fear of contracting cancer, and enhanced risk of contracting cancer. \textit{Id.} at 519.

\textsuperscript{62} \textit{Id.} at 521.

\textsuperscript{63} "The rule is founded on the sound policy reason that the finality established by the rule promotes greater stability in the law, avoids vexatious and multiple lawsuits arising out of a single tort incident, and is consistent with the absolute necessity of bringing litigation to an end." \textit{Id.} at 520 (citing McKibben \textit{v. Zamora}, 358 So. 2d 866, 868 (Fla. Dist. Ct. App. 1978)).

\textsuperscript{64} \textit{Id.} at 521. Indeed, the \textit{Eagle-Picher} court asserted that if it allowed claim splitting in asbestos cases, litigation would decrease in volume. Many victims, the court stated, would not seek damages for asbestosis alone if they could recover later for the disastrous effects of cancer. \textit{Id.} at 522-23.

\textsuperscript{65} \textit{Id.} at 520. The court stated that:

[i]n deciding, as we do, that the plaintiff cannot recover damages in the present case for his enhanced risk of contracting cancer in the future . . . , we also decide an issue not squarely before us, that is, that the plaintiff may bring a second action for damages if and when he actually contracts cancer. \textit{Id.}

\textsuperscript{66} \textit{Id.}

\textsuperscript{67} See, e.g., Hagerty \textit{v. L & L Marine Servs.}, 788 F.2d 315, 320 (5th Cir. 1986) (noting \textit{res judicata} problems in toxic tort litigation and recommending that Fifth Circuit adopt such rule "when the proper case is presented"); Gideon \textit{v. Johns-Manville Sales Corp.}, 761 F.2d 1129, 1136-37 (5th Cir. 1985) (applying \textit{res judicata} under Texas law in asbestos case without regard to consequences to plaintiff); Brafford \textit{v. Susquehanna Corp.}, 586 F. Supp. 14, 18 (D. Colo. 1984) (court was reluctant to grant motion for partial summary judgment on claim for enhanced risk as plaintiffs will not be able to bring second action if and when injuries become manifest); Carbonaro \textit{v. Johns-Manville Corp.}, 526 F. Supp. 260, 264 (E.D. Pa. 1981) (although court was sympathetic towards cancer victim, judge found it was his "duty, however, to decide cases without sympathy, by references to the appropriate legal principles," and under principles of \textit{res judicata}, claim was barred), \textit{aff'd}, 688 F.2d 819 (3d Cir. 1982).
time consuming, making the temptation for premature settlement high. Therefore, one of the most effective tools for the plaintiff is the class action suit. Yet, significant differences in liability, defenses to liability, and damages may exist in any given toxin exposure case. As a result, class certification is often difficult for plaintiffs to obtain.

In response to these and other problems facing the toxic tort plaintiff, commentators have advanced the notion of the enhanced risk cause of action. Meanwhile, federal response to the problem has been

68. It has been estimated that for every dollar received by plaintiffs in asbestos cases, a total of $2.71 is spent on litigation expenses. J. Kakalik, P. Ebener, H. Felstiner, & M. Shanley, Costs of Asbestos Litigation 40 (1983). In Ayers, for example, more than 150 plaintiffs testified as to their damages. Ayers, 106 N.J. at 568, 525 A.2d at 292. The plaintiffs had to call as experts a toxicologist, a groundwater expert, a diagnostician, and psychologists. Id. Moreover, while the exposure was discovered in late 1978, the plaintiffs did not obtain a final judgment against the township until mid-1987. For a discussion of the history of the Ayers case, see supra notes 1-21 and accompanying text.

69. See Soble, supra note 40, at 712-14 (exposure victims susceptible to unfairly low settlements because of expense and difficulty in proving liability and because victims often have existing medical expenses).

70. See generally Superfund Study Group, supra note 22, app. N, at 341-95; Note, Class Certification in Mass Accident Cases under Rule 23(b)(1), 96 Harv. L. Rev. 1143, 1144-46 (1983). The Class Certification article noted that separate litigation of claims from one tort incident entails enormous waste. Note, supra, at 1144. Using the class action would allow for a reduction in per-plaintiff expenses. Id.


72. See M. Dore, supra note 24, at § 18.05 (vast majority of toxic tort cases have declined class certification).

73. One of the most significant of these problems is proving negligence. Superfund Study Group, supra note 22, app. K, at 264; Ayers, 106 N.J. at 584, 525 A.2d at 300. New Jersey has imposed strict liability for injuries caused by the storage of toxic waste, stating that this practice is an ultrahazardous activity. State Dep't of Envtl. Protection v. Ventron Corp., 94 N.J. 473, 488-93, 468 A.2d 150, 157-60 (1983). Therefore, in New Jersey, plaintiffs avoid many of the problems that may result if they were required to prove negligence. Yet, sovereign immunity can be a problem for toxin exposure victims. Many states have statutes limiting state and municipal liability. See, e.g., Ayers, 106 N.J. at 570, 525 A.2d at 293; see also Superfund Study Group, supra note 22, app. O, at 402-05 (state by state rundown of sovereign immunity statutes). The New Jersey Tort Claims Act specifically precludes any claim against a public entity in strict liability. N.J. Stat. Ann. § 59:9-2(b) (West 1982). Therefore, while private companies can be held strictly liable in New Jersey, public entities cannot. See Kenny v. Scientific Inc., 204 N.J. Super. 228, 497 A.2d 1310 (Law Div. 1985).

74. See Gale & Goyer, Recover for Cancerphobia and Increased Risk of Cancer, 15 Cumb. L. Rev. 723, 741-44 (1985) (evidence of enhanced risk is no more unreliable than other subjective forms of evidence; rejection of such evidence leads to undercompensation of plaintiffs). See Seltzer, supra note 29, at 833 (recognition of inherent unfairness of traditional common-law remedies has led many courts away from strict adherence to "'highly probable' test of determining the substantiality of at-risk injury claims"); Comment, Increased Risk of Disease, supra note 29, at 643-52 (recognition of increased risk of disease cause of action "provides important practical benefits and is supported by analogous tort principles"); Note, Increased Risk of Cancer as an Actionable Injury, 18 Ga. L. Rev. 563, 592 (1984) [hereinafter Note, Increased Risk of Cancer] (enhanced or "non-traditional" tort
slow, despite the urging of several courts. In 1976, Congress passed the Resource Conservation and Recovery Act (RCRA), which dealt with the regulation of waste disposal. Passed amid much publicity in 1980, the Comprehensive Environmental Response Compensation and Liability Act (CERCLA), known as the “Superfund” legislation, is an attempt to hold the disposers of toxic wastes financially responsible for any cleanup needed at the disposers' sites. Neither RCRA nor CERCLA, however, provided for personal injury recovery.

The burden of risk is worthy of compensation; Note, The Inapplicability of Traditional Tort Principles to Environmental Risks: The Example of Toxic Waste Pollution Victim Compensation, 35 Stan. L. Rev. 575, 607-16 (1983) (burden of risk should be placed on actor rather than innocent party who is subjected to risk).

See, e.g., Jackson v. Johns-Manville Sales Corp., 781 F.2d 394, 415 (5th Cir.) ("Congress' silence in the face of a desparate [sic] need for federal legislation in the field of asbestos litigation does not authorize the federal judiciary to assume for itself the responsibility for formulating what are essentially legislative solutions"), cert. denied, 106 S. Ct. 3339 (1986); Gideon v. Johns-Manville Sales Corp., 761 F.2d 1129, 1146 (5th Cir. 1985) ("traditional methods of litigation are ill-designed to handle such a volume of cases, for their sheer number is inundating the courts"); Ayers, 106 N.J. at 581, 525 A.2d at 299 ("In the absence of statutory or administrative mechanisms for processing injury claims resulting from environmental contamination, courts have struggled to accommodate common-law doctrines to the peculiar characteristics of toxic tort litigation").


