



Research Article

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## Issues Related to Hip Replacement

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### ABSTRACT

The purpose of this research paper is to determine the most critical complications that arise following hip replacement, whether in the short or the long term. A sample of 25 hip replacement patients and 10 medical practitioners who interact with them was selected. Mixed methods were used to analyze the data. It was identified that blood clots, dislocation, fracture, differing leg lengths, and infection are the most common complications. However, of these, it was established that the incidence of blood clots and infections is the highest. That of differing leg lengths is the lowest. However, based on the responses of the medical practitioners, there is a high chance that the incidence of blood clots and infections is similar. Several challenges were faced in completing this study and these related to time and the difficulty of identifying the patients. The study has important implications for the profession and for future research.

**Keywords:** Blood clots, Dislocation, Fracture, Differing leg lengths, Infection, Hip Replacement

### INTRODUCTION

In the last 40 years, hip replacement surgery has been deemed by a plethora of experts as among the most intelligent medical device innovations. Goodman, Yao, Keeney and Yang (2013) revealed that it has assisted almost an unlimited number of people to get over painful arthritis, overcome hip fractures, and improve their life's quality. There are three forms of hip replacement available. One of these is the total hip replacement where the entire hip joint is replaced (Alshryda, et al., 2013). The surgery involves the replacement of the femoral stem along with the ball and socket.

**Image 1:** Total hip replacement



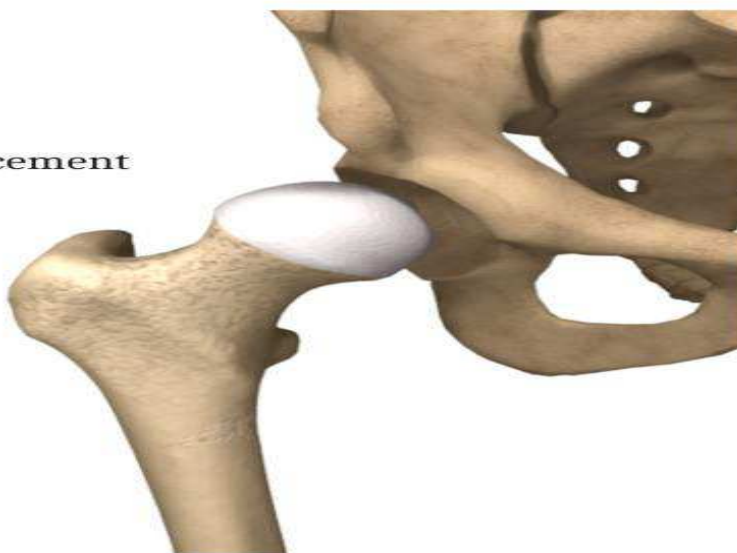
Source: APTA (2015)

The second type is known as the partial hip replacement. According to Lindgren, et al. (2014), this surgery usually requires the replacement of the ball, also known as femoral head, to be replaced. The third surgery is identified as a hip resurfacing procedure (Song, et al., 2013). At the heart of this surgery is to replace the cup, reshaping the ball and covering it with a metal cap.

**Image 2:** Partial hip replacement



**Partial Hip Replacement**



*Source: MedGuru (2016)*

Sankar, et al. (2013) revealed that each of these procedures usually accomplishes the underlying goal in a slightly different way. Despite the satisfactory outcomes that these procedures have had on patients, a growing body of research has revealed that there are a number of traceable safety issues (Kehlet, 2013). In the present paper, the purpose is to determine the most critical complications that arise following hip replacement, whether in the short or the long term.

## EXPERIMENTAL SECTION

### Methods

This study employed a mixed method to make the inquiry. This is to say that a mix of qualitative and quantitative methods was used. The quantitative part was used to draw important findings from the data collected and plot graphs. The quantitative method was used to analyze and make vital inferences regarding the findings. Foremost, a review of the literature was done and the most common complications associated with hip replacement noted. These complications included blood clots, dislocation, fracture, differing leg lengths, and infection. A group of people who have had an experience with hip replacement surgical process (25) was then recruited. Also, ten medical practitioners, who interact in one way or another with hip fracture patients, were also included as part of the study sample.

They were adequately informed about the purpose of the study and the potential benefits not only to them but also to the entire society. Data collection was conducted through a digital questionnaire. As such, each participant was sent a questionnaire through a convenient email. Two weeks were allowed for the participants to complete the items. The questionnaires contained a few items, which required the participants to name the problems that they faced after undergoing hip replacement. For the practitioners, they were required to name the issues that were presented to them from the least to the most common. The mean of the responses was then determined. To plot the graphs and make the required inferences, the differences in the responses from the mean was established.

## RESULTS AND DISCUSSION

The following table shows the response of the hip fracture patients.

