

IN THE CONSTITUTIONAL COURT OF SOUTH AFRICA

CC CASE NO: 185/2014

SCA CASE NO: 238/2013

WCHC CASE NO: 2094/2007

In the matter between:

CHARLES OPPELT

Applicant

and

**THE HEAD: HEALTH, DEPARTMENT OF HEALTH,
PROVINCIAL ADMINISTRATION: WESTERN CAPE**

Respondent

**APPLICANT'S HEADS OF ARGUMENT
IN APPLICATION FOR LEAVE TO APPEAL**

Introduction

1. The Applicant submits that –

- 1.1 there has been a failure of justice due to the approach taken by the Supreme Court of Appeal to the expert medical evidence in his case;

- 1.2 his rights under sections 11 and 27(3) of the Constitution have been infringed.
2. The factual background is not in issue. Its main features are summarised below.
 3. On 23 March 2002 and when he was a 17 year old schoolboy, the Applicant played in a senior club rugby match in the position of hooker at Mamre when a contested scrum collapsed and caused a bifacet dislocation between two of his cervical vertebrae (C5 and C6).
 4. He was attended to by ambulance personnel at the scene, and taken to the nearby Wesfleur Hospital, where he arrived at 15h15. He was admitted at 15h30 and examined by a Dr Venter sometime between 15h30 and 16h00.
 5. Significantly, his spinal cord was not transected (but squashed into a reduced space). In such cases there are two injuries: the primary injury is that one that causes the dislocation (the blow to the neck, or twist); the secondary injury is an ischaemic insult or oxygen deprivation, due to interference with the blood flow to the

spinal cord.¹ If the dislocation is left unattended, the secondary injury results in death of neural tissue, and permanent damage.

6. Treatment is by “reduction” (of the dislocation) and consequent “decompression” (of the spinal cord).
7. Reduction may be “open” or “closed”. In open reduction there is a surgical incision with the vertebrae being exposed, re-aligned and fixed in position. Closed reduction takes place under traction and local anaesthetic without open surgery. The neck of a conscious patient is carefully incrementally stretched and the vertebrae slipped back into place, with the same beneficial effects. Fixation (fusion) can be performed subsequently.
8. Both these procedures re-align the spinal column, restoring the dimensions of the spinal canal, relieving pressure on the spinal cord, and permitting the restoration of blood supply, perfusion of the spinal cord and the drainage of venous blood and waste products. The physiology and these mechanisms of injury and recovery are not in dispute.²
9. In 2002 Conradie Hospital (“Conradie”) had for some years housed the Respondent’s specialised spinal unit (referred to as the Conradie Spinal Unit, or “CSU”). Dr Dennis Newton was the

¹ Newton Welsh p 813.

² Record p 814; see also Newton p 229-231, 392-393; Welsh p 813-816, 826, 836.

head of that unit at the time and he favoured rapid closed reduction of cervical bi-facet dislocations, on the basis of data and experience accumulated at the CSU over some 14 years (by that time).

10. The focus of the present dispute is whether it has been shown that with injuries of this kind³ reduction and decompression within a four hours is likely to result in a significant recovery, and the failure to do so not, which causally links the failure to reduce the Applicant's injury timeously to his losses.
11. Whilst there was debate about whether decompression necessarily had to take place within four hours to predict a successful outcome, there is consensus that decompression should commence as soon as possible to restore perfusion. The earlier it is done, the better the chances of recovery. Dr Welsh agreed that bifacet dislocation was the one pathology that seemed to show a better outcome from early intervention.⁴
12. According to the Groote Schuur Hospital ("GSH") records, at 16h00 – less than 2 hours after the primary injury – Dr Rothemeyer (a neuro-surgery registrar at GSH) advised Dr Venter to have Oppelt transferred to GSH by helicopter.

³ That is, low-velocity facet dislocations of the cervical vertebrae, where the spinal cord is not transected.

⁴ Welsh p 824, line 4.

