THE APPLICATION OF THE DOCTRINE OF A LOSS OF A CHANCE TO RECOVER IN MEDICAL LAW

Pat van den Heever

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Foreword

An assessment of the application of the doctrine of a loss of a chance in medical negligence underscores the difficulties often encountered by courts when adjudicating on causation in medical negligence in the face of multiple causation theories. This statement is borne out by this excellent monograph. This publication is the *first* authoritative and substantive research on the doctrine of a loss of a chance in the context of medical negligence in South African medical law. Although there are at present no reported judgments on the subject (in context of medical negligence actions) in South Africa, the doctrine is firmly entrenched in the United States of America and has recently resurfaced in English and Australian medical law. In this regard, Dr van den Heever's thorough and comprehensive comparative approach and discussion of the doctrine here, is commendable and undoubtedly indicative that the doctrine of a loss of a chance in medical negligence as an emerging theme in the modern application of South African medical law, is set to pose formidable challenges to the courts and the adjudication of causation (inclusive of diagnosis disclosure and issues such as informed consent) in context of medical negligence. In this regard this publication is indeed timely.

Dr van den Heever, after extensive research, proposes a *de lege ferenda* loss of chance model for application to medical negligence actions that is sustainable, well-considered and persuasive. In the current global and constitutional paradigm where medical negligence on a national level is to be assessed not in the abstract but with reference to an international context, this publication makes an important and fundamental contribution to the understanding and application of causation in the law relating to medical negligence. Not only should the courts and the legal profession take formal note of this definitive work, but so should health care providers, members of the medical and allied professions, their councils, associations and protection societies. This also holds true for legal academics and students.

As a lecturer, scholar and practitioner of medical law, I warmly welcome and recommend this book.

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Acknowledgments

If a man does not keep pace with his companions,
perhaps it is because he hears a different drummer.
Let him step to the music which he hears,
however measured and far away.

HENRY DAVID THOREAU
(1817-1862)

The creation of this work was inspired by the fortitude of the many victims of medical accidents whom I had the privilege to represent over the years. Special thanks to Christa Buys, Lizette Besaans and Magdaleen Swanepoel for their excellent advice, professionalism and assistance in all aspects of the technical preparation, editing and final presentation of the draft text. The finalisation of this work would also not have been possible without the unfailing support and encouragement of my family, friends and colleagues.

I dedicate this book to Daphne Castell, Martin Deysel and Jimmy Oldwage.

Pat van den Heever
September 2007

Chapter 1

General introduction

The doctrine of the loss of a chance to recover permits a plaintiff to institute an action against a defendant for the loss of a chance of avoiding a result rather than merely for the result itself. Application of the doctrine has the advantage of enabling a court to award damages where the plaintiff is unable to prove on a balance of probabilities that the result would not have ensued anyway.[1] The compensation to which a plaintiff is entitled under a loss of chance model is proportionally assessed according to the proximate degree by which the defendant reduced or destroyed the plaintiff's chance of avoiding the injurious outcome.[2]

The particular strength of the doctrine lies in the fact that it does not require that the defendant's contribution be the greater cause and that it is constructed to provide a more accurate and equitable valuation of the impact of the defendant's conduct on the plaintiff. It thus promises justice both to plaintiffs and defendants since more of the former will be entitled to recover damages, although these damages will be reduced to reflect the degree of the defendant's contribution, and the latter will be liable to pay damages only in ap-

1 J Healy *Medical negligence: Common law perspectives* (1999) 221; H Luntz 'Loss of chance' in Freckelton & Mendelsohn *Causation in law and medicine* (2002) 154.

2 In *Hotson v East Berkshire Area Health Authority* (1987) 1 All ER 210 (CA) 215-216 Sir John Donaldson MR explains the concept as follows:

> As a matter of common sense, it is unjust that there should be no liability for failure to treat a patient, simply because the chances of a successful cure by that treatment were less than fifty per cent. Nor by the same token can it be just that if the chances of a successful cure only marginally exceed fifty per cent, the doctor or his employer should be liable to the same extent as if the treatment could be guaranteed to cure. If this is the law, it is high time it was changed assuming that the court has the power to do so.

proximate proportion to their causal contribution to the injury.[3]

One of the problems confronting a plaintiff in cases of this nature is the court's attitude to statistical evidence. If, for example, it is proved statistically that 25 per cent of the population has a chance of recovery from a certain injury and 75 per cent does not, it does not mean that someone who suffers that injury and who does not recover from it has lost a 25 per cent chance. He may have lost nothing at all. What he has to prove is that he is one of the 25 per cent and that his loss was caused by the defendant's negligence. If the plaintiff succeeds in proving that he was one of the 25 per cent and the defendant took away that chance, the logical result would be to award him 100 per cent of his damages and not only 25 per cent. The problem is of course that the plaintiff by definition cannot prove that he would have been one of the 25 per cent because, if he could, he would be able to show that on a balance of probabilities the defendant indeed caused the injury.[4]

The balance of probabilities approach provides a system that permits but does not actively encourage scientific or statistical analysis of causation. Expert witnesses are permitted to formulate their 'weighty opinions in terms which exploit the multi-shaded minutia of science in the context of proof by a preponderance of probabilities'.[5] This leads to a complete inexact and unempirical process of instinctive guesswork that in many cases is based on the credibility and demeanour of courtroom witnesses. By contrast statistics are derived systemically from previous experience of similar

3 In *Hotson v East Berkshire Area Health Authority* (n 2 above) 219 Dillon LJ also observed that:

> If counsel is right, and the chance is lost through the negligent failure of the doctor to examine the patient properly or to diagnose correctly, with the result that the treatment which alone may have saved the patient is not undertaken, the patient will have no remedy unless he can show that the chance of the treatment, if undertaken, proving successful was more than fifty per cent. That to my mind is contrary to common sense.

In *Davies v Taylor* (1974) AC 207 213 Lord Reid draws a distinction between assessment of damage on the basis of a balance of probabilities and assessment on the basis of a loss of a chance as follows:

> When the question is whether a certain thing is or is not true — whether a certain event happened or did not happen — then the court must decide one way or the other. There is no question of chance or probability. Either it did happen or it did not happen. But the standard of civil proof is balance of probabilities. If the evidence shows a balance in favour of it having happened, then it is proved that it in fact did happen ... You can prove that a past event happened, but you cannot prove that a future event will happen and I do not think that the law is so foolish as to suppose that you can. All you can do is evaluate the chance. Sometimes it is virtually 100 per cent: sometimes virtually nil. But often it is somewhere in between. I do not see much difference between a probability of 51 per cent and a probability of 49 per cent.

4 M Jones *Medical negligence* (2003) 403-409.

5 Healy (n 1 above) 229.

cases and provide a much more accurate probability weighing for each potential cause. The loss of chance model seeks to minimise the uncertainty that the traditional model ultimately accentuates because the use of statistics illustrates over a range of similar cases how frequently the unknown conditions appear. Statistics should serve to focus the court's attention more efficiently and more accurately on culpability and contribution to risk creation and injury.[6]

The purpose of this book is to explore the utility and effect of the application of the doctrine of the loss of a chance to recover in medical law. More particularly it seeks to establish conclusively that common law countries should introduce and recognise the application of the doctrine to facilitate proof in medical negligence actions. The methodology employed is firstly to trace the origin and development of the doctrine in general and thereafter to expound the various philosophical approaches to causation and legal opinion in respect of the doctrine of a loss of a chance in particular. In chapter 3 the development of the applicable case law in England, Australia, the United States of America, Canada and South Africa is explored, culminating in an analysis of the current status of the doctrine in each of these jurisdictions together with a synopsis. In conclusion a *de lege ferenda* hybrid model is introduced and commended for universal acceptance.[7]

6 As above.

7 See in general: PL Andel 'Medical malpractice: The right to recover for the loss of a chance of survival' (1985) 12 *Pepperdine Law Review* 973; JF Clerk & WHB Lindsell *On Torts* (2003) 20ff; DA Fischer 'Tort recovery for loss of a chance' (2001) 36 *Wake Forest Law Review* 605; D Hamer 'Chance would be a fine thing: Proof of causation and quantum in an unpredictable world' (1999) 23 *Melbourne University Law Review* 557 605; J Healy (n 1 above) 221; N Jansen 'The idea of a lost chance' (1999) 19 *Oxford Journal of Legal Studies* 271; T Hill 'A lost chance for compensation in the tort of negligence by the House of Lords' (1991) 54 *Modern Law Review* 521; M Jones (n 4 above) 178; JH King 'Causation, valuation, and chance in personal injury torts involving pre existing conditions and future consequences' (1981) 90 *Yale Law Journal* 1353; JJ Koehler & AP Brint 'Psychological aspects of the loss of chance doctrine' paper presented at the 2nd Conference on Psychology and Economics, Brussels, Belgium 8 — 10 June 2001, copy on file with author; M Lunney 'What price a chance?' (1995) 15 *Legal Studies* 1; L Perrochet *et al* 'Lost chance recovery and the folly of expanding medical malpractice liability' (1992) XXVII 3 *Spring Tort and Insurance Law Journal* 615; SR Perry 'Protected interests and undertakings in the law of negligence' (1992) 42 *University of Toronto Law Journal* 247, 255; H Reece 'Losses of chance in the law'(1996) 59 *Modern Law Review* 188; J Rosati 'Causation in medical malpractice: A modified valuation approach' (1989) 50 *Ohio State Law Journal* 469; ZT Saroyan 'The current injustice of the loss of chance doctrine: An argument for a new approach to damages' (2002) 33 *Cumberland Law Review* 15; W Scott 'Causation in medico-legal practice: A doctor's approach to the "lost opportunity cases"' (1992) 55 *Modern Law Review* 521; M Stauch 'Causation, risk, and loss of chance in medical negligence' (1997) 17 *Oxford Journal of Legal Studies* 205.

See also: *Hotson v East Berkshire Area Health Authority* (n 2 above); (1987) 2 All ER 909 (HL); *Allied Maples Group Ltd v Simmons and Simmons* (1995) WLR 1602 (CA); *Smith v National Health Service Litigation Authority* (2001) LLR 174 (QB); *Chester v Afshar* (2002) LLR 305 (CA); *Gregg v Scott* (2002) EWCA 1471(CA); *Fairchild v Glenhaven Funeral Services Ltd* (2002) 3 All ER 305 HL(E); *Chester v Afshar* (2004) All ER 587 (HL)(E); *Gregg v Scott* (2005) 2 WLR 268 (HL)(E); *Malec v J C Hutton Aviation Pty Ltd* (1990) 169 CLR 638; *Sellars v Adelaide Petroleum NL/ Poseiden Ltd v Adelaide Petroleum* (1994) 179 CLR 332; *Chappel v Hart* (1999) LLR 223 (HCA); *Naxakis v Western and General Hospital* (1999) CLR 269; *Rufo v Hosking* (2004) NSWCA 391; *De Klerk v Absa Bank* 2003 4 SA 315 (SCA); *Minister van Veiligheid en Sekuriteit v Geldenhuys* 2004 1 SA 515 (SCA); *Laferriere v Lawson* 78 DLR (4th) 609; *Hicks v United States of America* 368 F2d 626 (4th Cir 1966); *Kallenberg v Beth Israel Hospital* 357 NYS 2d 508 (1974); *Hamil v Bashline* 481 Pa 256 392 A2d 1280 (Pa 1978); *Herskovits v Group Health Co-op* 664 P2d 474 (Wash 1983); *Jones v Owings* 456 SE 2d 371 (SC 1995); *Mayheu v Sparkman* 653 NE 2d 1384 1388-1389 (Ind 1995); *US v Anderson* 669 A2d 73 76-77 (Del 1995); *Short v United States* 908 F Supp 227 236 237(D Vt 1995); *Taylor v Medinica* 479 St 2d 35 43 (SC 1996); *United States v Camberbatch* 647 A2d 1098 1101 (Del 1996); *Voegeli v Lewis* 568 F2d 89 94 (8th Cir 1997); *Scafidi v Seiler* 574 A2d 398 405-408 (N J 1998).

Chapter 2

Origin and history of the doctrine

2.1 The origin of the doctrine of a loss of a chance

The notion of the possibility to recover for a loss of a chance stems from the old English Court of Appeal case of *Chaplin v Hicks*.[8] The facts of this case were that the plaintiff entered a contest in which 12 women were each to be offered theatrical engagements for a period of three years upon winning. Readers of a newspaper in the region where she lived selected her photograph as the most beautiful among the contestants of that region. This entitled her to join 49 other finalists to be interviewed by the defendant and a committee for the purposes of final selection.

The defendant failed to notify her of the interview in time and avoided giving her a subsequent interview. A jury awarded her one hundred pounds (£100) damages for breach of contract. The award was upheld by the Court of Appeal. Although her chances of reaching the final 12 may have been less than one in four (25 per cent), it was held that she lost something to which monetary value could be attached. Although there was no market for the opportunity that the contract gave her, damages were not beyond assessing. The Court found that precision was not essential and the jury had to do the best it could on the evidence available. The Court of Appeal could therefore not interfere with the order which had been made.

In an early Australian case of *Howe v Teefy*[9] the plaintiff leased a horse from the defendant with the object of training and racing the horse. In breach of the agreement the defendant withdrew the horse from the plaintiff. The plaintiff averred that he would have made a profit by betting on the horse himself and providing tips to others in

8 (1911) 2 KB 786 (CA).
9 (1927) 27 SR (NSW) 301 (FC).

respect of the capabilities of the horse. The jury awarded an amount of £250 and an appeal by the defendant was dismissed. The Court followed the approach adopted in *Chaplin v Hicks*.[10] The case for the plaintiff was stronger than in *Chaplin* since the plaintiff could probably have sold the right to lease the horse and had in any event paid for the right to lease the horse, whereas the plaintiff in *Chaplin* had paid nothing.[11]

In another Australian case of *Fink v Fink*,[12] a husband and wife entered into an agreement in terms of which the husband, despite making allegations against his wife, permitted her to remain in the matrimonial home and undertook not to institute divorce proceedings against her for a period of one year on certain further conditions.

His wife subsequently instituted an action against him, claiming substantial damages for the alleged breach of the agreement, maintaining that he had not permitted her to remain in the matrimonial home for a year, in breach of what she claimed to be an implied term of the agreement. He had interrupted and adversely affected the peaceable and quiet occupation and enjoyment of the matrimonial home by her. She averred that these circumstances deprived her of the opportunity of being reconciled with him, of a normal married life and of living with and being supported by him in a comfortable environment during the rest of her life.

Starke, Dixon and McTierman JJ (Latham CJ and Williams J dissenting) held that the claim must fail with regard to the damages claimed because no such damages flowed from any breach alleged, because the purpose of the agreement was to enable the husband to consider whether he would or would not forgive his wife and not to afford her the opportunities she claimed she was deprived of. Latham CJ and Williams J took the view that *Chaplin v Hicks* had the effect that it cannot be said that when an element in the contingency on which a contractual benefit depends is the exercise of the will of a particular person it would make such a benefit irrecoverable. In this regard Luntz says:

> Deane J took a similar view in *Commonwealth v Amann Aviation Pty Ltd*, being of the opinion that it was no answer to the plaintiff's claim in *Chaplin v Hicks* that there was a possibility that the defendant might arbitrarily have denied her a prize. Reconciliation between husband and wife is obviously something different from a commercial decision to offer employment as an actress or to renew a contract to provide surveillance for Australia's coastline and *Fink v Fink* should not be seen

10 n 8 above.
11 Luntz (n 1 above) 185.
12 (1946) 74 CLR 127.

> as standing in the way for awarding damages for loss of a chance in the medical context.[13]

In the professional negligence claim of *Kitchen v Royal Air Forces Association*,[14] a firm of solicitors was found negligent in failing to issue proceedings in a Lord Cambell's Act claim. The Court of Appeal had to consider the Trial Court's decision on the merits and further had to consider whether the trial judge's award of two-thirds of the maximum damages that could have been awarded was correct. The Court of Appeal firmly rejected the defendant's contention that the plaintiff had to establish, on a balance of probabilities, that she would have won the action. The Court upheld the £2 000 damages which the Court of first instance had granted.

2.2 The historical development of the doctrine

When considering and reviewing the historical development of the doctrine it is important to have regard for the general common law approach to proof of actionable damage. Traditionally the common law has drawn a distinction between proof of past facts and proof of future prospects. In this regard the following observations by Lord Nicols in *Gregg v Scott*[15] are instructive:

> (13) The sharp distinction between past events and future possibilities is open to criticism. Whether an event occurred in the past can be every bit as uncertain as whether an event is likely to occur in the future. But by and large this established distinction works well enough. It has a comfortable simplicity which accords with everyday experience of the difference between knowing what happened in the past and forecasting what may happen in the future.
>
> (14) In practice the distinction is least satisfactory when applied to hypothetical events (what would have happened had the wrong not been committed). The theory underpinning the all-or-nothing approach to proof of past facts appears to be that a past fact either happened or it did not and the law should proceed on the same footing. But the underlying certainty, that a past fact happened or it did not, is absent from hypothetical facts. By definition hypothetical events did not happen in the past nor will they happen in the future. They are based on false assumptions. The defendant's wrong precluded them from ever materialising.[16]

In order to achieve a just result in cases of this nature, courts have endeavoured to define a plaintiff's actionable damage more restrictively by reference to the chance or opportunity the claimant

13 Luntz (n 1 above) 159; see also *Mcrae v Commonwealth Disposals* (1951) 84 CLR 377 (411-412); *Commonwealth v Amann Aviation Pty Ltd* (1991) 174 CLR 64 (133-135).
14 (1958) 2 All ER 241 (CA). See also *Kenyon v Bell* (1953) SC 125.
15 n 7 above.
16 *Gregg v Scott* [2005] (n 7 above) 273.

lost, rather than by reference to the loss of the desired outcome that was never in his or her control. The law treats the claimant's loss of chance as actionable damage. The claimant must prove this loss on a balance of probability, and the court will then quantify the loss as best it can as long as the chance is not merely 'speculative' but 'substantial'.[17]

In *Allied Maples Group Ltd v Simmons & Simmons*[18] the plaintiffs claimed damages for the alleged negligence of a firm of solicitors on account of insufficient advice relating to protection from liabilities arising from leases held by Kingsbury Warehouses Ltd, which it purchased from the Gillow Group in 1989. The Court of first instance decided, as a preliminary issue, that the defendants were liable to the plaintiffs and ordered that judgment be entered for the plaintiff with costs, damages to be assessed by a judge of the High Court. The defendants appealed against this decision on various grounds. The Court of Appeal considered the following scenarios:

(1) The situation where the negligence consists of a positive act or misfeasance, rather than an omission or non-feasance and the question is a matter of historical fact. In this situation the question of causality is to be determined on the balance of probabilities.

