**IN THE HIGH COURT OF SOUTH AFRICA**

**GAUTENG LOCAL DIVISION, JOHANNESBURG**

CASE NO: **17156/2011**

(1) REPORTABLE: ~~YES~~/NO
(2) OF INTEREST TO OTHER JUDGES: ~~YES~~/NO
(3) REVISED

_____ _____

**Date:** **WHG VAN DER LINDE**

**In the matter between:**

**ROETS, JOHANNA HERCULINA** Plaintiff

and

**MAGOBOTHA, SEBASTIAN KEITH McDONALD** First Defendant

**PEER, ZANUL ABERDEEN ABUBAKER** Second Defendant

**MEC: HEALTH AND SOCIAL DEVELOPMENT,**

**GAUTENG PROVINCE** Third Defendant

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Judgment

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Van der Linde, J:

Introduction and background

[1] The plaintiff claims damages from the defendants caused by the professional negligence of the surgeon who had performed a total right hip replacement on her, and that went wrong. The ultimate result was that the plaintiff is now without an articulated right hip, and is wheel-chair bound, although the expectation is that in the future she could undergo a revision procedure, involving the placement of a prosthesis that should relieve her from her current immobility.

[2] At the commencement of the trial I was asked to give and gave an order separating the questions of merits and causation from the other issues, and directing that the two separated issues be heard first. It was accepted that the third defendant is vicariously liable for any proven negligence of the first and second defendants.

[3] The plaintiff herself testified and called Prof Van der Jagt as an expert, whose expertise was accepted, and closed her case. The defendants applied for absolution from the instance. I gave a written judgment in which I refused the application. The defendants then called only the first defendant, and closed their case.

[4] The essential background is set out in the written judgment on absolution. In a nutshell, it is that the plaintiff, who had had a left hip replacement, had a right hip replacement performed at Chris Hani Baragwanath Academic Hospital ("CHBAH") on 10 June 2008. She thought it was performed by the second defendant but he denies this; the first defendant accepts that in view of that denial, he (the first defendant) must have performed it, although he has no independent recollection of having done so.

[5] At the end of the day, not much, if anything, turns of this, because the first defendant is a professor of orthopaedics connected to the academic hospital where the procedure was carried out and the leader of the team that performed it. He, very

properly, accepted full responsibility for whatever is found to have gone wrong in the execution of the replacement.

The evidence

[6] Prof van der Jagt was the first witness. He proved his report and testified to the relevant sequence of events. The plaintiff had had previous surgery by the first defendant. He had performed shoulder surgery, back surgery, and a left hip replacement on her. These were successful, and she had faith in him. In time, a right hip replacement become necessary, mainly to alleviate complications resulting from the back surgery. The plaintiff's medical aid would not respond, because the back surgery had been carried out shortly before.

[7] The first defendant proposed that he perform the surgery at the CHBAH, a provincial hospital, where he also practised. She agreed. After a false start in May 2008 (the plaintiff lost her nerve), the procedure was carried out on 10 June 2008. She was seen by a physiotherapist soon after and, since displaying good recovery, was discharged on 12 June 2008.

[8] On 9 July 2008 the plaintiff fell. Her description of the event was that suddenly her leg disappeared under her. It is not clear whether this was a dislocation that caused a fall, or whether she fell and then dislocated her right hip. She was readmitted to the CHBAH.

[9] On 19 July 2008 the first defendant performed a closed reduction of the plaintiff's right hip. X-rays were taken on 24 July 2008, and again on 21 August 2008. In January 2009 the plaintiff saw the first defendant again. She felt her recovery was slow. Ultimately she took a second opinion from Dr Steyn in September 2009. He advised a

revision, which he carried out on 21 October 2009. Earlier the same month, on 12 October 2009, the plaintiff had a second dislocation of the right hip.

[10] The Steyn revision was not a success. The plaintiff developed sepsis. On 4 November 2009 Steyn performed further surgery on the plaintiff. He removed the prosthesis he had placed in her hip, and inserted a girdle-stone which serves only to protect the hip, pending a further revision in due course once the sepsis will have cleared. It left the plaintiff in a wheel-chair, because she now has no articulated mechanism in the right hip.