13. Dr Rothemeyer confirmed this in evidence.⁵ In doing so she had emphasised the urgency of the case. Dr Venter was not called to contradict or dispute this.
14. According to the ambulance records, the trip from Wesfleur to GSH was completed on the day in 45 minutes.⁶
15. Had an ambulance (and not even a helicopter) been called to Wesfleur urgently at 16h00, to take the Applicant either to GSH and then to Conradie, the Applicant should have been at Conradie by 17h30, within good time to have had a closed reduction of his injury by 18h15 (i.e. within four hours of the primary injury). Had he been taken by ambulance directly to Conradie from Wesfleur, he should have arrived by 16h45 (the travelling time being about 30 minutes).
16. However, an ambulance was not called immediately. It arrived at Wesfleur at 16h30⁷ (instead of at 16h05). It departed for GSH 25 minutes later at 16h55⁸ (instead of about 16h10), and arrived at 17h40⁹ (instead of about 17h00). The Applicant was admitted at 18h00¹⁰ and only seen two hours later by Dr Cvitanich.¹¹ He was

⁵ At 975-976.

⁶ Records at 1292, 1293, 1296.

⁷ Record 1292, 1296. The trip from the depot to Wesfleur takes only 5 minutes.

⁸ Ibid.

⁹ Ibid.

¹⁰ Record 982.

¹¹ Record 1007-1008.

transferred to Conradie at 01h23 the next morning where he underwent a closed reduction at 03h50.

17. The damage to the Applicant's spinal cord has left him paralysed below his neck. He is quadriplegic.
18. His case is that had he been attended to with a reasonable degree of urgency from his arrival at Wesfleur Hospital, he would probably have had the bifacet dislocation reduced within less than four hours, probably have made a full or substantial recovery, and not been paralysed at all.

Litigation giving rise to this application

19. This application arises from a successful appeal by the Respondent to the Supreme Court of Appeal ("SCA") against the finding of the Western Cape High Court ("WCHC") that the Respondent was liable for the Applicant's proven damages based on the failure of the Respondent's servants to treat him timeously for his spinal cord injury.¹²

¹² Record: (WCHC Judgment) p1351 – 1352

The WCHC findings

20. The WCHC found that the Respondent's servants were negligent because:¹³

20.1 They failed to present Applicant to the Conradie Hospital in time to enable him to be treated within four hours of injury;

20.2 They failed to inform all hospital personnel in Respondent's employ to transfer spinal cord injured patients to Conradie Hospital within four hours;

20.3 They failed to inform hospital personnel that existing protocols and referral paths (for spinal cord injured patients) should not be blindly adhere to in medical emergencies such as Oppelt's case.

21. As to causation, the WCHC found that the negligence of Respondent's servants caused the Applicant to be permanently quadriplegic.¹⁴

22. The WCHC found that the case not only concerned the Applicant's right to life, bodily integrity and bodily security in terms of section 11 of the Constitution, 1996 but also whether he had

¹³ Record: (WCHC Judgment) p1347 – 1348, par [81] – [82]

¹⁴ Record: (WCHC Judgment) p1348, par [83]

been denied emergency medical treatment in contravention of section 27(3).¹⁵

23. The WCHC found that the Respondent's referral pathway for patients to be transferred from Wesfleur Hospital in Atlantis (to which Applicant was first conveyed by ambulance from the rugby field where he was injured) to GSH, rather than to the CSU at Conradie Hospital, could not override section 27(3) of the Constitution. Blind adherence to a referral policy was no excuse for emergency treatment not being administered timeously.¹⁶

The SCA findings

24. The Respondent's appeal to the SCA was based on three main contentions, namely –

24.1 that Dr Newton's "*theory*" that rapid closed reduction treatment of low velocity spinal cord injuries within 4 hours will probably lead to a substantially improved outcome for patients, was his personal treatment preference, but was never generally accepted as a basis for a treatment protocol by the respondent. A copy of Dr Newton's article, as published, is attached hereto marked "A";

¹⁵ Record: (WCHC Judgment) p1326, par [53.1] – [53.2]

¹⁶ Record: (WCHC Judgment) p1343, par [70]

- 24.2 That there is no evidence that the hospital and ambulance personnel of the respondent knew of the rapid closed reduction treatment for low velocity spinal cord injured patients at Conradie Hospital;
- 24.3 That there were no unreasonable delays in the management of Oppelt.
25. The SCA upheld the first contention, and did not consider the last two.¹⁷ The SCA consequently found that Oppelt had failed to prove that he probably would have recovered, but for the fact that he was not treated within four hours.¹⁸
26. The findings and reasoning of the SCA that led to its conclusion that Oppelt had not proven causation are set out in paragraphs [6] to [20] of its Judgment.¹⁹
27. The SCA rejected Dr Newton's "theory" on the basis of the "reliability of the evidence on which it is based", and his process of reasoning.²⁰
28. In essence the SCA found that "Dr Newton's process of reasoning" was based on what the SCA considered to be an