(2) The situation where the negligence is an omission and the question of causation depends upon what the plaintiff would have done in the hypothetical situation. What the claimant would have done is determined on a balance of probabilities.

(3) The situation where the plaintiff's loss depends on the hypothetical act of a third party. Here the plaintiff can succeed provided he or she shows that he or she has a 'substantial' chance, rather than a 'speculative' one; the evaluation of the chance is a matter of quantification of the damage. In this regard Hobhouse LJ found as follows:

> On the evidence before him the judge was justified in concluding that the defendants' breach of duty had a causative impact upon the bargain which the plaintiffs and the vendors struck. He was entitled to find that, if the plaintiffs had negotiated further, they had a measurable chance of negotiating better terms which would have given them at least some protection against liability on assigned leases which they were to assume on the draft agreement as it then stood, and as ultimately signed. The plaintiffs were entitled to an assessment of their damages. The plaintiffs have satisfied the court that the loss they have suffered is not nominal. They are not obliged to prove more than that they have lost something of substance. This they have done by showing that they had a

17 *Davies v Taylor* (n 3 above) 212; *Gregg v Scott* [2005] (n 7 above) 274.
18 n 7 above.

> measurable chance of negotiating significantly better terms. They are entitled to an assessment of their damages.[19]

Loss of a commercial opportunity has also been recognised in Australia. In *Common Wealth of Australia v Amann Aviation (Pty) Ltd*,[20] the facts were that a company entered into a contract with the Commonwealth to conduct aerial coastal recognisance for a period of three years. In terms of the contract the Secretary of the Department of Transport had the power to give notice to the company to show cause why the contract should not be cancelled if the company failed to carry out the contract or to comply with a condition to his or her satisfaction. The company expended a substantial amount to acquire specially equipped aircraft to carry out the contract. When the company commenced with the surveillance it did not have enough aircraft available. The Commonwealth therefore served a notice to terminate the contract. Although the notice was invalid, the company treated it as a repudiation and terminated the contract.

In a subsequent action for damages the trial judge held that the company would have made a profit of $820 000 if the contract had run its full course, but that there was a 50 per cent chance that the Commonwealth would have validly cancelled the contract. He accordingly reduced the damages by 50 per cent. The company's contention that it was entitled to damages to recover wasted expenditure and that it should be compensated on the footing that there was a strong prospect that it would have secured a renewal of the contract when it expired was rejected by the Court of first instance. On appeal the company contended that it was entitled to recover the amount expended by it in order to perform the contract foregoing any profits it maintained it would have earned, but which it was unable to quantify. Four of the judges concluded that a lost commercial advantage or opportunity was a compensable loss, even though there was a less than 50 per cent likelihood that the commercial advantage would have been realised.[21]

19 *Allied Maples Group Ltd v Simmons & Simmons* (n 7 above) 1620-1621.
20 (1991) 147 CLR 74.
21 In this regard the Court held as follows:

> In many cases, proof of the full extent of the loss or injury sustained will involve establishing an evidentiary foundation for positive and detailed ultimate findings by the court upon the balance of probabilities. There are, however, cases where considerations of justice or the limitations of curial method render ultimate findings, about what would have been or will be, impracticable or inappropriate. In such cases, damages must be assessed on some basis other than findings about what would have ultimately happened if the repudiation or breach had not occurred or about the precise ultimate implications of the situation which exists after the repudiation or breach. In particular, it may be appropriate that damages be assessed by reference to the probabilities or the possibilities of what would have happened or will happen rather than on the basis of speculation that probabilities would have or will come to pass and that possibilities would not have or will not. If, for example,

Also in *Sellars v Adelaide Petroleum NL/Poseiden Ltd v Adelaide Petroleum*[22] the appellant was negotiating over a potential corporate restructuring of the respondent. The respondent was also negotiating with Poseiden/the plaintiff, and during May 1988 a draft agreement had been forwarded by Poseiden's (the plaintiff's) solicitors to the respondent. The respondent, however, broke off negotiations with Poseiden (the plaintiff) and signed heads of agreement with the appellant in June 1988. A few weeks later the appellant advised the respondent that the agreement had been entered into in excess of authority and that it would not be abiding by all the terms of the agreement.

The respondent regarded this as a repudiation and entered into a less favourable agreement with Poseiden (the plaintiff). The respondent sought damages for the loss of a commercial opportunity of entering into the more favourable agreement with Poseiden/the plaintiff because of the fact that a formal agreement had not been signed, that the contract had been subject to preconditions and that it had also been subject to finding a suitable underwriter for the necessary issue of shares in the respondent company. An appeal to the Full Court was dismissed. In a further appeal to the High Court, the majority (Mason CJ, Dawson, Toohey and Gaudron JJ) dismissed the appeal. They did not limit recovery for loss of a chance to any specific area. The majority's view was that damages for a loss of a chance are recoverable in contract, tort and under section 52 of the Trade Practices Act.

> what the plaintiff has lost by reason of the defendant's repudiation or breach of contract is a less than 50 per cent but nonetheless [a] real and valuable chance of winning some contest or prize, of being the successful tenderer for some commercial undertaking or deriving some other advantage, in circumstances where a court can decide that a proportionate figure precisely or approximately reflects the chance of success, but can do no more but speculate about whether, but for the wrongful act, the plaintiff would have actually won the contest, prize or tender or derived the advantage, it would affront justice for the court to hold that the plaintiff was entitled to no compensation at all for the lost chance of competing or striving or for the wasted expenditure which was incurred in obtaining or performing the contract. In such a case, considerations of justice require that the plaintiff be entitled to recover the value of the lost chance itself and that the defendant be not allowed to take advantage of the effects of his own wrongful act to escape liability by pointing to the obvious, namely, that it is theoretically more probable than not that a less than 50 per cent chance of success would have resulted in failure. Thus, for example, a plaintiff whose action against a third party has become statute-barred by reason of a defendant solicitor's breach of contract may recover damages by reference to the court's assessment of what the chance of success in the action against the third party would have been even though the assessment is 50 per cent or less (118-119).

22 n 7 above.

In the South African judgment of *De Klerk v Absa Bank Ltd*[23] the appellant instituted proceedings against the respondents for fraudulent, alternatively, negligent misrepresentation which caused him to make a poor investment with an assurer (third respondent). His claim was based on an averment that, had he invested the money which he invested with the assurer in some alternative investment, he would have been much better off. He claimed the difference between what his investment had yielded and the return which he would have obtained had the money been otherwise invested.

The appellant *inter alia* presented the expert evidence of an actuary who based his opinion on certain assumptions as to how a reasonable investor would have invested had he not invested with the respondent. After the close of the appellant's case, the respondents applied for absolution of the instance on the basis that the appellant had failed to testify that he would have acted in accordance with the assumptions made by the actuary.

The respondent argued that, absent the evidence that the appellant would have invested more advantageously elsewhere, one of the essential legs of proof of damage was absent and that the appellant therefore failed to establish a *prima facie* case. The Court of first instance granted absolution of the instance on the grounds that the appellant failed to testify personally that he would have invested elsewhere if he had had the funds.

In respect of damages, the Supreme Court of Appeal referred to the English case of *Allied Maples* with approval, and held *inter alia* that it was important to distinguish causation from quantification, since different standards of proof applied. Causation required the establishment, on a balance of probability, of a causal link between the negligence and the loss, while quantification, where it depended on future uncertain events, was decided not on a balance of probability, but on the Court's assessment of the chances of the risk eventuating. To prove causation the plaintiff had to establish a 'real or substantial' chance as opposed to a 'speculative' one, after which the chance was evaluated as part of the assessment of the quantum of damage, the range lying somewhere between that qualified as 'real or substantial' on the one hand, and near certainty on the other. In applying the *Allied Maples* approach to the facts of the appeal, the Court found that the appellant would have to have proved, on a balance of probability, that he would have invested elsewhere at least some of the money paid to the third respondent's scheme. The Court would then quantify the appellant's damages by estimating his chances of earning the figure claimed. This figure would not have to

[23] n 7 above. See also *SDR Investment Holdings Co (Pty) Ltd v Nedcor Bank Ltd* (2007) 4 SA 190 (C).

be proved on a balance of probability, but would rather be a matter of estimation. The appeal was upheld also on various other grounds and the case remitted to the Court of first instance for further hearing and judgment.

It is clear from the authorities cited above that common law courts apply the doctrine to a variety of cases relating *inter alia* to professional negligence and loss of commercial opportunity. While quantification of damages remained a difficult issue to adjudicate, courts assessed the damage even under circumstances where there was a less than 51 per cent likelihood that the commercial advantage would be realised.[24]

[24] See in general: *Stovold v Barlows* (1996) I PNLR 91 (CA); *First Interstate Bank of California v Cohen Arnold* (a firm) (1996) 1 PNLR 17 (CA); *Minister of Defence v Wheeler* (1998) 1WLR 637 (CA); *Hartle v Laceys* (a firm) (1999) Lloyd's LR PN 315 (CA); *Charles v Hugh Jones & Jenkins* (2000) 1 WLR 127 (CA); *Pearson v Sanders Witherspoon & Another* (2000) PNLR 110 (CA); *Tutenkoff v Thiele* (1975) 11 SARS 148; *Johnson v Perez* (1988) 166 CLR 351; *Nicolaou v Papasavas, Phillips & Co* (1988) 166 CLR 394. In *Coudert Brothers v Normans Bay Ltd* (formerly Illingworth, Morris Ltd) (2004) EWCA Civ 215 the Court of Appeal articulated a principle which prevents a party from relying upon its own wrong to break the chain of causation and declined to narrow the scope of loss of chance cases in contract and in tort.

Chapter 3

Development of the doctrine

3.1 Philosophical approaches to causation in loss of chance cases

Reece[25] says that, within a deterministic framework, probability is relative to our beliefs and knowledge and has no connection with the objective world, since, if everything was known, the need for probabilities would disappear. Deterministic assumptions dictate that every proposition is either true or false, and is presumably only a way of managing our lack of knowledge, which is representative of an epistemological concept. The acceptance of indeterminism has led to a fundamental division between epistemological and objective interpretations of liability. Objective interpretations dictate that probability is a property of the external world independent of human knowledge or belief.

When an event is undetermined Reece says that it means that there will be an objective probability of the occurrence of the event of which we may or may not have knowledge. The degree to which we believe that the event did or will occur is represented by the epistemological probability of the occurrence of the event. There will therefore be an epistemological degree of belief in the objective probability of the event. An event is indeterministic for all human purposes when it is totally unpredictable. Reece says that this type of event can be labelled as a quasi- indeterministic event and the chance as a quasi-objective chance. In a purely indeterministic case, the courts should permit recovery for loss of a chance.

Loss of a chance cases are quasi-indeterministic because all human decisions are at least quasi-indeterministic, based on the

25 Reece (n 7 above) 188ff.

belief that humans have the capacity to control their own destiny. Should the plaintiff therefore not recover in a quasi-indeterministic situation, it means that the plaintiff failed to prove that the alleged negligence significantly increased the chance that he or she would have acted differently.

Since such failure implies that the plaintiff failed to show on a balance of probabilities that he or she would have acted differently, cases where the plaintiff failed to recover cannot distinguish between the tests. Reece says that where the plaintiff fails the quasi-indeterministic test, he or she should also fail the orthodox test. In this regard the courts have adopted a 'Papineau' solution. If causation is offered a probabilistic interpretation, a drastic overhauling of legal intuitions and legal principles will be required. The courts have no option but to make a ruling on causation in every case that comes before them, be it deterministic or indeterministic. In order to cope with indeterministic cases the courts have to make some adjustment to their world-view, and the smallest concession possible is to retain causation as a deterministic concept, but change the phenomenon found to have been caused. A continuum between determinism and indeterminism is more plausible than a clear division. This would lead to an ordering of cases along a spectrum. This approach indicates why a line is drawn between recoverable and irrecoverable damages.[26]

Stauch[27] says that, where available, empirically derived statistics represent a better basis of assigning causal responsibility than the traditional standard of proof on a balance of probabilities. Mistakes of an epistemological nature occur because they lack a clear and systemic underlying model of causality, adequate to the complex forms that the causation model often assumes. The 'but for' test is utilised to attribute responsibility for harmful outcomes *ex post facto*. It provides a good starting point for the legal inquiry into causation, but fails to be adequate with regard to a number of situations. Stauch maintains that a more accurate test is the so-called 'NESS' test (necessary element in a sufficient set) in terms of which the candidate condition may still be termed a cause where it is shown to be a necessary element in just one of several co-present causal sets, each independently sufficient for the effect. He says that co-presence can manifest itself in two ways, namely duplicative and pre-emptive causation. Duplicative causation occurs when two or more sets operate simultaneously to produce the effect. Pre-emptive causation occurs when, through coming out first in time, one causal set trumps another potential set which is lurking in the background.

26 Reece (n 7 above) 206.
27 Stauch (n 7 above) 205ff.

The limitations in the 'but for' test are shown up in cases of multiple causation. Multiple causation cases arise where, in addition to mere background conditions, there is more than one candidate condition competing for the title of 'cause of the event'.

Stauch opines that, in the case of co-present causal sets, the phenomenon occurs because each of the sets will crystallise around at least one candidate condition. It can also crystallise within the confines of a single causal set. This, he says, occurs when there are a number of candidate conditions, which, taken one at a time, would not in fact have been sufficient to complete the set in conjunction only with the background conditions. The sheer physical complexity of many causation cases has been allowed to detract from the NESS test's greater precision in such cases.

A potential member in a causal set is often what one has in mind when speaking of risk. In many cases statistics can be employed to measure the frequency with which the appearance of a given risk is followed by harm in one's experience.

The idea that, in a case of past fact, the balance of probabilities standard of proof could provide a more satisfactory means of resolving the issue of causal uncertainty than the use of statistics shows a general failure to understand the epistemological relationship between the two approaches. In multiple causation cases the inherent incompleteness of the causal laws means that courts are often unable to allocate causal responsibility between rival candidate conditions. Statistics derived systemically from previous similar cases provide a very accurate probability weighting for each candidate, whereas the balance of probability test attempts to perform the same operation by appealing crudely to what we feel the likely cause would have been. Such feeling derives from previous experience of similar cases, but this time in its rawest form. Stauch, however, maintains that the balance of probabilities test retains merit as a pragmatic response to situations where there are no available statistics.

It also prevents the expenditure of too much energy on the weighing up and elimination of less plausible rival accounts which may be offered as to why the plaintiff's injury occurred. The most plausible foundation for resolving questions of causation, in fact, is causal determinism based on the Humean model of invariable sequence. Something is generally regarded as a cause of a given outcome in so far as it represents a diversion from the normal course of events without which the outcome would not have occurred. It is this notion of causal necessity that informs the working of the 'but for' test. The same outcome will, in exceptional cases, be independently in progress through the operation of a different causal set. In such cases the NESS test allows us to continue to treat the

candidate condition as a cause in so far as, absent the other set, it would have been necessary for the outcome.

In multiple causation cases there is more than one candidate condition which may have been necessary for the outcome. Multiple causation cases may give rise to intractable evidential difficulties because of the incompleteness of causal laws. The balance of probabilities standard of proof appeals to our feelings as to which of the candidates is more likely to have featured on a set on this occasion and allocates responsibility between them on an all or nothing basis. Empirically derived statistics, however, perform the same task more accurately and fairly. Stauch concludes by saying that where appropriate statistics are available, as they increasingly are in the medical negligence context, they must be employed. Damages should be discounted to reflect the percentage chance that the defendant did not cause the injury in a particular case and conversely that recovery should be allowed for loss of chance. Damages for risk exposure *per se* should not be recoverable.[28]

Healy[29] says that traditional proof of causation by particularist evidence from the mouths of witnesses of a direct, anecdotal and non-statistical nature causes a fairly impressionistic evaluation of evidence. This approach in all cases encourages a lack of transparency and clarity in its choice of one proposition over another. By contrast, scientific epistemology has for a considerable time abandoned the belief in physical causation preferring instead to employ hypothesis, inductive testing and probabilistic testing.

The loss of chance doctrine reflects these advances by giving greater effect, in terms of proof and distribution of liability, to a probabilistic assessment of each agent's contribution to the injury on the basis of known statistical information. Although common law tends to avoid minute scientific inquiries, despite giving free reign to the views of experts loosely expressed in the discourse of medical science, it is a system that permits, but does not actively encourage, scientific or statistical analysis of causation.

Jansen[30] opines that a chance can be defined as the possibility of gaining a certain benefit or avoiding a certain harm or injury. A chance to avoid an injury mirrors the risk that the injury might materialise, and the chance to gain a benefit is mirrored by the risk of not obtaining it. He says that a chance always entails a necessarily hypothetical expectation and chances and risks cease to exist in retrospect; they materialise into final gain or final damage or loss. A chance always presupposes a genuine unavoidable uncertainty

28 Stauch (n 7 above) 224-225.
29 Healy (n 1 above) 221 ff.
30 Jansen (n 7 above) 271 ff.

relative to standards of scientific knowledge. There can be two objections to a chance. Firstly, that the idea of a chance is an illusion at least in so far as no human actions or choices are involved. What would seem a chance or possibility therefore is no more than a lack of information. Secondly, and related to the first objection, there are no such things as chances in the world. This is the tacitly presupposed premise for the further argument that a statistical chance can never suffice for a tort law claim because it does not establish that the plaintiff has lost anything and is therefore an artificial construction. Law is concerned with the world as it is perceived by human beings.