RCRA was prospective only in its application and, therefore, is not relevant to any waste disposal problems caused before 1976.


CERCLA did, however, acknowledge the problems in toxic tort litigation by appointing a study group to examine existing remedies. Section 301(c) of CERCLA (codified at 42 U.S.C. § 9651(e) (1982)) authorized the Study Group. The group consisted of twelve members, three each from the ALI, the ABA, the American Association of Trial Lawyers and the American Association of Attorneys General. 42 U.S.C. § 9651(e) (1982).

The Study Group made an extensive critique of the present common law system as it applied to toxic torts. See SUPERFUND STUDY GROUP, supra note 22, Part II. However, none of the Study Group’s recommendations were adopted by Congress. For a discussion of the Study Group’s recommendations, see Zazzali & Grad, Hazardous Wastes: New Rights and Remedies? The Report and Recommendations of the Superfund Study Group, 13 Seton Hall L. Rev. 446, 464-74 (1983). The Study Group recommended a two-tiered recovery system. Id. at 464. Tier one consisted of a system similar to workmen’s compensation, with certain relaxations of proof requirements and a rebuttable presumption of causation. Id. at 464-69. Tier two consisted of a common-law scheme of recovery involving no proof relaxations, liberal joinder, a discovery rule, and joint and several liability. Id. at 469-71. The Study Group can, perhaps, be credited with helping prompt Congress to establish a federally mandated discovery rule in toxic waste expo-
B. The Application of the Prerequisites for Recovery for Future Injury to Toxin Exposure Litigation

One of the most serious problems facing the toxic tort plaintiff and therefore, one of the most convincing rationales for the enhanced risk claim, is the inapplicability of the general tort standards for recovery of future damages to toxic tort litigation. Since future injury resulting from a toxic tort can be potentially the most devastating injury facing the exposure victim,\textsuperscript{80} compensation for the inchoate harm can therefore form a major part of the toxic tort damage award. On the other hand, if future damages are denied, the plaintiff will go without compensation for a major part of his or her injury. While jurisdictions differ in their requirements for the recovery of future damages, there are two basic prerequisites. First, the plaintiff must have suffered some present injury.\textsuperscript{81} Second, the plaintiff must show that any future damages are reasonably probable.\textsuperscript{82}

1. The Present Injury Requirement

The present injury requirement prescribes that the plaintiff show that he or she is presently suffering from a concrete physical injury.\textsuperscript{83} In sure cases. For a discussion of CERCLA’s present requirement that state courts use a discovery rule in hazardous waste litigation, see supra note 46.

80. Asbestos-related injuries present a compelling example. A typical asbestos exposure victim first contracts asbestosis or pleural thickening, which are generally mild diseases caused by asbestos fibers scarring the lungs. Yet, that person then has approximately a 15 percent chance of later contracting mesothelioma, an extremely deadly form of cancer. Wilson v. Johns-Manville Sales Corp., 684 F.2d 111, 120 n.45 (D.C. Cir. 1982).

81. The RESTATEMENT (SECOND) OF TORTS § 7 (1965) defines “injury” as the “invasion of any legally protected interest.” Id. § 7(1). As such, this definition of injury is essentially a legal conclusion. An action will result in an injury if tort law protects against its consequences. Courts, therefore, are referring to what the Restatement refers to as “physical harm” when they say “injury.” “Physical harm” is defined as “physical impairment of the human body.” Id. § 7(3). For a discussion of cases applying this requirement, see infra notes 83-97 and accompanying text.

82. For a discussion of cases on the requirement that future damages be reasonably certain, see infra notes 98-111 and accompanying text.

83. See generally Gideon v. Johns-Manville Sales Corp., 761 F.2d 1129, 1136 (5th Cir. 1985) (“While the sale of a defective product creates a potential for liability, the law grants no cause of action for inchoate wrongs . . . . [There] is no cause of action for negligence or products liability until there is ‘actual loss or damage resulting to the interests of another.’”) (quoting PROSSER AND KEETON, supra note 37, § 30, at 165)); Schweitzer v. Consolidated Rail Corp. (Conrail), 758 F.2d 936, 943 (3d Cir.) (“until injury manifests itself, it follows that there [is] . . . no legal relationship between plaintiffs and defendants relevant to plaintiffs’ future causes of action in tort from which an ‘interest’ could flow”), cert. denied, 474 U.S. 864 (1985); Mink v. University of Chicago, 460 F. Supp. 713, 719 (N.D. Ill. 1978) (risk of cancer alone without manifestation of physical injury is insufficient to meet requirements of cause of action for products liability); PROSSER AND KEETON, supra note 37, § 35, at 165 (proof of actual suffering or injury is prerequisite for recovery in negligence).
fact, some courts and commentators assert that no tort has been committed until there is some such injury.84

Some courts have attempted to adapt the present injury requirement to the toxic tort context. For example, in Brafford v. Susquehanna Corp.,85 the plaintiffs alleged that the defendant had placed radioactive substances in and around the foundation of their home before they had purchased it.86 The plaintiffs contended that, as a result, they suffered an increased risk of cancer,87 yet they claimed no present physical injury beyond cellular and subcellular damage caused by the radiation.

The Brafford court admitted that "it is the law in the 10th Circuit as well as in other jurisdictions that an increased risk of cancer without an accompanying present physical injury is insufficient to state a claim for strict liability."88 However, the court accepted the plaintiffs' contention that this injury requirement could be satisfied by cellular and subcellular damage and denied defendant's motion for summary judgment.89 The court stated that it was a question of fact whether the cellular and subcellular damage caused by radiation satisfied the prerequisite of a present injury.90

Schweitzer v. Consolidated Rail Corp. (Conrail)91 also involved the question of whether injuries similar to cellular and subcellular injuries might provide a cause of action. In that case, the defendants claimed that plaintiffs' exposure to asbestos had caused "subclinical"92 injury before their injuries became manifest.93 Unlike the Brafford court, the United

84. See, e.g., Prosser and Keeton, supra note 37, § 30, at 165 ("The threat of future harm, not yet realized, is not enough"). See also Schweitzer, 758 F.2d at 942 ("there is generally no cause of action in tort until a plaintiff has suffered identifiable, compensable injury").
86. Id. at 15. Susquehanna was engaged in uranium mining. During uranium ore processing, "mill tailings," which are waste byproducts of the ore and contain radioactive substances, are produced. The Braffords contended that Susquehanna had placed these mill tailings around the home which they later purchased. Id.
87. Id. at 17.
88. Id. Plaintiffs' complaint included actions for negligence, failure to warn and strict liability. Their claims were for the loss of their home, mental distress and medical surveillance, as well as enhanced risk of cancer. Id. at 16.
89. Id. at 18. Accord Barth v. Firestone Tire and Rubber Co., 661 F. Supp. 193 (N.D. Cal. 1987) (allegations of injury to immune system, even though not clinically diagnosible, were sufficient to withstand motion to dismiss in toxic chemical exposure case).
90. Brafford, 586 F. Supp. at 18. The court was also influenced in denying the summary judgment claim by the fact that the plaintiffs had to recover all damages in one action. Id.
92. Subclinical injury is defined as "having symptoms so mild as to be unnoticeable in usual clinical examinations and tests." The Random House Dictionary of the English Language 1413 (1966).
93. Schweitzer, 758 F.2d at 940. Plaintiffs sued several railroad companies that had gone bankrupt. The companies claimed that since the injury existed
States Court of Appeals for the Third Circuit determined that this was not the type of injury contemplated by the injury requirement. The court stated that "there is generally no cause of action in tort until a plaintiff has suffered identifiable, compensable injury." Such subclinical injury did not constitute an actual loss that general principles of personal injury tort law require. The court stated further that any resultant damages from a successful claim for subclinical injury would be speculative and likely to lead to inequitable results. In short, the Third Circuit voiced the same concerns that other courts have in analyzing the enhanced risk of cause of action.