¹⁷ Record: (SCA Judgment) p1382, par [20]

¹⁸ Record: (SCA Judgment) p1312, par [22]

¹⁹ Record: (SCA Judgment) p1377 to p1383

²⁰ Record: (SCA Judgment) p1380, par [15]

inadequate sample. Its interpretation of his evidence was that he relied on a sample of 32 paralysed patients, of which eight were subjected to rapid closed reduction treatment within four hours, five of whom recovered fully and “walked out” after treatment;²¹

29. The SCA also found that “the scientific evidence” on which Dr Newton relied, could be described as opinion and was “questionable”.²²
30. The SCA’s interpretation of Dr Newton’s evidence was that he thought that because five out of eight patients recovered completely, it may be stated as a general proposition that 64 percent of the patients treated by this method, will probably also recover.²³
31. That Court further found that Dr Newton’s approach was self-fulfilling because his method was not tested on 24 patients that had not been treated according to that method within four hours.²⁴
32. The SCA also considered it significant that no other study supported Dr Newton’s opinion, and no “independent” study into his theory has been conducted in the last 13 years. It accepted the evidence of Dr Welsh that Dr Newton’s “theory” has not been

²¹ Record: (SCA Judgment), p1380, par [16]

²² Record: (SCA Judgment), p1380, par [17]

²³ Record: (SCA Judgment), p1381, par [18]

²⁴ Record: (SCA Judgment) p1381, par [19].

accepted by the medical profession, and that his opinion as an expert as to the probable success of his method of treatment generally has little probative evidentiary value.²⁵

33. It is submitted that the SCA's approach to Dr Newton's evidence was wrong for the reasons that follow.

33.1 The finding that the evidence on which Dr Newton relied was unreliable, is based on an incorrect approach to the issue. There was in fact no dispute as to the reliability of the data. No witness suggested that the data had been fabricated or manipulated. Contrary to the suggestion that the evidence was unreliable, it must be accepted that Dr Newton's data accurately and correctly set out the experience that had in fact been accumulated over some 14 years at the CSU in the relevant types of cases.

33.2 The issue concerned the scientific assessment of that data, and the conclusions that may be drawn from it. That was acknowledged by Dr Welsh.²⁶ The finding that the sample was insufficient, proceeds from the (incorrect) premise that it is for the Court to decide that issue. Such an assessment involves evaluation of the statistical method used in Dr

²⁵ Record: (SCA Judgment) p1382, par [20].

²⁶ Record, Vol 8, p 810.

Newton's paper, without there having been any expert evidence that it was deficient. Indeed, Dr Welsh acknowledged that Dr Newton's data had been subjected to proper statistical analysis,²⁷ which, he suggested (wrongly) had resulted in Dr Newton having changed his opinion on the timing issue.

33.3 The SCA's approach, it is submitted, gave insufficient weight to the fact that one of the co-authors of Dr Newton's paper was an Oxford University statistician, who had dealt with the statistical analysis of the data, that the paper had been peer-reviewed before publication, and contained corrections that apparently dealt with the statistical aspects;

33.4 The SCA did not correctly assess the extent of Dr Newton's data, or its statistical significance. In fact -

33.4.1 It involved 113 patients with spinal injuries from playing rugby, not only the 32 who had been completely paralysed on admission.

33.4.2 Of the 113 patients, 57 had suffered facet joint dislocations which were amenable to closed reduction;

²⁷ Record: Vol 8, p 810.

