

# Foot percutaneous surgery: What should we be heading for?

Foot percutaneous surgery, also known as MIS surgery (“minimal incision surgery”), is a surgical method that allows surgeons to perform surgery through minimal incisions with no direct exposure of surgical planes. This technique causes minimal trauma in nearby tissues and requires radiological monitoring during the surgery for the surgeon to guide him or herself in the surgical gestures that they should carry out. Although this is the academic definition, we should add some considerations to describe it.

This procedure is nowadays at stabilization-evolution stages, accompanying slowly but surely conventional (open) surgery, reducing morbidity and thus achieving increasing percentages of surgical success.

According to reports, there are three different kinds of procedures: first, the “accepted procedures”, i.e. those considered being reasonable options; then, procedures which have proved to be technically feasible, without wide acceptance by the surgical community, though; and finally, they include those surgeries “that nowadays are not accepted” (Table).

Before answering the question that triggers this reflection, it is necessary to think about some issues we should pay more attention to:

- **Differences in academic training:** Although over the last decade the Gremp (Groupe de Recherche et d'Etude en Chirurgie Mini-Invasive du Pied) and other scientific societies have encouraged congresses and cadaveric courses, the promotion of this technique at the level of national and continental scientific activities is still insufficient. This makes colleagues interested in the issue unable to get training soon enough.

- **Lack of thorough assessment of results:** Although there are studies informing good, very good and excellent clinical results, complications, deep and superficial infections, along with comparative studies on long-term results have still to be dealt with in detail.

- **Design of scientific studies:** It is widely acknowledged that writing research papers is quite complex, to what we should add a predator publication system made up of journals which are eager for contents that eventually have no impact. However, some scientific journals have already incorporated micro-economic analyses (especially cost-effectiveness and cost-usefulness studies) with their respective levels of evidence. Cost-usefulness analyses are built with data gathered from life-quality questionnaires (SF-36 and EQ-5L-5D), and as final result they show indicators such as QALI (Quality-Adjusted Life-Years). Nowadays it is important to consider this kind of studies so as to encourage debate.

It would be bold to affirm that foot percutaneous surgery is going to replace traditional procedures for good. Since this technique has reduced significantly surgical times and soft tissues exposure, within a still partially theoretical framework we can suggest that this technique could eventually have fewer complications and perpetuate satisfactory results. Hopefully it is going to follow the path of arthroscopy in knee surgery and later ankle and hip surgery: In the beginning it was just few, who were considered adventurous, the ones who carried it out—until it got to be accepted complete and definitely by surgeons and scientific societies.

Last but not least, it is worth highlighting that our medical duty is to try to “press medicine forward”, because we should remember that patients’ welfare is our ultimate responsibility and in order to assist them properly we should resort to the best tools.

*“Science is the father of knowledge, but opinion breeds ignorance.”*  
Hippocrates (460-370 a.C.)

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**Tabla.** Grupos de procedimientos según grados de aceptación

| Accepted procedures  | Feasible procedures that may be accepted in the future           | Procedures that nowadays are not accepted  |
|--|--|--|
| Reverdin-Isham's osteotomy   | MICA ( <i>Minimally invasive Chevron-Akin</i> )                  | Arthrodesis of ankle, hindfoot and midfoot |
| Bösch's osteotomy  | PERC ( <i>Percutaneous, extra-articular reverse-L Chevron</i> )  | Arthrodesis of hallux                      |
| DMMO ( <i>Distal metatarsal minimally invasive osteotomy</i> )             | PECA ( <i>Percutaneous Chevron/Akin</i> )                        | Revision of forefoot open surgery          |
| Akin's osteotomy isolated or combined with open surgery ("hybrid" surgery) | Osteotomy of base of first metatarsal bone                       | Osteotomy of hindfoot and midfoot          |
| Lateral release by lateral approach  | PICO ( <i>Percutaneous, intra-articular, Chevron osteotomy</i> ) | Total or partial sesamoidectomy            |
| Flexor-extensor tenotomy   | DPR (De Prado) Osteotomy   | Resection of Haglund exostose              |
| Exostectomy  | S-DMMO (Sliding DMMO)  | Minimally invasive scarf                   |
| Capsulectomy   | Osteotomy of first phalanx of toes                               |  |
| Total/subtotal partial fasciotomy  |  |  |