2. The Reasonable Probability Standard

The other threshold requirement for recovery of future damages is that the plaintiff prove that the damages are reasonably probable. This standard is generally described as requiring that future injuries be more probable than not or that there is a more than a fifty percent chance that injury will occur. Once the plaintiff has introduced evidence establishing that the damages are reasonably probable, he or she may recover fully for those injuries. Thus, a victim who can demonstrate a fifty-one percent chance of future injury may be compensated as if the injury was certain to occur. Conversely, a plaintiff who can prove that he or she has only a forty-nine percent chance of future damage can, as a matter of law, receive nothing for his or her future injuries.

Before bankruptcy, any claims against them were discharged in bankruptcy proceedings. Plaintiffs and Conrail, the companies' successor, disputed that claim. Id.

94. Id. at 942; see also Prosser and Keeton, supra note 37, § 30 at 165. One of the elements of a cause of action in negligence is described as "actual loss or damages resulting to the interests of another. . . . The threat of future harm, not yet realized, is not enough." Id. Actual loss is also required in strict liability. Id.


96. For a discussion of the concerns over the speculative nature of the enhanced risk claim, see infra notes 143-46 and accompanying text.

97. For a discussion of the general concerns over the adoption of the enhanced risk cause of action, see infra notes 140-50 and accompanying text.


99. Wilson v. Johns-Manville Sales Corp., 684 F.2d 111, 119 n.44 (D.C. Cir. 1982) ("This 'all or nothing' approach is the traditional rule.").

100. See, e.g., Id., at 119 (plaintiff must show more than 50% chance that future injury will later occur, otherwise plaintiff is limited to recovery for harm that is already manifest). In addition, res judicata may bar a subsequent suit
roundly criticized by the advocates of enhanced risk. This scheme is characterized as arbitrary and unfair in that it allows or denies recovery based upon the ability of a plaintiff to meet certain evidentiary requirements where those requirements have no real medical significance.

Thus, most jurisdictions seem to require that there be an existing physical injury and that future injury be reasonably certain. Otherwise, courts seem to regard the likelihood of future injury as too speculative to allow recovery. Some courts, on the other hand, have allowed recovery in the absence of evidence that the future complications from an injury are reasonably certain. In Feist v. Sears Roebuck & Co., for example, the plaintiff suffered a skull fracture when defendant's cash register fell and struck him. Medical testimony indicated that, as a result of the fracture, plaintiff suffered an increased risk of contracting meningitis, although the risk was not quantified as being more than fifty percent. Rather, testimony indicated that the plaintiff probably was susceptible to meningitis. The Oregon Supreme Court, in allowing an award under such circumstances, stated that, "as a matter of common sense . . . a jury can properly make a larger award of damages in a case involving a skull fracture of such a nature as to result in a susceptibility of meningitis than in a case" without such a risk. The court still relied upon the "reasonably probable" standard. Yet, it found that the plaintiff satisfied the standard since testimony at trial demonstrated that it was reasonably probable that there was a risk of or suscept-

should the 49% or less chance materialize. For a discussion of the effect of res judicata on toxic tort plaintiffs, see supra notes 52-67 and accompanying text.

101. "This arbitrary result fails to recognize the scientific certainty of quantitative risk assessment. It unjustly denies immediate relief to everyone in the exposed population for their increased risk . . . ." Comment, Increased Risk of Disease, supra note 29, at 639. See also Gale & Goyer, supra note 74, at 743 (medical testimony that plaintiff has 49% chance of contracting cancer is as reliable as that which establishes that he or she has 51% chance of disease).

102. See Seltzer, supra note 29, at 815-25 (medical and legal causation concepts ultimately antagonistic in that medical causation is inherently uncertain).


104. "Recovery of damages for speculative or conjectural future consequences is not permitted. To meet the 'reasonably certain' standard, courts have generally required plaintiffs to prove that it is more likely than not . . . that the projected consequence will occur." Wilson v. Johns-Manville Sales Corp., 684 F.2d 111, 119 (D.C. Cir. 1982). The trial court in Ayers voiced similar concerns. "To permit recovery for possible risk of injury or sickness raises the spectre of potential claims arising out of tortious conduct increasing in boundless proportion." Ayers, 189 N.J. Super. at 568, 461 A.2d at 187.


106. Id. at 403, 517 P.2d at 675.

107. Id. at 404-05, 517 P.2d at 676. Medical testimony indicated that the tear of the skull or brain lining that accompanied the skull fracture increased the plaintiff's chance of contracting meningitis, an infection inside the lining. Id.

108. Id.

109. Id. at 412, 517 P.2d at 680.
tibility to future harm. Under such a formulation, the Ayers plaintiffs would be allowed to recover for their enhanced risk of disease, as expert testimony had established that the Legler area residents had certainly suffered an enhanced risk of cancer. Few courts, however, have allowed recovery under such circumstances.

The basic tort prerequisites for future damage place the toxic tort plaintiff at a serious disadvantage. Some exposure victims suffer some present harm, yet future injuries, many of which can be serious, cannot be quantified as being probable. Other victims do not suffer any present injuries, yet are able to show that future damages are very likely. Under either of these circumstances, most jurisdictions would bar any present award for future injury. 

In addition, the passage of time between exposure and manifestation of disease may gravely reduce the victim's chances of recovery. Thus, many see enhanced risk as a solution to some of the toxic plaintiff's formidable difficulties.

III. Analysis

A. Enhanced Risk: The Nature of the Cause of Action

There are essentially two distinct and conceptually different ways to view the enhanced risk cause of action. The first is that it is a present award for future injury. Under this view, an award for enhanced risk would be for damages that may occur in the future, discounted by the chance that the injuries will not, in fact, develop. If conceptualized this way, recovery for enhanced risk is only possible in jurisdictions without

110. Id. at 413, 517 P.22d at 680. For other cases allowing recovery for an enhanced susceptibility to future disease or injury, see Martin v. City of New Orleans, 678 F.2d 1321 (5th Cir. 1982) (risk of injuries from bullet wound compensable even though not "reasonably probable"), cert. denied, 459 U.S. 1203 (1983); Sterling v. Velsicol Chem. Corp., 672 F. Supp. 303 (W.D. Tenn. 1986) (increased risk of liver and kidney disease and cancer from chemical waste exposure); Davis v. Garviss, 672 S.W.2d 928 (Ky. 1984) (likelihood of future complications from vehicle collision and related emotional distress were compensable).

111. Plaintiffs' expert witness testified that "virtually all plaintiffs were at significant and substantial increased risk of developing cancer." Ayers, 202 N.J. Super. at 121, 493 A.2d at 1322.

112. For discussion of res judicata and statute of limitations problems, see supra notes 43-47 & 52-67 and accompanying text.

113. For a discussion of the barriers to recovery that may arise between exposure and manifestation of disease, see supra notes 32-86 and accompanying text.