- 33.4.3 Thirty two of the 57 patients were completely paralysed at the time of reduction;
- 33.4.4 Fourteen patients, not all of whom were completely paralysed at time of reduction, were reduced within four hours of injury;
- 33.4.5 Recoveries were as follows: five made full recoveries from Frankel Level A to Frankel Level E. Nine made full recoveries to Frankel Level E, although four of them were not completely paralysed when treatment was started. Two made material recoveries, although not complete. Of the fourteen patients, eleven improved, while three did not. The three who did not improve were three out of the last five in time of the patients whose treatment commenced within four hours.
- 33.5 The SCA was in any event wrong in its assessment of the weight to be afforded to the scientific data of Dr Newton's study according to classification of data and levels of evidence;

33.6 The SCA incorrectly found that Dr Newton's conclusions were not supported by any other study;

33.7 The SCA made no reference to the fact that the Respondent tendered no evidence of any scientific class which contradicted the correctness of the data underlying the conclusions drawn by Dr Newton. Dr Welsh could not point to other published series of cases or studies that contradicted Dr Newton's opinion;

33.8 The SCA incorrectly found that Dr Newton conceded that there was no consensus in the medical scientific literature regarding the relationship between timing of decompression and neurological outcome.

34. The legal aspects relating to those issues are addressed next.

Assessment of opinions based on scientific evidence

35. The proper approach to expert opinion based on scientific evidence was formulated, *inter alia*, in the case of Linksfield Park Clinic (Pty) Ltd & Another v Michael & Another.²⁸

36. The starting point is that a Court must determine whether and to what extent expert evidence is supported by logical reasoning. A

²⁸ 2001 (3) SA 1188 (SCA) particularly at 1210A-H, par [37] to [40]

Defendant may be held liable despite sanction of expert opinion if such opinion is not capable of withstanding logical analysis.²⁹

37. In the present case the scientific logic on which Dr Newton's opinion was based was not in dispute, as the following from Dr Welsh's cross-examination demonstrates:

*“Dr Newton's evidence was that ... within four hours one could expect serious deterioration of the neurological tissue, do you agree with that? --- There is no dispute as to the underlying physiological and pathophysiological mechanisms. In other words this work is being done extensively in laboratories, it is being done on rats, cats, dogs, whatever and the underlying theories of the pathophysiology and neurological injury exist and those are not disputed.”*³⁰

38. Dr Welsh also agreed that there was a strong “biological rationale” for Dr Newton's opinion, which was supported by the literature to which he had referred.³¹

²⁹ Linksfield Park Clinic case (*supra*) at par [39], Minister van Veiligheid en Sekuriteit v Geldenhuys 2004 (1) SA 515 (SCA) at par [34] to [38]; Lourens v Oldwage 2006 (2) SA 161 (SCA) at par [27]; Medi-Clinic Limited v Vermeulen [2014] ZASCA 150

³⁰ Record: p814, there are several passages in the record in which the underlying logic was explained by Dr Newton (at p229 to p231 and p392 -393) and by Dr Welsh (at p813-816 at 826 and 836, as expressed in the article by Fehling)

³¹ Vol 8, p 825, line 25 – p 826, line 11.

39. It is submitted that it was not for the SCA to immerse itself in an analysis of the statistical approach to the underlying the scientific data; at least not in the absence of any dispute in that regard between the experts. However, without any evidence to suggest that the statistical approach followed by the authors of the article based on the Conradie Hospital case series was not valid, the SCA rejected Dr Newton's evidence on that basis. It is submitted that it was not for the SCA to do so, in the absence of any statistical evidence presented by the Respondent which provided a logical and reasonable basis for disputing the conclusions of Dr Newton.
40. Dr Newton's opinion was clearly supported by logical reasoning, the basis of which was not in dispute.
41. The issue, as summarised by Dr Welsh, was not whether the approach of Dr Newton was valid, or justified by the data on which he relied, but was (as he described it) "a logistical argument" about whether the provincial hospital protocols were justified.³² The issue which the SCA considered as decisive, was, it is submitted, not the true issue between the parties or their experts.

³² Vol 8, p 818.

42. Dr Welsh did, in passing, criticise Dr Newton's work on the basis that there was no other study that came to the same conclusion (about a four hour cut-off time) and that the data was not derived from controlled studies. However, that is not the test. In the Linksfield Park Clinic case the SCA observed that:

“This essential difference between the scientific and the judicial measure of proof was aptly highlighted by the House of Lords in the Scottish case of Dingley v The Chief Constable, Strathclyde Police 200 SC (HL) 77 and the warning given at 89D – E that ‘(o)ne cannot entirely discount the risk that by immersing himself in every details and by looking deeply into the minds of the experts, a Judge may be seduced into a position where he applies to the expert evidence the standards which the expert himself will apply to the question whether a particular thesis has been proved or disproved – instead of assessing, as a Judge must do, where the balance of probabilities lies on a review of the whole of the evidence’.”³³

43. In judicial proceedings evidence is assessed to make findings of historical fact. Its reliability is evaluated by various means,

³³ Linksfield Park Clinic (*supra*) at par [40]

including whether there is corroboration for a witness's testimony, the probabilities and (sometimes) the demeanour of the witnesses.