Type of hip fracture issue	Blood clots	Dislocation	Fracture	Differing leg lengths	Infection
Number of times mentioned/frequency	18	10	7	2	23

Mean

$$\bar{x} = \frac{\sum x}{N}$$

Mean =  $18 + 10 + 7 + 2 + 23 / 5 = 12$

Difference from the mean

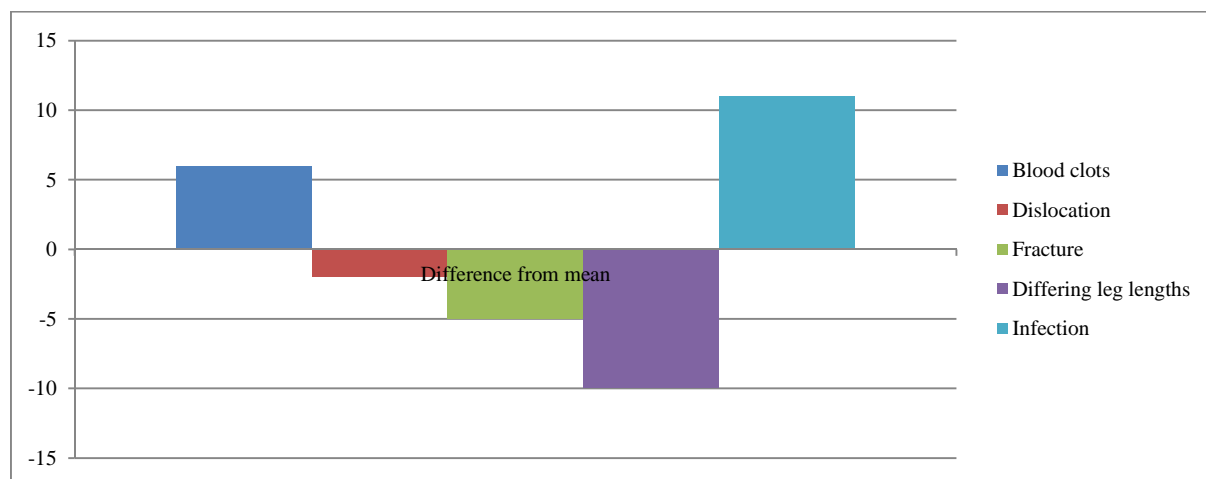
Blood clots;  $18 - 12 = 6$

Dislocation;  $10 - 12 = -2$

Fracture;  $7 - 12 = -5$

Differing leg lengths;  $2 - 12 = -10$

Infection;  $23 - 12 = 11$



From the graph above, it is evident that infection is the most common issue associated with hip replacement surgery. This finding is in line with the study by Stambough et al. (2015), who revealed that, after hip replacement, most patients do not adhere fully to the directions of the medical practitioners. In effect, different forms of infections tend to occur. However, just as Gordon et al. (2013) found out, blood clots are also common, but not to the degree of infections.

The graph above also reveals that, even though dislocation, fracture, and differing leg length also occur following hip replacement, they are not frequent. Such a finding corresponds with the outcomes of studies such as that by Panteli, McRoberts and Porteous (2014) and Brooks (2013). These researchers agreed that dislocation, fractures, and differing leg lengths infrequently occur after a person has had a hip replacement. However, the researchers indicated that infrequency is largely dependent on the quality of hip placement and the nature of support provided.

Underpinning these findings, Hietala et al. (2013) found out that, where poor surgical procedures are adopted and if little or no support is provided after hip replacement surgery, it follows that a patient will experience fracture and dislocation issues among others more often.

The following table shows the response of the medical practitioners who attend to hip replacement patients.

Type of hip fracture issue	Blood clots	Dislocation	Fracture	Differing leg lengths	Infection
Number of times mentioned/frequency	23	10	7	1	23