114. This is the view of the enhanced risk claim that most courts take. See Herber v. Johns-Manville Corp., 785 F.2d 79, 82 (3d Cir. 1986) (viewing risk as injury is "fundamentally at odds with" New Jersey law). For cases viewing enhanced risk as a present award of future damages and, therefore, declaring that such damages are too speculative, see infra notes 143-46 and accompanying text.
a present injury requirement\textsuperscript{115} or in those that would be willing to suspend that requirement in toxin exposure litigation. Since this future damages characterization of the enhanced risk claim necessarily assumes that there is no present injury from the corresponding risk, a jurisdiction that requires a present injury is likely to reject the enhanced risk claim out of hand.

Another view of the enhanced risk cause of action is to characterize the risk itself as an injury.\textsuperscript{116} This view of the claim suggests that a risk of future injury caused by a defendant’s wrongful act is an extant injury which tort law should both recognize and compensate.\textsuperscript{117} Thus, the enhanced risk claim, if viewed as a present injury, does not depend on the actual occurrence of injury to justify a damage award. Rather, it would be appropriate to compensate the victim for the risk in and of itself.

B. Enhanced Risk: The Elements of a Cause of Action

An enhanced risk cause of action would consist of several elements.\textsuperscript{118} First, the plaintiff would have to show that he or she was exposed to the hazardous waste.\textsuperscript{119} Then the plaintiff must demonstrate that exposure to the waste caused an increased risk of disease or other injury.\textsuperscript{120} Finally, the plaintiff must show the extent of the increased risk. The trier of fact then would determine the appropriate compensation based, not upon actual injury, but rather on the increased risk.\textsuperscript{121}

\textsuperscript{115} For a discussion of the physical injury requirement and cases dealing with it, see supra, notes 83-97 and accompanying text.

\textsuperscript{116} This view is favored by many of the proponents of the enhanced risk cause of action. It was advanced by the plaintiff in Herber, but rejected by the court, Herber Johns-Manville Corp., 785 F.2d 79, 82 (3d Cir. 1986). Several commentators have also taken this position. See, e.g., Note, Increased Risk of Cancer, supra note 74, at 589 (application of present injury requirement to enhanced risk claim is inappropriate; injury is risk of disease itself). This view is popular with plaintiffs and advocates of the enhanced risk cause of action because it satisfies the present injury requirement, thus squeezing the enhanced risk claim into one of the legal pigeonholes necessary for recovery.

\textsuperscript{117} This concept of enhanced risk would be in concert with the Restatement of Torts, since the Restatement refers to injury as the “invasion of any legally protected interest” rather than as actual damage. See Restatement (Second) of Torts § 7 (1985). However, courts generally refer to actual damage when they use the word injury, despite the Restatement formulation. For a discussion of this issue, see supra note 81.

\textsuperscript{118} For a discussion of enhanced risk as a cause of action, see Rosenberg, supra note 30, at 859-87; Seltzer, supra note 29, at 833-41, 848-52 Comment, Increased Risk of Disease, supra note 29, at 643-48; Note, Increased Risk of Cancer, supra note 61, at 586-92.

\textsuperscript{119} Seltzer, supra note 29, at 848. The plaintiff must show that he or she "was or is exposed to a hazardous waste substance or substances." \textit{Id.}

\textsuperscript{120} \textit{Id.}

\textsuperscript{121} Rosenberg, supra note 30, at 859. The “central component” of an enhanced risk claim would be a “standard of proportional liability” under which “courts would impose liability and distribute compensation in proportion to the probability of causation assigned to the excess risk of disease in the exposed
Presumably, the cause of action would accrue when the exposure created any risk that would be identifiable and quantifiable. In jurisdictions that have some form of a discovery rule, that accrual would be delayed until the plaintiff is in a position to know of this increased risk.\textsuperscript{122}

There are several methods that exposure victims can use to show that, as a result of their exposure, they are subject to an increased risk of disease.\textsuperscript{123} Perhaps the plaintiffs' most important tool is the use of epidemiological studies and experts. Epidemiologists\textsuperscript{124} use statistics derived from comparing exposures to certain substances and occurrence of disease in exposed populations in order to establish the toxicity of the substance and the causes of diseases.\textsuperscript{125} In many cases, an epidemiologist is able to describe, in percentages, the increased risk of disease resulting from exposure to a certain amount of a toxin. As a result, epidemiology can establish both the existence of an increased risk and quantify, within a fairly narrow range, such an increase.\textsuperscript{126} Epidemiologists often have difficulty, however, making exact percentage estimates of the enhanced risk of disease.\textsuperscript{127} In such cases, the risk can be established by offering expert testimony to approximate the risk. Additional evidence as to the duration, frequency, and intensity of exposure may assist the trier of fact in determining the extent of the risk.\textsuperscript{128}

\textsuperscript{122} For a discussion of the application of such discovery rules, see supra notes 43-47 and accompanying text.

\textsuperscript{123} See generally M. Dore, supra note 24, §§ 24-27.

\textsuperscript{124} “Epidemiology is the only generally accepted scientific discipline that deals with the integrated use of statistics and biological/medical science to identify and establish the causes of human diseases.” Black & Lilienfeld, \textit{Epidemiologic Proof in Toxic Tort Litigation}, 52 \textit{Fordham L. Rev.} 732, 736 (1984).

\textsuperscript{125} Id.


The plaintiffs in \textit{Allen} claimed injuries resulting from radioactive fallout from nuclear weapons testing from 1951 to 1963. 588 F. Supp. at 257-58. The \textit{Allen} court recognized that epidemiological studies could help quantify the chances that future injuries would occur from exposure to injurious substances. \textit{Id.} at 416-18. Plaintiffs often use epidemiological studies to establish that these chances are beyond the “reasonable medical certainty” threshold required for recovery of future damages. For a discussion of the requirement that future damages be shown to be reasonably probable, see supra notes 98-111 and accompanying text.

\textsuperscript{127} The expert who testified on behalf of the \textit{Ayers} plaintiffs stated that it was impossible to quantify the degree of the increase of risk. \textit{Ayers}, 202 N.J. Super. at 125, 493 A.2d at 1324. Moreover, many courts are sometimes reluctant to admit statistical evidence of increased risk due to the inability of science to quantify the risk. Gale & Goyer, supra note 74, at 744.

\textsuperscript{128} See Seltzer, supra note 29, at 848. This commentator recommends using this evidence along with medical testimony that exposure caused a “reasonable medical concern” that there would be future injury. \textit{Id.} at 849.
Once the risk has been established, the trier of fact would then determine the appropriate compensation. The award for the inchoate injury would be proportional to the risk of its occurrence. Thus, if the trier of fact were to find that the risk was twenty-five percent, it would award the plaintiff twenty-five percent of the full compensation for the injury.129

C. Related Causes of Action: Medical Surveillance and Emotional Distress

Other claims commonly result from situations in which plaintiffs seek recovery for enhanced risk of disease. Claims for medical surveillance and emotional distress or "cancerphobia"130 are two such additional, distinct causes of action that are often appended to enhanced risk claims.131 The two are logical outgrowths of enhanced risk, as they compensate victims for results of exposure to toxins without regard to whether the victims have in fact contracted disease. Yet the claims for medical surveillance and emotional distress are not contingent on a recognition of the enhanced risk claim, as they address concerns independent of the actual development of disease.132

An award for medical surveillance seeks to compensate exposure victims for medical expenses necessitated by the exposure. Plaintiffs assert that those who are subjected to an increased risk of disease, particularly a serious one such as cancer, need more frequent medical examinations than those without such an increased risk, since early detection can greatly improve the chances that a person who actually de-

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129. Therefore, if the jury were to find that appropriate compensation for the injury was $100,000 and the risk of injury was 25 percent, it would award the plaintiff $25,000 for the enhanced risk claim.