44. Dr Newton's data was not analysed to assess its value in establishing whether the patients and cases on which he relied, had the injuries, treatment and outcomes he described. That would be the equivalent of an evaluation for judicial purposes.
45. In this case, it was never put in issue that Dr Newton's data was true. The issue turns on its predictive value, not on its reliability (the test the SCA, with respect, incorrectly applied). To establish its predictive value statistical analysis of the data according to acceptable statistical methods is relevant. But that was never in issue in the case.
46. A further difficulty with the SCA's approach is that it failed to appreciate that the disputed aspect of Dr Newton's approach was that there was a four hour cut-off period (beyond which the prospect of successful recovery rapidly diminished). The criticism of this theory by Dr Welsh was that four hours was not generally accepted as a sharp cut-off point, but there was evidence that early intervention was beneficial, particularly in cases of bi-facet dislocations (such as the Applicant endured).

47. In other words, Dr Newton's evidence was to the effect that if treatment was commenced later than four hours after the primary injury, improvement became too unpredictable to characterise as probable. No-one has suggested that the four hour cut-off period was too long. The suggestion, although not explicitly stated, was that – despite the compelling biological rationale for timeous intervention – reduction however soon it was performed might not result in an improved outcome at all; alternatively – if reduction was beneficial – it might also improve matters if performed after more than four hours.
48. Neither of those approaches assists the Respondent. Dr Welsh's concessions (referred to already) make the "no benefit" argument untenable. Regarding the four hour limit, Dr Welsh tentatively suggested that the Newton opinion had moved from six hours to four hours as the limit,³⁴ but there was no suggestion that delay did not matter, and that had the Applicant been treated with closed reduction of the dislocation urgently he would have suffered the same long term consequences. Any suggestion would have contradicted the strong "biological rationale" underlying Dr Newton's opinion.

³⁴ Vol 8, p 810.

49. The SCA thus failed to apply the principles it affirmed in the Linksfeld Park Clinic case in at least two fundamental respects, namely:

49.1 By not assessing where the balance of probabilities lies on a review of all the evidence, rather than immersing itself in the details of the statistical method;

49.2 By not applying the standard confirmed in that case to the evaluation of the opinion evidence of Dr Newton and Dr Welsh, and by not applying that standard consistently.

50. It is submitted that in the present case the SCA's misdirection has resulted in a substantial injustice to the Applicant, and that this application raises an arguable point of law of general public importance. It is at least of general public importance that the SCA should apply the jurisprudence it has developed in relation to expert opinion evidence, consistently and fairly to all parties.

The scope of Dr Newton's study

51. Dr Newton's study consisted of a series of 57 acute rugby spinal cord injury facet dislocation patients out of a total of 113

consecutive acute rugby spinal cord injury patients treated at Conradie Hospital between 1988 and 2001.³⁵

52. The article described the series as the largest reported case series of low velocity cervical spine dislocations resulting from rugby and managed by early closed reduction.³⁶
53. The SCA was incorrect in finding that the “inadequacy was not ameliorated” by the evidence that 24 patients were not treated within four hours. Out of the 24 patients that were not treated within four hours, none made a full recovery, while only one made a partial recovery.
54. The case series draws a comparison between the recovery rate of those patients who were treated within four hours against those who were not. In the case of those who were treated within four hours, 64% made a full recovery and were discharged as Frankel level E (fully ambulant) patients, whilst none treated after hours made a full recovery.³⁷
55. However, 11 out of the 14 patients (78%) treated within four hours made a significant improvement.³⁸

³⁵ Record: p1711

³⁶ Record: p1722

³⁷ Record: p1711

³⁸ Record: (Constitutional Court Application) p1709

56. In the post four hour treatment category, none made a full recovery, while one made a partial recovery.
57. It is logically unsound to argue that the latter part of the series of patients should be disregarded in evaluating the results of the treatment, or to criticize Dr Newton's opinion because the treatment method had not been tested on them. *Ex hypothesi* patients who had not been treated within four could not later be treated within four hours. What the observation by the SCA failed to recognise, was that those patients were part of the "control".
58. The SCA's criticisms of Dr Newton's opinion on the basis that the outcome in the patients who were treated after four hours was caused solely by the fact that they were not treated within four hours also ignores the statistical analysis used in the study, which excluded distortions due to other variables.

