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Enhanced Risk of Disease Claims: Limiting Recovery to Compensation for Loss, Not Chance

Melissa Moore Thompson

COMMENT

Enhanced Risk of Disease Claims: Limiting Recovery to Compensation for Loss, Not Chance

Enhanced risk of disease claims involve allegations of harm from a disease not yet contracted and not certain to occur. The recurring fact patterns in enhanced risk cases approach, sadly, the realm of archetype: toxic substances leaching into drinking water wells;[1] insulation workers breathing asbestos-laden air;[2] shipyard employees being drenched by toxic chemicals;[3] a family discovering radioactive waste on its land;[4] a pregnant woman taking a prescribed drug later linked to birth abnormalities.[5] Enhanced risk claims appear in myriad causes of action,[6] including medical malpractice,[7] nuisance,[8] strict products liability,[9] strict liability for ultrahazardous activity,[10] and negligent infliction of emotional distress.[11] At times, the cause of action remains unnamed.[12]

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1. *E.g.*, Ayers v. Township of Jackson, 525 A.2d 287, 291 (N.J. 1987).

2. *E.g.*, Adams v. Johns-Manville Sales Corp., 727 F.2d 533, 534-35 (5th Cir. 1984), *modified*, 752 F.2d 1004 (5th Cir. 1985).

3. Hagerty v. L & L Marine Serv., 788 F.2d 315, 317 (5th Cir.), *modified*, 797 F.2d 256 (5th Cir. 1986).

4. Brafford v. Susquehanna Corp., 586 F. Supp. 14, 15 (D. Colo. 1984).

5. Mink v. University of Chicago, 460 F. Supp. 713, 715 (N.D. Ill. 1978).

6. In rare cases, plaintiffs claim damages for enhanced risk of disease in contract suits. *See* Transamerica Ins. Co. v. Doe, 840 P.2d 288, 291 (Ariz. Ct. App. 1992). In *Transamerica*, plaintiffs claimed an increased risk of acquired immune deficiency syndrome (AIDS) as a result of exposure to HIV-infected blood as they gave emergency assistance to an automobile accident victim. *Id.* at 291-92. The court rejected plaintiffs' allegation that this constituted "bodily injury" within the meaning of an insurance policy. *Id.* at 291.

Recently, a party to a divorce proceeding raised a claim for enhanced risk of AIDS. *In re* R.E.G., 571 N.E.2d 298, 301 (Ind. Ct. App. 1991). The Indiana Court of Appeals rejected the use of enhanced risk of AIDS as a factor in the trial court's distribution of property. *Id.* at 304.

7. *E.g.*, Evers v. Dollinger, 471 A.2d 405, 408 (N.J. 1984) (alleging failure to detect breast cancer); Ferrara v. Galluchio, 152 N.E.2d 249, 251 (N.Y. 1958) (alleging enhanced risk of cancer due to radiation burns sustained during therapy); Howard v. Mt. Sinai Hosp., Inc., 217 N.W.2d 383, 384-85 (Wis. 1974) (conceding negligence when pieces of broken catheter remained in plaintiff's body).

8. *E.g.*, Ayers v. Township of Jackson, 525 A.2d 287, 291 (N.J. 1987).

9. *E.g.*, *Mink*, 460 F. Supp. at 716 (alleging that prenatal exposure to diethylstilbestrol (DES) increased risk of reproductive system abnormalities in women).

10. *E.g.*, Sterling v. Velsicol, 647 F. Supp. 303, 312-13 (W.D. Tenn. 1986), *aff'd in part and rev'd in part*, 855 F.2d 1188 (6th Cir. 1988).

11. See cases cited *infra* notes 47-56.

12. As noted in W. PAGE KEETON, ET AL., PROSSER AND KEETON ON THE LAW OF TORTS § 1, at 3 (5th ed. 1984):

> There is no necessity whatever that a tort must have a name. New and nameless torts are being recognized constantly, and the progress of the common law is marked by

Plaintiffs who claim enhanced risk of disease rely on a number of damages theories. Most commonly, they allege fear or emotional distress resulting from their knowledge of the enhanced risk.[13] A second theory involves some form of recovery for the possible future disease itself.[14] A third theory, gaining in popularity, seeks funds to cover necessary medical monitoring expenses arising from the enhanced risk, such as periodic cancer screening.[15]

This Comment notes that a number of courts experience difficulty in attempting to fit enhanced risk claims into existing legal theory.[16] It describes cases in which plaintiffs allege emotional distress from enhanced risk of disease;[17] cases in which plaintiffs claim enhanced risk as a form of damages;[18] and cases in which plaintiffs seek recovery for medical monitoring expenses.[19] The Comment urges jurisdictions that recognize enhanced risk claims to limit present recovery to medical monitoring and emotional distress[20] and to provide a subsequent remedy, should the disease manifest itself.[21] The Comment concludes that the recommended restrictions on present recovery, coupled with a subsequent remedy for the disease, would yield a fair and equitable system based on compensation for loss, not chance.[22]

I. INTRODUCTION: A REVIEW OF TORT LAW

The tort law concepts of injury, harm, and compensable damages are central to the interpretation of enhanced risk cases. Much confusion in this area of the law arises from the courts' inconsistent treatment in identifying a present injury, defining the harm caused by the injury, and granting an appropriate remedy.[23]

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many cases of first impression, in which the court has struck out boldly to create a new cause of action, where none had been recognized before.

13. *E.g.*, Ayers v. Township of Jackson, 525 A.2d 287, 291 (N.J. 1987); *see infra* notes 31-71 and accompanying text.

14. *See, e.g.*, Fournier J. Gale III & James L. Goyer III, *Recovery for Cancerphobia and Increased Risk of Cancer*, 15 CUMB. L. REV. 723, 736-43 (1985) (discussing recovery for increased disease risk).

15. *See infra* notes 161-81 and accompanying text.

16. For a brief discussion of traditional tort law theory, see *infra* notes 24-30 and accompanying text.

17. *See infra* notes 31-71 and accompanying text.

18. *See infra* notes 72-160 and accompanying text.

19. *See infra* notes 161-81 and accompanying text.

20. *See infra* notes 187-89 and accompanying text.

21. *See infra* notes 190-91 and accompanying text.

22. *See infra* text accompanying notes 190-91.

23. *See, e.g., infra* notes 89-102 (discussing concept of injury when enhanced risk claims do not accompany severe physical harm).

As defined in the *Second Restatement of Torts*, injury is "the invasion of any legally protected interest of another."[24] The most common form of injury is harm.[25] As used in the *Restatement*, harm "denote[s] the existence of loss or detriment in fact of any kind to a person resulting from any cause."[26] The terms "injury" and "harm" overlap; to be a legally protected interest in many tort causes of action, the injury to the plaintiff must involve harm.[27]

Once a cause of action arises, a plaintiff can recover "damages from [the defendant] for all harm, past, present *and prospective*, legally caused by the tort."[28] The plaintiff must prove by a preponderance of the evidence that the defendant's breach of duty was the legal cause of an injury resulting in the harm.[29] Once the plaintiff has established the existence of harm, however, the *Restatement* indicates that the extent of the harm does not have to be proven by a preponderance of the evidence. The plaintiff need only establish the extent of the harm "with as much certainty as the nature of the tort and the circumstances permit."[30]

II. EMOTIONAL DISTRESS AND FEAR OF DISEASE

Claims for fear or emotional distress are probably the most common mechanisms by which plaintiffs seek recovery for enhanced risk of disease. Historically, courts have allowed recovery for fear of disease as part of pain and suffering damages arising from a physical injury.[31] In early cases, not every claim for fear of disease accompanying a physical injury was compensable. Courts viewed fear as compensable only if it was reasonable and based on short-term risks of limited duration.[32] Claims based on unreason-

24. RESTATEMENT (SECOND) OF TORTS § 7 (1979). *See generally* Allan Kanner, *Emerging Conceptions of Latent Personal Injuries in Toxic Tort Litigation*, 18 RUTGERS L.J. 343, 351-56 (1987) (discussing requirement of injury in tort law).

25. A comment in the *Second Restatement of Torts* states that "[t]he most usual form of injury is the infliction of some harm; but there may be an injury although no harm is done." RESTATEMENT (SECOND) OF TORTS § 7 cmt. a (1979). Further, injury "denote[s] the type of result which, if the act which causes it is tortious, is sufficient to sustain an action even though there is no harm for which compensatory damages can be given." *Id.* The *Restatement* comment also acknowledges that "[t]he meaning of the word 'injury,' as here defined, differs from the sense in which the word 'injury' is often used, to indicate that the invasion of the interest in question has been caused by conduct of such a character as to make it tortious." *Id.*

26. *Id.* § 7.

27. *Id.* § 7 cmt. a. Some torts, such as trespass and battery, do not require that injury involve harm. *Id.* Others, such as negligence, require the plaintiff to prove harm. *Id.* § 328A.

28. *Id.* § 910 (emphasis added).

29. *Id.* § 912 & cmt. a.

30. *Id.* § 912.

31. Terry M. Dworkin, *Fear of Disease and Delayed Manifestation Injuries: A Solution or a Pandora's Box?*, 53 FORDHAM L. REV. 527, 542-43 (1984).