130. Some courts and commentators refer to the emotional distress resulting from exposure to carcinogens as fear of cancer or "cancerphobia." See Gale & Goyer, supra note 74, at 724. As that article points out, however, technically, phobias are unfounded fears; therefore, the term "cancerphobia" can be misleading since courts only allow recovery where there is some reasonable basis for the emotional distress. Id. at 724-25. Nevertheless, the term has rather wide usage.

131. Enhanced risk claims are generally accompanied by claims for medical surveillance and emotional distress. See, e.g., Deleski v. Raymark Indus., Inc., 819 F.2d 377 (3d Cir. 1987) (enhanced risk and emotional distress both claimed and both denied); Herber v. Johns-Manville Corp., 785 F.2d 79 (3d Cir. 1986) (all three theories of recovery claimed; enhanced risk denied while medical surveillance and emotional distress allowed); Johnson v. Armstrong Cork Co., 645 F. Supp. 764 (W.D. La. 1986) (all three theories claimed; only enhanced risk denied); DeStories v. City of Phoenix, 154 Ariz. 604, 744 P.2d 705 (Ariz. App. 1987) (all three theories claimed; all three denied); Eagle-Picher, 481 So. 2d at 517 (all three theories claimed, only enhanced risk denied); Ayers, 106 N.J. at 565-66, 525 A.2d at 291 (all three claimed, medical surveillance allowed, enhanced risk denied, and emotional distress precluded by sovereign immunity).

132. Indeed, most cases that have denied the enhanced risk cause of action have allowed claims for either medical surveillance, emotional distress, or both. For examples of cases allowing these claims, see supra note 131.
velops the disease will survive.\textsuperscript{133} If this element of damage is not recoverable against a tortfeasor, the exposure victim may go uncompensated for real, out-of-pocket expenses caused by the defendant's wrongful acts.\textsuperscript{134}

Yet courts have expressed some reluctance to accept the medical surveillance claim. Since the ultimate development of disease is speculative, especially where the plaintiff has failed to demonstrate that its onset is a reasonable probability,\textsuperscript{135} the validity of the medical surveillance claim can also be brought into question.\textsuperscript{136} Moreover, there may be some concern that plaintiffs would not actually use such an award for medical surveillance.\textsuperscript{137}

Another claim is for emotional distress occasioned by the exposure. This claim seeks to redress the fear, anxiety and worry that would presumably accompany the exposure victim's knowledge that he or she has a risk of disease.\textsuperscript{138} Recovery for this claim is generally contingent on whether the plaintiff can satisfy the general tort requirements for the recovery of emotional distress damages.\textsuperscript{139}

\textsuperscript{133} In Ayers, plaintiffs' medical expert testified at trial that the residents of the area needed annual medical exams in order to detect development of disease as early as possible. Ayers, 106 N.J. at 599, 525 A.2d at 292.

\textsuperscript{134} In Ayers, for example, over half the jury's award, or more than $8.2 million, was for medical surveillance; the jury only awarded about $5.2 million to compensate the plaintiffs for being without running water for two years. Id. at 565-66, 525 A.2d at 291. Such a result suggests that the Ayers jury saw the medical surveillance damages as the most significant in the case.

\textsuperscript{135} For a discussion of the requirement that future damages be reasonably probable, see supra notes 98-111 and accompanying text.

\textsuperscript{136} The appellate division in Ayers apparently held this view. That court stated that since plaintiffs could not quantify their increased risk, it was unjust to impose "upon the defendant the burden of lifetime medical surveillance for early clinical signs of cancer." Ayers, 202 N.J. Super. at 122, 493 A.2d at 1323. For a discussion of the appellate division's holding in Ayers, see supra notes 12-15 and accompanying text.

\textsuperscript{137} The New Jersey Supreme Court voiced concern over how the plaintiffs would in fact use their medical surveillance award and decided that in future cases courts should use a fund to reimburse plaintiffs for the actual medical costs that they incur. Ayers, 106 N.J. at 610-11, 525 A.2d at 314-15.

\textsuperscript{138} For a discussion of the Ayers plaintiffs' claims for emotional distress, see supra notes 14-16 and accompanying text.

\textsuperscript{139} There are several different views on the elements of a prima facie case to recover for emotional distress. Courts may require some injury from the defendant's wrongful acts, some impact upon the plaintiff's body, or neither. See Prosser and Keeton, supra note 37, § 54, at 361-65. In the enhanced risk context, the effect of the injury requirement is to preclude the emotional distress claim. See Adams v. Johns-Manville Sales Corp., 783 F.2d 589, 593 (5th Cir. 1986) (no emotional distress award allowed if plaintiff fails to prove injury); DeStories v. City of Phoenix, 154 Ariz. 604, —, 744 P.2d 705, 709 (Ariz. App. 1987) (allowing inhalation of asbestos fibers to satisfy injury requirement "goes beyond the reach of current Arizona law"). Cf. Gideon v. Johns-Manville Sales Corp., 761 F.2d 1129, 1138 (5th Cir. 1985) (while Texas law requires injury before emotional distress is recoverable, once injury exists, award for emotional
D. The Reaction of the Courts to Enhanced Risk

Although many commentators have urged that courts recognize the enhanced risk cause of action, it has been uniformly rejected by courts who have considered it. In rare cases, plaintiffs have been allowed to recover for an enhanced risk of injury where they had a pre-existing injury and future injuries were potentially traumatic.

Some courts have rejected enhanced risk because of the inherently speculative nature of any resultant damages. Courts have been extremely reluctant to allow compensation for injuries which may never occur. Furthermore, thousands and perhaps millions of people are exposed to injurious substances every day. Courts apparently fear that if plaintiffs are allowed to recover for the risks created by our society, a legion of speculative, spurious lawsuits would result. Other courts see the enhanced risk claim as simply being unjust. These courts assert that such a claim would either overcompensate exposure victims who do not ultimately contract the disease or undercompensate those who do. Those who become ill will have been awarded only a fraction of

distress is not limited to concerns over present injury, but may include distress over risk of future harm.

In jurisdictions requiring an impact on the plaintiff's body, the requisite impact is generally minimal. Thus, courts have held that the "impact" of a toxin on a plaintiff's body is sufficient to allow recovery for emotional distress. See, e.g., Herber v. Johns-Manville Corp., 785 F.2d 79, 85 (3d Cir. 1986) (impact requirement under New Jersey law satisfied by plaintiff's pleural thickening due to asbestos exposure); Eagle-Picher, 481 So. 2d at 526-27 (Florida impact requirement satisfied by inhalation of asbestos fibers).

In jurisdictions where there is no physical impact or injury requirement, the absence of injury in a toxin exposure context would not be an issue in the recovery of damages for emotional distress. It is interesting to note that while the Herber court seemed concerned about New Jersey's impact requirement, the New Jersey Supreme Court in Ayers seemed to assume that New Jersey no longer had such a requirement. Ayers, 106 N.J. at 574, 525 A.2d at 295 ("our cases no longer require proof of causally-related impact to sustain a recovery for emotional distress").

140. For a list of commentators advocating an enhanced risk claim, see supra note 74 and accompanying text.

141. For cases rejecting an enhanced risk claim, see supra note 131 & infra note 178.

142. For a discussion of cases accepting enhanced risk-like claims under these circumstances, see supra notes 105-11 and accompanying text.