[11] Prof van der Jagt opined that the procedure carried out by Dr Steyn, and the sepsis that followed on it, is in effect a red herring. He argued that sepsis is a risk in all surgical procedures, and that the ultimate cause of the situation in which the plaintiff now finds herself, is the misalignment of the acetabulum during the first procedure carried out at CHBAH on 10 June 2008, some 15 months earlier.

[12] The witness said that the proper alignment of the acetabulum is essential, because if not done, the patient would be prone to dislocation. He said that the X-rays of 24 July 2008 – the earliest relevant X-rays available in the trial – show the position in which the acetabulum was immediately after the 10 June 2008 procedure, because there is no evidence in the X-ray of the two screws or the acetabulum having moved. And in the position there reflected, it is clear that the acetabulum was poorly aligned, since it was at an angle of about 80 degrees to the horizontal.

[13] So he concluded that the procedure of 10 June 2008 was not only substandard, but also the cause of the plaintiff's present condition.

[14] The plaintiff when she testified explained her trust in the first defendant. She explained how he had promised her that he would himself perform the procedure at

CHBAH. She explained how when she called the first defendant after her discharge, he was surprised at it having occurred so soon. She said that the dislocation occurred when she was standing with the aid of crutches, talking to a friend, when she suddenly felt her leg give away underneath her.

[15] She explained how in time she felt her hip was not healing; how in January 2009 she saw the first defendant when he admitted that in truth he had not performed the hip replacement. She said that she took the second opinion, had the revision, and how it was a failure for the sepsis. She explained how that has left her in her present state of immobility.

[16] The first defendant testified. He confirmed most of the plaintiff's evidence. He was uncertain as to whether he had performed the procedure of 10 June 2008 but accepted full responsibility for it. He explained the closed reduction he had performed on 19 July 2008, and how he was able to observe the procedure by means of an Image Intensifier. He was satisfied that the reduction was a success.

[17] He agreed that what was reflected in the X-rays of 24 July 2008, after the closed reduction, was a misalignment of the acetabulum and of the polyethylene inner. Had he observed the acetabulum in that position on 19 July 2008, he would have recommended to the plaintiff that she went for a revision. Although he thought the alignment was between 67 and 69 degrees, in his view it was nonetheless unacceptable. He thought the standard was about 40 to 60 degrees.

[18] He thought that he had seen the X-rays that Dr Steyn had obtained, and that showed the plaintiff's hip as it currently presents. There are still the two screw ends in the hip that had held the acetabulum in place. He opined that the screw heads

could not have been cut off during an operation, and argued accordingly that they must have broken off during a dislocation.

[19] That being so, he thought that the X-rays of 24 July 2008 might have reflected an acetabulum of which the screw heads had already been sheared during the plaintiff's fall, implying that the acetabulum was already loose and mobile at that stage. This fact would not have been visible on the X-ray, he said, nor would he necessarily have picked it up when performing the closed reduction of the right hip on 19 July 2008.

[20] The X-rays of 24 July 2008 also reflect that the polyethylene liner had moved, hence the femoral head lodged up into the top of the acetabulum. He said that might have happened when after the closed reduction that he had performed, the plaintiff was being mobilised or moved on and off hospital beds.

Discussion

[21] The evidence having been led, and the witnesses having been cross-examined, the essential issue between the parties, at least on the facts, must be understood against the following background. A hip replacement involves the insertion of a steel cup, fitted with a polyethylene liner as a replacement socket into the hipbone. This is called the acetabulum component of the prosthesis.

[22] The head of the femur is then cut off, and a metal spike, the top end of which is ball-shaped, is inserted and fixed into the femur. This is called the femoral aspect of the prosthesis. The top end, or ball-shaped end, of the femoral aspect then fits into the acetabulum, thereby completing the mechanical articulation of the replaced hip.