32. *Id.* at 543.

able fears or long-term risks with unlimited duration were not compensable because they were not premised on "sound probability."[33]

In early cases, plaintiffs could recover for fear of diseases that had limited duration, such as rabies and lockjaw. In later cases, courts began to allow compensation for fear of diseases with delayed manifestation,[34] such as cancer or asbestosis.[35] As with the earlier cases, courts usually required a physical injury.[36]

In 1958, for example, the New York Court of Appeals sustained an award for fear of cancer.[37] The plaintiff brought a medical malpractice action against a physician who had given her radiation therapy for bursitis.[38] The radiation treatments resulted in nausea, burns, and scarring.[39] The plaintiff alleged injury from excessive radiation and presented evidence of mental anguish that was caused when a second physician told her she had an enhanced risk of cancer that would require lifelong medical monitoring.[40] The plaintiff's attorney made it clear that they were "'not making any claim that this person is going to sustain a cancer,'" but that they were "'going on a neurosis.'"[41] The court upheld a jury verdict for the plaintiff that included damages for fear of cancer.[42]

Reasonableness of the fear and likelihood of the disease are important factors in cases involving long-term risk. In *Howard v. Mt. Sinai Hospital, Inc.*,[43] for example, the Supreme Court of Wisconsin denied recovery when the plaintiff alleged fear of future cancer—a disease risk of long-term duration. *Howard* arose when a catheter broke inside the plaintiff's shoulder and two of its pieces were lost inside her body.[44] Although the defendants conceded negligence, the court refused to allow the plaintiff to recover for her "fear of future cancer" with a "claim of damages . . . so remote and so

33. *Id.* Courts have permitted recovery, for example, when the plaintiff claimed fear of rabies from an animal bite, fear of lockjaw and blood poisoning from a wound, and fear of miscarriage arising from injury to an expectant mother. *Id.* at 542-43.

34. *See, e.g.*, Wilson v. Johns-Manville Sales Corp., 684 F.2d 111, 115 n.21 (D.C. Cir. 1982) (involving manifestation of asbestosis delayed 10 to 25 years after exposure) (citing Borel v. Fibreboard Paper Prods. Corp., 493 F.2d 1076, 1083 (5th Cir. 1973), *cert. denied*, 419 U.S. 869 (1974)); Irving J. Selikoff & Douglas H. K. Lee, ASBESTOS AND DISEASE 205 (1978)).

35. Asbestosis is a lung disease "produced by inhaling asbestos fibers." Wilber v. Owens-Corning Fiberglass Corp., 476 N.W.2d 74, 75 (Iowa 1991).

36. *See supra* note 31 and accompanying text.

37. Ferrara v. Galluchio, 152 N.E.2d 249, 253 (N.Y. 1958).

38. *Id.* at 250-51.

39. *Id.* at 250.

40. *Id.* at 251.

41. *Id.* (quoting the plaintiff's attorney at trial).

42. *Id.* at 253.

43. 217 N.W.2d 383 (Wis. 1974).

44. *Id.* at 384.

out of proportion to the culpability of the tortfeasor."[45] The court concluded "as a matter of public policy . . . that the defendants are not to be held liable for this element of damages."[46]

In the absence of an actionable physical injury, a plaintiff may seek to recover damages for fear of disease in a cause of action for the negligent infliction of emotional distress. When the allegations merely involve anguish due to enhanced disease risk, however, courts have been reluctant to grant recovery.[47] This hesitation stems in part from the plaintiff's inability to prove a physical impact or manifestation, which most states require as an element for the negligent infliction of emotional distress.[48] Because some states have started to relax the requirement of a physical impact or manifestation,[49] this inquiry eventually could shift to an analysis of the seriousness of the emotional harm and the reasonableness of the fear.[50]

Among courts with a physical impact or manifestation requirement, some view a plaintiff's exposure to the disease-causing substance as physical impact,[51] essentially circumventing the requirement. In *Sterling v. Velsicol Chemical Corp.*,[52] a federal district court held the defendants "liable

45. *Id.* at 385.

46. *Id.*

47. Dworkin, *supra* note 31, at 542-43; *see, e.g.*, Payton v. Abbott Lab., 437 N.E.2d 171, 181 (Mass. 1982) (holding that, absent physical harm, there is no cause of action for emotional distress in an enhanced risk of disease case).

48. KEETON ET AL., supra note 12, § 54 (noting that physical impact is generally required for emotional distress tort unless special circumstances, such as negligent handling of a corpse, guarantee that the claim is not spurious). A number of DES cases have rejected a plaintiff's claim of emotional distress from risk of future disease. *See, e.g.*, Plummer v. Abbot Lab., 568 F. Supp. 920, 926-27 (D.R.I. 1983) (requiring physical manifestation); *Payton*, 437 N.E.2d at 174-76 & n.5 (citations omitted) (holding that, absent "extreme and outrageous behavior," physical harm is required). *But cf.* Wetherill v. University of Chicago, 565 F. Supp. 1553, 1560 (N.D. Ill. 1983) (holding that prenatal exposure to DES is an impact). For further discussion of the physical injury or manifestation requirement, see Frances C. Whiteman, Comment, *Toxic Emotional Distress Claims: The Emerging Trend for Recovery Absent Physical Injury*, 20 CAP. U. L. REV. 995, 997-1006 (1991).

49. In North Carolina, for example, there is no physical impact or manifestation requirement for the negligent infliction of emotional distress. Johnson v. Ruark Obstetrics & Gynecology Assocs., 395 S.E.2d 85, 97 (N.C. 1990). *Ruark* limits recovery to severe emotional distress, defined by the court as "any emotional or mental disorder, such as . . . neurosis, psychosis, chronic depression, phobia, or any other type of severe and disabling emotional or mental condition which may be generally recognized and diagnosed by professionals trained to do so." *Id.*

50. Whiteman, *supra* note 48, at 1014 (proposing as a prerequisite to recovery that fear of disease be reasonable and serious); *see infra* notes 57-71 and accompanying text.

51. *E.g.*, *Wetherhill*, 565 F. Supp. at 1560 (holding that prenatal exposure to DES is an impact); Laxton v. Orkin Exterminating Co., 639 S.W.2d 431, 433-34 (Tenn. 1982) (finding that exposure to chlordane in drinking water is an impact); *see also* Dworkin, *supra* note 31, at 546 ("Toxic tort claimants should be able to recover under the traditional impact rule.").

52. 647 F. Supp. 303 (W.D. Tenn. 1986), *aff'd in part and rev'd in part*, 855 F.2d 1188 (6th Cir. 1988). Drawing on *Laxton*, 639 S.W.2d 431, the *Sterling* court found exposure to chemical contaminants to be a physical impact. 647 F. Supp. at 320. In *Laxton*, the plaintiffs alleged that

. . . upon the legal theories of strict liability, common law negligence, trespass and nuisance" when chemicals from the defendant's waste burial site leached into the plaintiffs' water wells.[53] According to the court, a physical impact occurred when "Velsicol's conduct caused chemical contaminants to come in contact with or invade each particular plaintiff's body."[54] The court held that the plaintiffs could recover for emotional distress experienced at the time of exposure to the chemicals that "were of such a nature as to cause [the plaintiffs'] symptoms and cellular damage, and adverse biological change, (however slight)."[55] The plaintiffs could recover additionally for the distress experienced on learning of the "nature and possible effects of those chemical contaminants . . . up to the present time and even into the future."[56]

Whether plaintiffs base emotional distress damages on an actionable physical injury, a claim for negligent infliction of emotional distress, or some other cause of action,[57] the reasonableness of their distress is always an issue.[58] Evidence of enhanced risk can be relevant to the reasonableness of the distress—logically, the higher the probability of future disease occurrence, the more reasonable a plaintiff's distress.

Courts have been fairly lenient in admitting evidence of enhanced risk in cases involving fear or distress. A number of courts have allowed evidence of enhanced risk when the occurrence of future disease is merely possible: in other words, a likelihood of less than fifty percent.[59]

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the defendants contaminated their drinking water spring with chlordane, a toxic chemical linked to cancer. 639 S.W.2d at 434. The Supreme Court of Tennessee agreed with the jury instructions that stated in pertinent part:

> If [the plaintiffs] ingested any amount of the toxic substance, it is the judgment of the Court that that is at least a technical physical injury. But it is not an injury from which they are entitled to substantial damages under the facts of this case, that is[,] from a physical injury.
>
> But, where there is any physical injury at all—any attendant mental pain and suffering is compensable.

Id. (alterations in original).

53. *Sterling*, 647 F. Supp. at 311.

54. *Id.* at 320.

55. *Id.*

56. *Id.* at 320-21. On appeal, the Sixth Circuit upheld the award, but found it excessive. Sterling v. Velsicol Chem. Corp., 855 F.2d 1188, 1207 (6th Cir. 1988).

57. In Wetherhill v. University of Chicago, 565 F. Supp. 1553, 1560 (N.D. Ill. 1983), for example, the plaintiffs sought compensation for emotional distress arising from the defendants' failure to warn.

58. *E.g.*, *id.* at 1559.

59. *E.g.*, *id.*; Mauro v. Raymark Indus., Inc., 561 A.2d 257, 263-64 (N.J. 1989); *see* Dale P. Faulkner & Kerin M. Woods, *Fear of Future Disability—An Element of Damages in a Personal Injury Action*, 7 W. NEW ENG. L. REV. 865, 868-70 (discussing standard of proof trend away from requirement of probability).