143. See Schweitzer, 758 F.2d at 942 (court feared that if enhanced risk claim were recognized "countless seemingly healthy railroad workers, workers who might never manifest injury, would have tort claims cognizable in federal court."); Ayers, 189 N.J. Super. at 568, 461 A.2d at 187 (trial court apprehensive of speculative damages resulting from such claim).

144. For a discussion of the reasonably probable standard for the recovery of future injuries and why the courts believe it is necessary, see supra notes 98-111 and accompanying text.

145. See Anderson v. W.R. Grace & Co., 628 F. Supp. 1219 (D. Mass. 1986); Eagle-Picher, 481 So. 2d at 524. The Anderson court noted that "[t]o award damages based on a mere mathematical probability would significantly undercom-
what they deserve, while those who do not in fact contract disease will have been compensated for injuries that never materialize. These two results are inevitable under the enhanced risk claim. Neither result is acceptable to many courts' sense of fairness.146

Courts also see enhanced risk as unfair in that the trier of fact is unable to accurately assess damages on which to base the proportional recovery.147 Evidence of the consequences of future disease is likely to be scant at best. Arguably, the consequences of a disease can be gauged and compensated only after it has become manifest. This criticism, however, can be leveled at any award of damages for prospective harm, whether they meet the reasonably probable standard and have an antecedent injury or not.

Toxin exposure litigation, therefore, presents courts with two apparently unacceptable alternatives. The first involves clinging to the traditional tort damage requirements in toxic tort cases. Under this alternative, many plaintiffs would go undercompensated.148 Second, courts could accept the enhanced risk cause of action and allow proportional recovery for inchoate injury. Yet, the speculative nature of the enhanced risk claim and aspects of proportional recovery have proven to be unacceptable to those courts that have addressed the issue.149 In this context, the New Jersey Supreme Court has worked out what may be an acceptable, feasible, and just alternative.150

E. *The Ayers Response*

The compromise solution at which the New Jersey Supreme Court arrived comprised of several elements. First, the court held that the statute of limitations would not bar a subsequent suit if disease did, in fact, later materialize.151 The court stated that "[t]he bar of the statute compensates those who actually do develop cancer and would be a windfall to those who do not." *Anderson*, 628 F. Supp. at 1232 (citing Arnett v. Dow Chem. Corp., no. 729-586, slip op. at 15 (Cal. Super. Ct. Mar. 21, 1983)).

146. This criticism is appropriate only if the enhanced risk claim is characterized as a present award for future injury. If seen as compensation for a present injury, i.e. if the risk itself is seen as an injury, then over or undercompensation would not be an issue, as the fairness of the award does not depend upon the ultimate development of injury. For a discussion of the view of enhanced risk that the risk itself is an injury, see *supra* notes 116-17 and accompanying text.

147. *Eagle-Picher*, 481 So. 2d at 524.

148. For a further discussion of the various obstacles to recovery facing the toxic tort plaintiff, see *supra* notes 32-113 and accompanying text.

149. For a discussion of cases rejecting enhanced risk as a cause of action, see *supra* note 131 and *infra* note 178.

150. The court noted the dilemma it faced: "Our disposition of this difficult and important issue requires that we choose between two alternatives, each having a potential for imposing unfair and undesirable consequences on the affected interests." *Ayers*, 106 N.J. at 597, 525 A.2d at 307.

151. *Id.* at 584, 525 A.2d at 300.
of limitations is avoided because, under New Jersey's discovery rule, the
cause of action does not accrue until the victim is aware of the injury or
disease and of the facts indicating that a third party is or may be respon-
sible.”\textsuperscript{152} The \textit{Ayers} court also held that \textit{res judicata} would not bar a sub-
sequent suit if injuries later occurred.\textsuperscript{153} The court found the principles
behind the "single controversy rule," or \textit{res judicata}\textsuperscript{154} inapplicable in
the toxic tort context.

The court, therefore, held that the plaintiffs' cause of action for per-
sonal injuries would accrue when the latent disease manifests itself, even
if there were a previous award based on the consequences of toxic expo-
sure.\textsuperscript{155} The court made it clear that if an exposure victim receives compen-
sation for property damage and future medical expenses or other
injuries,\textsuperscript{156} the statute of limitations and the single controversy rule\textsuperscript{157}
would not prohibit a subsequent suit for personal injuries.\textsuperscript{158} Since the
plaintiffs' cause of action for personal injuries did not exist until the in-

\begin{itemize}
\item \textsuperscript{152} \textit{Id.} at 583, 525 A.2d at 300.
\item \textsuperscript{153} For a discussion of the \textit{Ayers} court's holding on the \textit{res judicata} issue, see \textit{supra} notes 20-21 and accompanying text.
\item \textsuperscript{154} For a discussion of the application of the single controversy rule in
New Jersey, see \textit{supra} note 20 and accompanying text.
\item \textsuperscript{155} \textit{Id.} Other courts have held that the statute of limitations is not a bar if
the plaintiff has suffered some injury and has "discovered" it for purposes of the
discovery rule, yet has not sued for damages. Under these circumstances, these
courts have held that a later action is not precluded by the statute of limitations
if an exposure victim subsequently contracts further disease resulting from ex-
Cir. 1982); Pierce v. Johns-Manville Sales Corp., 296 Md. 656, 668, 464 A.2d
1020, 1028 (1983) (both \textit{Wilson} and \textit{Pierce} holding that prior discovery of asbes-
tosis does not bar action for damages due to the manifestation of cancer, as
plaintiff had not instituted suit for asbestosis); Goodman v. Mead Johnson &
Co., 534 F.2d 566, 574-75 (3d Cir. 1976) (holding, under New Jersey law, sum-
mary judgment improper since genuine issue of material fact existed as to
whether plaintiff knew of possible cause of action for cancer and thrombophlebi-
tis from use of contraceptive despite plaintiff having consulted an attorney about
possible suit after manifestation of thrombophlebitis), \textit{cert. denied}, 429 U.S. 1038
(1977). The \textit{Ayers} court held, however, that the statute of limitations is not a bar
even though plaintiffs had recovered for medical surveillance and decreased
quality of life. \textit{But see} Place v. Ortho Pharmaceutical Corp., 595 F. Supp. 1009,
1012 (W.D. Pa. 1984) (plaintiff who had previous injuries from use of IUD was
not entitled to new cause of action for every subsequent injury that occurred).
For a further discussion, see \textit{supra} notes 151-52 and accompanying text.
\item \textsuperscript{156} \textit{Ayers}, 106 N.J. at 583, 525 A.2d at 300.
\item \textsuperscript{157} For a discussion of the relationship between \textit{res judicata} and the single
controversy rule, see \textit{supra} note 20 and accompanying text.
\item \textsuperscript{158} \textit{Ayers}, 106 N.J. at 584, 525 A.2d at 300. The court stated that the stat-
ute of limitations would not bar a subsequent suit since, under New Jersey's
discovery rule, the statute does not begin to run until after the manifestation of
disease. \textit{Id.} at 583, 525 A.2d at 300. Moreover, the court stated that the single
controversy rule would not impede recovery if disease later developed. The
court stated that the rule "cannot sensibly be applied to a toxic-tort claim filed
when disease is manifested years after exposure, merely because the same plain-
tiff sued previously to recover for property damage or other injuries." \textit{Id.}
juries became manifest, the court reasoned, these rules were inapplicable. The claims could not be split as they simply did not exist.

