

# Litigation Following Total Hip Arthroplasty

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## Abstract

**Background:** Total hip arthroplasty (THA) is commonly performed procedure internationally, and patients may expect an excellent prognosis. Risks associated with the procedure may lead to patient dissatisfaction and litigation. International data suggests orthopaedic surgery is particularly prone to high litigation rates, third to only obstetrics and general surgery in this regard. In Australia, there is currently no body which accurately collates litigation data following surgery.

**Methods:** We performed a systematic search of several Australian legal databases to find cases of litigation following THA, and supplemented this with data provided by the Health Care Complaints Commission, National Joint Replacement Registry and medical indemnity insurers. We also performed a review of the current literature in the field.

**Conclusions:** 11 cases were found and analysed. 28% of cases were successfully litigated. Approximately 1/3 of litigation was for leg length discrepancy. Other causes for litigation included infection, nerve injury and dislocation. Remuneration following successful litigation varied between \$25, 000 and \$265, 000, corrected for inflation. The Australian data is in keeping with that of similar studies from USA and UK. The dissemination and accessibility of this data is important for surgeons in improving the informed consent process for their patients.

**Key Words:** Hip, arthroplasty, replacement, litigation, medico-legal

## Introduction

Total hip arthroplasty (THA) is a commonly performed procedure in Australia and internationally. In 2016, over 36, 000 THA procedures were performed in Australia, double the amount of a decade prior<sup>1</sup>. Though most patients undergoing THA enjoy excellent objective and subjective functional outcomes<sup>2, 3</sup>, there are known risks and complications associated with the procedure,

which may contribute to patient dissatisfaction. These include medical complications such as thromboembolism, cardiac events, and risks of general and local anaesthetic. However, of interest to the proceduralist are surgical complications such as nerve and vessel injury, leg length inequality and joint instability with recurrent dislocation. These complications may result directly from technique and intra-operative decision making and hence might be preventable and predictable. For this reason, surgery-specific complications can result in litigation. A thorough informed consent process mandates these issues be discussed with patients pre-operatively.

The healthcare industry has experienced an increasingly litigious medico-legal climate over the last two decades, both in Australia<sup>4</sup> and internationally<sup>5-7</sup>.

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International data suggests that orthopaedic surgeons are especially prone to litigation. The speciality is the third most commonly litigated in the United States based on a 13 year survey, following only obstetrics and general surgery<sup>8</sup>. In addition, orthopaedic surgeons face twice the rate of litigation as the average physician<sup>9</sup>. Between 1996 and 2000, orthopaedic surgery was the most commonly litigated speciality in Italy<sup>6</sup>. Elective procedures are also prone to litigation, with a UK-based study demonstrating that 17% of litigated cases in the National Health Service (NHS) were related to joint arthroplasty<sup>10</sup>.

An understanding of what drives this high rate of litigation following orthopaedic surgery is critical. It would provide an insight into the causes for patient dissatisfaction following surgery, and has the potential to shape the way in which surgeons communicate expectations, outcomes and complications during the consent process. Unlike the United Kingdom, Australia lacks an independent body that can collate litigation information following surgery. As a result, this information is not readily accessible for or easily disseminated to Australian surgeons. This potentially represents a failure in clinical governance<sup>11</sup>. Such knowledge could significantly improve patient autonomy, the informed consent process and ultimately the quality of care provided to patients.

This paper provides a review of the current literature surrounding litigation following total hip arthroplasty, and also aims to provide an Australian perspective in the context of international studies. Such an understanding may highlight areas in the communication, consent and management process which need to be improved in order to provide a cost-effective, informed and safe service for patients and surgeons.

## **Materials and Methods**

An electronic search of the literature was performed using several databases, including Medline, PubMed, Scopus and Google Scholar. The search was not limited by English language restriction or by date of publication. The following search terms were used as keywords:

“total hip replacement/arthroplasty”, “litigation” and “indemnity”. The electronic search was augmented by means of manual searches of the reference lists of the selected publications. Abstracts were initially reviewed to determine relevance.

A novel component of this paper was the search of several Australian legal databases, including CaseBase, LexisNexis Advance and AustLII. These are large online databases that collate all civil and criminal cases brought before all courts in Australia. Similar databases have been validated and used in the United States to analyse litigation trends following medical procedures<sup>12-14</sup>. The following keywords were used in the searches: “total hip replacement”, “hip arthroplasty”, “leg length discrepancy”, “nerve injury” and “dislocation”, and we examined cases from 1980 onwards. In total, 565 cases were screened for relevance and included in the analysis if they were deemed appropriate. Information such as reason for litigation, success of litigation and pay out received was gathered when available. Large medical indemnity companies were contacted, however unfortunately were not able to provide any substantial data.