He says that lack of information, which is the main point of the first objection, is unavoidable. The unavoidable uncertainty is usually conceptualised in terms of chance and risk. These concepts become a necessary element in the normal understanding of the world. The public apparently think that chances are important things requiring legal protection. All in all, the concept of a chance is a necessary element in a complete system of law. It is the element of loss that distinguishes cases of a lost chance from mere exposure to risk or increased risk. The distinction is important so as to avoid opening the floodgates should a lost chance be recoverable in tort law. Drawing the line between the loss and the mere decrease of a chance can, in some cases, be difficult especially if the remaining chance is very small. In this sense loss means that no substantial chance is left. Acknowledgment of a loss of a chance transforms problems of proof of causation into terms of assessment of damages. The concept relates to legal norms and not to causal issues. It is therefore a normative legal limit for tracing hypothetical consequences. Jansen opines that before the idea of a lost chance is adopted, the possibility of dealing with the problem in causal terms must be ruled out. There are two approaches which can be followed in this regard. In terms of the first approach, the classical notion of a 'but for' condition is no longer adequate for complex tort law liability. It should be replaced by a weaker link of statistical relevance. A second school of thought proposes that the problem could be accommodated in the classical 'but for' cause. Should the 'but for' approach be substituted by a less strong causal connection expressed in terms of statistical relevance, individual responsibility becomes detached.

To apply the *conditio sine qua non* would be to show that a kind of 'but for' relation was present. As a starting point for such an argument it should be accepted that causal statements are always incomplete, as they do not explicitly refer to background conditions which are also necessary to bring about a certain consequence. Most necessary conditions of events are only then sufficient for the later outcome if some other conditions are also apparent. Every causal understanding of statistics must distinguish between empirical and mathematical probabilities. Empirical probabilities reflect unknown

causal relations, whereas mathematical probabilities express *a priori* possible outcomes to given circumstances without any causal relation. The paradigm is throwing a dice where the possible outcomes can be mathematically predicted. A causal understanding of statistics excludes mathematical possibilities because, by definition, there cannot be a causal link. On the other hand, the idea of a lost chance also includes mathematical probabilities. This is important in cases where the final outcome depends on human decisions which cannot be described by empirical causal rules. Normatively, there is no difference between a lost mathematical and lost empirical chance. In both cases the chance is held to be valuable and the normative question is whether tracing hypothetical consequences should be allowed or prohibited.[31]

3.2 Legal opinion relating to the application of the doctrine in cases of clinical negligence

Jansen states that the idea of a lost chance is a sensible, normative concept. It is based on the common linguistic separation between chances and final events. It seeks to establish chances of avoiding a final injury or of obtaining a final gain as personal rights. The solution in terms of loss of a chance is to be preferred over purely procedural approaches to deal with cases of a lost chance in terms of the standard or burden of proof of causation. He says that opposing policy considerations are either unsound or outweighed by a solution based on a lost chance.[32]

Scott is of the view that modern medical advances have provided new opportunities of cure which, in turn, have increased the importance of finding a solution for a lost opportunity. Case law has relied on both all or nothing and proportionate solutions. He maintains that, in cases where causation falls anywhere near the 50 per cent borderline, justice on both sides is better served by adopting a proportionate approach.[33]

Perry concludes that the typical consensual relationship between doctor and patient involves an undertaking by the doctor and reliance on the part of the patient. Negligence actions arising from such a relationship are founded on the basis that the patient's loss flowed from detrimental reliance on the doctor. The lost chance of avoiding an adverse physical consequence should at least take into consideration the valuation of a loss in a similar fashion to cases involving economic loss. He suggests that *Lawson* and *Hotson*[34] were

31 Jansen (n 7 above) 287.
32 Jansen (n 7 above) 296.
33 Scott (n 7 above) 521.
34 See discussion of these cases below at p54ff and p79ff.

decided incorrectly and in each case monetary damage should have been awarded.[35]

Andel's view is that courts have traditionally denied redress of a loss of a chance where the ultimate result would have ensued anyway. She says that, where a greater than even chance exists, the courts have found the doctor liable for causing the patient's death or debilitation rather than for reducing the patients chance of survival or recovery. Even the courts which have allowed for recovery at a less than even chance have made the same mistake. By relaxing the traditional 'but for' causation standard of proof, these courts have held by implication that the damage sustained by the plaintiff in such circumstances was the actual loss of life or health and not the loss of a chance. Andel maintains that it is not necessary to abandon traditional causation principles to allow for redress to innocent and aggrieved patients. Rather the courts should recognise loss of a chance as a true injury suffered and value this accordingly.[36]

Luntz states that, where a doctor fails to exercise reasonable care, the aim of the law is not to reposition the plaintiff as if no treatment has been given, but rather as if proper treatment has been given. It does not matter whether the claim lies in contract or in tort. In many instances proper treatment would have given the patient a chance of cure or alleviation of a pre-existing condition. This chance is something of value and something on which people would place monetary value. A chance is therefore worthy of legal protection. The scope of a doctor's duty of care should be extended to a duty not to affect that chance detrimentally. Loss or reduction of a chance as a result of medical negligence should be recognised as a legal injury for which the patient may recover damages, regardless of whether the chance was greater or less than 50 per cent as long as it was more than speculative. The Court should do its best to assess damages accordingly.[37]

Hamer maintains that tradition dictates that each element of the plaintiff's case must be proven on a balance of probabilities and compensation is all or nothing with the exception of future losses. As the future is uncertain, the plaintiff is allowed compensation for even improbable future losses, proportional to the probability of the loss. He says that the proportional approach should be adopted wherever predictive uncertainty presents itself.

On the issue of future quantum, it should be utilised to deal with uncertainty about what will happen and what would have happened. With regard to past quantum and causation, proportional

35 Perry (n 7 above) 274.
36 Andel (n 7 above) 997-998.
37 Luntz (n 1 above) 195.

compensation should be used to deal with uncertainty about what would have happened. What did happen is a matter of historical fact for which the traditional all or nothing approach seems appropriate.

Hamer states that causation in the context of law raises considerations of value as well as logic. In the Australian context, he says that there is support from the judiciary for the adoption of the principle which relates to the so-called 'injury within the scope of risk' approach.[38]

Fischer concentrates on non-arbitrary limiting principles which would permit courts to apply loss of a chance where appropriate without fear that the doctrine will expand into a general theory of probabilistic causation. He maintains that neither the 'chance has value' theory nor considerations of fairness based on difficulty of proof were helpful in restricting the doctrine. According to Fischer autonomy does provide limiting principles. It limits probabilistic causation to cases where a defendant engages in an undertaking or makes a representation. The theory precludes applying probabilistic causation by requiring the plaintiff to prove detrimental reliance on the undertaking or misrepresentation.

The policy of promoting effective deterrence also gives principled guidance. Probabilistic causation should be employed in recurring miss cases and in proportional risk recovery cases involving losses that can be insured against. These cases are not likely to be numerous. In the kinds of case where tortfeasors often escape liability, deterrence may be enhanced by using the relaxed causation approach. The most workable approach is to use case-specific policy considerations for deciding when to lower the plaintiff's burden of proving causation of traditional damage. Fischer questions the Commonwealth courts' approach of applying the doctrine broadly to all economic loss cases.[39]

Stauch states that causal determinism based upon the Humean model of invariable sequence remains the most plausible foundation for resolving legal questions of causation. A cause of a given outcome in so far as it represents a deviation from the normal course of events founds causal necessity that informs the working of the 'but for' test. Sometimes the same outcome may be independently in progress through the operation of a different causal set. In some cases there may have been more than one candidate condition necessary for the outcome. This is usually the case in respect of medical negligence cases. Multicausation cases may give rise to intractable evidential difficulties. It is sometimes impossible to know which candidate

[38] Hamer (n 7 above) 613-614.
[39] Fischer (n 7 above) 654-655.

condition figured in a candidate set. Based on previous experience, preference is given to applying the traditional standard of proof being the balance of probabilities. That, in turn, allocates responsibility between them on an all or nothing basis. Stauch maintains that empirically derived statistics perform the same task much more accurately and fairly. Where appropriate statistics are available, they should be used. Damages should be discounted to reflect the percentage chance that the defendant did not cause the injury in a particular case, and conversely recovery should be allowed for the loss of a chance. Recovery for risk exposure *per se* should not be allowed.[40]

Jones states that if an action for loss of a chance were allowed, the courts would have to determine whether cases should be categorised as either claims for loss of chance or causation cases. Not all cases would be categorised as loss of chance cases so that defendants would not be able to argue that damages should be discounted to the extent that the plaintiff failed to prove causation with 100 per cent certainty. He says that the conceptual obstacles that would be created by allowing a claim for a loss of a chance in court could be overcome by a sympathetic court which is sensitive to the policy issues at stake. Arguments about actions for loss of a chance are in reality arguments relating to the issue as to whether courts should ease the plaintiff's burden of proof in circumstances where, through no fault of the plaintiff, causation is uncertain and the plaintiff can prove no more than that he was a figure in a statistic. Where, on the other hand, the plaintiff can identify some specific thing which he has lost, he is entitled to compensation.[41]

King indicates that the distinction between causation and valuation must be preserved. Rejection of the all or nothing approach to valuing the loss of a chance does not necessarily affect its continuing validity in respect of the causation inquiry. While the loss of a no better than even chance should be compensable, it must still be proven that the defendant destroyed the chance. The all or nothing approach may be continued to be applied to causation even if it is abandoned for purposes of evaluation. King states that there may be situations where causation should arguably be handled under a probabilistic-percentage valuation rather than an all or nothing approach. He questions the general validity of the preponderance of the evidence rule and its all or nothing concomitant and asks whether it should not be replaced generally by a more sensitive mechanism such as the probabilistic-percentage valuation. He proposes that a set of rules be adopted that recognises the destruction of a chance, including a no better than even chance, of some favourable outcome

40 Stauch (n 7 above) 223-225.
41 Jones (n 4 above) 181-182.

as a compensable loss worthy of redress and appropriately values such losses to reflect their true nature.[42]

Saroyan maintains that the methods of valuation currently employed are either overbearing or unjust in their result. He proposes a new method of evaluation under the loss of chance doctrine. The theory takes into account the tension between the desire to encourage diligence in the medical practice and the relative fairness of holding a person liable for damage that he or she actually causes. It also takes into account the inherent unfairness of the proportional approach in calculating damages, especially when lower percentages of a chance of life exist. Saroyan aims to create a method that is simple and readily calculable in order to encourage its adoption by the courts. His proposed calculation utilises the following formula:

> (.5) X [(the proportion of loss)] X [(the remaining value of the insured person's life)]

By way of example, a person who will have lost 50 per cent of his original chance of life under Professor King's formula would get the following compensation based on a future loss of earnings of $500 000: (.1 X $500 000) = $5000. By using Saroyan's formula the compensation amounts to $125 000 and thus is clearly more likely to meet the goals of tort law. In respect of patients who have a low percentage chance of life or a high risk chance of loss of life proportional to the amount they have remaining, a doctor will be persuaded to be much more diligent in respect of making the correct diagnosis. The proportionality method therefore allows for a more just result.[43]

Lunney states that the difference between pro- and anti-loss of chance proponents lies in the use of impersonal statistics. He maintains that loss of chance damage implies a belief that deciding the causes of outcomes using probabilities is inadequate. Outcome damage should not be compensated. The issue is how one proves probabilistic causation rather than how the damage is categorised. While courts ignore the extent to which probabilistic causation and loss of chance damage are compatible, the uncertainty which exists in respect of what a plaintiff will recover and what a plaintiff must prove to recover is left to the generosity of the trial judge. This unsatisfactory situation is a result of the acceptance of loss of chance damage without sufficient consideration of proof of causation in cases where the balance of probability test would be satisfied.[44]

Rosati proposes a modified valuation system which entails that compensation for the loss of chance of physical recovery would be

42 King (n 7 above) 1395-1397.
43 Saroyan (n 7 above) 8-10.
44 Lunney (n 7 above) 12-13.

available only to plaintiffs who have suffered the harm that they sought to avoid. He says that there should be no recovery for a diminished chance of avoiding harm if that harm did not ensue. Secondly, the negligence of the defendant must be the predominant factor resulting in the loss of the plaintiff's substantial chance of avoiding harm. Thirdly, the plaintiff would be awarded damages for the total amount of any substantial chance lost and predominantly attributable to the defendant's negligence. The modified valuation system achieves a balance by requiring that the lost chance must be a substantial one in that speculation and costs inherent in the valuation system are decreased. The defendant is also protected from non-apportionable costs in extremely speculative cases. Finally it avoids the 51 per cent of the reasonable probability standard and allocates the risk of error more fairly between the parties than the traditional all or nothing approaches.[45]

Healy states that the recognition of loss of chance actions promises to achieve a more proportionate vindication of rights in terms of damages and has a useful, deterrent and socialising effect. Without its recognition causation seems to represent a 'symbolic and compensatory inequity which can only serve to heighten the calls for the introduction of a no-fault compensatory scheme.' [46]

3.3 Further considerations in favour of recognition of the loss of a chance doctrine

3.3.1 A chance has value

One of the most important rationales for the recognition of loss of a chance where the plaintiff cannot prove traditional damage is that the chance of obtaining a benefit or avoiding a harm has value in itself and is entitled to be protected by the law.[47] The notion that a chance has value is derived from the idea that even a less than 50 per cent chance of a cure from a fatal disease is a thing of value for which a person would be willing to pay money.

Courts recognising the notion that chances have value should logically allow for a cause of action for a reduction of chance as well as its total destruction. There is no theoretical basis for requiring that the defendant should first completely destroy the chance before

45 Rosati (n 7 above) 483-485.

46 Healy (n 1 above) 230. In contrast see for example Perrochet *et al* (n 7 above) who say that policy considerations caution against relaxing standards of causation or the recognition of a chance as a compensable injury. The reason for this is that such liability exacerbates the problem of defensive medicine (Perrochet *et al* (n 7 above) 627-628).

47 Fischer (n 7 above) 605.

being subject to liability. Liability should therefore be extended to circumstances where the chances are reduced but not destroyed.

In the United States of America three approaches have been applied by the courts when valuing chances. The first is the proportional approach in terms of which the fact finder determines the percentage by which the defendant reduced the chance and the value of the thing lost. Under this approach the compensation to which a plaintiff is entitled is proportionally assessed according to the proximate degree by which the defendant reduced the plaintiff's chance of avoiding the injurious outcome. Defendants will thus be liable only in approximate proportion to their causal contribution to the injury.[48]

Under the full compensation method the plaintiff is compensated in full notwithstanding the fact that defendant, for example, has created only a 20 per cent chance of causing the harm. As a matter of fairness the proportional model is to be preferred. In terms of the third method, the fact finder is permitted to value damages based on his or her assessment of all the relevant evidence. Certain damages, such as extra medical expenses associated with delayed diagnosis and extra mental distress caused by the victim's knowledge that he has lost his chance of survival, should be awarded without reduction. Thus the most accurate way of valuing damages is to award proportional compensation for damages such as earnings that should correct be reduced, and to award full recovery for damages such as extra medical expenses.[49]

Saroyan[50] criticises the proportional approach on the basis that if the chance is worth two per cent and through a doctor's negligence the chance is reduced by one per cent, the patient will be compensated for the value of one per cent only. He argues that the chance has actually been reduced by 50 per cent and that as the percentages drop they become much more valuable. He proposes a new approach in terms of which a number of different factors are taken into account:

(1) The tension between the desire to encourage diligence in medical practice and the requisite fairness of holding a person liable only for the injury or damage that he or she causes;

(2) The inherent unfairness of the proportional approach in calculating the damages especially when lower percentages of chance of life exist;

48 Fischer (n 7 above) 620.
49 Fischer (n 7 above) 207.
50 Saroyan (n 7 above) 33.

(3) The desire to create a method that is simple and readily calculable in order to encourage its adoption by the courts.

The calculation is as follows:

> (.5) X [(the proportion of loss) X (the remaining value of the injured person's life).[51]

Fischer states that there are certain drawbacks to the 'chance has value' theory. The first problem relates to the possibility that it could lead to wildly speculative damage awards because courts would not always have reliable evidence concerning the magnitude of the lost chance. The second difficulty relates to a finding that a plaintiff who has lost a chance has suffered pure economic loss and its value. Courts can, however, circumvent this problem by creating a cause of action for pure economic loss in such instances.[52] Thirdly, the concept provides no workable basis for formulating a limiting principle. Fischer says that if all lost chances have value, and if all questionable causation issues can be viewed as involving a lost chance, then the chance has value theory of damages can be applied in virtually every case of questionable causation.

3.3.2 Autonomy

When a defendant knowingly causes a plaintiff to rely to his detriment on an undertaking or misrepresentation, the deprivation of the plaintiff to follow a preferable course of action should be seen as a tort loss.[53] Perry sees the gravamen of the tort as the lost opportunity to follow a preferable course of action rather than the lost chance of avoiding a harm or gaining a benefit. The lost chance would be taken into account in valuing damages. The autonomy theory can be applied on a broad basis. It can, for example, be applied to negligent misrepresentation, medical negligence, 'medical malpractice informed consent' cases, and 'product liability failure to warn' cases.

One of the crucial aspects or elements of the theory is that detrimental reliance is required. Detriment includes the loss of a chance to follow a course of action that reasonably appears to reduce the risk of economic loss or physical injury. This theory can provide a principled basis for limiting the loss of chance doctrine.

3.3.3 Fairness based on difficulty of proof

One of the primary justifications for recovery of loss of a chance is the principle of fairness. It is based on the injustice of granting no

51 Saroyan (n 7 above) 34. See also p 39 above.
52 Fischer (n 7 above) 624.
53 Fischer (n 7 above) 625. See also p 35 above.

compensation for people who fall marginally short of proving their cases on a preponderance of the evidence, the injustice of granting no relief against a defendant who has carelessly destroyed a less than 50 per cent chance of a successful outcome or the injustice of denying recovery because of a lack of evidence where the defendant has negligently increased the risk of harm.[54] King contends that loss of a chance of recovery is justified where the defendant's tortuous conduct creates the lack of evidence that prevents the plaintiff from proving damages on a preponderance of the evidence. This rationale, however, provides very little basis for limiting the loss of chance doctrine.