In *Wetherill v. University of Chicago*,[60] class action plaintiffs sought recovery for emotional distress damages when they suffered prenatal exposure to DES. The federal district court denied the defendant's motion to exclude enhanced risk testimony,[61] noting that "traditional notions of proximate cause . . . merely demand[ ] a reasonable fear, not a high degree of likelihood, that the feared contingency be likely to occur."[62] Further, the court indicated that "fears of future injury can be reasonable even where the likelihood of such injury is relatively low."[63] The court cited a 1980 Pennsylvania case in which an award for distress was upheld, even though the plaintiff's physicians were certain her fears of "cancer, heart attack and premature death were medically unfounded."[64] The court also referred to an earlier Louisiana case in which the plaintiffs received compensation for distress resulting from a two to five percent chance of developing epilepsy.[65]

In *Kosmacek v. Farm Service Co-op of Persia*,[66] the Iowa Court of Appeals took a stricter stance on evaluating the sufficiency of the plaintiffs' claims. The plaintiffs were landowners alleging that they experienced mental anguish after learning that chemicals had leaked onto their property. The court indicated that recovery for mental anguish would be denied unless the plaintiffs were to "present substantial evidence of severe emotional distress."[67] This would require "reliable data available linking the particular herbicide the plaintiffs were exposed to to an increased future risk of . . . disease."[68] The court suggested that the degree of risk might be important in evaluating reasonableness, specifically stating that the plaintiffs must be "aware they possess an increased statistical likelihood of developing cancer, and from this knowledge springs a reasonable apprehension which manifests itself in emotional distress."[69]

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60. 565 F. Supp. 1553 (N.D. Ill. 1983).

61. *Id.* at 1561.

62. *Id.* at 1559.

63. *Id.* (citations omitted); *see also* Faulkner & Woods, *supra* note 59, at 872-74 (discussing cancerphobia with reference to the *Wetherill* case).

64. *Wetherhill*, 565 F. Supp. at 1559 (citing Murphy v. Pennsylvania Fruit Co., 418 A.2d 480, 482, 485 (Pa. Super. Ct. 1980)); *see also* Wisner v. Illinois Cent. Gulf R.R., 537 So. 2d 740, 748-49 (La. Ct. App. 1988), *writ denied*, 540 So. 2d 342 (La. 1989). In *Wisner*, a state trooper developed acute symptoms of headache, cough, shortness of breath, and difficulty swallowing after exposure to toxic chemicals from a derailed freight train. *Id.* at 743. The Louisiana Court of Appeals held that evidence of increased risk of cancer was admissible to show the reasonableness of the plaintiff's fear of cancer. *Id.* at 748-49. The *Wisner* court cautioned, however, that such evidence would not be admissible if its prejudice to the defendant substantially outweighed its probative value. *Id.*

65. *Wetherhill*, 565 F. Supp. at 1559-60 (citing Heider v. Employers Mut. Liab. Ins. Co. of Wis., 231 So. 2d 438, 441-42 (La. Ct. App. 1970)).

66. 485 N.W.2d 99 (Iowa. Ct. App. 1992).

67. *Id.* at 104.

68. *Id.*

69. *Id.* at 105.

Regardless of the restrictions imposed by the courts, there is no evidentiary rule that would render inadmissible evidence of possible future disease.[70] Wigmore's treatise on evidence merely indicates that evidence of enhanced risk should "involve rational inferences from adequate data."[71]

III. ENHANCED RISK OF DISEASE

Unlike a traditional claim for fear or emotional distress, a claim for enhanced risk of disease involves compensation for an ailment that may never occur. Professors Gale and Goyer have termed recovery for potential disease a "present recovery for the probability of future injury."[72]

A recurring theme runs through enhanced risk of disease cases: the struggle to find an injury and define the harm.[73] To this end, courts debate, define, and redefine the terms "injury" and "harm." Although notions of injury and harm can become muddied with the issue of proximate cause, courts inevitably examine the nature of the present injury and the magnitude of enhanced risk in deciding whether to compensate the plaintiff.

Although courts usually do not acknowledge it, the level of proof that the cases require with regard to the enhanced risk of disease varies according to the nature and severity of the present injury and the magnitude of the enhanced risk. As indicated by the *Second Restatement of Torts*, a plaintiff must establish the existence of injury, along with the other elements of the tort, by a preponderance of the evidence.[74] Similarly, a plaintiff must prove the *existence* of harm by a preponderance of the evidence. The *extent* of this harm, however, only requires proof to a reasonable degree of certainty.[75] Certainty varies, therefore, according to whether the court views

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70. JOHN H. WIGMORE, EVIDENCE IN TRIALS AT COMMON LAW § 663 (Chadbourn rev. ed. 1979).

71. *Id.* When the enhanced risk is merely possible, not necessarily probable or likely, courts should not automatically refuse to consider the evidence. *Id.*

> It must be said that the courts have in many of these rulings proceeded upon a confused apprehension of a legitimate doctrine of the law of torts, namely, that recovery may be had for such injurious consequences only as are fairly certain or probable, not for merely possible harm. That is, a court, in holding that the physician may not testify to possible harmful consequences, is not always ruling that testimony to possible consequences is evidentially improper, but is meaning to rule that such possible consequences are as a matter of substantive law not entitled to consideration at all. . . . But the evidential doctrine in question has little standing elsewhere, and should not be extended.

Id.

72. Gale & Goyer, *supra* note 14, at 724.

73. *See* Brafford v. Susquehanna Corp., 586 F. Supp. 14, 17 (D. Colo. 1984) (citations omitted) (explaining that "accompanying physical injury" is required to recover future damages for enhanced risk of disease); Gale & Goyer, *supra* note 14, at 736-41.

74. *See supra* note 29 and accompanying text.

75. *See supra* note 30 and accompanying text.

the enhanced risk as evidence of a present injury, the existence of harm, or the extent of the harm.[76]

A. *Enhanced Risk Accompanied by an Injury*

1. Severe Injury

With a severe concomitant physical injury, such as a head trauma or a fractured bone, many courts allow the jury to consider evidence of enhanced risk of disease as going to the extent and permanency of the harm.[77] When offered in this context, evidence of enhanced risk need only be proven to a reasonable degree of certainty. In the words of Judge Posner's dissent in *DePass v. United States*,[78] "the extent of [the plaintiff's] injury [is] an issue on which courts traditionally do not impose a heavy burden of proof."[79] An injury would be worth more *as a present injury* when evidence of future disease is presented than when it is suppressed.

A few courts view the enhanced susceptibility itself as a compensable present harm, as distinguished from enhanced risk that reflects the extent of injury.[80] In other words, a plaintiff receives compensation for the presently existing harm of increased susceptibility to disease.[81] The amount of compensation increases as the likelihood of future disease increases. In this way, a plaintiff with a severe injury can receive a higher award when the injury is augmented by the present harm of enhanced susceptibility to future disease. Although courts would require a plaintiff to prove that the *exist-*

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76. RESTATEMENT (SECOND) OF TORTS § 912 (1979); *see* Joseph H. King, Jr., *Causation, Valuation, and Chance in Personal Injury Torts Involving Preexisting Conditions and Future Consequences*, 90 YALE L.J. 1353, 1374-76 (1981) (discussing lower standards of proof for extent of harm).

77. *See, e.g.*, Martin v. City of New Orleans, 678 F.2d 1321, 1327 (5th Cir. 1982) (finding permanent risk of life-threatening complications supported damage award), *cert. denied*, 459 U.S. 1203 (1983); Starlings v. Ski Roundtop Corp., 493 F. Supp. 507, 510 (M.D. Pa. 1980) (permitting jury to consider evidence regarding increased risk of arthritis from the plaintiff's existing knee injury); Davis v. Graviss, 672 S.W.2d 928, 932 (Ky. 1984) (allowing compensation for increased risk of disease if supported by substantial evidence); Feist v. Sears, Roebuck & Co., 517 P.2d 675, 680 (Or. 1973) (involving damages for enhanced susceptibility to meningitis); Schwegel v. Goldberg, 228 A.2d 405, 408-09 (Pa. Super. Ct. 1967) (allowing compensation for five percent risk of epileptic seizures); Jordon v. Bero, 210 S.E.2d 618, 635 (W. Va. 1974) (holding that testimony that injury is permanent is sufficient to take evidence of "latent, unpredictable . . . and obscure" manifestation of the injury to the jury); *see infra* note 82 and accompanying text (discussing *Schwegel*).

78. 721 F.2d 203 (7th Cir. 1983).

79. *Id.* at 208 (Posner, J., dissenting) (citations omitted). In *DePass*, the majority applied the clearly erroneous standard of review and upheld a lower court's decision not to compensate a plaintiff for increased risk of cardiovascular disease when the plaintiff's leg was amputated traumatically in an automobile accident. *Id.* at 206.

80. *See, e.g.*, *Feist*, 517 P.2d at 678-80 (holding that enhanced risk of meningitis in a plaintiff with skull fracture is compensable as a present disability).

81. *Id.* at 680.

ence of enhanced susceptibility is more likely than not, the *extent* of the susceptibility could be proven with a lesser showing—a reasonable degree of certainty. Because of the manner in which courts view enhanced risk when it accompanies a severe injury, even a low probability of contracting future disease can support an award for damages that include enhanced risk.[82]

Nevertheless, some courts require that enhanced risk be "more likely than not" before they will admit it as evidence, even when a plaintiff has sustained a severe injury.[83] In *Davidson v. Miller*,[84] for example, a young girl brought suit for injuries sustained when she was hit by the defendant's car.[85] The Maryland Court of Appeals refused to allow a physician's testimony that the girl might experience complications during childbirth later in life.[86] The court reasoned that "'evidence of prospective damage must be in terms of the certain or probable and not of the possible.'"[87] Even when the testimony quantifies the risk, some courts will not admit evidence of less than a fifty percent risk.[88]

2. Enhanced Risk Absent Severe Physical Injury

The analysis becomes much more complicated when a plaintiff's enhanced risk claim does not arise from a severe physical injury. In this situation, the existence of a present injury is less clear, and enhanced risk does not fit neatly into the damages claim as an element of the extent of the harm.