[23] The success of the replaced hip is to a large extent dependent on its ability to provide an articulated joint. The leg must be able, principally, to move forward and

back in vertical fashion, off the hip and its socket or acetabulum. The face of the acetabulum must be positioned at roughly 45 degrees to the horizontal, because the femoral ball-shaped head presents at a mirror-imaged angle from the opposite end. In other words, for these two parts to match ideally, their respective angles to the horizontal must also match.

[24] Moreover, the ball-shaped end of the femoral head must fit snugly into the polyethylene liner so as to ensure a smooth articulation. The liner must not shift out of its pat position within the acetabulum, because if it does, the femoral head shifts away from centre, again endangering the functionality of the hip.

[25] Of the problems that may occur if these three parts of the prosthesis are not fitted as described above, is that the hip may dislocate. That makes for an unstable hip, and thus for compromised mobility.

[26] Here, the plaintiff's case is that the acetabulum was fixed, when the hip replacement was performed, at an angle of 80 degrees to horizontal. That invited dislocations. The slow healing process of the hip joint, and the pain she continued to experience, led eventually to the plaintiff seeking a second opinion, in the person of Dr Steyn, who performed a revision procedure. I revert below to that procedure and its aftermath both of which formed the focus of the judgment on absolution from the instance.

[27] At all events, whether the acetabulum was incorrectly fitted during the operation is disputed, and forms the central factual dispute. The earliest relevant X-rays that are available were taken on 24 July 2008, five days after the plaintiff was admitted after a fall resulting in a dislocation of the contentious hip. The first defendant reduced that dislocation on 19 July 2008.

[28] The X-rays taken five days after the dislocation show that both the acetabulum and the liner where misaligned by that date. Yet the first defendant explained that when he reduced the dislocation he was assisted by an image intensifier, which is an X-ray device that enabled him to observe the parts of the hip as he was reducing it. He considered that that reduction was carried out successfully.

[29] He said, in fact, that if he had observed then that all he could do was to have fitted the femoral head into the position in which it in fact presented on the 24 July 2008 X-rays, he would have advised the plaintiff to undergo a revision.

[30] The misalignment presented by the 24 July 2008 X-rays comprised the face of the acetabulum in the 80 degrees orientation to the horizontal, said Prof van der Jagt, and the femoral head not fitted snugly in the middle of the acetabulum, but pushed right up to the top of the acetabulum. That implied, everyone accepted, that the liner was no longer fitted snugly as an inner to the acetabulum, and must have been pushed out of the acetabulum, or at last partly so. The X-rays of 21 August 2008, just short of a month later also present, despite its different perspective, a misaligned joint in the respects just described.

[31] So, essentially, the question is what caused the drastic change from what the first defendant observed on 19 July 2008, and the misalignment which the X-rays presented five days later on 24 July 2008? The first defendant suggested that this could have occurred in the process of mobilising the plaintiff post-operatively after the reduction of 19 July 2008; or it could have been that with the plaintiff's fall that led her to be re-admitted, the screws broke off at their heads, causing the acetabulum to have become loose and tending to shift.

[32] The other explanation is of course that the first defendant's observation after the reduction was not as accurate as he thought it was; and that in fact the original fit of the acetabulum was indeed as bad as it presented in the X-rays of 24 July 2008.

[33] Ultimately it seems to me that, as matter of common sense, if the screw heads were sheared during the plaintiff's fall and dislocation of July 2008, the likelihood is that the acetabulum would have had to have moved off the screws, and it would have been loose for a period of 15 months. It is surprising, if that were the case, that the plaintiff did not experience more dislocations during that period.

[34] That takes one back to the opinion of Prof van der Jagt who said that in his opinion the X-rays of 24 July 2008 reflected an acetabulum that had not moved; and that had the acetabulum or the screws moved from when first they were fitted slightly more than a month earlier, lines would have been visible over the dome of the acetabulum and around the screws. This evidence was not discredited in cross-examination, and it appears well-founded, since the movement could conceivably have caused disengagement with the adjoining bone, that could be reflected as darker areas on the X-ray.