3.3.4 Deterrence

Loss of chance is also justified on grounds of deterrence. Scholars argue that efficient deterrence is achieved by recovery for loss of a chance and measuring damages by discounting the plaintiff's actual or potential harm. According to these scholars the all or nothing rule is harsh and imprecise because, under that rule, a tortfeasor who has created a 51 per cent risk of causing the plaintiff's harm will pay 100 per cent of the plaintiff's damages, whereas a tortfeasor who creates a 49 per cent risk pays nothing. The above scenarios represent over- and under-deterrence respectively. The loss of chance approach is more precise and equitable. Economic theory holds that players will use appropriate precautions if they know that they will be held liable for all theharm they cause in the event that they have used inadequate precautions. Holding them liable for less damage than they cause will induce them to take too few precautions, and conversely, holding them liable for more damage than they cause will induce them to take too many precautions.[55]

A second approach to loss of a chance that also risks over-deterrence is the granting of proportional recovery in cases where the risk of harm is 50 per cent or less, and granting full recovery where the risk of harm is more than 50 per cent. This approach risks over-deterrence because players are at risk of being liable for more damage than they cause. Punitive damages create a risk of over-deterrence when they result in excessive liability. Negligent tortfeasors do not always pay for the harm that they cause. They can escape liability for a variety of reasons, including difficulties relating to proof. A repeat tortfeasor that pays full compensation in some cases, but escapes liability in others will be undeterred. One-time tortfeasors are also undeterred if there is a good chance of escaping liability because their expected liability is reduced. Expected liability

54 Fischer (n 7 above) 626.
55 As above.

is the amount the tortfeasor expects to pay if he is held liable multiplied by the chance that he will escape liability.[56]

Relaxed causation will not necessarily result in over-deterrence unless such relaxation results in expected liability exceeding expected harm. To determine whether doctors on the whole are held liable for too little harm, the cases where doctors who are not negligent but are erroneously held liable must be counterbalanced against the cases where negligent doctors escape liability.[57]

Another deterrence question raised by the loss of a chance is whether the claim is for future or past harm. Loss of chance cases fall in two categories, namely proportional damage recovery and proportional risk recovery. Proportional damage recovery entails those cases which permit a plaintiff to recover a portion of his damages only after he has suffered the injury or acquired the disease. Proportional risk recovery cases permit a plaintiff to recover a portion of his or her future harm before he or she is injured or made ill.[58] Probabalistic causation does not necessarily lead to more satisfactory results in proportional damage recovery cases as the probabilistic rule actually generates more errors reflecting deterrence than the preponderance rule because the probabilistic rule makes errors in every case, either an overpayment by a defendant because the claimant recovered damages even though he was not injured by the defendant, or an underpayment by the defendant because the plaintiff was injured by the defendant and received less than all his damages.[59] The all or nothing rule in contradistinction is correct in most cases, but makes a small number of fairly large errors in others.[60] The all or nothing rule fairly allocates the mistakes between plaintiffs and defendants because most of the activities involve groups of plaintiffs and defendants where the probability of causation varies from case to case.

Biased results are produced where a single tortfeasor faces the possibility of multiple actions from similarly situated plaintiffs and the probability that this defendant is liable is the same in each of these cases.[61] Defendants are undeterred if the likelihood of causation is under 50 per cent and they are over-deterred if the likelihood of causation is over 50 per cent, but less than a 100 per cent. In this scenario the probabilistic rule produces better results

56 Fischer (n 7 above) 629.
57 Fischer (n 7 above) 630.
58 DA Fischer 'Proportional liability: Statistical evidence and the probability paradox' (1993) *Vanderbilt Law Review* 1201 1205.
59 D Kaye 'The limits of the preponderance of the evidence standard: Justifiably naked statistical evidence and multiple causation' (1982) *American Bar Foundation Research Journal* 487.
60 Kaye (n 59 above) 502.
61 As above.

because it holds all defendants liable in accordance with the probability of causation so that, in the end, each defendant will be liable for the amount of harm that he or she actually caused.[62]

The criticism levelled against the proportional damage recovery theory does not apply to cases where proportional risk recovery for losses can be insured against. In terms of this theory a reduced recovery is awarded to any person exposed to a future risk of harm that has not yet come to pass. In each of these cases the claimant has suffered a loss in an actuarial sense because of the reduction in chance of avoiding the harm. Because these kinds of losses can be insured against plaintiffs who suffer future loss will receive appropriate compensation and those who do not suffer the future loss receive nothing.[63]

3.4 The development of the doctrine in cases of clinical negligence in England, Australia, the United States of America, Canada and South Africa

3.4.1 England

In *McGhee v National Coal Board*[64] the House of Lords considered the question whether a plaintiff must necessarily fail if he has shown a breach of duty that caused an increase of risk or materially contributed to the disease while the defendant cannot prove the contrary correct. The logical approach in this type of situation is that the plaintiff should fail because he bears the onus of proof. The facts of the case were briefly as follows: The appellant was sent by his employers to clean out brick kilns. The working conditions were hot and dirty and the appellant was exposed to clouds of abrasive brick dust in respect of which the employers provided no adequate washing facilities. In consequence the appellant had to also exert himself further by cycling home while his body was still covered with sweat and grime.

The appellant contracted dermatitis after a few days. In a subsequent action by the appellant against his employers for negligence, the medical evidence showed that the dermatitis had been caused by the working conditions in the kilns. The evidence was further that the brick dust which adhered to his skin when he exerted himself further by cycling home materially increased the risk that he might develop the disease. It was held by the Court of Session that, although the appellant had proved that the respondents had caused

62 Kaye (n 59 above) 502.
63 Jansen (n 7 above) 295.
64 [1972] 3 All ER 1008 (HL).

his injury, he did not prove that it was more probable than not that he would not have contracted the disease if proper washing facilities had been provided.

On appeal it was held that a defendant was liable to a plaintiff if the defendant's breach of duty had caused or materially contributed to the injury suffered by the plaintiff notwithstanding that there were other factors for which the defendant was not responsible, and which had also contributed to the injury.[65]

In England, the *locus classicus* with regard to the possible application of the doctrine to clinical negligence cases was until recently the case of *Hotson v East Berkshire Area Health Authority*.[66] The facts of the case were that the plaintiff injured his hip in a fall. He was taken to hospital where his injury was misdiagnosed. He was discharged and sent home. After five days of severe pain he was taken back to hospital and it was discovered that his injuries were so severe that he was given emergency treatment. He also developed a serious medical condition causing deformity of the hip joint and restricted mobility.

The plaintiff instituted proceedings against the health authority for negligence, which authority admitted delay in diagnoses but denied that this adversely affected the plaintiff's long-term condition. The trial judge found that even if the authority's medical officers had diagnosed the plaintiff's condition correctly when he was first admitted to the hospital, there was still a 75 per cent risk of the plaintiff's disability developing, but that the medical staff's breach of duty had turned that risk into an inevitability, thereby denying the plaintiff a 25 per cent chance of a good recovery. The judge awarded the plaintiff an amount of £11 000 representing 25 per cent of the plaintiff's damages. The Court of Appeal affirmed this judgment, whereupon the authority appealed to the House of Lords. On appeal

65 Lord Wilberforce writing for an undivided Bench held as follows:

> 'First, it is a sound principle that where a person has, by breach of duty of care, created a risk, and injury occurs within the area of that risk, the loss should be borne by him unless he shows that it had some other cause. Secondly, from the evidential point of view, one may ask, why should a man who is able to show that his employer should have taken certain precautions, because without them there is a risk, or added risk, of injury or disease, and who in fact sustains exactly that injury or disease, have to assume the burden of proving more: namely, that it was the addition to the risk, caused by the breach of duty, which caused or materially contributed to the injury? In many cases of which the present is typical, this is impossible to prove, just because honest medical opinion cannot segregate the causes of an illness between compound causes. And if one asks which of the parties, the workman or the employers should suffer from this inherent evidential difficulty, the answer as a matter in policy or justice should be that it is the creator of the risk who, ex hypothesi, must be taken to have foreseen the possibility of damage, who should bear its consequences.' *McGhee v National Coal Board* (n 64 above) 1012.

66 See *Gregg v Scott* [2005] (n 7 above) 268.

Lord Bridge of Harwich held that it was clear on the evidence that there was a conflict as to what had caused the avascular necrosis. The authority's evidence was that the sole cause of the necrosis was the traumatic injury to the hip, whereas the plaintiff contended that the delay in treatment was a contributory cause.

Lord Bridge held in this regard that the presiding judge's findings on fact were unmistakably that the plaintiff's fall was the sole cause of the avascular necrosis. In view of this holding he said that he did not see this appeal as a suitable occasion to consider whether, in a claim for damages for personal injury, it can ever be appropriate, where the cause of the injury is unascertainable and all the plaintiff can show is a statistical chance which is less than even that, but for the defendant's breach of duty, he would not have suffered the injury, to award him a proportionate fraction of the full damage appropriate to compensate for the injury as a measure of the damages for a lost chance. Lord Mackay of Clashfern agreed that the appeal should be allowed and added the following important remarks:

> On the other hand, I consider that it would be unwise in the present case to lay it down as a rule that a plaintiff could never succeed by proving loss of a chance in a medical negligence case. In *McGhee v National Coal Board* [1972] 3 All ER 1008; [1973] 1 WLR 1 this House held that where it was proved that the failure to provide washing facilities for the pursuer at the end of his shift had materially increased the risk that he would contract dermatitis, it was proper to hold the failure to provide such facilities was a cause to a material extent of his contracting dermatitis and thus entitled him to damages from his employers for their negligent failure measured by his loss resulting from dermatitis ... Although neither party in the present appeal placed particular reliance on the decision in McGhee, since it was recognised that *McGhee* is far removed on its facts from the circumstances of the present appeal, your Lordships were also informed cases are likely soon to come before the House in which the decision in *McGhee* will be subjected to close analysis ... In these circumstances I think it unwise to do more than say that unless and until this House departs from the decision in *McGhee* your Lordships cannot affirm the proposition that in no circumstances evidence of a loss of a chance resulting from a breach of a duty of care found a successful claim of damages, although there was no suggestion that the House regarded such chance as an asset in any sense.[67]

In *Wilsher v Essex AHA*[68] the plaintiff infant was born prematurely and suffered from various illnesses including oxygen deficiency. At the hospital a catheter was twice inserted into the plaintiff's vein rather than the artery and on both occasions the plaintiff was given too much oxygen. The plaintiff consequently developed an incurable eye condition resulting in near blindness. This condition could have been

67 *Hotson v East Berkshire AHA* (n 2 above) 916.
68 [1988] 1 All ER 871 (CA).

caused by the excess oxygen. However, it also occurs in premature babies who are not given oxygen at birth, but who also suffer from five other conditions common in premature babies, all of which afflicted the plaintiff. The plaintiff claimed damages, alleging that the excess oxygen caused the eye condition.

The trial judge held that, since the hospital had failed to take proper precautions to avoid excess oxygen being administered to the plaintiff, and since the plaintiff had suffered the injury which the precautions were designed to prevent, the burden lay on the defendant to show that there was no breach of duty and also that the damage did not flow from such breach.

He found that the defendant had failed to discharge the burden and awarded damages to the plaintiff. The Court of Appeal affirmed the decision although not agreeing that the burden had shifted.

In *Judge v Huntingdon Health Authority*[69] the plaintiff instituted proceedings against the defendant for failure to diagnose a cancerous lump in the breast. When it was later diagnosed, the defendant had a reduced life expectancy. Deputy Judge Mr Titheridge QC found that the surgeon, Mr Quick, had been negligent and questions arose as to how far the cancer had developed by the time that it first should have been diagnosed and what, in view of such a finding, would have been the chances of her condition being amenable to treatment. Mr Titheridge held that it was clear law that the loss of chance analysis was to be applied and that there was nothing in the *Hotson* case to the contrary. Considering the chance of a cure, he assessed such chance to be 80 per cent.

Smith J in *Smith v National Health Service Litigation Authority* [70] had the opportunity of revisiting the doctrine. The facts of the case were that the plaintiff was born with a congenitally displaced hip (CDH) which was not diagnosed until she was more than a year old. By that time the displacement was not easy to remedy and she had undergone several operations and suffered continuing pain. The plaintiff instituted proceedings against the defendant on the basis that the displaced hip should have been detected by the performance of a specific test for CDH known as the Otolani-Barlow test, either a few days after her birth or within six weeks of her birth. It was alleged that the test had not been performed at either of those occasions because there was no record of it having been performed. It was not alleged that a failure to perform the test was indicative of negligence as the test was not entirely reliable. The expert evidence was to the

69 [1995] 6 Med LR 223 (QB).
70 [2001] LLR 90 (QB). See also *Pearman v North Essex Health Authority* [2000] LLR 174 (QB).

effect that if the CDH was detected before approximately eight weeks of age, the chance of successful treatment was about 70 per cent.

Smith J held as follows:

(1) There was no breach of duty because the Otolani-Barlow test for CDH had been performed at appropriate times.

(2) If it was found that there had been no examination at six weeks, in considering the issue of causation it would be assumed that had an examination been performed by a doctor for whom the defendant was responsible it would have been performed with proper skill and care, but would not have been an especially thorough or more than normally competent examination.

(3) If there had been a breach of duty for which the defendant was responsible, namely the failure to perform the Otolani-Barlow test at six weeks, then, although on the balance of probabilities the CDH would not have been detected at a competent examination, the claimant would have been entitled to claim damages for the lost chance of successful treatment.

The doctrine of loss of a chance was also considered in *Chester v Afshar*.[71] In this case the plaintiff underwent surgery to her lumber spine. Post-operatively she developed a cauda equina syndrome which was found to be caused by a retraction or manipulation of the nerve root and theca during L2/L3 disc removal.

The plaintiff's claim was pursued on two grounds, that is, that the operation had been performed negligently and that, if she had been warned of serious risks such as cauda equina syndrome, she would have deferred her decision in order to obtain alternative opinions. The Court of Appeal held that the 'but for' test is necessary, but not always sufficient in law. It held that it would be unjust to find that the effective cause of the claimant's injury was the random occurrence of the one to two per cent risk rather than the defendant's failure to bring such risk to the plaintiff's attention. The effect of the defendant's negligent failure to warn was to change the risk materially. As a result of his breach of duty he caused the claimant to have an operation which she would not otherwise have had then and there, or possibly not at all. She had therefore established causation in this case. Whether or not the claimant would have suffered the same injury on a different occasion would be a matter for the Court assessing damages. There the defendant will be entitled to argue that it is more likely than not that the claimant would have undergone an operation with the same or similar risks and/or that the same risk would have eventuated.

71 n 7 above.

In *Fairchild v Glenhaven Funeral Services Ltd*[72] the claimants were employees who had been exposed to asbestos dust or fibres during periods of employment with more than one employer. On appeal the Court of Appeal concluded that, since mesothelioma was an indivisible disease triggered on a single unidentifiable occasion by one or more fibres, it could not be proved on a balance of probabilities where the claimants had been exposed to asbestos fibres by several potential tortfeasors, and which period of exposure had caused the disease.

On further appeal to the House of Lords the appeals were allowed. The House found that where an employee had been exposed to the inhalation of asbestos dust or fibres in breach of the employers duty to protect the employee from the risk of contracting mesothelioma during different periods of employment by different defendants, but the onset of the disease could not be attributed to any particular or cumulative wrongful exposure, a modified approach to causation was required. It found that, in such a case, proof that each defendant's wrongdoing had materially increased the risk of contracting the disease was sufficient to satisfy the causal requirements for liability. This holding rehabilitated the approach adopted in *McGhee*.

The Court of Appeal recently considered the doctrine in *Gregg v Scott*.[73] The facts of the case were shortly as follows: The plaintiff developed a non-Hodgkin's lymphoma. The disease manifested itself in November 1994. The plaintiff's general practitioner wrongly diagnosed benign lipoma. The correct diagnosis was made only in 1995 and chemotherapy was initiated only in January 1996. The trial judge concluded that the delay had reduced the plaintiff's chances of long-term survival to 25 per cent. In dismissing the claim he relied on *Hotson* by finding that his chances were less than 50 per cent anyway and accordingly it was more probable than not that he would have been in his present condition anyway.

On appeal the plaintiff *inter alia* averred that the delay in diagnosis for which the defendant was responsible had led to damage. The damage lay in the further spread of the disease. The loss of chance question related to assessment of quantum. It was argued that it was trite that one could get damages representing a less than even chance of something occurring in the future. The second main argument related to a full-blooded loss of chance argument. Each member of the Court of Appeal gave a judgment, with Mance LJ and Brown LJ concurring and Latham LJ dissenting.

72 n 7 above.
73 n 7 above. See also p 65 below.

Mance LJ found that a reduced chance of survival was a substantive and not a paracitic head of claim and to be recoverable it had to be proved on a balance of probabilities. He also found that cancer cases like these are not covered by *Hotson*, but for policy reasons the law should say that a lost chance does not constitute compensable damages in clinical negligence cases.

With regard to the question as to whether a reduced chance of survival is a substantive or paracitic head of damages, Brown LJ held that it was indistinguishable from *Hotson*. Accordingly it was a substantive head of damages requiring proof on a balance of probabilities. Latham LJ held that negligence had allowed the tumour to grow and there was injury. The issue of compensation for a reduced chance of survival was just a question of assessment of quantum. The question whether loss of chance itself was compensable was left unanswered.

On appeal to the House of Lords in *Chester v Afshar*[74] the majority of the House (Lord Bingham of Cornhill and Lord Hoffmann dissenting) held that since the judge had not found that, if properly informed, the plaintiff would never have undergone the operation, and since the risk which eventuated was liable to occur at random irrespective of the skill and care with which the operation might be performed, the defendant's failure to warn neither affected the risk nor was the effective cause of the injury sustained, so that in applying conventional principles she could not satisfy the test of causation. The issue of causation, however, was to be addressed by reference to the scope of the doctor's duty, namely to advise his patient of the disadvantages or dangers of the treatment he proposed. Such a duty was closely connected with the need for the patient's consent and was central to her right to exercise an informed choice as to whether and, if so, when and from whom to receive treatment. The injury which she sustained was within the scope of the defendant's duty to warn and was the result of the risk of which she was entitled to be warned when he obtained her consent to the operation in which it occurred. The Court of Appeal then held that the injury was to be regarded as having been caused by the defendant's breach of that duty and that accordingly justice required a narrow modification of traditional causation principles to vindicate the claimant's right of choice and to provide a remedy for the breach. The appeal was accordingly dismissed.