When courts attempt to link the concept of a present injury with the notion of enhanced risk of disease, inconsistencies abound. In an effort to identify a present injury in these cases, some courts adopt the view that subcellular or cellular damage can constitute injury.[89] In *Gideon v.*

82. *E.g.*, Schwegel v. Goldberg, 228 A.2d 405, 408-09 (Pa. Super. Ct. 1967). In *Schwegel*, the court permitted compensation for a five percent increased risk of future epilepsy in a child with a severe head injury. Even with this low probability of epilepsy, the *Schwegel* court reasoned that the damages could include recovery for increased risk because there was "no speculation or guessing" about the existence of present injury. *Id.* at 408-09; *see also* Robert F. Brachtenbach, *Future Damages in Personal Injury Actions—The Standard of Proof*, 3 GONZ. L. REV. 75, 84-88 (1968) (arguing that possible future consequences and their probabilities should be considered admissible).

83. MARILYN MINZER ET AL., DAMAGES IN TORT ACTIONS § 13.30 (1991).

84. 344 A.2d 422 (Md. 1975), *cited in* MINZER, supra note 83, § 13.30.

85. *Id.* at 424.

86. *Id.* at 428.

87. *Id.* at 427 (quoting Calder v. Levi, 177 A. 392, 394 (Md. 1935)).

88. *See* McGarrity v. Welch Plumbing Co., 312 N.W.2d 37, 44-45 (Wis. 1981), *cited in* MINZER, *supra* note 83, § 13.30.

89. *E.g.*, Gideon v. Johns-Manville Sales Corp., 761 F.2d 1129, 1137-38 (5th Cir. 1985) (applying Texas law); Laxton v. Orkin Exterminating Co., 639 S.W.2d 431, 434 (Tenn. 1982);

Johns-Manville Sales Corp.,[90] the Fifth Circuit held that under Texas law, the injury to a plaintiff who had contracted asbestosis was "the inhalation of [asbestos] fibers and the invasion of his body by those fibers, thus causing him physical damage."[91] Similarly, in *Bradford v. Susquehanna Corp.*, a federal district court in Colorado allowed the plaintiff to present evidence supporting present injury in the form of damage to chromosomes from radiation exposure.[92]

Alternatively, courts have viewed the enhanced risk of disease itself as the present injury.[93] In *Sterling v. Velsicol Chemical Corp.*,[94] a federal district court characterized enhanced susceptibility to disease as "a presently existing condition in each plaintiff who suffered exposure to the various toxins."[95] Still other courts argue that the exposure constitutes the injury. In *Jackson v. Johns-Manville Sales Corp.*,[96] the Fifth Circuit deemed exposure to asbestos to be the plaintiff's injury.[97] Further, in *Hagerty v. L & L Marine Services*,[98] the plaintiff sustained an ascertainable injury when he was drenched with toxic chemicals because he suffered "[d]izziness, leg cramps, and a persistent stinging sensation in [his] feet and fingers."[99]

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see also Gale & Goyer, *supra* note 14, at 739-40 (citing Brafford v. Susquehanna Corp., 586 F. Supp. 14 (D. Colo. 1984)).

90. 761 F.2d 1129 (5th Cir. 1985).

91. *Id.* at 1137. The court described the theory of recovery as follows:

> [The plaintiff] inhaled asbestos fibers while working with defective asbestos products. This initiated a scarring process that destroyed some of the air sacs in his lungs. Other changes occurred as the fibers worked through his lung tissues and lodged in the membrane surrounding his lungs, causing pleural thickening, plaques, calcifications, and asbestosis as well as the likely future development of mesothelioma and cancer.

Id.

92. 586 F. Supp. at 17-18.

93. *E.g.*, Sterling v. Velsicol Chem. Corp., 647 F. Supp. 303, 322 (W.D. Tenn. 1986) (applying Tennessee law), *aff'd in part and rev'd in part*, 855 F.2d 1188 (6th Cir. 1988); Ayers v. Jackson Township, 525 A.2d 287, 305 (N.J. 1987). Although the *Ayers* court viewed increased risk of disease as an injury, compensation for the injury required "that the apprehended consequences [be] reasonably probable." *Id.* at 305 (citing Coll v. Sherry, 148 A.2d 481 (N.J. 1959)).

94. 647 F. Supp. 303 (W.D. Tenn. 1986), *aff'd in part and rev'd in part*, 855 F.2d 1188 (6th Cir. 1988); *see supra* notes 52-56 and accompanying text.

95. *Sterling*, 647 F. Supp. at 321.

96. 781 F.2d 394 (5th Cir.), *cert. denied*, 478 U.S. 1022 (1986).

97. *Id.* at 412 (applying Mississippi law).

98. 788 F.2d 315 (5th Cir.), *modified*, 797 F.2d 256 (5th Cir. 1986).

99. *Id.* at 317.

Some courts, however, reject these views of injury altogether.[100] For example, the Third Circuit in *Schweitzer v. Consolidated Rail Corp.*[101] rejected the notion that subclinical damage could constitute an injury:

> It is true that the possible existence of subclinical asbestos-related injury prior to manifestation may be of interest to a histologist. . . . Likewise, the existence of such injury may be of vital concern to insurers and their insureds who have bargained for liability coverage triggered by "bodily injury." . . . We believe, however, that subclinical injury resulting from exposure to asbestos is insufficient to constitute the actual loss or damage to a plaintiff's interest required to sustain a cause of action under generally applicable principles of tort law.[102]

In cases of enhanced risk unaccompanied by severe injury, a number of courts follow what is called the "traditional American rule" that "recovery of damages based on future consequences may be had only if such consequences are 'reasonably certain.'"[103] Thus, before awarding damages, most courts require the plaintiff to prove a "significantly enhanced risk of injury."[104] The plaintiff meets this burden by proving that the occurrence of disease is reasonably probable, or more likely than not.[105]

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100. The Arizona Court of Appeals, for example, held that the existence of asbestos fibers in the lungs of persons living near an asbestos mine did not constitute an injury. Burns v. Jaquays Mining Corp., 752 P.2d 28, 30 (Ariz. Ct. App. 1988); *see also* Destories v. City of Phoenix, 744 P.2d 705, 707 (Ariz. Ct. App. 1987) (holding that exposure to asbestos is not an injury). Also rejecting the aforementioned notions of injury, the Eighth Circuit in Laswell v. Brown, 683 F.2d 261 (8th Cir. 1982), *cert. denied*, 459 U.S. 1210 (1983), held that the plaintiffs had failed to state a claim when they alleged that they were subject to a high risk of cellular damage because their fathers had been exposed to nuclear explosions. *Id.* at 269. The court explained that "a lawsuit for personal injuries cannot be based only upon the mere possibility of some future harm." *Id.* Similarly, in Boyd v. Orkin Exterminating Co., 381 S.E.2d 295 (Ga. Ct. App. 1989), when a family brought suit against an exterminating company for misapplication of pesticides in their home, the Georgia Court of Appeals upheld the motion granting a directed verdict to the defendant. *Id.* at 298. The court held that an excess of pesticides in the blood of children does not constitute an injury. *Id.* at 297-98.

101. 758 F.2d 936 (3d Cir.), *cert. denied*, 474 U.S. 864 (1985).

102. *Id.* at 942 (citations omitted); *see also* Mink v. University of Chicago, 460 F. Supp. 713, 719 (N.D. Ill. 1978) (applying Illinois law); Morrissy v. Eli Lilly & Co., 394 N.E.2d 1369, 1376 (Ill. 1979) (rejecting the plaintiff's contention that DES-induced latent injury constitutes a present injury). In *Mink*, a United States district court held that exposure to DES does not constitute an injury. 460 F. Supp. at 719. The court reasoned that "[t]he closest the complaint comes to alleging physical injury is the allegation of a 'risk' of cancer. The mere fact of risk without any accompanying physical injury is insufficient to state a claim . . . ." *Id.*

103. Wilson v. Johns-Manville Sales Corp., 684 F.2d 111, 119 (D.C. Cir. 1982); *see also Morrissey*, 394 N.E.2d at 1376; Pierce v. Johns-Manville Sales Corp., 464 A.2d 1020, 1026 (Md. 1983). *See generally* King, *supra* note 76, at 1371-73 (discussing reasonable certainty requirement).

104. Ayers v. Township of Jackson, 525 A.2d 287, 307 (N.J. 1987) (citations omitted).

105. RESTATEMENT (SECOND) OF TORTS § 912 cmt. e (1979); *see e.g.*, Hagerty v. L & L Marine Servs., 788 F.2d 315, 319 (5th Cir.) (applying "more likely than not" test), *modified*, 797

> The *Gideon* court[106] enunciated this standard of proof as follows:
>
> The time-honored method of proving future physical condition is to present a qualified physician's opinion testimony based on reasonable medical probability. Possibility alone cannot serve as the basis for recovery, for mere possibility does not meet the preponderance of the evidence standard. Certainty, however, is not required: the plaintiff need demonstrate only that the event is more likely to occur than not.[107]

In *Gideon*, the Fifth Circuit upheld an award of damages when a plaintiff's expert testified that there was a "'greater than [fifty] percent risk'" that the plaintiff would die of an asbestos-related cancer.[108] Similarly, in *Jackson v. Johns-Manville Sales Corp.*,[109] the Fifth Circuit permitted a plaintiff to recover for the increased risk of cancer following exposure to asbestos when "evidence adduced at trial indicate[d] that he [had] a greater than fifty percent chance of getting cancer."[110]

B. Enhanced Risk as a Cause of Action

Although most courts consider enhanced risk claims to be an element of damages, there is some support for an enhanced risk cause of action. The Missouri Court of Appeals, in *Elam v. Alcolac*,[111] described two basic forms that enhanced risk causes of action can assume: (1) a present injury