[35] The plaintiff argued that the evidence of Prof van der Jagt should be accepted; that the sepsis was irrelevant because it is part of the risk of any major surgery; and that the misalignment of the initial surgery was therefore not only negligent, but also the cause of the plaintiff's present condition.

[36] The defendants' central argument was that the misalignment had not been shown, because the 24 July 2008 X-rays were not of 10 June 2008; but, more importantly, that the plaintiff had not shown legal causation because the chain of factual

causation was interrupted by a *novus actus interveniens*, being potentially an over-muscular closed reduction but, more likely, the sepsis.

Has the plaintiff shown a misalignment during the hip replacement of 10 June 2008?

[37] The evidence of Prof van der Jagt was pertinent: he said that the acetabular component had not moved at all. He said too that the X-rays of 21 August 2008 showed that there had been some bone growth at the top and the bottom of the acetabulum, and that the screws were tightly fitted, still then. He therefore inferred from this, extrapolating backwards, that the acetabulum was in fact fitted in this position during the hip replacement of 10 June 2008.

[38] In argument this form of reasoning was attacked. It was said to be reverse reasoning, inferring the cause from the effect, instead of the effect from the cause. It was said that the plaintiff should have proved, but did not, the X-rays taken immediately after the procedure on 10 June 2008; this failure was said to be fatal to the plaintiff's case on negligence.

[39] There can of course be little doubt that if those X-rays were available, there would not have been a case, at least not in the form in which it was finally presented. But that does not mean that the reasoning was faulty. The fact which is sought to be inferred, as a first step, is whether the acetabulum had moved. That fact was sought to be proved by the opinion of Prof van der Jagt, who in turn had drawn inferences from the fact and appearance of the X-rays.

[40] His opinion that some bone growth had occurred, was the function of an observation made by an expert. He has been practising for many years, and his demeanour was reasoned and quietly confident. I accept that part of his evidence.

[41] The next step in the reasoning is then to draw an inference from the fact that the acetabulum had not moved between 24 July 2008 and 21 August 2008. If it had not moved then, then absent evidence that it had moved between 10 June 2008 and 24 July 2008, there is a probability, perhaps derived from the loose presumption of a continuing state of affairs, that the acetabulum was in the same position on 10 June 2008 as it was on 24 July 2008.

[42] This form of reasoning is not reverse logic merely because the inference sought to be drawn relate to events that had occurred prior in time to the facts from which the inferences are drawn. The question remains simply whether the inferences are the most probable inferences from the proven facts.

[43] It follows that I cannot fault the reasoning of Prof van der Jagt, and I conclude that the acetabulum was misaligned during the procedure of 10 June 2008. It seems accepted, but at all events not challenged, that the correct alignment of the acetabulum is an endeavour which a reasonably proficient orthopaedic surgeon is well capable of achieving. The misalignment of the acetabulum was thus negligent.

Did the sepsis break the chain of causation?

[44] Prof van der Jagt opined and the first defendant accepted that an acetabulum misaligned to the extent that was evident here predicted a revision. The Steyn procedure was therefore the effect of the prior cause of the misaligned acetabulum. Had the Steyn procedure been successful, its cost would have been the result of the negligence of the first defendant.

[45] But it was not successful, because sepsis had set in, probably during that procedure. That resulted in the procedure having to be undone, and the girdle-stone

having to be fitted as a holding action. The question is whether in these circumstances the occurrence of sepsis interrupted the causative chain of events.

[46] First, the evidence. Prof van der Jagt said that although there is no firm evidence as to when and where the sepsis originated, the more procedures one has, the greater the prospect of sepsis occurring. He said that infections – which result in sepsis – may have been sub-clinical, and is a potential threat with every major surgical procedure.

[47] This opinion was not challenged. It is persuasive, one has to conclude, because one knows how medical staff, particularly in the operating theatre, are seen to be taking steps to fight the presence of infecting bacteria, the most common cause of sepsis.