During 2005 the House of Lords delivered its judgment in the appeal in *Gregg v Scott*.[75] The majority of the House (Lord Nicholls of Birkenhead and Lord Hope dissenting) held that a claim for clinical

74 n 7 above, 2002.
75 n 7 above, 2005.

negligence required proof on a balance of probability that the negligence was the cause of the adverse consequences complained of. It further found that an exception would not be made to that requirement so as to allow a percentage reduction in the prospects of a favourable outcome as a recoverable head of damage and that accordingly, absent any argument as to entitlement to damages for extra pain and anxiety referable to the additional treatment made necessary by the delay, the finding that the appellant could not show as a matter of probability that the delay in treatment was the likely cause of his premature death and the lack of remedy for the reduction in the chance of a cure precluded an award of damages.

3.4.2 Australia

In *Malec v JC Hutton Pty Ltd*[76] the facts were that the plaintiff was suffering from a neurotic condition induced by brucellosis that he contracted owing to his employer's negligence. The lower courts found that he was also suffering from a degenerative condition of the spine that was equally likely to have caused him to suffer a similar neurotic condition. The intermediate Appellate Court found that he was not entitled to damages for pure economic loss after the time when the neurotic condition would probably have developed anyway. The High Court reversed the decision and referred the matter back for further assessment of damages. In this regard the Court found as follows:

> In the present case, the majority of the Full Court fell into error in concluding that the plaintiff was not entitled to damages for economic loss sustained after May 1982. The plaintiff proved that at the date of trial, as the result of the defendant's negligence, he suffered from a psychiatric condition which rendered him unemployable. On the evidence there was little, if any, chance that he would ever recover or ever be employable. Subject to an allowance for the ordinary vicissitudes of life, the plaintiff was prima facie entitled to be compensated for the near certainty that, as a result of the defendant's negligence, he will suffer from his psychiatric condition and be unemployable for the rest of his life. However the majority in the Full Court found that it was 'likely' that, independently of the defendant's negligence, by May 1982 the plaintiff would have been unemployable and suffering from a similar neurotic condition. By the term 'likely' their Honours no doubt meant that there was more than a 50 per cent chance that this would have occurred. On that hypothesis, the damages otherwise recoverable by the plaintiff would have to be reduced to provide for the chance. On the evidence, it is impossible to conclude that it is 100 per cent certain that the plaintiff's back condition would have rendered him unemployable if he had not contracted brucellosis. So, on the majority's finding, the reduction in his damages for loss of

[76] n 7 above.

> earning capacity would be somewhere between 51 per cent and 99 per cent. But whatever the precise chance of the plaintiff's back condition totally or partially reducing his earning capacity, the majority in the Full Court erred in refusing to award him any damages for economic loss suffered after May 1982. [77]

In *Chappel v Hart*[78] the facts were that the respondent suffered from a pharyngeal pouch, a progressive disease which would sooner or later require surgery. The surgery carried the risk *inter alia* of perforation of the oesophagus which might in turn lead to infection and damage to the voice. *In casu* the ears, nose and throat (ENT) surgeon did nor warn the respondent of that risk. The complication did in fact ensue after he operated on her. She instituted proceedings against the surgeon based on breach of contract and in tort. The Court of first instance awarded damages and the appellant appealed. The respondent cross-appealed on the quantum of damages awarded by the Court. Both appeals were dismissed.

A further appeal was launched to the High Court of Australia. Gaudron J, writing for a divided Court (Grummow and Kirby JJ concurring, Mchugh and Hayne JJ dissenting) dismissed the appeal and held that the claim was for damages and not for loss of chance but for physical injury. If it had not been for the appellant's breach of duty, the operation which caused the injury would not have taken place.

It was an injury within the scope of foreseeable risk. Therefore causation was proved. Gaudron J held that the evidence was that the harm suffered by the respondent was extremely rare and could not have occurred if the oesophagus had not been perforated. The risk was described in evidence as 'random'. As the incontrovertible evidence was that the complication was both rare and random, he held that the risk was precluded from being described as other than speculative. Under the circumstances there was no basis for a finding that it was in any degree probable that the respondent would in any event have suffered harm of the kind she indeed suffered. There was thus no basis for any reduction of the damages awarded to plaintiff at first instance.

In *Naxakis v Western and General Hospital*,[79] a schoolboy sustained a head injury in a scuffle with his friends. He was admitted to hospital and discharged after nine days. Two days after his discharge he suffered a burst aneurism causing serious brain damage. An action was subsequently instituted against the school, doctor and hospital. The High Court granted special leave to appeal against the doctor and the hospital. The appeal was upheld and a new trial was

77 *Malec v JC Hutton Pty Ltd* (n 7 above) 664.
78 n 7 above.
79 n 7 above.

ordered. The Court found it unnecessary to deal with the alternative argument that the plaintiff had been deprived of a chance to avoid the burst aneurism and the jury should have evaluated the chance. Before the retrial the Supreme Court had to consider whether to allow an amendment to the pleadings so that this argument could be advanced at the retrial. Hedigan J refused the amendment, being of the view that the majority of the Court was opposed to the doctrine of a loss of a chance. The action was, however, settled after the retrial had begun so that it provided no answer as to whether Australian law would recognise loss of chance in medical negligence cases.

The defendants negligently failed to diagnose cancer when they should have in *Sullivan v Micallef*.[80] The consequences of the misdiagnosis led to Sullivan's earlier death. On appeal it was argued that the damages should be reduced because they should have been assessed on the basis that there was only a chance that her cancer, if diagnosed when it should have been, would have been successfully treated. It was argued that this was the position even if the risk was high. The Court of Appeal found it unnecessary to deal with this argument because it held that there was no justification for interfering with the Trial Court's finding that the cancer could have been treated successfully if it had been diagnosed timeously.

The facts in *Board of Management of Royal Perth Hospital v Frost*[81] were that a patient who had been complaining of chest pains was discharged prematurely. He suffered a heart attack thereafter and the Court held that the hospital was negligent.

The Court held that the respondent had to establish on a balance of probabilities that the contravening conduct caused a loss of opportunity of treatment which had some value and that that value had to be ascertained by the degree of possibilities and probabilities.

The Court of first instance found that the respondent had lost his chance of having his heart muscle minimised or reduced by timely thrombolytic therapy.

The respondent did not have to prove on a balance of probabilities that the treatment would have been effective because in this type of case it would have been too theoretical. The Court found that once it was established that the respondent should have been given a second Electrocardiograph (ECG), which was not administered to him, he had established on a balance of probabilities that he lost a valuable chance of getting some treatment which may have improved his condition. He had therefore suffered loss or damage.

80 (1994) Aust Torts Reps 81-308 (NSW CA).
81 26 February 1997 unreported BC 9700642.

In *Sturch v Wilmott*[82] one of the issues which arose was the question whether the first episode of bleeding from which the plaintiff suffered was caused by a bleeding polyp or a growth which was already cancerous. Although this was a past fact, it was not possible to answer the question with any form of certainty. The trial judge questioned the applicability of statements that past facts are treated as certain if proved on a preponderance and referred to the pre-existing condition and the exercise of damage. The Court rejected the submission by the plaintiff that it should ignore the possibility that there was a 40 per cent chance that the growth may already have been cancerous when the plaintiff first consulted the defendant. That possibility would not enable the Court to make any specific mathematic calculation, but was a factor which the Court must take into consideration in discounting damages so as to take into account the level of problems the plaintiff may have had to face even without any omission on the part of the defendant.

With regard to the assessment of damages, the judge found that it was important to remember that the defendant did not cause the plaintiff to have cancer. The consequences for which he is liable are the extent to which he deprived her of the chance of making a better recovery. The evidence suggested that early diagnosis and treatment would have given her a good chance of a successful outcome. However, as there were no certainties, the judge found that it was a good example of a case where the prospect of some degree of trouble must be brought into account.

In *Rufo v Hosking*[83] the plaintiff, who was born in 1977, was diagnosed as suffering from systemic lupus erythematosis during January 1992. She required specialised hospital treatment using cortisteroids. This was managed by Dr Hosking, a pediatric immunologist. Ms Rufo was admitted to hospital eight months later, suffering from vertebral microfractures. The microfractures were caused by the corticosteroid dosages that Ms Rufo had been having over the eight-month period. Dr Hosking should have used a steroid pacer, Imuran, as part of Ms Rufo's treatment regime on or about 10 June 1992. Dr Hosking's failure to prescribe and use the steroid spacer constituted a breach of his duty of care. Even with the correct regime, there was a significant chance that the fractures would have occurred anyway. In this instance the Court of Appeal found that the claim was based in terms of losing a benefit in the form of a superior treatment regime with a better chance of circumventing the risk of bone microfractures, while still curing the disease. A better chance was considered by the Court as a thing of value even if its quantification was a matter of considerable difficulty. The Court also clearly

82 (1997) 2Qd R 310 (Qld CA).
83 n 7 above.

indicated that the all or nothing approach offered rough justice at best, and that the elderly and desperately ill, whose chances of recovery were less than 50 per cent, required the protection of the law, and that loss of a chance should be regarded as a corollary of a medical duty of care directed to achieving the best chance of a successful outcome, although it calls for nothing more than reasonable care and skill. The Court also endorsed the approach followed in *Malec*. In *Malec* the Court held that there should be a distinction between the manner in which a court approaches assessment of damages in cases where events have or have not occurred in contradistinction to future or hypothetical events. It found that determining hypothetical or future events can only be done in terms of probability and that it is unfair to treat as certain a prediction of 51 per cent probability and ignore a prediction of 49 per cent.

3.4.3 The United States of America

In *Hicks v United States of America*[84] a doctor diagnosed a patient as suffering from diarrhoea and discharged the patient. The patient was in actual fact suffering from an intestinal obstruction and subsequently died. The defendant *inter alia* contended that even if the doctor had been negligent there was no proof that the treatment (misdiagnosis or treatment) was the proximate cause of the patient's death. The defendant argued that even if the indicated surgery had been performed immediately, the chances of success would amount to speculation.

Sobeloff CJ held that when a defendant's negligent action or inaction has effectively terminated a person's chance of survival, it is not for the defendant to raise conjectures as to the measure of chances that he has put beyond the possibility of realisation. The judge found that if there was any substantial chance of survival and the defendant has destroyed it, he is answerable. It was rarely possible to demonstrate with absolute certainty what would have happened in circumstances that the wrongdoer did not allow to come to pass. The law does not, in the existing circumstances, require the plaintiff to show to a certainty that the patient would have lived had she been hospitalised and operated upon promptly. The judge accordingly reversed the judgment and remanded the case for determination of damages.

In *Kallenberg v Beth Israel Hospital*[85] the decedent was admitted to hospital as a result of haemorrhage brought on by a cerebral

[84] n 7 above.
[85] n 7 above.

aneurism. One of the defendants prescribed a drug known as Naturetin designed to prepare the patient for surgery. Three days after admission the decedent began showing signs of recurrent bleeding in her cranium. It was established that the drug had in fact not been administered and that the prescribing doctor knew about it. The decedent's condition deteriorated and she subsequently died. The Trial Court found in favour of the plaintiff and awarded damages. The Appellate Division (first department) affirmed the Trial Court's decision and held that the decedent would have had a 20 to 40 per cent chance of survival if the drugs had been properly administered and the surgery proceeded with. The Court held that, as the jury could reasonably have found that if the drugs had been properly administered the decedent might have made a recovery, it saw no reason to disturb the jury's decision.

In *Hamil v Bashline*[86] the facts were that the patient was suffering from severe chest pains. His wife took him to hospital where he was negligently treated by the emergency unit. His wife then took him to a private physician because of the lack of assistance at the hospital. He subsequently died.

At the trial the medical expert testified that if the hospital had employed proper treatment, the plaintiff would have had a substantial chance of survival. It was expressed by the expert as being a 75 per cent chance. It was also the expert's testimony that the substantial loss of a chance of recovery was the defendant hospital's failure to provide prompt treatment. The defendant's expert testified that the plaintiff would have died anyway.

The Court held that once a defendant has produced evidence that a defendant's negligence has increased the risk of harm to the patient and the harm is in fact sustained, it becomes a question for the jury as to whether or not that increase of risk was a substantial factor in causing the harm. It therefore establishes a basis for the fact finder to go further and find that such risk was, in turn, a substantial factor in bringing about the resulting harm.

The necessary proximate cause will be established if the jury finds such a cause. It is not necessary for the plaintiff to prove that the negligence resulted in injury or death. The step from the increased risk to causation is for the jury to make.

The patient in *Herskovits v Group Health Co-Op*[87] presented to the defendant with complaints of coughing and pain. Chest x-ray investigations revealed infiltrate in the left lung. The condition became chronic by the end of 1974. The patient was treated with

86 n 7 above.
87 n 7 above.

cough medicine. His condition persisted and in mid-1975 he obtained a second opinion from a Dr Osthrow to the effect that he was suffering from cancer. His lung was subsequently removed, but he died 20 months later at the age of 60.

This appeal raised the issue as to whether a claim for medical negligence would stand for a failure to diagnose lung cancer where the claimant could show probable reduction in the statistical chance of survival, but could not show or prove that with timeous diagnosis or treatment the decedent would have lived to a normal life expectancy. *In casu* evidence was to the effect that, if the diagnosis of lung cancer had been made in December 1974, the patient's chances of survival over a period of five years would have been 39 per cent. At the time of the diagnosis of the cancer six months later, the five-year survival rate was reduced to 25 per cent. Dore J concluded as follows:

> ... It is undisputed that Herkovits had less than a 50% chance of survival at the time ... We reject Group Health's argument that plaintiffs *must show* that Herskovits 'probably' would have had a 51% chance of survival if the hospital had not been negligent. We hold that medical testimony of a reduction of chance of survival from 39% to 25 % is sufficient evidence to allow the proximate cause issue to go to the jury.
>
> [2] Causing reduction of the opportunity to recover (loss of chance) by one's negligence, however, does not necessitate a total recovery against a negligent party for all damages caused by the victim's death. Damages should be awarded to the injured party or his family based on only damages caused directly by premature death such as loss of earnings and additional medical expenses etc.[88]

The Court accordingly reversed the trial and re-instated the cause of action.

3.4.4 Canada

In *Laferriere v Lawson*[89] the facts were that the defendant performed a biopsy of a lump in the plaintiff's breast which was malignant according to the pathology report. The doctor failed to inform the patient or arrange any follow up. She became aware of the cancer in her system only some three years later. She subsequently died despite being treated. The Trial Court found that treatment at an earlier stage would probably not have prevented the spread of the cancer and gave judgment in favour of the defendant. The majority of the intermediate Court of Appeal awarded damages of $C50 000 for the loss of chance of benefiting from earlier treatment so that the plaintiff might have survived longer. A further appeal to the Supreme

88 *Herskovits v Group Health Co-op* 479.
89 n 7 above.

Court of Canada by the defendant was upheld and the damages reduced to $C17 500, being $C10 000 for the plaintiff's psychological suffering as a result of not being informed of the original detection of cancer and $C7 500 for the improvement in the quality of her life had the treatment been administered sooner. In this regard Gontier J said *inter alia* as follows:

> In conclusion, then, and with all due deference to those who have expressed other opinions, I do not feel that the theory of loss of a chance, at least as it is understood in France and Belgium, should be introduced into the civil law of Quibeck [sic] in matters of medical responsibility. In the Court of Appeal, Jacques JA states without elaboration that loss of chance is recognised in the common law. I have taken note of the vigorous debate which is taking place in the United States and can find no dominant jurisprudential positioning favouring loss of chance in that country. In the United Kingdom, the House of Lords has expressed reservations about loss of chance analysis, but has not, as yet, reached a settled conclusion about its possible application ... By way of summary, I would make the following brief, general observations:
>
> - The rules of civil responsibility require proof of fault, causation and damage.
> - Both acts and omissions may amount to fault and both may be analysed similarly with regard to causation.
> - Causation in law is not identical to scientific causation.
> - Causation in law must be established on the balance of probabilities, taking into account all the evidence: factual, statistical and that which the judge is entitled to presume.
> - In some cases, where a fault presents a clear danger and where such a danger materialises, it may be reasonable to presume a causal link unless there is a demonstration or indication to the contrary.
> - Statistical evidence may be helpful as indicative but is not determinative. In particular where statistical evidence does not indicate causation on the balance of probabilities, causation in law may none the less exist where evidence in the case supports such a finding.
> - Even where statistical and factual evidence does not support a finding of causation on the balance of probabilities with respect to particular damage (eg, death or sickness), such evidence may still justify a finding of causation with respect to lesser damage.(e.g., slightly shorter life, greater pain).
> - The evidence must be carefully analysed to determine the exact nature of the fault or breach of duty and its consequences as well as the particular character of the damage which has been suffered, as experienced by the victim.

- If after consideration of these factors a judge is not satisfied that the fault has, on his or her assessment of the balance of probabilities, caused any real damage, then recovery should be denied.[90]

The present Chief Justice of Canada, who was a member of the Bench in *LaFerriere v Lawson*, has since expressed the view that although the recovery for loss of a chance has been considered in the context of Quebec civil law, it has not been evaluated under common law.[91]

3.4.5 South Africa

Several controversial legal issues in the context of clinical negligence, including loss of a chance to recover, were argued in *Louwrens v Oldewage*,[92] but owing to the fact that the appeal was principally decided on the issue of credibility it became unnecessary for the Court to adjudicate most of the issues. The Court did however pronounce upon the medical practitioner's duty to warn. *In casu* and after evaluation of the expert evidence tendered at the trial, Mthiyane JA, writing for an undivided court, found that the chance of one of the complications of the operation, the so-called 'steal syndrome', eventuating was no higher than two per cent. The Court considered a risk of such nature to be so negligible that it was held that it was not unreasonable for the appellant not to have divulged this information to the respondent (patient).

In an earlier full Bench decision in *Castell v De Greef*,[93] Ackermann J (as he then was) concluded that, in South African law, for a patient's consent to constitute a justification that excludes the wrongfulness of medical treatment and its consequences, the doctor is obliged to warn a patient so consenting of a material risk inherent in the proposed treatment, if in the circumstances of the particular case:

(a) a reasonable person in the patient's position, if warned of the risk, would be likely to attach significance to it; or

(b) the medical practitioner is or should reasonably be aware that the particular patient, if warned of the risk, would be likely to attach significance to it.