## **Results and Discussion**

Eleven separate cases were found across all legal databases describing litigation from patients following hip arthroplasty surgery, ranging from 1991 to 2017. In three of these cases (28%), the case was successfully litigated, leading to pay out to the patient. In the remainder, the surgeon, hospital or health district successfully defended the case. In regards to the reason for litigation, this was reported in ten cases. Three cases were filed for leg length discrepancy. All three cases reported the limb lengthening on the operative side. The other causes for litigation were: infection (n=2), nerve injury (n=1) and instability resulting in recurrent dislocation (n=1). The remaining cases resulted from paraplegia secondary to spinal anaesthetic, peri-prosthetic fracture and issues surrounding the consent process. Of the three cases due to leg length discrepancy, only one was successfully upheld. This case was in 1995, and was associated with

a payout of \$15,000. Matched with inflation, this would be approximately \$26,000 currently. No other payouts were documented in any other cases. The most recent case filed for leg length discrepancy was in 2013, and was successfully defended by the surgeon. In the judgment, the value of pay-out if the case was successfully litigated was estimated to be \$265,000. Although this data provides valuable insight into litigations trends in Australia, they very likely represent a minority of the actual number of cases brought forward. In reality, many cases are settled between surgeons, indemnity providers and patients independently of the judicial system and would therefore not be reflected in these databases. Unfortunately, no indemnity providers were able to provide significant data regarding litigation cases that did not reach court.

#### *Orthopaedic litigation trends internationally*

Litigation has become more frequent across the international healthcare landscape over the last two decades. One study from the United Kingdom has reported the total amount paid in litigation in 2007 was 1,067 million USD, an increase from 990 million USD the year previously<sup>5</sup>. In Italy, there are approximately 15,000 cases made per year, accounting for a cost of USD\$15.5 billion. There is strong international data on litigation trends following orthopaedic surgery, from both the United Kingdom through use of the NHS Litigation Authority (NHSLA)<sup>15</sup> and by information released by medical indemnity providers in the United States and elsewhere<sup>13, 16</sup>. The frequency of litigation following orthopaedic procedures has increased since the 1990s, and is only now displaying a decline<sup>6, 7</sup>. Gould et al. reported that over a 13 year period, the approximate cost of liability secondary to orthopaedic procedures in the United States was \$560.2 million<sup>8</sup>. A study from the UK reports 17% of all litigated cases in the National Health Service are related to complications following total hip or knee arthroplasty<sup>10</sup>. A similar study from The Netherlands reported that approximately 0.14 – 0.3% of THA undergo some form of litigation<sup>17</sup>. In the United States, 15% of orthopaedic surgeons have at least one new claim each year at an average payment

amount of \$250,000 per case<sup>9</sup>. Though the number of litigated cases has increased, the proportion of cases which actually lead to pay out has remained relatively low, but varies between countries. A report from the United Kingdom suggests that approximately half of all claims lead to pay out, compared to one third of claims in Germany<sup>6</sup> and one quarter of claims in the United States<sup>18</sup>. This reflects that although there may be an increase in the number of litigated cases, the proportion of successful claims remains low and continues to decline.

#### *Orthopaedic litigation trends in Australia*

There is a paucity of Australian data describing litigation trends following surgical procedures. Unlike in the United States or the United Kingdom, Australia fails to have a single body or framework to collect data on litigation cases, whether it be cases for negligence, malpractice or otherwise. In 2014, the Australian Institute of Health and Welfare (AIHW) released an annual report on medical indemnity claims<sup>4</sup>. In 2012-13, there were 947 new litigation claims in the public sector, down from 1261 and 1397 cases the two years prior respectively. Of these, 62 cases were associated with orthopaedic surgery (6.5%). In these cases, 50% (n=31) of cases were due to procedural errors, 37% (n=23) cases due to treatment complications and 8% (n=5) were due to diagnostic errors. 7.4% of clinicians closely involved in an alleged incident resulting in a case were orthopaedic surgeons, following only general surgeons (11.3%) and emergency physicians (9.7%). The Health Care Complaints Commission (HCCC) is a government-funded association which receives and investigates complaints made against all health practitioners. The total number of complaints made to the HCCC has increased dramatically over the last six to eight years. In 2016-2017, the HCCC received a total of 2,298 complaints, an increase of 4.8% compared to the previous year and approximately double that of 2012-2013<sup>19</sup>. Of these, approximately 10% of complaints were related towards the care of patients within surgery. Of course, from this data it is unclear what proportion of these complaints were attributable to orthopaedic

surgery or what proportion of these complaints led to litigation. However, it does reflect an increasingly litigious environment in the Australian health care setting.