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F.2d 256 (5th Cir. 1986); Jackson v. Johns-Manville Sales Corp., 781 F.2d 394, 412 (5th Cir.) (applying "reasonable probability" test), *cert. denied*, 478 U.S. 1022 (1986); Sterling v. Velsicol Chem. Corp., 647 F. Supp. 303, 321-22 (W.D. Tenn. 1986) (same), *aff'd in part and rev'd in part*, 855 F.2d 1188 (6th Cir. 1988); Anderson v. W.R. Grace & Co., 628 F. Supp. 1219, 1231 (D. Mass. 1986) (same); Pierce v. Johns-Manville Sales Corp., 464 A.2d 1020, 1026 (Md. 1983) (applying "greater than 50% chance" test); Lorenc v. Chemirad Corp., 179 A.2d 401, 411 (N.J. 1962) (applying "probable" test); Devlin v. Johns-Manville Sales Corp., 495 A.2d 495, 500 (N.J. Super Ct. App. Div. 1985) (applying "reasonable medical probability" test). *But see* Mauro v. Raymark Indus., 561 A.2d 257, 265 (N.J. 1989) (citing cases that indicated risk less than 50% might still be admissible: Valori v. Johns-Manville Sales Corp., No. 82-2686, 1985 WL 6074 (D.N.J. Dec. 11, 1985) (allowing admission of evidence that the plaintiff suffering from asbestosis had 43% likelihood of contracting lung cancer to prove claim based on enhanced risk of cancer); Lewitt v. Johns-Manville Sales Corp., No. 81-2950, letter op. at 5 (D.N.J. Mar. 11, 1985) (holding admissible statistical evidence of increased risk of cancer among plaintiffs with asbestosis, although less than a reasonable medical probability, to support claim for enhanced risk of cancer); Gold v. Johns-Manville Sales Corp., No. 80-2907, bench op. at 34-37 (D.N.J. 1984) (allowing admission of evidence that plaintiff with asbestosis was exposed to 40 to 45% risk of contracting cancer to support claim for damages based on enhanced risk of cancer)).

106. Gideon v. Johns-Manville Sales Corp., 761 F.2d 1129 (5th Cir. 1985); *see infra* notes 146-47 and accompanying text (discussing *Gideon*).

107. *Gideon*, 761 F.2d at 1137-38.

108. *Id.* at 1138.

109. 781 F.2d 394 (5th Cir.), *cert. denied*, 478 U.S. 1022 (1986).

110. *Id.* at 413 (applying Mississippi law).

111. 765 S.W.2d 42, 208 (Mo. Ct. App. 1988), *cert. denied*, 493 U.S. 817 (1992).

with future consequences, or (2) an invasion of a legally protected interest actionable absent any other manifestation.

The first, described in *Elam*,

> treats the cause of action as a present injury with future consequences. It allows recovery if the toxic exposure has induced some biological manifestation from which the anticipated cancer is reasonably certain to occur—as quantified by expert testimony as a probability of occurrence of greater than fifty percent. If the cause of action is proven, there is a full recovery of damages as for a realized cancer.[112]

In fact, this form of action involves viewing recovery for enhanced disease risk as tantamount to recovery for the future disease itself. Accordingly, enhanced risk would compensable only for future diseases that are likely to occur. The *Second Restatement of Torts* provides some guidance on this. Comment e to Section 912 states that a plaintiff is "entitled to recover damages not only for harm already suffered, but also for that which probably will result in the future."[113] This supports the notion set forth by the *Elam* court: A plaintiff can receive compensation when future harm is probable, but recovery will be denied when future harm does not rise to this level of certainty. Under the traditional rule, therefore, unless the plaintiff meets the burden of proof, recovery is "limited to damages for harm already manifest."[114]

The second type of enhanced risk cause of action in *Elam* treats increased risk of cancer as the present invasion of a legally protected interest, and hence actionable even absent manifestation of injury. The increased risk, quantified by expert testimony as a percentage or probability, determines the recovery. If the cause of action is proven, the damages are

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112. *Id.* (citing *Jackson*, 781 F.2d at 411; Sterling v. Velsicol Chemical Corp., 855 F.2d 1188 (6th Cir. 1988); Brafford v. Susquehanna Corp., 586 F. Supp. 14, 17 (D. Colo. 1984)).

113. RESTATEMENT (SECOND) OF TORTS § 912 cmt. e (1979).

114. Wilson v. Johns-Manville Sales Corp., 684 F.2d 111, 119 (D.C. Cir. 1982). This "'all or nothing' approach" is questioned by proponents of the "pro rata" approach applied in Britain. *Id.* at 120 n.44. Under the British approach, plaintiffs are awarded a proportion of the total recovery which reflects the risk that they would contract a future disease. *Id.* For example, a plaintiff with a 60% chance of contracting cancer would receive 60% of the total compensation awardable for the full-blown disease. As the *Wilson* court noted, however, "[a]lthough the 'pro rata' approach may insure that the wrongdoer pays the appropriate amount to the injured class as a whole, it does not eliminate the inequity among individual plaintiffs: Plaintiffs who in fact sustain the future harm are undercompensated, while those who escape it receive a windfall." *Id.*; *see also* Anderson v. W.R. Grace & Co., 628 F. Supp. 1219, 1232 (D. Mass. 1986). The *Anderson* court similarly reasoned that "to award damages based on a mere mathematical probability would significantly undercompensate those who actually do develop cancer and would be a windfall to those who do not." *Id.* (citing Arnett v. Dow Chemical Corp., No. 729586, slip. op. at 15 (Cal. Super. Ct. Mar. 21, 1983)).

awarded for the disease, but are proportionately reduced by the quantified probability that the plaintiff will not manifest the disease.[115]

A federal district court followed this approach in *Sterling v. Velsicol.*[116] Applying Tennessee law, the court upheld compensation based in part on increased susceptibility to disease. The evidence showed that the plaintiffs more likely than not possessed a heightened susceptibility, but had failed to demonstrate that the plaintiffs would, more likely than not, contract the disease. The court viewed susceptibility itself as a present injury, emphasizing that enhanced susceptibility was "not a speculative future injury" and cited several cases in support of the proposition that "[c]ourts have regularly upheld awards for such a claim."[117]

In fact, the cases cited in *Sterling* all involved compensation for enhanced susceptibility when the plaintiff had experienced a severe physical injury. Thus, the district court in *Sterling* actually was extending the prevailing doctrine associated with severe injury cases—which permitted recovery for even low levels of enhanced risk—to enhanced risk without severe injury.[118]

On appeal, the Sixth Circuit in *Sterling* reversed the district court's award for enhanced risk.[119] The court relied on the premise that enhanced risk is a future consequence, instead of a present injury.[120] The court stated, "Where the basis for awarding damages is the potential risk of susceptibility to future disease, the predicted future disease must be medically reasonably certain to follow from the existing present injury."[121]

Most courts require the plaintiff to quantify the enhanced risk of disease before recognizing an enhanced risk cause of action.[122] As the

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115. *Elam*, 765 S.W.2d at 208 (citing Pelcha v. United Amusement Co., 606 P.2d 1168, 1169 (Or. Ct. App. 1980); Jordon v. Bero, 210 S.E.2d 618, 640 (W. Va. 1974) (Neely, J., concurring); RESTATEMENT (SECOND) OF TORTS § 7 (1965); Gale & Goyer, *supra* note 14, at 742; Barton C. Legum, Note, *Increased Risk of Cancer as an Actionable Injury*, 18 GA. L. REV. 563, 589 (1984); David S. Pegno, Note, *An Analysis of the Enhanced Risk Cause of Action (or How I Learned to Stop Worrying and Love Toxic Waste)*, 33 VILL. L. REV. 437, 456 (1988)).

116. Sterling v. Velsicol Chem. Corp., 647 F. Supp. 303, 322 (W.D. Tenn. 1986), *aff'd in part and rev'd in part*, 855 F.2d 1188 (6th Cir. 1988).

117. *Id.* at 322 (citations omitted).

118. It is also notable that the case cited as Tennessee precedent, Laxton v. Orkin, 639 S.W.2d 431, 434 (Tenn. 1982) (cited at *Sterling*, 647 F. Supp. at 320), involved a claim for emotional distress, not a claim for enhanced risk. As discussed earlier, enhanced risk of less than 50% often can support an award for emotional distress. *See supra* note 59 and accompanying text.

119. Sterling v. Velsicol Chem. Corp., 855 F.2d at 1205.

120. *See generally id.* at 1204-05 (discussing enhanced risk).

121. *Id.* at 1204.

122. *See* Elam v. Alcolac, 765 S.W.2d 42, 208 (Mo. Ct. App. 1988) (holding that proof of enhanced risk cause of action "requires opinion of quantified probability of disease"), *cert. denied*, 493 U.S. 817 (1992); *see also, e.g.*, Anderson v. W.R. Grace & Co., 628 F. Supp. 1219, 1232 (D. Mass 1986) (rejecting an unquantified claim of enhanced risk); Eagle-Pitcher Indus. v. Cox, 281 So. 2d 517, 520 (Fla. Dist. Ct. App. 1985) (refusing to recognize a plaintiff's unquantified en-

Supreme Court of New Jersey reasoned in *Ayers v. Township of Jackson*,[123] "[i]t is clear that the recognition of an 'enhanced risk' cause of action, particularly when the risk is unquantified, would generate substantial litigation that would be difficult to manage and resolve."[124] The court indicated, however, that refusal to recognize this cause of action would deny some plaintiffs compensation for their injuries.[125] As a compromise, the court required the plaintiffs to quantify the risk and "decline[d] to recognize plaintiffs' cause of action for the *unquantified* enhanced risk of disease."[126]

C. *Statutes of Limitations Considerations*

To some extent, statute of limitations considerations contribute to the confusion in cases involving enhanced risk of disease and often will influence the results. When the applicable statute does not specify the tolling date, courts must determine that issue by deciding on an accrual date—the time at which the cause of action arises. In this regard, courts must consider the competing policies behind statutes of limitations: preventing unfairness to plaintiffs who pursue their claims with reasonable diligence while at the same time ensuring a degree of repose to defendants.[127]

There are two major approaches to determining the statute of limitations tolling date in enhanced risk cases. The first is known as the traditional rule: "[T]he cause of action . . . accrue[s] at the time of invasion of [the] body."[128] The United States Supreme Court criticized this rule in *Urie v. Thompson*,[129] a silicosis[130] case brought under the Federal Employ-

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hanced risk claim); Mauro v. Raymark Indus., 561 A.2d 257, 267 (N.J. 1989) (affirming appellate court's restriction based on expert's inability to quantify risk); Ayers v. Township of Jackson, 525 A.2d 287, 305 (N.J. 1987) (requiring the plaintiff to quantify risk of future disease in order to recover damages).