The Ayers court has thus joined a minority of jurisdictions that have expressly adapted res judicata concepts to the special characteristics of toxic tort litigation. By preserving the exposure victim's cause of action, the New Jersey Supreme Court's decision has the potential to significantly expand plaintiffs' rights in toxic tort suits.

The New Jersey Supreme Court also held that the Ayers plaintiffs were entitled to compensation for medical surveillance expenses made necessary by their exposure. The appellate division had stated that since the plaintiffs could not prove with reasonable medical certainty that disease would occur, the plaintiffs could not recover for either the risk of disease itself or medical surveillance.

The supreme court, however, stated that such an analysis assumed a nexus between the quantum of proof required for recovery for the risk of disease and recovery for medical surveillance expenses of those who faced such a risk. Rather, the court held that such expenses were recoverable in toxin exposure cases before manifestation of disease when circumstances made the surveillance "reasonable and necessary." The court outlined several factors in making this determination. First of all, the award must be based upon reliable expert testimony. The trier of fact may then consider the toxicity of the chemicals, the nature and seriousness of the diseases involved, the value of

159. Id.

160. As a result, the rights of asbestos plaintiffs have been expanded. In the typical asbestos case, the plaintiff first develops pleural thickening or asbestosis. Later, cancer may develop. The two diseases are medically unrelated; that is, cancer does not develop from asbestosis. Rather, it is an additional effect of exposure to asbestos. Generally, a plaintiff who suffers from tortiously inflicted injury has a cause of action which accrues when any resulting injury becomes manifest. Cf. Braxton-Secret v. A.H. Robins Co., 769 F.2d 528, 530-31 (9th Cir. 1985); Miller v. A.H. Robins Co., 766 F.2d 1102, 1106-07 (7th Cir. 1985) (both Braxton and Miller holding that cause of action for injuries due to use of defective contraceptive (IUD) accrued at time of miscarriage, as that event put plaintiffs on notice as to defect in product). However, some courts have chosen to treat asbestosis and cancer as separate and distinct injuries, and, therefore, separate causes of action. See Devlin v. Johns-Manville Corp., 202 N.J. Super. 556, 568, 495 A.2d 495, 502 (Law Div. 1985). For a further discussion, see supra notes 58-67 and accompanying text. The Ayers court, in what is admittedly dicta, seems to have settled this question in New Jersey.

161. For a discussion of courts that have adapted res judicata to the toxic tort context, see supra notes 58-67 and accompanying text.

162. Ayers, 106 N.J. at 606, 525 A.2d at 302.

163. For a discussion of the appellate division's treatment of the medical surveillance claim, see supra notes 12-13 and accompanying text.

164. Ayers, 106 N.J. at 599-600, 525 A.2d at 309. "This analysis assumes that the reasonableness of the medical intervention, and, therefore, its compensability, depends solely on the sufficiency of proof that the occurrence of the disease is probable." Id.

165. Id. at 606, 525 A.2d at 312.
early detection of these diseases, the extent of the exposure and the relative enhancement of risk in deciding whether the expenses are reasonably necessary.\textsuperscript{166}

The court found that its recognition of the medical surveillance claim was consistent with denying the enhanced risk cause of action, as the claims were distinguishable.\textsuperscript{167} The former was compensation for expenses reasonably incurred due to the township's wrongful acts.\textsuperscript{168} The latter, the court said, was compensation for actual physical injury to the plaintiffs before such injury actually exists or is shown to be probable.\textsuperscript{169} One is actual damage. The other is a speculative, anticipatory award.\textsuperscript{170} Furthermore, the court found it "inequitable for an individual, wrongfully exposed to toxic chemicals but unable to prove that disease is likely, to have to pay his own expenses when medical intervention is clearly reasonable and necessary."\textsuperscript{171}

In allowing the claim for medical surveillance, the Ayers court noted that the issues in the case would be recurring.\textsuperscript{172} Thus, while the court permitted the township residents to retain the individual amounts awarded to them at trial, it asserted that in the future trial courts should set up a fund to administer medical surveillance payments.\textsuperscript{173} Such a fund would serve several purposes. First, it insures that plaintiffs actually use the surveillance damages for the reason they were awarded, i.e., for medical surveillance. It thus encourages the plaintiffs to keep track of their health.\textsuperscript{174} Also, a fund mechanism, "limit[s] the liability of defendants to the amount of expenses actually incurred."\textsuperscript{175} The court noted that the fund would be particularly appropriate in suits against

\textsuperscript{166} Id.
\textsuperscript{167} Id. at 606, 525 A.2d at 312-13.
\textsuperscript{168} Id.
\textsuperscript{169} Id.
\textsuperscript{170} Id. at 606, 525 A.2d at 313.
\textsuperscript{171} Id. at 604-05, 525 A.2d at 312. Furthermore, the court found authority in other jurisdictions to support an award for medical surveillance. See Hagerty v. L & L Marine Servs., 788 F.2d 315, 319-20 (5th Cir. 1986) (allowing claim for medical surveillance while denying claim for enhanced risk of contracting cancer); Friends for All Children, Inc. v. Lockheed Aircraft Corp., 746 F.2d 816, 824-25 (D.C. Cir. 1984) (allowing claims for diagnostic exams for injuries caused by defendant's defective aircraft absent present physical injury). But see Hendrix v. Raybestos-Manhattan, Inc., 776 F.2d 1492, 1507 (11th Cir. 1985) (holding, under Georgia law, that future medical expenses, like all other damages, must be proven with reasonable certainty and denying plaintiff's claim, which was unsupported by any evidence).

\textsuperscript{172} Ayers, 106 N.J. at 579, 525 A.2d at 298. "At the outset, we must recognize that the issues presented by this case and others like it will be recurring." Id.
\textsuperscript{173} Id. at 608, 525 A.2d at 314. "In our view, the use of a court-supervised fund to administer medical surveillance payments in mass exposure cases... is a highly appropriate exercise of the Court's equitable powers." Id.
\textsuperscript{174} Id. at 609, 525 A.2d at 314.
\textsuperscript{175} Id.
public entities, as the state legislature had intended to limit their tort liability by passing the Tort Claims Act.\(^\text{176}\)

**IV. Conclusion**

It is submitted that, considering all the issues raised by the *Ayers* case, the New Jersey Supreme Court in *Ayers* fashioned a workable decision from the toxic tort/enhanced risk dilemma. It has taken a moderate position between the two extremes of traditional tort principles and the enhanced risk advocates. No one may be entirely satisfied with the court's resolution of these issues, yet perhaps it found what will prove to be a practical solution.

The view that enhanced risk is an inequitable claim\(^\text{177}\) is, to a certain extent, accurate. An exposure victim who recovers damages for enhanced risk will either be overcompensated if he or she does not contract disease or undercompensated if the disease does materialize. There can be no truly accurate measure such that damages are commensurate with injury. While advocates of the enhanced risk claim may correctly assert that the present system works some injustice, under the enhanced risk theory this injustice would be inevitable.

In rejecting the Legler area residents' claim for enhanced risk, the New Jersey Supreme Court joined a number of jurisdictions that have recently considered the issue.\(^\text{178}\) The *Brafford* court found it unnecessary to either accept or reject enhanced risk, as such, in order to compensate for future disease.\(^\text{179}\) Rather, that court merely accepted the proposition that the subcellular injury which caused the risk was a sufficient present injury to allow for the recovery of present and future damages.\(^\text{180}\) However, it is submitted that this reasoning exalts legal form

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\(^{176}\) N.J. STAT. ANN. § 59:2-21, comment (West 1982) states that "[i]t is hoped that in utilizing this approach, courts will exercise restraint in the acceptance of new and novel causes of action against public entities."