90 *Laferriere v Lawson* (n 7 above) 658-659.
91 *Laferriere v Lawson* (n 7 above) 689.
92 2006 2 SA 161 (SCA).
93 1994 4 SA 408 (C).

Mthiyane JA in his judgment refers, with apparent approval, to *Richter v Estate Hamman*.[94] It would seem that the relevance of the passage quoted above relates to the finding that the Court should be guided by medical opinion as to what should be disclosed by a reasonable doctor faced with the particular problem. It is not at all clear whether this implies a rejection of the approach in *Castell v De Greef* and a reversion to the *status quo ante Castell*.[95]

94 1976 3 SA 226 (C). This part of the judgment, with respect, suffers to a certain extent from analytical poverty and judicial indifference. To evaluate whether a risk is negligible by reference only to the percentage chance of the risk eventuating, based on statistics, also assumes a problematic nature in medical matters. Otosclerosis, for example, is a progressive disease of the ear which leads to hearing loss, but can be remedied by a surgical procedure known as stapedectomy. An extremely remote complication of such a procedure, less than 1 per cent, is damage to the facial nerve which could lead to permanent and devastating facial palsy. Despite the remoteness of this risk, and in the presence of more conservative treatment options such as the fitting of a hearing aid, it is submitted that an ENT surgeon who is, for example, treating a professional photographic model as a patient who suffers from this disease would definitely breach his duty to disclose if he did not share this information with her under such circumstances and in keeping with the approach in *Afshar* and *Chappel*. It is submitted that not only the statistical chance of the risk eventuating, but also the nature and seriousness of the complication play an important role and should be carefully considered.

95 One of the other issues which was argued in the appeal was whether medical intervention or treatment without the patient's consent constituted an assault on the patient or negligence. Unfortunately the Court did not deal with this question as it found that the absence of informed consent was not proven and the appellant was not negligent. South African case law and legal opinion favour the approach that the failure to procure a patient's informed consent before an operation on the patient renders the latter an assault. In this regard Strauss opines that traditionally South African courts have dealt with medical practitioners' non-compliance with their duty to procure an informed consent on the basis of assault. He says that if failure to inform is to be considered negligent, it would not be in accordance with the Roman-Dutch concept of culpa, which is presently defined as the failure to foresee the damaging consequence and to take reasonable measures to avoid it. According to him the essence of medical negligence is unskilful treatment. (SA Strauss *Doctor, patient and the law* (1991) 268. See also JM Burchell '"Informed consent" — Variations on a familiar theme' (1986) 5(4) *Medicine and Law* 293ff; PQR Boberg 'Aquilian liability' *The law of delict* Vol 1: (1989) 751; *Stoffberg v Elliot* 1923 CPD 148; *Ex Parte Dixie* 1950 4 SA 748 (W); *Lampert v Hefer* NO 1955 2 SA 507 (A); *Esterhuizen v Administrator, Transvaal*; 1957 3 SA 710 (T); *Broude v McIntosh* 1998 3 SA 60 (SCA). In *Castell v De Greef* (n 93 above) the full Bench found that a medical practitioner's duty to disclose a material risk should be seen in the contractual setting of an unimpeachable consent to an operation and its consequences (p 421). The issue is therefore not treated as one of negligence arising from a breach of duty of care, but as one of consent to the injury involved and the assumption of an unintended risk. See also P Carstens & D Pearmain *Foundational principles of South African medical law* (2007) 683ff for a comprehensive and detailed discussion of this issue.

Chapter 4

Current status of the doctrine

4.1 An analysis of the current status of the application of the doctrine to clinical negligence actions

4.2 England

In *Fairchild*[96] the House of Lords *inter alia* held that where an employee had been exposed to the inhalation of asbestos fibres in breach of the employers duty to protect the employee from the risk of contracting mesothelioma during different periods of employment by different defendants, but the onset of the disease could not be attributed to any particular or cumulative wrongful exposure, a modified approach to causation was required. In such a case it held that proof that each defendant's wrongdoing had materially increased the risk of contracting the disease was sufficient to satisfy the causal requirements for liability. The House applied *McGhee* and distinguished *Wilsher*.[97]

[96] n 7 above 361.

[97] Lord Rodger explains the principle as follows:

> It applies therefore, where the claimant has proved all that he possibly can, but the causal link could only ever be established by scientific investigation and the current state of the relevant science leaves it uncertain exactly how the injury was caused and, so, who caused it. *McGhee* and the present cases are examples. Secondly, part of the underlying rationale of the principle is that the defendant's wrongdoing has materially increased the risk that the Claimant will suffer injury. It is therefore essential that not just the defendant's conduct created a material risk of injury to a class of persons, but that it actually created a material risk of injury to the claimant himself. Thirdly, it follows that the defendant's conduct must have been capable of causing the Claimant's injury. Fourthly, the Claimant must prove that his injury was caused by the eventuation of the kind of risk created by the defendant's wrongdoing. In *McGhee*, for instance, the risk created by defendant's failure was that the pursuer would develop dermatitis due to brick dust on his skin and he proved that he had developed dermatitis due to brick dust on his skin. By contrast, the principle does not apply where the Claimant has merely proved that his injury

Their Lordships Bingham, Nichols, Hoffmann and Roger disagreed with Lord Bridge's holding in *Wilsher* to the effect that *McGhee* 'laid down no new principle of law whatever' by holding that:

(1) The choice of the test for imposing liability was a question of law.

(2) In the circumstances of *McGhee* a less stringent causal connection than the 'but for' test had correctly been permitted to impose liability.

(3) What had happened was that a material increase in the risk was treated as sufficient in the circumstances to satisfy the causal requirements for liability.

(4) The same principle justified recovery in the circumstances of the asbestosis cases.[98]

The landmark effect of *Fairchild* is that it establishes, as a matter of law, that the 'but for' test of causation is no longer the exclusive test for attributing liability to defendants in breach of a duty of care to a claimant. A more difficult question which arises is whether this judgment permits the application of a new approach to any medical negligence cases. Whitfield opines that there may, however, be some scope for the *Fairchild* approach in some medical contexts, for example where an unstable spinal fracture is successively mishandled by a number of health-care providers and the patient eventually develops paraplegia, but cannot show at which stage of his or her treatment the damage was actually done or where a damaging drug was successively and negligently provided by several health-care professionals.[99]

> could have been caused by a number of different events, only one of which is the eventuation of the risk created by the defendant's wrongful act or omission. *Wilsher* is an example. Fifthly, this will usually mean that the Claimant must prove that his injury was caused, if not by exactly the same agency as was involved in the defendant's wrongdoing, at least by an agency that operated in substantially the same way. A possible example would be where a workman suffered injury from exposure to dusts coming from two sources, the dusts being particles of different substances, each of which, however, could have caused his injury in the same way ... Sixthly, the principle applies where the other possible source of the Claimant's injury is a similar wrongful act or omission of another person, but it can also apply where, as in *McGhee*, the other possible source of the injury is a similar, but lawful, act or omission of the same Defendant. I reserve my opinion as to whether the principle applies where the other possible source of injury is a similar but lawful act or omission of someone else or a natural occurrence *Fairchild v Glenhaven Funeral Services Ltd* (n 7 above) 412-413.

98 *Wilsher v Essex* (n 68 above), 413 (commentary by Adv A Whitfield QC).
99 Whitfield: 414.

The House of Lords in *Chester*[100] held that the scope of a doctor's duty to warn his patient of a non-negligible risk inherent in surgery extends to liability for personal injuries sustained by the patient as a result of the eventuation of such risk. Should the warning required by the duty not be given, the plaintiff can claim damages for the injuries sustained even although on normal principles he or she is unable to show that he or she would not have undertaken the surgery at some later date if the warning had been given. In this regard the majority of the Judicial Committee made extensive reference to the Australian case of *Chappel v Hart*.[101]

Hogg[102] opines that the decision reached in *Chester* is not explicable primarily by reference to causation. In this regard he says:

> Rather a proper explanation of the decision lies in the formulation given by the majority of the scope of the duty of care undertaken by the doctor towards his patient. Because the majority defined the scope of the duty as extending to injuries which were encompassed within the very risk of which the doctor was required to warn, difficulties with the causal connection between breach of the duty and the harm ensuing were thereby overcome by the duty level. The result was that the majority found it unnecessary to explain the precise causal connection in anything other than the vaguest terms, and certainly without the need to have recourse to any of the traditional tests for causation-in-fact. The explanation of the decision thus lies in a normative conclusion of their Lordships (the doctor *ought* to be liable for this injury) rather than in a causative one (the doctor *caused* the injury).[103]

Lord Hope emphasised the primacy of patient autonomy. The duty to warn *inter alia* enables a patient to decide whether or not to have the surgery. One type of loss following a breach of this nature is the diminution of patient autonomy. In Ms Chester's case the breach deprived her of the opportunity to consider and perhaps take an alternative course of action — not having the surgery at that stage or employing a different surgeon. Exposure to or increased exposure to risk is the second type of harm which falls within the scope of the duty to warn.[104]

Lord Hope held that the duty was unaffected by the response which Ms Chester would have given if she had been properly informed of the risks. This means that the scope of the duty includes those hypothetical circumstances which might have eventuated from any response of Ms Chester to the warning. It therefore includes both the circumstance where Ms Chester responded by deciding not to proceed

100 n 7 above.
101 n 7 above.
102 M Hogg 'Duties of care, causation and the implications of Chester v Afshar' (2005) 9 *Edinburgh Law Review* 156.
103 Hogg (n 102 above) 157.
104 Hogg (n 102 above) 185.

with surgery, as well as a decision in fact to proceed with the surgery. The definition of the scope of the duty therefore was held to include different causal outcomes, even if it could not be established which one would have eventuated if the warning had been given by the doctor. By defining the scope of the duty in this fashion any theoretical problem with causation had been practically nullified.[105]

With regard to policy considerations, it can be said that Ms Chester did not satisfy the 'but for' test of causation. The test is notoriously inadequate for a number of factual circumstances where, for example, injury resulting from the concurrent operation of two separate causes, each of which on its own would have been sufficient to result in the injury, and cases where hypothetical past events are indeterminate as a result of the unpredictability of human behaviour or of the medical conditions. The courts have been willing in such cases to design solutions to overcome such hurdles as the uncertainty as in this case by defining the scope of such a duty.[106]

A further objection on a policy basis is the notion that even if it could be established that the patient would have elected surgery following a proper warning, he or she should still be able to claim if the risk eventuates. The solution to this objection is to suggest that the formulation of the duty should not be extended so far. Only cases where it can be shown that either the patient would not have elected surgery following a warning, or there is uncertainty with regard to his or her response, in which case he or she gets the benefit of the doubt, should he or she be covered.[107]

A further ground for objection on a policy basis is that an extension of the duty of this nature has the effect that the doctor becomes the insurer for all damage that is caused. Hogg says that there is no suggestion in the majority's judgment that unforeseeable loss occasioned by a failure to warn will be recoverable or that all foreseeable loss will be recoverable.[108] Hogg further states that the rationale of the case should also apply to circumstances in which Dr A fails to warn the patient, but Dr B performs the operation. After *Chester* the Judicial Committee's opinion in *Gregg*[109] was eagerly awaited. The claimant's claim was based on the loss of a chance to recover from cancer caused by a negligently late diagnosis. The defendant had failed to refer the claimant for further investigation of a lump which, in turn, caused appropriate treatment to be delayed for nine months. The claim was based on the assertion that the delay had

105 Hogg (n 102 above) 164.
106 Hogg (n 102 above) 165.
107 As above.
108 See also R Stevens & M Hall 'An opportunity to reflect' (2005) April *Law Quarterly Review* 23-29.
109 n 7 above [2005]

reduced the claimant's chance of survival for ten years from an estimated 45 per cent to an estimated 25 per cent.

Gregg calculated and based his damages on lost years of income and reduced the amount based on the contingency that he would have died anyway. It became an important fact that the ten years had in fact expired and that the claimant was still alive. The defendant's case was that the claimant had failed to prove on a balance of probabilities that he would have survived for ten years but for the negligence of the defendant doctor. The claimant relied on *Fairchild* and the defendant on *Hotson* and *Wilsher*.

The majority of the Judicial Committee of the House dismissed the appeal by holding that a claim for clinical negligence required proof on a balance of probability that the negligence was the cause of the adverse consequences and that an exception would not be made to that requirement so as to allow a percentage deduction in the prospects of a favourable outcome as a recoverable head of damage. It also found that if there was no argument as to entitlement to damages for extra pain and anxiety referable to the additional treatment occasioned by the delay, an award for damages was precluded if the claimant could not show as a matter of probability that the delay in treatment was the cause of his likely premature death.

Lord Nicolls, in his minority judgment, considered that the balance of probability standard of proof in matters like these was 'irrational and indefensible' as 'the loss of a 45 per cent recovery is just as much a real loss for a patient as the loss of a 55 per cent prospect of recovery'. The gravamen of his opinion is perhaps the following:

> ... The question in the present 'Gregg' type of case concerns how the law should proceed when, a patient's condition at the time of the negligence having been duly identified on the balance of probability with as much particularity as is reasonably possible, medical opinion is unable to say with a reasonable degree of certainty what the outcome would have been if the negligence had not occurred.
>
> (42) In principle, the answer to this question is clear and compelling. In such cases, as in the economic 'loss of chance' cases, the law should recognise the manifestly unsatisfactory consequences which would follow from adopting an all-or-nothing balance of probability approach as the answer to this question. The law should recognise that Mr Gregg's prospects of recovery had he been treated promptly, expressed in percentage terms of likelihood, represent the reality of his position so far as medical knowledge is concerned. The law should be exceedingly slow to disregard medical reality in the context of a legal duty whose very aim is to protect medical reality. In these cases a doctor's duty to act in the best interests of his patient involves maximising the patient's recovery prospects, and doing so whether the patient's prospects are

> good or not so good. In the event of a breach of duty the law must fashion a matching and meaningful remedy. A patient should have an appropriate remedy when he loses the very thing it was the doctor's duty to protect. To this end the law should recognise the existence and loss of poor and indifferent prospects as well as those more favourable.[110]

Lord Hoffmann said the following:

> But a wholesale adoption of possible rather than probable causation as the criterion of liability would be so radical a change in our law as to amount to a legislative act. It would have enormous consequences for insurance companies and the National Health Service. In company with my noble and learned friends, Lord Phillips of Worth Matravers and Baroness Hale of Richmond, I think any such change should be left to Parliament.[111]

Lord Phillips did not express agreement with the reasoning of the other members of the majority, but only with the result. He said that the facts of the case were such that it did not represent a suitable vehicle for introducing into the law of clinical negligence the right to recover damages for the loss of a chance of a cure. The reason for this was that the claim was one for the reduction of the prospect of a cure when the long-term result of treatment was still unknown. The possibility could therefore not be excluded that the common law might allow a claim for loss of a chance of a cure where it could be proved that the claimant had in fact not been cured. His reasoning could therefore be distilled to the following proposition: The injury in this case would be death. The plaintiff has not suffered that fate. Lord Phillips appears to accept the reasoning of the minority in respect of cases where the eventuality against which it was the doctor's duty to guard ensues.

Lady Hale held that the loss of a chance claim involved a shift from a situation where personal injury claims are about outcomes to one where they are about a chance of an outcome. Any claim for loss of an outcome could be redefined as a loss of a chance. She said that if, as the plaintiff argued, he should be able to claim his total loss on a balance of probabilities or loss of a chance in the alternative, the plaintiff should always be able to say that his claim succeeds once he establishes breach of duty because there is always a chance that there might have been a better outcome. She held that there were powerful policy reasons to resist the adoption of loss of a chance. Litigation would become far less predictable, more complex and more expensive. It would also be to the detriment of plaintiffs who were able to prove a breach on a balance of probabilities and claim 100 per cent damages. She therefore concluded that there should not be a change as a matter of balancing legal policy factors.

110 *Gregg v Scott* (n 7 above) 279.
111 *Gregg v Scott* (n 7 above) 289.

The nett result of the *Chester* and *Gregg* cases is that a person who loses the chance of living a few more years does not lose something of value, while a person who loses a chance of economic betterment does because property, unlike life, has value. These cases are not capable of being reconciled.

4.3 Australia

Prior to *Rufo* some courts and commentators in Australia suggested that the loss of chance action should be limited to certain causes of action or certain kinds of damage, although the High Court appears to reject such distinctions in *Sellars*.[112] Commentators like Coote suggest that the loss of chance doctrine be limited to cases where the loss of a chance is related to financial gain because the chance has value.[113] The loss of a chance of physical recovery or the chance of physical injury is not a form of injury in itself. He says that financial gains are measured in dollars and cents, whereas personal injuries, although carrying financial implications, are not divisible. It is not clear whether the High Court supports such a distinction because the *Sellars* Court invoked the approach in *Malec* with regard to the proof of future possibilities and past hypothetical situations for the assessment of damages for personal injuries.[114] In *Chappel* the loss of chance claim was introduced at a late stage of the proceedings and the Court did not give it much consideration.

The majority of the Court held that the plaintiff was entitled to full compensation for the actual injury to her voice and not merely a proportional award for a lost or reduced chance of avoiding the injury. In *Chappel* Kirby J found the lost chance approach to be the 'more rational and just way of calculating damages caused by established medical negligence'. The other judges who referred to the doctrine were less enthusiastic, but it was nevertheless indicated that damages for past loss should be subject to a *Malec* discount.[115]

Hamer[116] says that while in *Sellars* the judgments promoted a common conception of causation for different causes of action, the High Court has since preferred a 'context-sensitive conception'. In *Chappel*, Gaudron J said that:

[112] n 7 above.
[113] B Coote 'Chance and the burden of proof in contract and tort' (1988) 62 *Australian Law Journal* 761 772.
[114] *Sellars v Adelaide Petroleum NL/Poseiden Ltd v Adelaide Petroleum* (n 7 above) 366-367.
[115] See for example Gaudron J: ' ... clearly, the damage sustained by Mrs Hart was not the loss of a chance — valuable or otherwise — but the physical injury which she sustained.' *Chappel v Hart* (n 7 above) 519 and Hayne J: 'The loss of chance is flawed and should not be adopted.' *Chappel v Hart* (n 7 above) 560-561.
[116] Hamer (n 7 above) 612-613.