123. 525 A.2d 287 (N.J. 1987).

124. *Id.* at 307.

125. *Id.* at 308.

126. *Id.* In arriving at this compromise, the court considered "the speculative nature of an unquantified enhanced risk claim, the difficulties inherent in adjudicating such claims, and the policies underlying the [New Jersey] Tort Claims Act," which encourage courts to "'exercise restraint in the acceptance of novel causes of action against public entities.'" *Id.* (quoting Comment, N.J. STAT. ANN. 59:2-1). New Jersey continues to follow the *Ayers* approach. In Vuocolo v. Diamond Shamrock Chemicals Co., 573 A.2d 196 (N.J. Super. Ct. App. Div.), *cert. denied*, 585 A.2d 349 (N.J. 1990), the New Jersey Superior Court addressed the issue of unquantified risk in a wrongful death case. The suit was brought on behalf of a woman who died of pancreatic cancer after being exposed to dioxin. *Id.* at 197. The plaintiff's complaint alleged that the exposure had increased the decedent's risk of contracting cancer. *Id.* The court upheld dismissal of the claim because the plaintiff could not quantify decedent's enhanced risk of cancer. *Id.* at 201-02.

127. Pierce v. Johns-Manville Sales Corp., 464 A.2d 1020, 1026 (Md. 1983).

128. Thornton v. Roosevelt Hosp., 391 N.E.2d 1002, 1003 (N.Y. 1979); *see also* Steinhardt v. Johns-Manville Sales Corp., 430 N.E.2d 1297, 1299 (N.Y. 1981) (applying traditional rule), *cert. denied*, 456 U.S. 967 (1982).

129. 337 U.S. 163 (1949).

ees Liability Act.[131] The Court called the rule a "delusive" remedy when applied to "unknown and inherently unknowable" harm.[132]

Under the second approach, known as the discovery rule, "a 'cause of action accrues when the plaintiff knows or through the exercise of due diligence should have known of the injury.'"[133] Many commentators support this rule,[134] and the trend among courts is to depart from the traditional rule and follow the discovery rule instead.[135]

In addition to the two major rules, some courts create variants. For example, in *Jackson v. Johns-Manville Sales Corp.*,[136] the plaintiff brought a strict liability suit against an asbestos manufacturer after contracting asbestosis. The complaint included a claim for enhanced risk of future cancer. Applying the law of Mississippi, which had not adopted the discovery rule, the court reasoned that the plaintiff's injury consisted of the actual inhalation of asbestos fibers.[137] Although refusing to adopt the discovery rule, the court held that "[i]t was not an actionable injury, . . . meaning it was not legally cognizable, until at least one evil *effect* of the inhalation

130. Silicosis is a latent disease caused by exposure to silicon. *Id.* at 166.

131. *See id.* at 165 (citing act codified at 45 U.S.C. §§ 51-60 (1989)). The plaintiff also claimed a violation of the Boiler Inspection Act. *See id.* at 167 (citing act currently codified at 45 U.S.C. §§ 23, 28-34 (1989)).

132. *Urie*, 337 U.S. at 169.

133. Wilson v. Johns-Manville Sales Corp., 684 F.2d 111, 115-16 (D.C. Cir. 1982) (quoting Burns v. Bell, 409 A.2d 614, 617 (D.C. App. 1979), a medical malpractice case); *see also* Hagerty v. L & L Marine Servs., 788 F.2d 315, 316 (5th Cir.) ("When the fact of the injury does occur, if discovered by the victim, the cause of action accrues."), *modified*, 797 F.2d 256 (5th Cir. 1986); Fearson v. Johns-Manville Sales Corp., 525 F. Supp. 671, 674 (D.D.C. 1981) (applying discovery rule in risk of disease case); Grigsby v. Sterling Drug, 428 F. Supp. 242, 243 (D.D.C. 1975) (applying discovery rule), *aff'd*, 543 F.2d 417 (D.C. Cir. 1976), *cert. denied*, 431 U.S. 967 (1977); Miller v. Armstrong World Indus., 817 P.2d 111, 113 (Colo. 1991) (citing Financial Assoc. v. G.E. Johnson Constr. Co., 723 P.2d 135, 138 (Colo. 1986), for the proposition that statute of limitations does not begin to run at the mere discovery of a physical process leading to an injury); Wilber v. Owens-Corning Fiberglass Corp., 476 N.W.2d 74, 78 (Iowa 1991) (holding that the "manifestation of asbestosis does not trigger the running of the statute of limitations on all separate, distinct, and later-manifested diseases" arising from the same exposure); Jones v. Buck, 599 A.2d 609, 610 (N.J. Super. Ct. Law Div. 1991) (applying the discovery rule); Fibreboard Corp. v. Pool, 813 S.W.2d 658, 678 (Tex. Ct. App. 1991) (holding that statute of limitations under Texas law "commences when the injured party discovers, or in the exercise of ordinary care, should have discovered, the injury") (citing Willis v. Maverick, 760 S.W.2d 642, 644 (Tex. 1988)).

134. Jerry J. Phillips, *An Analysis of Proposed Reform of Products Liability Statutes of Limitations*, 56 N.C. L. REV. 663, 675-76 (1978).

135. John K. Strauder, Note, *Preserving Causes of Action in Latent Disease Cases: The* Locke v. Johns-Manville Corp. *Date-of-the-Injury Accrual Rule*, 68 VA. L. REV. 615, 629 & n.97 (1982) (noting that some courts may prefer to create exceptions to the traditional rule rather than explicitly adopt the discovery rule).

136. 781 F.2d 394 (5th Cir. 1986).

137. *Id.* at 412.

became manifest. There was no cause of action at all, in other words, until the asbestosis appeared."[138]

In *Adams v. Johns-Manville Sales Corp.*,[139] the Fifth Circuit applied Louisiana law, under which "special considerations inform the accrual of a cause of action for limitations purposes where the damages result from a non-traumatic initial exposure to the source of potential harm."[140] The court upheld exclusion of the plaintiff's evidence of enhanced risk, reasoning that the plaintiff should bring suit at a later date if the cancer materialized.[141] The court emphasized that statutes of limitation differ according to whether the cause of action relied on a traumatic or nontraumatic injury.[142] The court quoted the Louisiana Supreme Court for the proposition that:

> [I]n modern technology damages from industrial emission and the like may not become apparent until some years after the occurrence. Additionally, it might be impossible for the injured party to know what or who caused the damage, until an investigation can be made after the damage in fact becomes apparent. In such cases, the prescriptive period would run only from the date the damage becomes apparent.[143]

In addition, the court held that the plaintiff was "not confined to a single day in court," but would "have a new cause of action, with new damages" for cancer.[144]

D. The Single Action Rule Versus the Split Cause of Action

Most jurisdictions require plaintiffs to bring all claims associated with a given harm in a single cause of action.[145] This can be problematic for

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138. *Id.*

139. 727 F.2d 533 (5th Cir. 1984).

140. *Id.* at 537.

141. *Id.*

142. *Id.* (citing DeLaughter v. Borden Co., 364 F.2d 624, 629 (5th Cir. 1966) (allowing recovery for those damages sustained within one year prior to suit when the ultimate injury was nontraumatic, i.e., produced "by the passage of time")); *see also* Boyd v. Orkin Exterminating Co., 381 S.E.2d 295, 298 (Ga. Ct. App. 1989). The *Boyd* court noted that in Georgia the discovery rule was "confined 'to cases of bodily injury which develop only over an extended period of time.'" *Id.* (quoting Corporation of Mercer Univ. v. National Gypsum Co., 368 S.E.2d 732, 732 (Ga. 1988), *cert. denied*, 493 U.S. 965 (1989)). At least one commentator has urged the abolishment of statutes of limitations for "insidious disease litigation." Michael D. Green, *The Paradox of Statutes of Limitations in Toxic Substances Litigation*, 76 CAL. L. REV. 965, 1012-13 (1988).

143. *Adams*, 727 F.2d at 537 (citing Dean v. Hercules, Inc., 328 So. 2d 69, 73 (La. 1976)).

144. *Id.* at 538. The court did indicate that principles of collateral estoppel will apply in any subsequent suits, in that "the parties will be 'estopped from relitigating . . . those issues actually and necessarily decided in the first suit.'" *Id.* (quoting Dore v. Kleppe, 522 F.2d 1369, 1374 (5th Cir. 1975)).

