Over the past few years, innovative minimally invasive surgical techniques have made it possible to perform total joint replacements through very small incisions. Total joint replacements have been performed for decades using standard incisions (about twelve inches) with excellent results. Other areas of orthopaedic surgery have benefited from minimally invasive techniques, most notably sports medicine and arthroscopy. The success of these new techniques has prompted surgeons to sub-specialize in joint replacements to pioneer new methods of implanting artificial joints through small incisions. 

Joint replacements typically are used for the treatment of advanced degenerative joint disease which includes osteoarthritis and post-traumatic arthritis. While less common, inflammatory or rheumatoid arthritis often leads to joint arthropy. A joint replacement consists of replacing worn out cartilage and bone on either side of a joint with metal and plastic parts. The metals used are cobalt chrome and titanium, and the plastic is high molecular weight polythelene. Like a normal joint, the metal and plastic surfaces provide a low friction bearing surface. Since there are no nerves in metal or plastic, the pain caused by arthritis is alleviated.

A number of years ago, orthopedic surgeons began replacing a portion of the knee joint through a three to four inch incision. These unicompartmental replacements have become very popular because of their rapid recovery. However, not all patients are candidates for partial joint replacements. Therefore, surgeons have been working on methods to implant total joints through smaller incisions. More progress has been made with hip replacements. Modifying a standard posterior lateral approach, a three to four inch incision can now be used. A newer method involves making two incisions: a two inch and a one inch. How this method requires more training and is considerably different from traditional techniques. Using smaller incisions has many potential benefits for patients. The obvious cosmetic benefit - less scarring - is only one aspect of the advantages. In addition to smaller skin incisions, the minimally invasive techniques require less muscle dissection. This has the effect of decreasing post-operative pain and speeding post-operative recovery. Other potential advantages include less blood loss and shorter hospital stays. The medical information available on the internet and through marketing has created public awareness and demand for these new techniques even though the long term outcome of joint replacement is not dependent on the size of the skin incision.

However, several questions remain regarding the safety and efficacy of minimally invasive total joint replacement. Most long term published data is available on the internet and through marketing has created public awareness and demand for these new techniques even though the long term outcome of joint replacement is not dependent on the size of the skin incision. However, time is needed to determine whether or not all orthopedic surgeons would be able to enjoy the same success as they have using these standard techniques. The same success as they have using these standard techniques.

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