Mean

$$\bar{x} = \frac{\sum x}{N}$$

Mean =  $23 + 10 + 7 + 1 + 23 / 5 = 12.8$

Difference from the mean

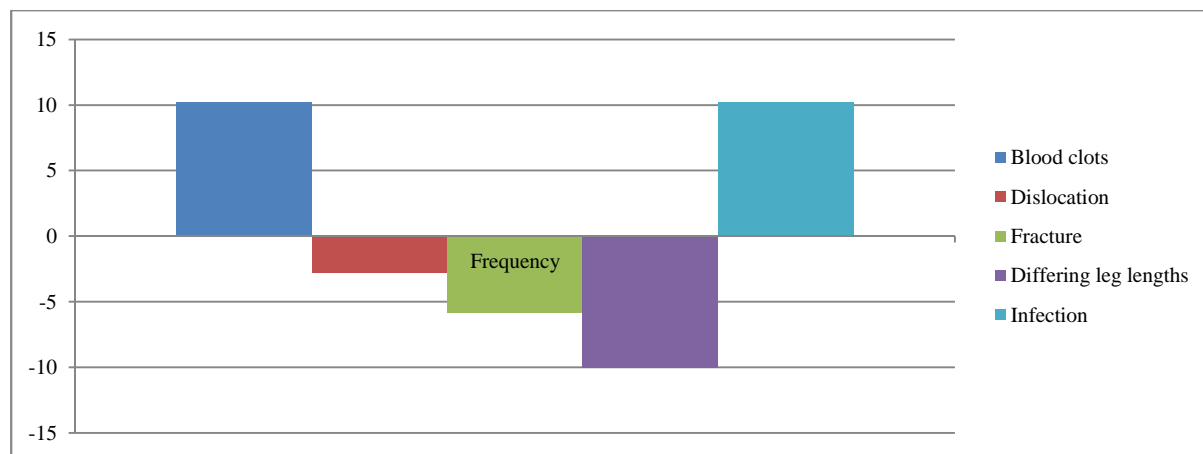
Blood clots;  $23 - 12.8 = 10.2$

Dislocation;  $10 - 12.8 = -2.8$

Fracture;  $7 - 12.8 = -5.8$

Differing leg lengths;  $1 - 11.8 = -10$

Infection;  $23 - 12.8 = 10.2$



The graph above shows that the blood clot and infections are similar in terms of difference from the mean. This means that their rate of occurrence after hip structure is similar, at least in the perspective of medical practitioners. This finding is dissimilar from that of the patients, who revealed that infections are more prevalent when compared to blood clots. This cause of such a difference is well documented in the study by Liao, et al. (2013), who revealed that infections mostly go hand in hand with blood clots.

In other words, where blood clots occur, infections are also likely to be experienced. Zmistowski, et al. (2013) offered an alternative explanation. He indicated that practitioners, unlike patients, are in a better position to know about an infection and a blood clot. A patient, according to the researcher, might not know that there is a blood clot. The graph also shows that dislocation, fracture, and differing leg lengths are less infrequent when compared to blood clot and infection, with the chances of the latter almost negligible.

## CONCLUSION

In this research paper, the purpose was to determine the most common forms of complications that associate with hip replacement surgery. A mix of quantitative and qualitative methods was employed to facilitate this purpose. A sample of 25 patients who have undergone a hip replacement and ten practitioners who interact with them was selected. Their responses were collected through questionnaires, which were sent to them through emails. All the participants duly completed the items contained in the questionnaires. Data was analyzed through the application of mean principles. From the data collected from the patients, it was revealed that infections and blood clots are the most common hip replacement issues. However, from the practitioners' perspective, the frequency at which blood clot and infections occur is similar. It was explained that, unlike the patients, medical practitioners are better placed to note a blood clot incidence. The patients and the practitioners shared the same thought that dislocation, fracture, and differing leg lengths were less frequent when compared to the blood clot and infections.

While the study was successfully completed, there were several challenges faced. One of the most significant was finding hip replacement patients, who would participate in the study. From a wide range of patient population, it was not easy to know the hip replacement patients. It necessitated the researcher to come up with an effective plan, which would allow him/her to select the right sample. Time was also a critical challenge. A limited time was allowed to carry out the study. Concerted efforts were made to beat the deadline. There is a high possibility that the haste prompted the researcher not to consider critical knowledge, which would have had a bearing on the results of the study. Despite these challenges, it is apparent that the study presents important knowledge and implications for

the profession and at the same time, it sparks future research. Overall, the experience was not only informative but also enjoyable.

#### REFERENCES

- [1]Alshryda, S., et al. (2013). *The Journal of Bone & Joint Surgery*, 95(21), 1969-1974.
- [2]APTA (2015), *Physical Therapist's Guide to Total Hip Replacement (Arthroplasty)*, Retrieved from [www.moveforwardpt.com/symptomsconditionsdetail.aspx?cid=1f495c5a-08cc-4e59-9fdd-8640fc2c0410](http://www.moveforwardpt.com/symptomsconditionsdetail.aspx?cid=1f495c5a-08cc-4e59-9fdd-8640fc2c0410)
- [3]Brooks, P. J. (2013). *Bone Joint J*, 95(11 Supple A), 67-69.
- [4]Goodman, S. B., Yao, Z., Keeney, M., & Yang, F. *Biomaterials*, 2013, 34(13), 3174-3183.
- [5]Gordon, M., et al. *BMC musculoskeletal disorders*, 2013, 14(1), 1.
- [6]Hietala, P., et al. *Journal of Trauma and Acute Care Surgery*, 2013 , 74(4), 1087-1091.
- [7]Kehlet, H. (2013). *The Lancet*,381(9878), 1600-1602.
- [8]Liao, Y., et al. (2013). *Physical Chemistry Chemical Physics*, 15(3), 746-756.
- [9]Lindgren, et al. (2014). *Bone Joint J*, 96(5), 590-596.
- [10]MedGuru (2016). *Partial Hip Replacement*. Retrieved from [www.medeguru.com/orthopedics/partial-hip-replacement/](http://www.medeguru.com/orthopedics/partial-hip-replacement/)
- [11]Panteli, M., McRoberts, J., & Porteous, M. J. (2014). *European Journal of Orthopaedic Surgery & Traumatology*, 24(3), 353-358.
- [12]Sankar, A., et al. (2013). *Osteoarthritis and Cartilage*, 21(10), 1485-1493.
- [13]Song, Z., Borgwardt, L., Høiby, N., Wu, H., Sørensen, T. S., & Borgwardt, A. (2013). *Orthopedic reviews*, 5(2), 12-17.
- [14]Stambough, J. B., et al. (2015). *The Journal of arthroplasty*, 30(4), 521-526.
- [15]Zmistowski, B., et al. (2013). *J Bone Joint Surg Am*, 95(20), 1869-1876.