145. Hagerty v. L & L Marine Servs., 788 F.2d 315, 320 (5th Cir.), *modified*, 797 F.2d 256 (5th Cir. 1986); *see, e.g.*, Gideon v. Johns-Manville Sales Corp., 761 F.2d 1129, 1136 (5th Cir. 1985) (applying Texas law); Manzi v. H.K. Porter Co., 587 A.2d 778, 781 (Pa. Super. Ct. 1991)

plaintiffs alleging enhanced risk of disease. Consider the following explanation by the Fifth Circuit in *Gideon v. Johns-Manville Sales Corp.*,[146] which followed the majority rule:

> While . . . "the threat of future harm, not yet realized, is not enough," once injury results there is but a single tort and not a series of separate torts, one for each resultant harm. The cause of action thus created is for all the damage caused by the single legal wrong, and a plaintiff may not split this cause of action by seeking damages for some of his injuries in one suit and for later-developing injuries in another. The cause of action "inheres in the causative aspects of a breach of a legal duty, the wrongful act itself, and not in the various forms of harm which result therefrom. . . ." He does not have a discrete cause of action for each harm.[147]

Courts are beginning to express dissatisfaction with the single action rule. In *Hagerty v. L & L Marine Services*,[148] the Fifth Circuit, reluctantly bound by precedent, applied the single action rule in a case arising under federal law.[149] The case involved a plaintiff who was soaked with toxic chemicals as a barge was being loaded.[150] The court lamented the unfairness of the single cause of action rule, which prohibited the plaintiff from bringing suit should he later contract cancer. The court stated:

> We volunteer our dissatisfaction with the single cause of action rule in face of the recurring problem of injured people facing the possibility of cancer. Those victims should be entitled to recover for present injuries and, also, for the cancer when and if it later develops; they should neither be entitled nor compelled to recover

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(holding no split cause of action in Pennsylvania), *appeal denied*, 607 A.2d 254 (Pa. 1992); *see also* David G. Poston, Note, *Gone Today and Here Tomorrow: Damage Recovery for Subsequent Developing Latent Diseases in Toxic Tort Exposure Actions*, 14 AM. J. TRIAL ADVOC. 159, 161-68 (1990) (discussing single action rule).

146. 761 F.2d 1129 (5th Cir. 1985).

147. *Id.* at 1136-37 (quoting KEETON ET AL., supra note 12, § 30, at 165; Andrea G. Nadel, Annotation, *Simultaneous Injury to Person and Property as Giving Rise to a Single Cause of Action—Modern Cases*, 24 A.L.R. 4TH 646, 650 (1983)). In *Manzi*, the Pennsylvania Superior Court held that "once any damages are known, the statute begins to run." 587 A.2d at 779-80. The court recognized that other courts permit split causes of action, but held that Pennsylvania does not recognize different diseases "as separate and distinct injuries giving rise to separate causes of action which each accrue only when the particular injury is discovered." *Id.* (citing Herber v. Johns-Manville Corp., 785 F.2d 79, 81-82 (3d Cir. 1986)).

148. 788 F.2d 315 (5th Cir.), *modified*, 797 F.2d 256 (5th Cir. 1986).

149. *Id.* at 317, 320-21 (citing Albertson v. T.J. Stevenson & Co., 749 F.2d 223 (5th Cir. 1984)).

150. *Id.* at 317. The court found that the plaintiff's claims for emotional distress and medical monitoring would withstand summary judgment, but that the enhanced risk claim would not. It held that the plaintiff could not state a claim for enhanced risk absent evidence of a risk of future cancer greater than 50%. *Id.* at 319-20.

> for cancer damages until those damages can be realistically assessed.[151]

A growing minority of states allow the plaintiff to split the cause of action[152] and sue for each successive disease as it develops.[153] In *Pierce v. Johns-Manville Sales Corp.*,[154] for example, the Maryland Court of Appeals held that a plaintiff may bring suit for cancer years after contracting asbestosis.[155] The court reasoned that these two diseases were separate and distinct; nevertheless, the court restricted its holding to situations in which the plaintiff had not sued for the earlier asbestosis.[156] Similarly, in *Pollock v. Johns-Manville Sales Corp.*,[157] the plaintiff claimed that exposure to asbestos caused pleural thickening and that he was at increased risk of developing cancer.[158] Applying New Jersey law, the court granted the defendant's motion to exclude the issue of enhanced disease risk even though the plaintiff was prepared to offer evidence that he had a forty-three percent chance of developing cancer.[159] The court reserved the plaintiff's right to bring a subsequent action for the cancer:

> [N]otwithstanding the present denial of plaintiff's enhanced risk claim this Court recognizes plaintiff's "right to sue in the future should the increased risk created by the exposure to asbestos come to fruition." In other words: Neither the statute of limitations nor the single controversy rule shall bar toxic-tort claims instituted after a later discovery of a disease or injury caused by defendant's conduct, even if there has been prior litigation between the parties based on the same tortious conduct.[160]

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151. *Id.* at 317.

152. *See id.* at 320 ("A few courts have been willing to construe the 'single injury' rule so as not to preclude a later suit for latent disease.").

153. *See* Wilson v. Johns-Manville Sales Corp., 684 F.2d 111, 117 n.34, 120-21 (D.C. Cir. 1982) (citing RESTATEMENT (SECOND) OF JUDGMENTS, § 26(1)(b) & cmt. b (1982), for the proposition that the "court in first action may expressly reserve [a] plaintiff's right to maintain second action" and holding that a plaintiff may split his asbestosis and cancer causes of actions). Notably, *Wilson* was not an enhanced risk case; rather, it was a wrongful death action brought by the widow of a plaintiff who died of mesothelioma, a cancer caused by exposure to asbestos. *Id.* at 113-14; *see also* Goodman v. Mead Johnson & Co., 534 F.2d 566, 574 (3d Cir. 1976) (stating that exposure to a single type of drug could have resulted in different diseases by separate causal mechanisms), *cert. denied*, 429 U.S. 1038 (1977); Fearson v. Johns-Manville Sales Corp., 525 F. Supp. 671, 673-74 (D.D.C. 1981) (holding that suit for death from cancer is not time-barred, despite diagnosis of asbestosis six years earlier); Pierce v. Johns-Manville Sales Corp., 464 A.2d 1020, 1025, 1027 (Md. 1983) (discussed *infra* notes 154-56 and accompanying text).

154. 464 A.2d 1020 (Md. 1983).

155. *Id.* at 1025, 1027.

156. *Id.* at 1027.

157. 686 F. Supp. 489 (D.N.J. 1988).

158. *Id.* at 489.

159. *Id.* at 492.

160. *Id.* (quoting Devlin v. Johns-Manville Corp., 495 A.2d 495, 500 (N.J. Super. Ct. Law Div. 1985)) (citing Mauro v. Owens-Corning Fiberglas Corp., 542 A.2d 16, 19 (N.J. Super. Ct.

IV. MEDICAL MONITORING

A number of courts have held that reasonably necessary medical monitoring expenses are compensable items of damages.[161] In fact, the Fifth Circuit in *Hagerty* indicated that, under the "avoidable consequences rule," a plaintiff is "required to submit to treatment that is medically advisable; failure to do so may bar future recovery for a condition he could thereby have alleviated or avoided."[162] The level of enhanced disease risk is among the factors some courts use to decide whether the expenses are reasonable.[163] As applied by the New Jersey Supreme Court, such factors can include "the significance and extent of exposure to chemicals, the toxicity of the chemicals, the seriousness of the diseases for which individuals are at risk, the relative increase in the chance of onset of disease in those exposed [i.e., the level of enhanced risk], and the value of early diagnosis."[164]

Courts usually do not require that enhanced risk be quantified for an award of medical monitoring expenses.[165] In fact, medical monitoring can be awarded even in the face of a denial of recovery for enhanced risk. The New Jersey Supreme Court, for example, recognized medical monitoring as an element of damages in the plaintiffs' viable emotional distress claim, but rejected a separate claim for unquantified enhanced risk.[166] Similarly, in *Mauro v. Raymark Industries*,[167] the New Jersey Supreme Court sustained an award based on medical monitoring expenses while upholding the trial court's rejection of the plaintiff's enhanced risk claims.[168]

App. Div.), *cert. denied*, 550 A.2d 455 (N.J. 1988), *aff'd sub nom.* Mauro v. Raymark Indus. 561 A.2d 257 (N.J. 1989)). The *Pollock* court indicated that evidence of enhanced risk would be relevant to show fear of cancer. *Id.*

161. *E.g.*, *In re* Paoli R.R. Yard PCB Litig., 916 F.2d 829, 852 (3d Cir. 1990) (applying Pennsylvania law), *cert. denied*, 111 S. Ct. 1584 (1991); Ayers v. Township of Jackson, 525 A.2d 287, 312 (N.J. 1987). For further discussion of medical monitoring claims, see generally Allan Kanner, *Medical Monitoring: State and Federal Perspectives*, 2 TUL. ENVTL. L.J. 1, 2-4 (1989) (discussing several cases recognizing a common-law claim for medical monitoring); Kanner, *supra* note 24, at 366-69 (same).

162. Hagerty v. L & L Marine Servs., 788 F.2d 315, 319 (5th Cir.) (citing C. MCCORMICK, THE LAW OF DAMAGES § 36 (1935)), *modified*, 797 F.2d 256 (5th Cir. 1986); *see also* Allan T. Slagel, Note, *Medical Surveillance Damages: A Solution to the Inadequate Compensation of Toxic Tort Victims*, 63 IND. L.J. 849, 865-66 (1988) (discussing avoidable consequences rule as a justification for medical monitoring).

163. Ayers v. Township of Jackson, 525 A.2d 287, 312 (N.J. 1987) (analogizing to Reserve Mining Co. v. E.P.A., 514 F.2d 492 (8th Cir. 1975)).

