Does the type of prosthetic increase the chance of an adult getting a post operative infection after a total hip replacement?

By Linda Batchelor

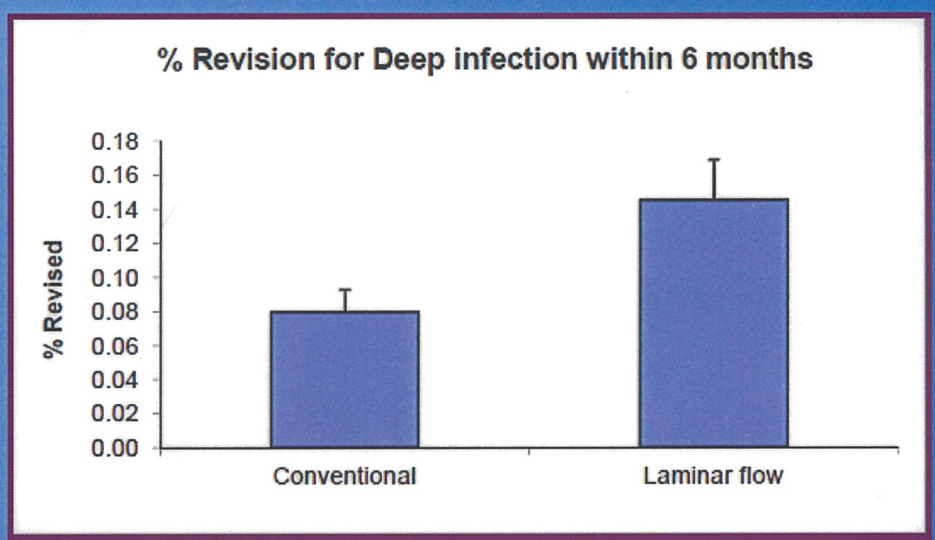
Introduction:

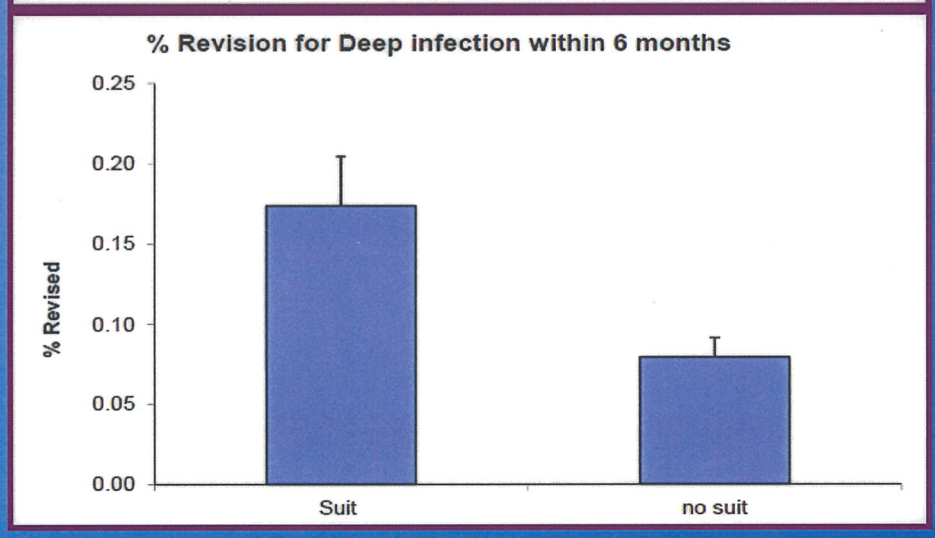
In New Zealand from 1st January 1999 until the end of June 2012, there were 81,859 primary hip replacement procedures carried out (Canterbury District Health Board [CDHB], 2012) at a number of hospitals throughout the country in both public and private settings, of this number the type of prosthetic used varies between surgeons and patients depending on why they needed to have their hip replaced. There are four basic styles of prosthetics used in total hip replacements each with their own benefits for use, they are: Metal on plastic, Metal on metal, Ceramic on plastic and Ceramic on ceramic (Bonesmart, 2013). I researched if a particular type has a higher chance of causing a post operative infection than another. I also looked at infection rates to do with what the surgeons wear and the type of theatre environment that the surgery was conduced it.

Findings:

The type of prosthetic used does not appear to have an impact on post operative infection rates (Choong, Dowsey, Carr, Daffy & Stanely, 2007). However the wear particles from metal on metal implants end up in the blood stream and eventually the liver and spleen. The actual effects of this are not known but it is believed that with particles accumulating in these areas then the immune system will be hampered increasing the risk of infection (Hosman, C van der Mei, Bulstra, Busscher & Neut, 2010).

The type of theatre environment and what the surgeon wears appears to have an impact on post operative infections as shown by the graphs opposite. Co morbidities the patients have prior to surgery also contribute to post operative infection rates, obesity and diabetes affect circulation rates thereby increasing healing times allowing more time for infections to get into the surgical wound site.





New Zealand Orthopaedic Association, 2012

Rationale:

Patients undergoing a total hip replacement need to be made aware of the possibility that they will get a post operative infection, which may not become apparently until months after their operation. Trying to reduce the impact on the body that co morbidities create like losing weight prior to surgery will help the body to heal better and encourage the body to fight off any potential infections before they come a problem.

References:

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