The court found authority in other jurisdictions to support its fund mechanism concept. A federal court used this method in an agent orange suit. See *In re Agent Orange Prod. Liab. Litig.*, 611 F. Supp. 1396, 1402-04 (E.D.N.Y. 1985), aff'd, 818 F.2d 187 (2d Cir. 1987).

\(^{177}\) For a discussion of the view that the enhanced risk claim is inequitable, see supra notes 145-46 and accompanying text.


\(^{179}\) For a discussion of the court's holding in *Brafford*, see supra notes 85-90 and accompanying text.

\(^{180}\) For a discussion of the *Brafford* court's holding that subcellular and
over substance and is tantamount to recognizing the enhanced risk claim. Any latent disease is caused by a change in genetic material, subcellular structures or subclinical damage. It remains to be seen, however, whether such damage will ever manifest itself as concrete injury. Courts should be concerned whether tort law should recognize such a claim and compensate such injury. They should not focus on whether they can manipulate the technical legal requirements for recovery in order to reach a particular result.

The Ayers decision has the potential to expand plaintiffs' rights considerably. It has already helped toxic tort plaintiffs in New Jersey by stating that neither res judicata nor the statute of limitations will bar a later suit. The reasoning that underlies this decision is compelling. The New Jersey Supreme Court refused to regard itself as straightjacketed by precedent; the court recognized that principles of res judicata and the statute of limitations created more harm for toxic tort plaintiffs than any benefit derived from them could justify. Therefore, the court modified these rules in toxic tort cases. While this is a logical result, the court's holding may nevertheless cause some uncertainty in application. It may prove difficult to determine exactly when a toxic tort has occurred, since the term is as broad as it is vague. Marginal cases may arise that will test the limits of the Ayers holding in this regard.

Indeed, it is more logical to relax statute of limitations and res judicata as restrictions on recovery than to recognize the enhanced risk claim. Those restrictions are basically procedural tools designed to safeguard the orderly administration of justice. Relaxing them under the correct circumstances is therefore appropriate. Allowing recovery for enhanced risk, however, essentially relaxes the physical injury requirement, notwithstanding the fact that one of the main goals of tort law is the compensation of individuals for the losses that they have actually suffered. The legal system simply should not formulate doctrines that allow an uninjured party to recover when there are alternative equitable solutions.

Moreover, the Ayers solution is more workable in the context of the cellular damage may satisfy the present injury requirement, see supra notes 89-90 and accompanying text.

181. For a discussion of the treatment of the res judicata issue in Ayers, see supra notes 153-61 and accompanying text.

182. For a discussion of the treatment of the statute of limitations issue in Ayers, see supra notes 151-52 & 156-160 and accompanying text.

183. For a discussion of the vagueness of the term "toxic tort," see supra note 24.

184. Eagle-Picher, 481 So. 2d at 517. "[T]o rigidly apply [the rule against claim splitting] here would do 'violence to the essence and purpose of the general rule.' " Id. at 523 (quoting Martinez-Ferrer v. Richardson-Merrell, Inc., 105 Cal. App. 3d 316, 326, 164 Cal. Rptr. 591, 596 (1980)).

185. For a discussion of the physical injury requirement, see supra notes 83-97 and accompanying text.
tort system's other main goal of deterrence. The total damages paid out through enhanced risk's proportional compensation system\textsuperscript{186} should equal the total paid the plaintiffs if they are allowed to sue after manifestation of disease.\textsuperscript{187} Therefore, the aggregate deterrence of enhanced risk should be the same as the deterrence under Ayers.

As suggested above, it is impossible for the enhanced risk cause of action to accurately compensate an exposure victim.\textsuperscript{188} Under Ayers, however, there is the real chance that a plaintiff will be fully compensated. The plaintiff can recover for property damage, medical surveillance, and, when not suing a public entity,\textsuperscript{189} emotional distress. Therefore, a plaintiff can truly be placed in the same position financially as he or she was before the exposure to the toxin. As far as a pecuniary award can compensate for injury, Ayers makes such compensation possible. Of course, this assumes that a plaintiff can overcome all of the barriers to recovery that exist in a toxic tort case.\textsuperscript{190} Yet, many of the same barriers would exist in a claim for enhanced risk.\textsuperscript{191}

The Ayers approach is more logical under a cost-benefit analysis as well. Toxic waste and other toxins are truly an extremely serious problem.\textsuperscript{192} Yet, we live in an industrialized society and these toxins are a byproduct of the benefits we receive from such a society. Commentators seem overanxious to place liability on industry; apparently they are unconcerned that ultimately it is consumers or, in the case of a suit against a public entity as in Ayers, taxpayers who will pay for it. Allowing recovery for enhanced risk could truly lead to limitless liability and drive these

\begin{itemize}
  \item \textsuperscript{186} For a discussion of proportional recovery under enhanced risk, see supra note 129 and accompanying text.
  \item \textsuperscript{187} To illustrate this, assume an exposure increases risk of cancer such that twenty-five percent of the exposed population would get cancer. Under enhanced risk, each member of the population would get twenty-five percent of the full compensation for cancer. Under Ayers, the twenty-five percent of the population who did indeed get cancer could recover fully. Theoretically, these two sums will be the same.
  \item \textsuperscript{188} For a discussion of the nature of enhanced risk recovery and how it must either over or undercompensate exposure victims, see supra notes 145-46 and accompanying text.
  \item \textsuperscript{189} The Tort Claims Act has a limitation on damages for pain and suffering, supra notes 14-15, that applies only to suits against public entities.
  \item \textsuperscript{190} For a discussion of the barriers to recovery facing the toxic tort plaintiff, see supra note 32-79 and accompanying text.
  \item \textsuperscript{191} The enhanced risk claim would eliminate many of the problems that the toxic tort plaintiff faces due to the long latency period between exposure to the toxin and manifestation of disease. Other barriers to recovery, such as proving negligence, would still exist. For a discussion of the barriers to recovery in toxic tort litigation, see supra notes 32-79 and accompanying text. Indeed, as one of the greatest problems in toxic tort litigation is that the plaintiff is ignorant of his or her danger until manifestation of disease, it is difficult to see what assistance the claim would be for many exposure victims.
  \item \textsuperscript{192} For a discussion of the scope of the toxic waste problem, see supra notes 22-25 and accompanying text.
\end{itemize}
valuable industries out of existence. While society should not tolerate industry and economic growth regardless of the cost, legal theorists should not espouse new and ingenious causes of action without addressing all of the possible ramifications of such proposals should they be adopted.

In sum, Ayers is not a perfect decision, but it is an equitable one. Many of the obstacles to recovery that plague the toxin exposure victim remain intact.\textsuperscript{193} and the Ayers court’s fund provisions are somewhat paternalistic.\textsuperscript{194} Nevertheless, it is an attempt to find a just compromise for a problem that is at once tragic and perplexing.

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\textsuperscript{193} For a discussion of the obstacles to recovery facing toxic tort plaintiffs, see supra notes 32-111 and accompanying text.
\textsuperscript{194} For a discussion of the fund provisions in Ayers, see supra notes 173-76 and accompanying text. It is submitted that the Ayers court’s decision to establish a fund for the medical surveillance claims went beyond the proper administration of justice. While the merits of legislative intrusion into private affairs are debatable, it is submitted that courts are singularly ill-suited to play the role of watchdog over what a judge may consider to be “best” for tort claimants.