Classification of scientific data

59. The SCA's approach to Dr Newton's opinion was compounded by the fact that it also incorrectly assessed the reliability of the scientific data on which Dr Newton's conclusions were based. The SCA found, with reference to Dr Welsh's evidence, that class three data was the least reliable form of scientific data and that Dr Newton conceded that the reliability of his evidence would be

classified as the lowest form of scientific data, namely that which is described as “opinion”.

60. It is not correct to suggest that the evidence of injury, treatment and outcome collected by Dr Newton and the CSU over years, amounts to “opinion”. The SCA’s approach failed to recognise that there was no dispute at a factual level that the data was all sound and reliable.
61. The relative reliability rates ascribed to various forms of medical or scientific evidence, does not deal with the truth or reliability of the data set, but the validity of its use for predictive purposes.³⁹ Dr Newton referred to four classes of medical/scientific evidence.⁴⁰ He testified that his method of treatment of spinal cord injuries such as the injury suffered by Applicant will never be tested in a prospective trial on humans, and that “class one” evidence will therefore never exist. He agreed that the evidence contained in the case series would probably be classified as class three

³⁹ Record: (SCA Judgment) p1379, par [12], par [17]. The rating of evidence in a medical scientific context has its origin in evidence based medicine (“EBM”), as formulated by one of its pioneers, David Sackett. The Oxford Centre for Evidence Based Medicine (“CEBM”) separated types of studies into categories designed to direct clinicians in answering clinically relevant questions. It provides a popular scale for stratifying evidence from strongest to weakest on the basis of susceptibility to bias and quality of study design. It was not designed to classify strength of evidence for courts. ³⁹ (Rating Evidence in Medical Literature - *American Medical Association Journal of Ethics*, January 2011, Volume 13, no 1: 46 to 51). Scientific standards of proof are not uniform and well defined, in contrast to legal standards. Science prizes objective certainty. For a hypothesis to be proved, or a theory to become a theorem the evidence supporting it must be irrefutable, unlike the standard of proof in civil cases. (On Evidence, Medical and legal-Donald W Miller Jr and Clifford G Miller – the *Journal of Medical Physicians and Surgeons*, Volume 10, 2005, no. 3 p 70 to 75).

⁴⁰ Record: p356 – p357

evidence.⁴¹ He also agreed with the proposition put to him by Respondent's counsel that opinion evidence was class four evidence, the lowest category.⁴² He testified that on publication of the peer-reviewed article co-written by him, his study will be recognised as a higher category of evidence than class three. All of this evidence remained uncontested in cross-examination.⁴³

62. In describing Dr Newton's conclusions as evidence that fell within the least reliable category the SCA failed to give effect to Dr Newton's unchallenged testimony on the point, and failed to recognise that Dr Welsh was referring to the classification of scientific data in a different context.
63. It also failed to consider the uncontested evidence of Prof Noakes that data was reliable and had a high scientific value.⁴⁴
64. Dr Welsh testified about the significance of the peer-review process relating to the publication of the article co-written by Dr Newton in the UK Journal of Bone and Joint Surgery. He confirmed, *inter alia*, that the scientific validity of the article is assessed when the article is circulated among three or four

⁴¹ Record: p358 – p359

⁴² Record: p358 – p359

⁴³ Record: p358 – p359

⁴⁴ Record: p567 – p568

experts in an anonymous fashion, and is accepted if the article is published.⁴⁵

65. The SCA failed, in the context of its evaluation of the reliability of Dr Newton's evidence, to refer to the imminent publication of the article on 11 December 2011. Whilst Dr Welsh sought to question the article's publishability (on unsubstantiated grounds), the fact of its publication in a prestigious international peer-reviewed journal was put beyond doubt when cross-examination resumed on 23 November 2011.⁴⁶
66. In the circumstances, it is submitted that the SCA not only made factually incorrect findings not supported by the evidence, but fell into the trap warned against in the Linksfield Park Clinic case.⁴⁷

