Abstract

Modular hip designs offer potential for customising the implant to the patient. However, the more features a device has to offer, the potential for misuse increases. This paper will review one modular stem and the pearls learned over the years to make this a simple and reproducible surgical technique.

Over a 1,000 primary THA have been performed since the development of the proximal modular stem in 2000. The two senior surgeons developed the stem design and surgical techniques used and described here. Two additional surgeon co-authors have used the device as described confirming the design and techniques to be simple, reliable and reproducible.

Often the tricks of the trade go unpublished and each new surgeon is left to his own learning curve with new devices. As with any surgical instrumentation there are significant little techniques that often make surgery more reproducible and enjoyable.

Surgical technique should be simple and reproducible. We have found that even simple procedures—such as head resection—can, and do, impact the surgical process and can affect surgical outcome. Canal reaming, flute engagement, conical reaming, broaching, trochanter clearance, proper use of modular trials and implant assembly all play critical roles to a successful outcome.

We have found, and previously reported, that the use of this proximal modular stem design has reduced our leg length inequalities ± 5 mm and has all but eliminated dislocations and aseptic loosening.

There were some mechanical failure problems (previously reported) on the first generation modular junction design that was identified and corrected (never exported outside the U.S.). There have been no reported failures since introduction of the improved modular junction six years ago.

Independent selection of femoral offset and vertical height is possible and we feel that restoration of joint mechanics is more reproducible with proximal modular devices as compared to monoblock stems. It is the responsibility of surgeons to communicate their understanding and experience with newer devices and not rely on industry to fill this function.