164. *Id.*

165. *See* Elam v. Alcolac, Inc., 765 S.W.2d 42, 208-09 (Mo. Ct. App. 1988) (stating that evidence showing a significant risk of disease could prove need for medical monitoring, even though the risk was not quantified), *cert. denied*, 493 U.S. 817 (1989).

166. *Ayers*, 525 A.2d at 312-13.

167. 561 A.2d 257 (N.J. 1989).

168. *Id.* at 267.

Many courts addressing medical monitoring claims view the plaintiff's injury as an invasion of the right not to undergo medical monitoring[169] equivalent to a medical monitoring tort. *Friends for All Children v. Lockheed Aircraft Corp.*[170] is one example in which suit was brought on behalf of war orphans from Vietnam who had survived a 1975 airplane crash that occurred as the children were being brought to their adoptive parents.[171] The court recognized a cause of action for "diagnostic examinations in the absence of proof that [the plaintiffs were] physically injured."[172] The court explained that the plaintiffs' injury consisted of an invasion of a legally protected interest in avoiding medical monitoring expenses.[173] It provided the following hypothetical to support its reasoning:

> Jones is knocked down by a motorbike which Smith is riding through a red light. Jones lands on his head with some force. Understandably shaken, Jones enters a hospital where doctors recommend that he undergo a battery of tests to determine whether he has suffered any internal head injuries. The tests prove negative, but Jones sues Smith solely for what turns out to be the substantial cost of the diagnostic examinations.[174]

As the court noted:

> It is difficult to dispute that an individual has an interest in avoiding expensive diagnostic examinations just as he or she has an interest in avoiding physical injury. When a defendant negligently invades this interest, the injury to which [interest] is neither speculative nor resistant to proof, it is elementary that the defendant should make the plaintiff whole by paying for the examinations.[175]

Moreover, the court indicated that recognition of a medical monitoring cause of action would deter misconduct and compensate the plaintiff for the cost of an expense "that is neither inconsequential nor of a kind the community generally accepts as part of the wear and tear of daily life."[176]

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169. Friends for All Children v. Lockheed Aircraft Corp., 746 F.2d 816, 826-27 (D.C. Cir. 1984) (recognizing a right to avoid medical monitoring expenses) (discussed *infra* notes 170-76); *Mauro*, 561 A.2d at 263 (finding a right not to spend money on medical tests). In one case, the Arizona Court of Appeals implied in dicta that medical surveillance expenses might be recoverable absent any current physical harm. DeStories v. City of Phoenix, 744 P.2d 705, 711 (Ariz. Ct. App. 1987).

170. 746 F.2d 816 (D.C. Cir. 1984) (applying District of Columbia law).

171. *Id.* at 818.

172. *Id.* at 824-25.

173. *Id.* at 826-27. The court pointed out that injury is defined broadly in the *Second Restatement of Torts*. *Id.*; *see also supra* notes 24-27 and accompanying text (discussing the *Restatement*'s definition of injury).

174. *Friends for All Children*, 746 F.2d at 825.

175. *Id.* at 826.

176. *Id.* at 825.

The Third Circuit recognized medical monitoring as a cause of action in *In re Paoli Railroad Yard PCB Litigation.*[177] The court held that in order to establish the need for medical monitoring, a plaintiff must prove:

1. Plaintiff was significantly exposed to a proven hazardous substance through the negligent actions of the defendant.
2. As a proximate result of exposure, plaintiff suffers a significantly increased risk of contracting a serious latent disease.
3. That increased risk makes periodic diagnostic medical examinations reasonably necessary.
4. Monitoring and testing procedures exist which make the early detection and treatment of the disease possible and beneficial.[178]

Experts may differ on whether medical monitoring is necessary for a given toxic exposure.[179] If reasonably necessary, however, "[s]creening and close follow-up of the exposed population can lead to early diagnosis and treatment of potentially fatal diseases. Thus, both the public health and fairness rationales support awarding such damages."[180] Accordingly, courts tend to be receptive to medical monitoring awards, with some recognizing this as a novel tort.[181]

V. CONCLUSION

Courts experience difficulty in their attempts to fit enhanced risk claims into existing legal theory.[182] A number of commentators recommend an enhanced risk cause of action.[183] Under this approach, the enhanced risk itself constitutes an injury or invasion of the plaintiff's legally protected interest. Although courts are reluctant to recognize this cause of

177. 916 F.2d 829, 852 (3rd Cir. 1990) (applying Pennsylvania law).

178. *Id.* A federal district court applying Kentucky law recently applied these elements in upholding an award for medical monitoring. Bocook v. Ashland Oil, Inc., 819 F. Supp. 530, 534 (S.D. W. Va. 1993).

179. *See* Slagel, *supra* note 162, at 867-69 (discussing early detection in cancer treatment).

180. Troyen A. Brennan, *Environmental Torts*, 46 VAND. L. REV. 1, 67 (1993).

181. *See supra* notes 169-78 and accompanying text.

182. One commentator describes this process as the "reasoned integration of new clinical and scientific knowledge into the body of legal doctrine." Kanner, *supra* note 24, at 371.

183. *E.g.*, Gregory L. Ash, Comment, *Toxic Torts and Latent Diseases: The Case for an Increased Risk Cause of Action*, 38 KAN. L. REV. 1087, 1102-07 (1990) (urging that an "actionable claim" of increased risk be accomplished through a system of defendant-purchased insurance); Amy B. Blumenberg, Note, *Medical Monitoring Funds: The Periodic Payment of Future Medical Surveillance Expenses in Toxic Exposure Litigation*, 43 HASTINGS L.J. 661, 716 (1992) (advocating periodic payments for medical monitoring); Brent Carson, Comment, *Increased Risk of Disease from Hazardous Waste: A Proposal for Judicial Relief*, 60 WASH. L. REV. 635, 652 (1985) (urging adoption of increased risk cause of action with damages to include medical monitoring, emotional distress, and coverage under a defendant-purchased insurance policy).

action,[184] they tend to be more willing to accept an approach that amounts to separate claims for emotional distress[185] and medical monitoring.[186]

Regardless of the causes of action employed, courts should consider limiting recovery for the enhanced risk of disease to necessary medical monitoring expenses[187] and emotional distress. This "confines the award to costs that flow from the specific harm that has occurred, not from the harm that may occur in the future."[188] Such limitations are consistent with traditional tort law, which seeks to compensate the injured individual for all losses which are the direct and proximate consequences of a wrong. An injured individual is entitled to receive compensation for all demonstrable losses proximately caused by the injury—past, present, and future. These losses should include the cost of medical diagnostic services made necessary by the injury.[189]

Logically, such recovery limitations are workable and fair only if courts are willing to endorse mechanisms by which a plaintiff can recover should the disease eventually manifest itself. One mechanism a number of courts use is the split cause of action.[190] Other alternatives include an insurance-based approach.[191] Limiting present recovery to emotional distress

184. *See* Kathleen A. O'Nan, *The Challenge of Latent Physical Effects of Toxic Substances: The Next Step in the Evolution of Toxic Torts*, 7 J. MIN. L. & POL'Y 227, 236-38 (1991-92) (discussing reluctance of courts to recognize cause of action for enhanced risk).

185. *See supra* notes 47-71 and accompanying text.

186. *See supra* notes 169-78 and accompanying text. *See generally* Leslie S. Gara, *Medical Surveillance Damages: Using Common Sense and the Common Law to Mitigate the Dangers Posed by Environmental Hazards*, 12 HARV. ENVTL. L. REV. 265, 268 (defining injury as the invasion of an "interest in remaining free from toxin exposure of a type and level necessitating medical surveillance"); Noel C. Birle, Note, *Third Circuit Recognizes Medical Monitoring Tort and Makes Significant Rulings Concerning Expert Testimony in Toxic Tort Cases: In re* Paoli Railroad Yard PCB Litigation (1990), 37 VILL. L. REV. 1174, 1193 (1992) (discussing medical monitoring tort as applied by court in *Paoli*); Slagel, *supra* note 162, at 684 (stating that the injury sustained is the inability to avoid monitoring expenses).

187. In a toxic tort lawsuit involving multiple plaintiffs, one commentator recommends that a fund be established to cover medical monitoring. Gara, *supra* note 186, at 284-85 (citing Habitants Against Landfill Toxicants v. City of New York, No. 84-S-3820 (C.P. York Co., Pa. Nov. 29, 1985)).

188. Brennan, *supra* note 180, at 67 (discussing medical monitoring recovery).

189. Kanner, *supra* note 24, at 348 (citing Porter v. Montgomery, 163 F.2d 211 (3d Cir. 1947); Cingota v. Milliken, 428 A.2d 600 (Pa. Super. Ct. 1981); RESTATEMENT (SECOND) OF TORTS §§ 461, 910, 919 (1979)).

190. *See supra* notes 152-60 and accompanying text. According to this approach, the plaintiff is permitted to sue at a later date should the disease occur.

191. David Rosenberg, *The Causal Connection in Mass Exposure Cases: A "Public Law" Vision of the Tort System*, 97 HARV. L. REV. 849, 919-24 (1984); Carson, *supra* note 183, at 652, or a tax-supported compensation fund, Jeffrey Trauberman, *Statutory Reform of "Toxic Torts": Relieving Legal, Scientific, and Economic Burdens on the Chemical Victim*, 7 HARV. ENVTL. L. REV. 177, 237-38 (1983). One author urges toxic tort reform through expansion of private first party insurance. Kenneth S. Abraham, *Individual Action and Collective Responsibility: The Dilemma of Mass Tort Reform*, 73 VA. L. REV. 845, 898-907 (1987).

and medical monitoring while providing a remedy for subsequent disease, produces a fair and equitable system that compensates plaintiffs for loss, not chance.

MELISSA MOORE THOMPSON