Dr Newton's conclusions not supported by other studies

67. The SCA incorrectly found that Dr Newton's conclusions were not supported by any other study.⁴⁸
68. Several other studies supported a direct link between outcome and time of treatment. Details of those studies were given in evidence. The only factor introduced by the Conradie Hospital

⁴⁵ Record: p805

⁴⁶ Record: p849 - p850

⁴⁷ Ibid at par [40]

⁴⁸ Record: (SCA Judgment) p1382, par [20]

case series, which was not already in the published medical literature, was that improved outcome was linked to treatment within four hours.⁴⁹

69. In the Delamarter study performed on dogs, decompression was effected at three hours and six hours, with those that were decompressed within three hours doing “spectacularly well”.⁵⁰
70. A paper reviewing literature on reduction of spinal cord injuries supported closed reduction as a safe technique, as opposed to manipulation under anaesthesia⁵¹ and concluded that many investigators favour reduction as rapidly as possible after injury to maximise the potential for neurological recovery.⁵²
71. A 1992 study by Hadley found a link between time of decompression and outcome, where patients were decompressed in less than five to eight hours.⁵³
72. A retrospective review of a 100 patients referred to in the Hadley study found a significantly higher improvement in patients reduced within six hours.⁵⁴

⁴⁹ Record: p347

⁵⁰ Record: p289 - p290

⁵¹ Record: p298 - p299

⁵² Record: p300 – p301 – In a chapter entitled Disorder of the Spine and Peripheral Nerves published by The Association of Neurological Surgeons and Congress of Neurological Surgeons

⁵³ Record: p302 – In a publication entitled Neurosurgery by Hadley (1992)

⁵⁴ Record: p413

73. A study in 2011 by Fehlings, undertaken to establish that early reduction or early surgical intervention was probably safe, concluded that there is a strong biological rationale for the link between the timing of decompression and outcome.⁵⁵ This “biological rationale” underlies the Newton approach, and was conceded by Dr Welsh.

Consensus

74. The SCA found that Dr Newton conceded that there was no consensus in medical scientific literature regarding the relationship between timing of decompression and neurological outcome.⁵⁶

75. This finding is not correct. It is based on an isolated reading of a limited part of Dr Newton’s early evidence only.⁵⁷

76. Dr Newton referred to Dr Masry, who advocated a conservative approach with no intervention. Dr Masry was described by Dr Newton as ultra-conservative⁵⁸, and Dr Newton stated further that very few spinal surgeons held the view that one should not reduce at all.⁵⁹

⁵⁵ Record: p835 – p836

⁵⁶ Record: (SCA Judgment) p1378, par [9]

⁵⁷ Record: p289

⁵⁸ Record: p402 - p406

⁵⁹ Record: p348 - p349

77. The undisputed evidence of Dr Newton was that there was broad consensus in the South African medical fraternity amongst both orthopaedic surgeons and neurosurgeons that an early reduction was related to improved outcome. He disagreed that there was no consensus.⁶⁰
78. Dr Newton was the Head of the Conradie Hospital Specialist Spinal Cord Unit at the time of the incident. He was Respondent's servant, and Conradie hospital was a hospital under Respondent's control. All the spinal surgeons at Conradie Hospital, and several at GSH (many of whom were identified by name in the evidence), applied those treatment methods in 2002. Conradie Hospital's treatment methods were the Respondent's preferred treatment methods for those kinds of injuries at the time.
79. At Dr Newton's seminars no-one ever disputed the validity of his conclusions, including Dr Domisse, described as the father of spinal cord injury treatment in South Africa.

⁶⁰ Record: p345 - p346

80. Dr Newton repeatedly disputed the proposition that there was a lack of consensus about his conclusions. He said no-one disagreed with his conclusions.⁶¹
81. Dr Welsh could not point to any dissenting views on the relationship between timing of decompression, and outcome.⁶²
82. In cross-examination Dr Welsh agreed that the only remaining issue in respect of which there might not be consensus was the cut-off time, which he described as a “lack of standardisation of terminology”.⁶³
83. Later in his evidence Dr Welsh was of the view that there was a lack of consensus as to whether doing something effects the outcome at all, and also as to timing.⁶⁴
84. This does not accord with his earlier evidence. These views were not supported by any facts, data or medical literature which contradicted Dr Newton’s views.
85. A lack of consensus implies a dissenting opinion, based on scientific data giving rise to an opposite conclusion. There was

⁶¹ Record: p364, p367 – p369

⁶² Record: p833 – p836

⁶³ Record: p836

⁶⁴ Record: p837

no lack of consensus on Dr Newton's opinion demonstrated in the evidence.