> Questions of causation are not answered in a legal vacuum. Rather they are answered in the legal framework in which they arise. For present purposes, that framework is the law of negligence.[117]

He maintains that similar conceptual considerations are apparent in the *Naxakis* decision. There loss of chance was raised in the High Court because the Trial Court and the Court of Appeal doubted that it would have been possible to operate to avert the burst aneurism, even if it had been properly diagnosed.

The plaintiff would obviously have had difficulties on this basis to prove his case on a balance of probabilities. It was therefore argued as an alternative that the misdiagnosis had deprived him of the opportunity of having the operation and avoiding the harm. Gaudron J *inter alia* found that where the risk eventuates and the physical injury ensues all or nothing causation applies. The plaintiff should then prove that he is one of the statistical percentage who would have recovered if properly treated and is then compensated not for the lost chance, but the actual harm or injury which eventuated. Gaudron also referred in her judgment to the injury within the scope of risk principles. Callinan J *inter alia* said that the loss of chance doctrine should be available to plaintiffs in medical negligence cases. He, however, foresaw difficulties in its application and like Gaudron J appeared concerned about plaintiffs not receiving full compensation for their personal injuries. Hamer concludes as follows:

> Traditionally, each element of the plaintiff's case needs to be proven on the balance of probabilities, and compensation is 'all or nothing'.' A recognised exception is future losses. The future is fundamentally uncertain, and so the plaintiff is allowed compensation for even improbable future losses, proportional to the probability of loss. In *Malec*, the High Court recognised that the same kind predictive uncertainty affects pre-trial losses, and allowed proportional recovery even though the plaintiff probably would have suffered the loss without the defendant's breach. In *Sellars,* the High Court noted the difficulty of confining the *Malec* principle. The same kind of predictive uncertainty is presented by the concept of causation. In *Sellars* proportional recovery was allowed, via the loss of chance doctrine, for the loss of potential profits even though it was improbable that the plaintiff would ever have enjoyed those profits.
>
> Logically, it appears the proportional approach should be adopted wherever predictive uncertainty presents itself. On the issue of future quantum, it should be used to deal both with uncertainty about *what will happen* and *what would have happened*. On the issues of past quantum and causation, subject perhaps to one or two exceptions noted above, proportional compensation should be used to deal with uncertainty about *what would have happened*. *What did happen* is a

[117] *Chappel v Hart* (n 7 above) 519-520.

> matter of historical fact, for which the 'traditional 'all or nothing' approach seems appropriate.

However, causation in the context of law raises considerations of value as well as logic. In *Chappel* and *Naxakis*, there was little support for the application of loss of chance to a medical negligence case. The judgments contained strong indications that personal injury plaintiffs experiencing difficulties in the proof of causation would be assisted by a different set of principles. These are the'injury within scope of risk' principles ... They operate within the 'all or nothing' approach to causation, not just fulfilling a fraction of the injured plaintiff's needs, but affording full compensation.[118]

In *Rufo* the Court of Appeal has now unanimously allowed for a successful claim where the chance for successful treatment is less than 50 per cent. Apart from moving away from the all or nothing 'rough justice' approach, this has the effect of reinforcing the deterrent element of the law of tort where a chance is less than 50 per cent. Although the decision is clearly influenced by policy, the test is still framed in traditional 'but for' terms in the sense that but for the negligence of the defendant the claimant would have had a material chance that the adverse outcome would not have occurred or a better outcome would have been achieved. The claimant need only prove on a balance of probability that he or she has been deprived of a material chance and that if that opportunity had been offered to him or her, he or she would have taken it.

4.4 The United States of America

The doctrine of loss of a chance has enjoyed recognition in a great number of jurisdictions, but at the same time many others reject the theory as alien to the principles of causation.[119] The trend towards the acceptance of the loss of a chance theory continued with the Restatement of Torts. Section 323 of the Restatement of Torts states as follows:

[118] Hamer (n 7 above) 613-614.

[119] See for example: *Jeanes v Miller* 428 F2d 598 (8th Cir 1970); *McBride v United States* 462 F2d 72 75 (9th Cir 1972); *Daniels v Hadley Mem'l Hosp* 566 F2d 749 757 (DC Cir 1977); *Voegeli v Lewis* (n 7 above); *Murdoch v Thomas* 404 So 2d 580 (Ala 1981); *Thornton v CAMC* 305 SE2d 316 324-325 (W Va 1983); *Robertson v Counselman* 686 P2d 149 159-160(Kan 1984); *Thompson v Sun City Community Hosp* 688 P2d 605 615-616 (Ariz 1984); *Brown v Koulizakis* 331 SE 2d 440 446(Va 1985); *Aasheim v Humberger* 695 P2d 824 828 (Mont 1985); *Hastings v Baton Rouge Gen Hosp* 498 So 2d 713 720-721 (La 1986); *DeBurkarte v Louvar* 393 NW 2d 131 137-138 (Iowa 1986); *Morales v United States* 624F Supp 209 272 (DPR 1986); *Richmond County Hosp Auth v Dickerson* 356 SE 2d 548 550 (Ga 1987); *McKellips v Saint Francis Hosp* 741 P2d 467 474-477 (Okla 1987); *Blackmon v Langley* 737 SW 2d 455 456-457 (Ark 1987); *Shumaker v United States* 714F Supp 154 164 (MDCN 1988); *Falcon v Mem'l Hosp* 462 NW 2d 44 52-57(Mich 1990); *Scafidi v Seiler* (n 7 above) 405-408 [NJ 1998 in n 7]; *Ehlinger v Sipes* 454 NW 2d 754 759 (Wis 1990);

> One who undertakes, gratuitously or for consideration, to render services to another which he should recognise as necessary for the protection of the other's person or things, is subject to liability to the other for physical harm resulting from his failure to exercise reasonable care to perform his undertaking if
>
> (a) his failure to exercise such care increase the risk of harm, or
>
> (b) the harm is suffered because of the others reliance upon the undertaking.[120]

This section has become increasingly influential to the doctrine of a loss of a chance in the United States of America (USA). *Hicks* was the first case to recognise the doctrine as a cause of action under tort law. In finding for the appellant the Court stated:

> When a defendant's negligent action or inaction has effectively terminated a person's chance of survival, it does not lie in the defendant's mouth to raise conjecture as to the measure of the chances that he has put beyond the possibility of realization. If there was any substantial chance of survival and the defendant has destroyed it, he is answerable.[121]

Perez v Las Vegas Med Ctr 805 P2d 589 592 (Nev 1991); *Wollen v DePaul Heath Ctr* 828 SW2d 681 684-686(Mo 1992); *United States v Andersen* (n 7 above); *Alberts v Schultz* 975 P2d 1279 1284-1287 (NM 1999).
See for example: *Horn v National Hosp Ass'n* 131 P2d 455(Or 1942); *Cooper v Sisters of Charity Inc* 272 NE 2d 97 2d 97 103 (Ohio 1971); *Morgenroth v Pac Med Ctr* 54 Cal App 3d 521 533(1976); *Grody v Tulin* 365 A2d 1076 1079-1080 (Conn 1976); *Cornfeldt v Tongen* 295 NW 2d 638 640 (Minn 1980); *Gooding v Univ. Hosp. Bldg Inc* 445 So 2d 1015 1019-1020 (Fla 1984); *Alfonso v Lund* 783 F2d 958 (10th Cir 1986); *Pillsbury-Flood v Portsmouth Hosp.* 512 A2d 1126 1130 (NH 1986); *Northern Trust Co v Louis A Weiss Mem'l Hosp* 493 NE2d 6 (Ill App Ct 1986); *Russel v Subbiah* 500 NE2d 138 (Ill Ct App 1986); *Ladner v Cambell* 515 So 2d 882 888-889 (Miss 1987); *LaBieniec v Baker* 526 A2d 1341 1347(Conn 1987); *Watson v Medical Emergency Servs Corp* 532 NE2d 1191 (Ind Ct App 1989); *Fennel v S Maryland Hosp Ctr* 580 A2d 206 215(Md 1990); *Blondel v Hays* 403 SE2d 340 (Va 1991); *Bromme v Pavitt* 7 Cal Rptr 2d 608 613-618 (1992); *Joudrey v Nashoba Cmty Hosp Inc* 592 NE 2d 769 772 (Mass 1992); *Manning v Twin Falls Clinic & Hospital Inc* 830 P2d 1185 1189-1190 (Idaho 1992); *Kramer v Lewisville Mem'l Hosp* 858 SW2d 397 398 (Tex 1993); *Kilpatrick v Bryant* 868 SW2d 594 598-602 (Tenn 1993); *Mayheu v Sparkman* (n 7 above) *Jones v Owings* (n 7 above); *Taylor v Medenica* (n 7 above). The following jurisdictions support a pure loss of chance theory: Arizona, Iowa, Kansas, Michigan, Nevada, New Jersey, Oklahoma, Delaware and Maine. See also Perrochet *et al* (n 7 above) 636-637.

120 Restatement (Second) of Torts 323 (1965).

121 *Hicks v United States of America* (n 7 above); See also for example: *Poertner v Swearigen* 695 F2d 435 436 (10th Cir 1982); *Kaiser Foundation Health Plan v Sharp* 741 P2d 714 P2d 714 717 718 (Colo 1987); *Falcon v Memorial Hospital* 462 NW 2d 52-57 63 (Mich 1990); *Zepeda v City of Los Angeles* 272 Cal Rptr 635 636 (Cal App 1990); *McKain v Bisson* 12 F3d 692 696(7th Cir 1993); *Nelson v Pendleton Mem'l Methodist Hospital* 612 So2d 908 910(La App 1993); *United States v Cumberbatch* (n 7 above); *Bradley v Rogers* 879 SW 2d 947 (Tex App 1994); *Delaney v Cade* 873 P2d 175 179 180 185 (Kan 1994); *Andersen v Brigham Young Univ* 879 F Supp 1124 1128 (D Utah 1995); *Short v United States*(n 7 above); *Hajian v Holy Family Hosp* 652 NE 2d 1132 1133 1137 1139 (Ill App 1995); *Mayheu v Sparkman* (n 7 above); *Bointy-Tsotigh v United States* 953 F Supp 358 360 (WD Okl 1996); *Holton v Memorial Hos*p 679 NE 2d 1202 1210 1211 (Ill 1997); *Gardner v Pawliw* 696 A2d 599 609 610 612 613 (NJ 1997).

While *Hicks* was the first case to recognise the doctrine, *Kallenberg*[122] expressly announced the doctrine. In *Hamil* section 323 of the Restatement of Torts was adopted.[123] Shortly before this judgment King wrote his ground-breaking article.[124] He argued that the all or nothing approach was arbitrary and should be dismissed.

He also suggested that the all or nothing approach subverts the goals of tort law. He maintained that an appropriate manner of evaluation of a chance is a multiple equal to the absolute percentage of chance lost. As a result of the apparent fairness and ease with which this method could be applied, many courts adopted and applied it.

During 1983 the Washington Supreme Court in *Herkovits*[125] recognised the doctrine, relying mainly on the Restatement of Torts. The Court held to furnish a blanket release from liability for doctors and hospitals at any time where there was a less than 50 per cent chance of survival no matter how 'flagrant' the negligence was. In the United States of America there are presently three different ways in which states choose to apply the doctrine: The first is the so-called 'pure loss of chance' approach. In terms of this approach, if the patient has, for example, a 30 per cent chance of life and through the doctor's negligence loses half of that chance and ultimately dies, the doctor will be liable for the full amount of the patient's damages.

This approach is considered extreme and applied only in five states. The most important criticism against this approach is that it does not take the patient's pre-negligence physical condition into account and probably causes the defendant to be held liable for that which he or she probably did not cause.[126]

The second application is known as the proportional approach. This is the most commonly accepted approach and entails that the doctor is held liable only for the actual percentage of the loss of chance which the plaintiff suffers. If a patient therefore loses a 15 per cent chance, the doctor will be held liable only for the 15 per cent loss. Saroyan maintains that this approach is unjust and does not serve as a useful deterrent. If a patient, for example, has a two per cent chance and the doctor, through his or her negligence, causes the patient to lose one per cent chance, the doctor will be liable only for one per cent damages even though he or she has destroyed 50 per cent of the patient's chance. As the percentages therefore drop, so in

122 *Kallenberg v Beth Israel Hospital* (n 7 above).
123 *Hamil v Bashline* (n 7 above).
124 King (n 7 above).
125 *Herkovits v Group Health Co-op* 664 P2d 474 (Wash 1983).
126 Saroyan (n 7 above) 6; *Weymers v Khera* 563 NW 2d 647 (Mich 1997); *Jorgenson v Vener* 616 NW 2d 366 (SD 2000).

proportion do the values rise as the above example clearly illustrates.[127]

The third approach is called the substantial possibility approach. This approach is identical in every respect to the proportional approach apart from the fact that in this instance the plaintiff needs show only that there is a substantial possibility that the defendant's negligence caused his or her injury. The damages are calculated in the same way as in the proportional approach and Saroyan expresses the same criticism of this approach.[128]

4.5 Canada and South Africa

The doctrine of loss of a chance to recover is not recognised in Canada, and in South Africa there are presently no reported judgments on the application of the doctrine to medical negligence actions.[129]

4.6 Synopsis

4.6.1 Introduction

It is clear from the relevant case law with regard to the application of the doctrine to cases of clinical negligence that the approach of the courts in the common law jurisdictions is anything but uniform and that the position, especially in England, is complicated and confusing to say the least. An attempt to furnish a synopsis of the legal position in each of the more important common law jurisdictions follows.

4.6.2 England

4.6.2.1 The so-called 'injury within the scope of risk' cases

In the industrial disease cases of *McGhee* and *Fairchild* the House of Lords shifted away from the traditional all or nothing rule of causation by adapting the rules of causation to ensure that there is a more just proportionality between the nature and scope of the duty of care imposed on the defendant and the extent and measure for which the tortfeasor is liable in breach of that duty.[130] In these cases the claimants were allowed to recover even though they could not prove on the balance of probability that their injuries had been caused by

127 Saroyan (n 7 above) 7.
128 As above.
129 Saroyan (n 7 above) 80-81.
130 See J Matthews & L Dawes 'When can negligence be blamed?' (2005) February *Personal Injury Law Journal* 3.

the breach of duty. In *McGhee* the claimant could not prove that the breach of duty by the defendant was the cause of his dermatitis, but only that it materially increased the risk of his contracting the disease. His claim succeeded on this basis. Lord Hoffmann in *Kuwait Airways Corporation v Iraqi Airways Co (no's 4 and 5)*[131] said as follows:

> There is therefore no uniform causal requirement for liability in tort. Instead there are varying causal requirements, depending upon the basis and purpose of liability. One cannot separate questions of liability from questions of causation. They are inextricably connected. One is never simply liable; one is always liable *for* something and the rules which determine what one is liable for are as much part of the substantive law as the rules which determine which acts give rise to liability.[132]

In *Fairchild* Lord Hoffmann opined as follows:

> It is however open to your Lordships to formulate a different causal requirement in this class of case. The Court of Appeal was, in my opinion, wrong to say that, in the absence of a proven link between the defendant's asbestos and the disease, there was no 'causative relationship' whatever between the defendant's conduct and the disease. It depends entirely upon the level at which the causal relationship is described. To say, for example, that the cause of Mr Matthew's cancer was his significant exposure to asbestos during two employments over a period of eight years, without being able to identify the time upon which he inhaled the fatal fibre, is a meaningful causal statement. The medical evidence shows that it is the only kind of causal statement about the disease which, in the present state of knowledge, a scientist would regard as possible. There is no a priori reason, no rule of logic, which prevents the law from treating it as sufficient to satisfy the causal requirements of the law of negligence. The question is whether your Lordships think such a rule would be just and reasonable and whether the class of cases to which it applies can be sufficiently clearly defined.[133]

Thus in *Fairchild*, where the claimant was negligently exposed to asbestos at work by two employers and the mesothelioma might have been caused by either, he can recover against either or both employers by an extension of the principle in *McGhee* provided that the noxious agent that caused the injury is proved. The principle is that the imposition of a duty of care must not be emptied of content because of the parameters of scientific knowledge. The question whether the *Fairchild* approach could be applied in some medical contexts where injury is occasioned by successive health-care providers and it becomes impossible to show on a balance of probabilities at which stage of the treatment the damage was actually

131 (2002) 2 WLR 1353 1388.
132 *Kuwait Airways Corporation v Iraqi Airways Co (no's 4 and 5)* para 128.
133 *Fairchild v Glenhaven Funeral Services Ltd* (n 7 above) para 62.

inflicted remains unanswered, but should prevail as a matter of policy and justice.

4.6.2.2 The breach of a duty to warn

The medical practitioner's failure to warn his or her patient of a one to two per cent risk of a complication related to an intended procedure ensuing is a risk specific to the medical intervention and not the patient. The fact that the complication ensues on one occasion does not mean that it will also go wrong on another occasion. In *Chester* the patient could show on a balance of probabilities that if warned properly she would not have agreed to undergo the procedure at that stage, but would have gone ahead in the future. The defendant was held liable for the paralysis suffered by the patient as a result of the operation on the basis that the same operation performed at another time on another day would almost certainly have gone well. This approach assumes the nature of an inference of causality whereby the burden of disproving the inference is shifted to the defendant. It would also seem that *Afshar* is specifically applicable to clinical negligence claims involving invasive treatment which carries a major risk. The judgment seeks to uphold the patient's right to self-determination and the corresponding duty that the consent must be an informed consent.

4.6.2.3 The 'diminution of prospects' approach

This approach could be applied with regard to two medical scenarios. The facts in *Hotson* represent one of these. The relevant factual question is what would the claimant's position have been in the absence of the defendant's negligence. In the *Hotson* case the question was whether Hotson's fall from the tree had left significant blood vessels intact to keep his left femoral epiphysis alive. The second category is the *Gregg* type of case. Identifying Mr Gregg's condition when he first visited Dr Scott did not provide the answer to the crucial question of what would have happened if there had been no negligence. *In casu* there was considerable uncertainty as to the medical outcome had Mr Gregg received appropriate treatment nine months earlier. In *Hotson* the House held that factual issues concerning the claimant's condition at the time of the negligence should be dealt with on the conventional all or nothing balance of probability basis. The House left open the legal position in the *Gregg* type of case. After *Gregg* the position seems to be that if at the date of the trial the outcome against which the doctor owed a duty to guard has not transpired, he, the Plaintiff has no claim. If, on the other hand, the adverse outcome does ensue, the Court may entertain a claim on this basis.