#### *Reasons for litigation following THA*

Several studies have attempted to characterise the causes for litigation by patients following THA. The most common causes for litigation are nerve injury, LLD, infection, recurrent dislocation and pain. From current literature, it is apparent that nerve injury accounts for approximately 20-30% of litigated cases, LLD approximately 10 – 16% of cases, and dislocation approximately 10–18% of cases. Patterson et al. described an audit of 115 litigation cases by patients following total hip arthroplasty over a period of 28 years that were defended by a single medical indemnity provider<sup>16</sup> in the United States. The most frequent cause for litigation were nerve injury (26.2%), dislocation (17.4%), LLD (13.5%), and medical causes (16.5%). Bokshan et al. reported on an audit of 119 litigation cases in the United States<sup>13</sup>, with the most common reasons for litigation being nerve injury (24.4%), LLD (12.6%) and subjective pain and weakness (10.9%). Atrey et al. have reported on data from the United Kingdom, provided by the NHS Litigation Authority (NHS LA)<sup>5</sup>. This authority collates all litigation cases for patients in the NHS. In 176 cases, the most common causes for litigation were nerve injury (21% of cases), LLD (16% of cases), serious infection (8.5% of cases) and fractures (6.8% of cases). Finally, a UK-based study by Bhutta et al. described a series of 352 arthroplasty procedures that resulted in litigation claims, of which 30% led to successful payment to the claimant. The most common causes for litigation were nerve injury (20%), LLD (11%), pain (12%), dislocation (10%) and infection (12%).

From an Australian perspective, our legal database search yielded only 11 separate cases, of which three were for LLD (28%), two for infection (18%), and one for nerve injury and for recurrent dislocation (9%). MDA National, one of Australia's largest medical indemnity insurers, reported on a series of 200

consecutive litigation claims made by patients who had received orthopaedic procedures in 2015<sup>20</sup>. In more than 75% of cases, the reason for litigation was for complications arising from surgery, with less common causes being failure to make adequate diagnosis, medical complications and medication errors. The most common surgical complications resulting in litigation were pain (approximately 25%), nerve injury (approximately 20%), infection (approximately 15%), and leg length discrepancy (approximately 5-10%). As the Australian health system lacks an independent litigation authority (as in the United Kingdom), or a freely accessible case database, gathering further information on litigation trends remains difficult.

#### *Success of litigation based on cause*

It is apparent that successful payment made to claimants is more common in cases of severe infection or recurrent dislocation, compared to LLD or nerve injury. Patterson et al.<sup>16</sup> were able to demonstrate that dislocation (61%) and infection (62.5%) demonstrated high rates of successful litigation, whilst LLD (21.4%) and nerve injury (37%) tended more often to be defended successfully. Bokshan et al.<sup>13</sup> demonstrated that in cases of LLD, there was physician loss in only 21% of cases, compared to a physician loss rate of 54% for objective nerve deficit. Similarly, the audit by Bhutta et al.<sup>15</sup> showed that nerve injury claims led to successful claimant payment in 31% of cases, compared to LLD in 26% of cases. In keeping with this, the legal database search performed as part of this report demonstrated that 33% of cases filed for LLD were successful.

#### *Pay-out associated with successful litigation based on cause*

Many studies have been able to describe the average payment received by patients for successfully litigated cases, based on the primary cause for litigation. In one US based study<sup>16</sup>, the average amount paid for successfully litigated cases of LLD and nerve injury were \$76, 000 and \$142, 000 USD respectively. Bokshan et al. reported significantly higher payments in their study of 119 litigated arthroplasty cases. An amount of \$1.3m and

\$1.08m was paid on average for successfully litigated LLD and nerve injury respectively<sup>13</sup>. In this study, LLD had the third highest pay out value, following hypoxic brain injury and peri-prosthetic fracture. In the UK-based study by Atrey et al., the average pay out for LLD and nerve injury was \$139, 000 and \$ 206, 000 USD respectively<sup>5</sup>. Finally, in another study of 352 litigation cases in the United Kingdom, 109 (30%) led to successful payment for the claimant<sup>15</sup>. In this study, the average pay-out for these successfully litigated cases was 885, 000 GBP for LLD, 1.8m GBP for nerve injury, 1.6m GBP for infection and 88, 000 GBP for dislocation. Hence, it is clear that nerve injuries and leg length discrepancy account for a majority of litigated cases, though the pay-out from these varies based on the reason for litigation and across countries. It is clear, however, that once these cases are successfully won, payment amounts are generally significant. Our legal database search of Australian cases revealed only a single payout of \$26, 000 (CPI adjusted), due to LLD, which is significantly below international standards. Another case, which was defended, would have led to a payout upwards of \$260, 000 if it were successful, which is more in keeping with global values.

### Conclusion

Understanding litigation trends following arthroplasty surgery is important as they may shape the formal informed consent process, creating a safer, cost-effective process for both patients and surgeons. Many studies from UK, USA and Europe have established leg length discrepancy, nerve injury and dislocation as major causes of litigation. Our analysis of Australian legal databases shows litigation rates roughly in keeping with those seen internationally. Unfortunately, virtually no Australian data is available to accurately quantify the incidence or prevalence of litigation following surgery in Australia. This is a failure in clinical governance. More research must be done in the field, possibly by establishing an Australian database similar to the NHS, which is able to collate litigation information.

**Conflict of Interest :** All authors declare no conflict

of interest in the production of this work.

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**Ethical Clearance:** Ethical clearance was not sought for this project as it is a systematic review of current literature and performs an audit of a database that is already publicly available. This is in keeping with guidelines from the National Health and Medical Research Council (Australia) and the World Health Organisation.

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