Inconsistent assessment of the conflicting opinions

86. Dr Welsh's evidence was not subjected to a critical analysis of the logic underlying his opinion by the SCA. His opinions were not supported by any data, scientific evidence or inherent logic. The data presented at the trial pointed to the indefensibility of Dr Welsh's opinion.
87. Dr Welsh's opinions also did not remain consistent. Paragraph 6 of his expert witness summary recorded that he would testify that early reduction should be pursued in the setting of incomplete spinal cord injuries only. The impression was sought to be created that in the Applicant's case there had been a complete transection of the spinal cord, and that treatment (reduction) would not have affected the outcome.
88. It was evident that he had either misconceived the facts, or had failed to realise that there was a clear distinction between a clinical finding of a "complete" injury, and one that involved transection of the cord. The clinical finding refers simply to the (transient) situation on examination based on responses to certain motor- and sensory stimuli. At best for him, Dr Welsh did

not realise this, and when his expert summary was prepared believed that it meant there had been a complete transection of the cord.

89. In his evidence Dr Welsh conceded that his statement regarding intervention only in the case of incomplete injuries came from the 2011 Fehlings article.⁶⁵ Contrary to the impression he sought to create in his expert summary, he conceded that reduction should be pursued in the setting of both clinically complete and incomplete injuries. Dr Welsh's opinion that the prognosis for recovery in clinically complete injuries (but not cases of physiologically severed spinal cords) was bad was not supported by any study, or based on any scientific data.⁶⁶ Dr Newton's own study contradicted it.⁶⁷

90. As to causation, Dr Welsh did not dispute the proposition that it was more likely than not that with early reduction Applicant would have done better.⁶⁸

91. Thus, it is submitted that the SCA did not apply the principles formulated in the Linksfeld Park Clinic case to the opinion evidence of the two expert witnesses consistently. It is submitted

⁶⁵ Record: p824

⁶⁶ Record: p822 - p823

⁶⁷ Record: p1711. All 57 patients in the Conradie Hospital case series were completely paralysed at the time of reduction, and therefore clinically "complete".

⁶⁸ Record: p354

that it is a matter of general public concern that there should be clarity and consistency in the approach to evidence of this kind.

The Constitutional issues

92. The SCA's approach to the expert opinion evidence and the scientific data, and the criticisms thereof, raise constitutional issues which fall to be decided by this Honourable Court. These issues are formulated in Applicant's application.⁶⁹

The matter raises a point of law of general public importance

93. The application also raises points of law of general public importance, namely the correct approach and evaluation of opinion evidence based on scientific data, where there are differing views.

94. In the present case the appeal raises a question of law, as to whether the primary and secondary facts are sufficient to justify the conclusion that the evidence establishes a causal nexus between the failure to treat the Applicant within four hours and a significantly improved neurological outcome.⁷⁰

Other jurisdictional requirements

⁶⁹ Record: (Constitutional Court Application) p1596, par 18

⁷⁰ Record: (Constitutional Court Application) p1628 – p1629, par 100 – 103, State v Basson 2005 (1) SA 171 (CC) p193 - p194

95. The issues are of significant importance in all matters in which expert medical or other scientific opinion is relevant, and will have an impact on a large number of trials in which litigants rely on opinion evidence based on medical / scientific data throughout South Africa.
96. The SCA decision, if wrong, clearly results in a substantial injustice to the Applicant.
97. It is accordingly in the interests of justice that leave to appeal be granted to the Applicant. Besides the injustice to the Applicant, the issues are of sufficient importance to merit the attention of this Court.

Conclusion

98. For the above reasons it is submitted that the application ought to succeed and that Applicant is entitled to an order as formulated in the notice of motion.

**WRE Duminy SC
J A van der Merwe
Applicant's Counsel**