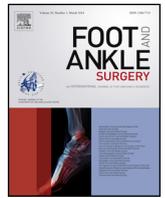




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Editorial

Minimally invasive surgery: The good, the bad and the ugly



Minimally invasive surgery (MIS) is one of the main trending topics in foot and ankle surgery. In the last 10 years it has been growing in popularity for many reasons. But this type of surgery has deep roots in the past.

As every technique it has come through successes and fails, but with the advancement in technology and the surgeons growing know how, it is a big opportunity for contemporary surgery.

Today's surgery is evolving towards minimally invasive techniques. Like arthroscopy, technology development is the main contributor to the possibility to perform these treatments. Like, arthroscopy at the beginning, there is a great scientific debate regarding the correct indications, usefulness and complications of these techniques. Considering that forefoot surgery, and in particular hallux valgus surgery is extremely popular (200,000 surgeries are performed only in the US every year), it is easy to imagine the relevance of this discussion. The risk is to end in a far west where no one is going to win. So just like the famous movie we can identify the good, the bad and the ugly regarding this topic [1].

The good is that science is projected to the future. The cornerstone of our work is the continuous advancement and improvement in what we do, to offer the best treatment options for the patients. The good point regarding minimally invasive surgery is the limited postoperative pain, rare wound problems, low risk of infections, low risk of thrombophlebitis, reduced risk of nerve injuries and good cosmetics. The highly publicized potential good results, in particular cosmetics and low post operative pain, are best sellers for the patients and for the surgeons, but this can lead to an incorrect use of these techniques [2].

To understand and to aim correctly the use of these techniques the surgeon must know and be limited by the downsides of this surgery. The bad is that these surgeries are not simple, as every technique there is a learning curve. The technical procedure can seem to be simple, but the surgeons need to have a deep experience in open surgery, need to know perfectly the anatomy of the foot and need to learn manually a different way to approach surgery. There is no direct visualization of the anatomy and the fluoroscopy is the main guide. There is a manual sensibility that has to be developed [3]. Furthermore many surgical techniques are available on the market. First generation MIS was described by Reverdin and modified by Isham in the early nineties, in which no internal

fixation was needed. The stabilization of the osteotomies was achieved by postoperative bandages [4]. Through observation of results and based on the need of fixation of the bone fragments a second generation of techniques was proposed by Magnan et al. [5] and Giannini et al. [6] in the early two thousands. The distal bone fragment is partially fixed through the use of a Kirschner wire, fixed in the base of the first metatarsal bone. With the continuous evolution of technology and the idea to shift open Austin osteotomy to MIS surgery, more recently Redfern and Vernois [7] developed the MICA technique. The aim is to perform a chevron osteotomy, achieving fixation through the use of two screws, one of them tricortical. At the present day these techniques are still under development and many authors published some minor modifications [8]. The ugly is that literature is still scarce regarding these techniques and we, as surgeons, are frequently influenced by personal opinions or low grade evidence papers. The temptation to use these techniques without the sufficient preparation is high. The risk is to push the boundaries of indications even in “cosmetics” correction of the deformities. But we always need to keep in mind that MIS surgery can lead to bigger damages in comparison to open surgery, if incorrectly performed. On the other side if indications are correct and a thorough training is performed we can achieve optimal results with MIS. But there is a need of further studies to better understand the power of these treatments, eliding personal opinions and avoiding a “High Noon” duel between supporters and haters [9].

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