[48] In these circumstances, was the *actus interveniens novus*? In the judgment on absolution from the instance I identified the requirements for a true *novus actus interveniens*.[1] Where, as here, based on the evidence of Prof van der Jagt, the sepsis was a risk inherent in the situation created by the misalignment of the acetabulum, namely a revision, the intervening act is not *novus.*

[49] Prof Fagan, discussing Hart and Honore's Causation in Law,[2] explains[3] that in the South African law of delict, causation is resolved by two distinct enquiries: first, whether the act was a cause *"in fact"* of the harm, determined by means of the but-for[4] test; and if so, second, whether the act was linked sufficiently closely or directly to the harm for legal liability to ensue.[5]

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[1] Paragraph [10] of the judgment, referring to SA Eagle Insurance Co. Ltd v Cilliers (389/85)[1987] ZASCA 119 (30 September 1987), per Nestadt, JA.

[2] Paper delivered at a colloquium held at the University of Cape Town on 13 and 14 March 2009, subsequently published by *Siber*Ink in 2011, sub nom, "Thinking About Law, Essays for Tony Honore", edited by Daniel Visser & Max Loubser.

[3] Ibid, 51.

[4] Also known as the *conditio sine qua* non test.

[5] Also known as legal causation.

[50] Legal causation is determined by two sub-sets of considerations; first, factors such as reasonable foreseeability, directness, and the absence/presence of a *novus actus interveniens*; and second, factors such as legal policy, reasonableness, fairness and justice.[6] In the weighing of these two sub-sets of considerations the first sub-set is subsidiary to the second, meaning: *"So if, for example, the foreseeability test yields a result that is unfair and unjust, fairness and justice will prevail."*[7]

[51] This method of determining causation has of course been revisited and re-arranged by the Constitutional Court in Lee v Minister for Correctional Services.[8] That court held that the but-for test was a tool, not a principle, and that ultimately the enquiry was a common sense one as to cause and effect.

[52] Justice and fairness must obviously ultimately prevail, but it seems to me that the present enquiry need not even go that far, because the initial misalignment fails, each step of the way, to clear the hurdle to the next round of enquiry. To begin with, the misalignment was clearly a cause *"in fact"* of the ultimate harm, being the current immobility: without it, the revision would not have been performed, and without the revision, sepsis would not have occurred.

[53] Moving on to the second enquiry, that is legal causation, the sepsis was – on the evidence of Prof van der Jagt – a reasonably foreseeable event, since it may occur in any major surgery. Finally, even if it had to come to applying the yardstick of fairness and justice, I have to say that on an overall view the events, it seems to me that plaintiff's present state is a function of what had gone wrong at the initial operation.

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[6] Ibid.
[7] Ibid.
[8] 2013 (2) SA 144 (CC).

[54] I bear in mind particularly the fact that two dislocations had occurred; that a closed reduction after the first dislocation was undertaken; that the plaintiff's hip continued to remain painful and ineffective; and that given the opinion of Prof van der Jagt, supported by the view of the first defendant, a revision was unavoidable and waiting to be performed.

[55] It follows that in my view the plaintiff has discharged the onus of proving causative negligence. I do not believe that it has been shown that any negligence can be ascribed to the second defendant.

Order

[56] In the result I make the following order:

(a) The issues of negligence and causation are separated under rule 33(4) from the other issues that arise between the parties.

(b) The issues so separated are to be determined first, and the other issues that arise are postponed sine die.

(c) It is declared that the first and the third defendants are liable, jointly and severally, for such damages as the plaintiff may prove as having been suffered as a result of the total right hip replacement performed at the Chris Hani Baragwanath Academic Hospital on 10 June 2008.

(d) The costs of the hearing are to be paid by the first and third defendants, jointly and severally.

(e) The said costs are to include the reservation and preparation costs of Prof van der Jagt, who is declared to have been a necessary witness.

WHG van der Linde
Judge, High Court
Johannesburg

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Date judgment: 14 December 2016