4.6.3 Australia

4.6.3.1 The breach of a duty to warn

In Australia the High Court approached this issue on the basis of an injury within the scope of a foreseeable risk. In *Chappel* the Court found that if it had not been for the appellant's breach of duty, the operation which caused the injury would not have taken place. The incontrovertible evidence was that the complication which ensued was both rare and random so as to preclude the risk from being described as anything other than speculative. On that basis the Court could not find that it was in any degree probable that the claimant (respondent) would in any event have suffered the kind of harm that she did suffer at the time.

4.6.3.2 The position after *Rufo*

The present legal position in Australia is that there should be recovery for a loss of a less than a 51 per cent chance in a clinical negligence setting provided that causation can be established at more than 50 per cent probability in two respects: First, it must be proved that the chance exists on balance of probabilities. Second, the plaintiff must prove, on a balance of probabilities, that if offered the chance lost in terms of treatment, he or she would have elected to have that chance. This means that loss of a chance cannot be invoked where there is not a more than 50 per cent chance that the patient, properly advised, would have undertaken the particular course of treatment or operation. This would be the case even though a hypothetical event is being dealt with.[134]

4.6.4 The United States of America

In the United States of America there are presently three different ways in which states choose to apply the doctrine. These are the pure loss of chance approach, the proportional approach and the substantial possibility approach.[135]

4.6.5 Canada

Loss of a chance in cases of clinical negligence is not recognised in Canadian law.

[134] *Rufo v Hosking* (n 7 above) 40.
[135] *Rufo v Hosking* (n 7 above) 106-107.

4.6.6 South Africa

There are no reported cases of loss of a chance in a clinical negligence context and the position therefore remains uncertain.

Chapter 5

Recommendation and conclusion

5.1 A *de lege ferenda* loss of chance model for universal application to clinical negligence actions

5.2 Introduction

When considering an appropriate loss of chance model in a clinical negligence context, it is important to ensure that such a model will serve the purpose not only of alleviating the burden of proof which confronts the plaintiff, but also of limiting the damages for which the defendant is liable. Common law courts have recognised that damages which are subject to past or future uncertain facts often provide insurmountable causation difficulties for the plaintiff. In this regard the courts have distinguished between the burden of proof relating to the negligence or breach complained of and the burden of proof relating to the causal link between the negligence or breach and the injury or damages of the plaintiff. In the former case the traditional balance of probabilities is still required. In this regard the chance satisfies the onus if it can be considered to be real or substantial as opposed to speculative.

5.3 Should the claimant's action be grounded on contract or tort?

The most important difference between contract and tort in common law jurisdictions is that breach of contract is considered actionable *per se*, whereas an action for dependencies and lost future earnings are consequential on physical injuries. Although the damage or loss has a greater role to play in tort than in contract, the untenability of drawing a distinction between contract and tort is adequately demonstrated and recognised by the English Court in *Hotson* where an

identical plaintiff in a private hospital would have had a claim based on contract. If one relies on a breach of contract, causation is established when the breach is proved on a balance of probabilities. At that stage, and even if the plaintiff is unable to prove any causal damage, he is already entitled to nominal, that is non-patrimonial, damages and also the costs of suit.[136] It would therefore seem preferable from a standard of proof point of view to found a loss of chance claim on breach of contract, alternatively on tort.

5.4 Standard of proof

Once it is accepted that a clinical negligence loss of chance action can be founded on contract or tort, the question to be decided is what measure of proof must be applied in order for the plaintiff to establish that the lost chance was real or substantial and not of a speculative nature. In *Malec* the Australian High Court drew a distinction between proof of historical facts on the one hand, and proof of future possibilities and past hypothetical situations on the other hand. When considering the future or hypothetical effect of physical injury or degeneration, the Court can assess the damages only in terms of the degree of probability of those events occurring.[137]

In South Africa, the Supreme Court of Appeal has endorsed and confirmed the approach that, with regard to the assessment of damages relating to future hypothetical instances, causation need not be established on a balance of probabilities, but on the court's assessment of the chances of the risk eventuating.[138] One of the questions which arises from this judgment is whether a real or substantial chance constitutes a 51 per cent or more chance of eventuating or could a chance of 30 per cent, for example, still constitute causation on a preponderance of the evidence.

The fact that the Court distinguishes between cases where the loss relates to an assessment of the risk eventuating and other cases invites the assumption that a real or substantial risk could also constitute a risk of a chance eventuating below the traditional 51 per cent requirement in respect of the standard of proof. The same difficulty which the plaintiff encounters with regard to the causal link between the negligence and the damages also confronts the plaintiff with regard to the assessment of damages.

The second and equally important question arising from this interpretation is to allocate a value to a speculative claim so that this assessment is not made in an arbitrary way. In clinical negligence

136 See for example RH Christie *The law of contract in South Africa* (2001) 301.
137 n 7 above.
138 *De Klerk v Absa Bank* (n 7 above).

cases this question becomes more complex if one is dealing with lower percentages (for example 5 per cent). The lower the percentage, the higher the value of the chance. For example, if a defendant's misdiagnosis results therein that the plaintiff's statistical chance of recovery (5%) is diminished to 2.5 per cent, it means that the plaintiff has in fact lost a 50 per cent chance of a better outcome.[139]

5.5 The roll of medical statistics in evaluating the chance

In *Gregg* Lord Nicholls said the following about medical statistics:

> In cases of medical negligence, assessment of a patient's loss may be hampered, to greater or lesser extent, by one crucial fact being unknown and unknowable: how the particular patient would have responded to proper treatment at the right time. The patient's previous or subsequent history may assist. No doubt other indications may be available. But at times, perhaps often, statistical evidence will be the main evidential aid.[140]

According to Hill[141] there are two types of chance, namely statistical chance and personal chance and any claim based on a lost chance involves either a question of past fact or a future hypothetical question. In cases involving a future hypothetical question, a lost chance can have value. For example, one may consider a patient whose cancer is misdiagnosed initially and is diagnosed correctly six months later. At the beginning of the period the patient had stage one cancer, and by the end of the period it had developed to stage two. For predictive purposes, doctors assess the statistical probability of survival at each stage. The assessment is based on the past medical history of previous patients. It is an assessment of the probability of long-term survival of past outcomes. A statistical chance of long-term survival is based on a misconception as such a chance does not relate to that patient's individual chance at that stage. The patient may belong to that percentage who would have died anyway and therefore the patient has lost nothing at all. Further evidence is required that connects that particular patient with a class of persons who, but for the defendant's negligence, would have survived in the long term. This will personalise the statistics. This type of situation requiring the determination of past fact can be distinguished from those chances involving future hypothetical questions.

Hill opines that a statistical chance has no compensable value and any attempt to limit recovery based on physical injury would represent a tacit recognition of this. A loss must be a loss of value. A statistical chance has no value, is not a loss and is therefore not

[139] Saroyan (n 7 above) 7.
[140] *Gregg v Scott* (n 7 above) 276
[141] Hill (n 7 above) 524.

compensatible. He says that the method of evaluation advanced for a loss of a chance is the percentage probability value of the ultimate consequences. It consists of two stages. First, the courts must value the ultimate consequence. Second, the percentage lost must be applied to this value. In effect this means that the courts would not be compensating for a lost chance, but for the underlying physical injury. By looking at the ultimate consequence the courts would simply be discounting an award to reflect an uncertainty as to whether the defendant actually caused the plaintiff's physical injury, and this again reflects the proposition that a statistical chance, standing alone, has no real value. An unfair result will always ensue if this approach is applied.

Unless and until such time as statistical data is personalised, a statistical chance should not be sufficient to form a compensable loss. If, as a matter of policy, it is felt that the plaintiff should receive some sort of financial assistance, then it should be recognised that it is policy and not logic underlying the decision. The effect of such an approach would be to award the majority of plaintiffs who are entitled to nothing in order to ensure that the minority do receive the compensation to which they are entitled. As a fundamental change of policy is involved, this ought to be a matter for the legislature.[142]

Healy says that there are two reasons why it is not unreasonable to use statistical chance when considering an individual plaintiff's case. Firstly, when a series of medical cases is designed for research purposes, the members of the cohort are matched as closely as possible to ensure that the results are not distorted by factors which are unrelated to the one which is being studied. For this reason, a well-designed and modern series of statistics will be a fairly accurate reflection of the chance that any individual patient would have had of a positive outcome. Secondly, a statistical approach promotes justice because, although the all or nothing approach is reasonably fair to patients who statistically would have had chances near to nil and 100 per cent of the predicted outcome, it tends to be unfair to those patients whose chances were nearer to the 50 per cent borderline.

If the patient had a 50/50 chance of recovery without the doctor's negligence, both parties are more likely to be content with a settlement of 50 per cent of full damages. The patient whose chance is calculated to be 49 per cent will probably at least also feel that he has recovered something, and the doctor faced with a patient whose chance is calculated at 51 per cent will feel that he has not paid out

[142] Hill (n 141 above) 523.

unduly. Thus, justice will have been seen to have been done to both sides.[143]

In *Gregg* Lord Nicholls also made the following instructive comments about the use of statistical evidence:

> (32) The value of the statistics will of course depend upon their quality: the methodology used in their compilation, how up to date they are, the number of patients involved in the statistics, the closeness of their position to that of the claimant, the clarity of the trend revealed by the figures, and so on. But to reject all statistical evidence out of hand would not be acceptable. This argument, if accepted, would effectually nullify the use of statistics in all cases of delayed treatment save perhaps where the figures approached 0% or 100%. Despite its imperfection, in practice statistical evidence of a diminution of perceived prospects will often be the nearest one can get to evidence of diminution of actual prospects in a particular case. When there is nothing better courts should be able to use these figures and give them such weight as is appropriate in the circumstances. This conclusion is the more compelling when it is recalled that the reason why the actual outcome for the claimant patient if treated promptly is not known is that the defendant by his negligence prevented that outcome becoming known.
>
> (33) Use of statistics in this way is not a revolutionary step. Medical statistics are widely used and have been so for many years. Courts habitually use statistics as an aid when compensating claimants for a risk of an outcome which may materialise, whether the risk is more than 50% or less than 50%. If a head injury carries with it a 20% increased risk of epilepsy in the future a Court takes this into account when assessing compensation in the round.[144]

5.6 Quantification of damages

Where exact quantification is not possible, causation ought to be distinguished from quantification of damages because different standards of proof apply. Causation requires the establishment, on a balance of probabilities, of a causal link between the negligence and the loss. Quantification of damages, where it depends on future uncertain events, is based on the assessment of the chances of the risk eventuating. To establish causation the plaintiff has to establish a real or substantial chance as opposed to a speculative one. After this has been done the chance is evaluated, the range lying somewhere between that which qualifies as real or substantial on the one hand, and near certainty on the other.[145]

In *Chappel* Kirby J said as follows in this regard:

[143] Healy (n 1 above) 228ff.
[144] *Gregg v Scott* (n 7 above) 227.
[145] *Allied Maples Group Ltd v Simmons & Simmons* (n 7 above).

> If it is established that damage was caused by the breach alleged, it remains to calculate the amount of compensation recoverable. It is then proper to reduce any damages which a defendant should pay for the harm it has caused to a proper proportion actually attributable to its breach. If, independently of the breach on the part of the defendant, the evidence shows that the plaintiff would have suffered loss, the damage may be reduced by reference to the estimate of the chances that would have occurred. If those chances are less than one percent, this Court has held that they may properly be disregarded as speculative.[146]

It would seem that the courts in the various jurisdictions have not adopted a bright line rule to determine what percentage is regarded as 'substantial' as opposed to 'speculative'. In *Perez v Las Vegas Medical Center* the Court held as follows in this regard:

> Specifically, in order to create a question of fact regarding causation in these cases, the plaintiff must present evidence tending to show, to a reasonable medical probability, that some negligent act or omission by health care providers reduced a substantial chance of survival given appropriate medical care. In accord with other courts adopting this view, we need not now state exactly how high the chances of survival must be in order to be 'substantial'. We will address this in future on a case to case basis.[147]

As medical causation relies to a great extent on scientific proof, medical experts will have to exercise considerable care when assisting a court to estimate the percentage lost and provide an accurate assessment of the individual patient.[148]

In cases where the circumstances allow for the application of loss of a chance, the principles with regard to quantification should be applied to both claimant and defendant equally. Should the chance, for example, be valued at 75 per cent, the claimant should be entitled only to 75 per cent of the damages he is able to prove. In this regard Peled says the following:

146 *Chappel v Hart* (n 7 above) 1638-1639.

147 *Perez v Las Vegas Medical Center* (n 119 above) 6-7.

148 The following United States examples provide some direction in this regard: *Borgen v United States* 716 Fsupp 1378 1383 (D KAN 1998) (the loss of a 30% to 57% chance of 10-year disease-free survival was regarded as an appreciable loss of chance); *Falcon v Memorial Hosp* 436 Mich 443 470 462 NW 2d 44(1990) (superceded by statute where it was found that a 37.5% loss constituted a loss of a substantial opportunity); *Stewart v New York City Health and Hospitals Corp* 207 App Div 2d 703 704 616 NYS 2d 499 (1994)(in reviewing and reinstating the jury award for plaintiff where experts opined that plaintiff would have had less than 50% chance or only 5% to 10% chance of conceiving a child naturally, the Court noted, arguably *in dicta*, that if the jury found that plaintiff lost even a 5% to 10% chance and that this chance was substantial the verdict would be justified); *Kallenberg* (n 7 above) affirmed a jury verdict for plaintiff in a malpractice action where the expert opined there was a loss of 20% to 40% chance of survival.)

> To my mind, once we apply the evaluation of chances test there is no half way around it — we must apply both its aspects through the board, in all 'vague' and 'subjective' causation cases, even in those where the chances evaluated exceed 50%. We can't stop half way, and once the judicial estimate favours the plaintiff's claim, turn back to the 'all or nothing' rule — awarding the plaintiff full compensation.[149]

5.7 Conclusion

One of the criticisms against loss of a chance claims are the difficulties associated with the valuation of chances or the argument that a chance has no value at all. There are obviously difficulties attached to the assigning of a value to a chance especially if it relates to physical harm. These problems are not insurmountable and are simply indicative of the fact that there is as yet no objective measure, and that guidance is to be sought with regard to questions of policy. A second problem is that hypothetical future events are notoriously difficult to assess. That is not, however, a conclusive argument for awarding nothing. A further pragmatic fear is that the acknowledgment of the doctrine will open the floodgates for highly speculative claims. The experience in jurisdictions where the doctrine is recognised does not confirm this concern. Courts have managed to distinguish between a substantial chance, where loss is recoverable, and purely speculative claims.

A major normative objection could be that assessing chances would be tantamount to assessing the value of human life, and the law should not countenance that because it would destroy the intrinsic absolute value of human life. In this regard Jansen says:

> But acknowledging a lost chance as a harm does not necessarily entail such an evaluation. Only chances are assessed; the value attributed to human life can (and should) remain untouched. Money for chances is only paid if money is also paid for the finally endangered interest. Therefore, the main areas for acknowledging a lost chance are cases in which compensation for a physical injury is already possible and cases where third parties can claim maintenance after the death of a victim. None of these cases entails assessment of the value of human life.[150]

It is also contended that the recognition of the doctrine will increase the incidence of defensive medicine. Tests and investigations undertaken not for the benefit of a patient, but for the protection of the medical practitioner against litigation are expensive and not in the interest of the community in circumstances where funds for medical treatment are limited. There seems to be no valid reason why

[149] M Peled 'No more all or nothing: Abandoning the "balance of probability" rule in cases of vague and subjective medical causation' *16th World Congress on Medical Law vol 1 7 - 12 August 2006 Toulouse* (handouts at Congress) 272.

[150] Jansen (n 7 above) 294.

a medical practitioner should increase defensive medicine merely because of the extension of liability from cases of proof on a balance of probability of the actual harm to cases of a loss of chance. The only plausible theoretical explanation for a possible increase in defensive medicine is that some doctors do not presently conduct tests on patients with a less than even chance of survival, but would be persuaded to do so if there was a potential liability for loss of a chance. There may even be a direct saving of costs because of the proportional approach which the doctrine adopts to the effect that a lesser amount of damages is awarded. If the law does have a deterrent effect, medical practitioners can be expected to be more careful.[151]

With regard to other professional negligence and commercial cases, it is now clearly established with regard to damages in common law jurisdictions that questions as to what would have happened but for the fault of the defendant or what will happen in the future will be decided on the probabilities which may be less than 50 per cent and the damages awarded will be adjusted appropriately.[152] The current application of the doctrine of loss of a chance in a clinical negligence context by the various common law jurisdictions is anything but uniform. Rather it is unnecessarily complex and cumbersome. It is the result of the conflict between the courts' reluctance to depart from traditional and established principles relating to causation and their duty and responsibility to award worthy claimants compensation for damages that they have suffered. The Court in *Rufo* did not rule on whether the departure from the all or nothing approach may also see damages reduced in cases where previously the claimant would have recovered 100 per cent. It would seem that the natural inference to be drawn from the judgment is that the principle should be applied across the board so that the damages are based in each case on the percentage established by the Court. On this basis there seems to be no compelling reasons why the *Rufo* approach should not find universal application in common law countries. It would certainly vindicate the principle of:

> *placuit in omnibus rebus praecipuam esse iustitiae aequitatisque quam stricti iuris rationem*[153]
>
> (In all matters preference should be given to justice and equity rather than to the demands of strict law (Constantine).)

[151] Luntz (n 1 above) 194-195; but see Perrochet *et al* (n 7 above) 625ff.
[152] DH Hodgson 'The scales of justice: Probability and proof in legal fact-finding' (1995) 69 *The Australian Law Journal* 743.
[153] DH van Zyl *Justice and equity in Greek and Roman legal thought* (1991) 141.

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