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Minimally Invasive Surgery (MIS)

Minimally invasive surgery (MIS) procedures can be performed to correct deformities of the foot and ankle using very small incisions (percutaneous or “stab” incision). Deformities are corrected by creating cuts through the bone (osteotomy) in a very specific angle. The bone is cut using a low speed and high torque specialized burr which can easily cut through the bone while minimizing trauma to the surrounding soft tissue. Hardware is inserted percutaneously and accurately using cannulated technology in order to hold the bone in its new position while healing and provide stability simultaneously. The entire procedure is done with the help of intraoperative fluoroscopy (x-ray).

MIS procedures have been performed in Europe for the past 25-30 years. The first and second generation MIS techniques did not utilize solid fixation for stability so it was not popularized in the United States. With the advent of newer technology which includes specialized burr and cannulated screw systems, the third generation (most recent) techniques were introduced. MIS procedures have been popularized in the United States in the last few years since the most recent technology improvement.

The benefits of MIS procedures include faster skin healing, decreased soft tissue damage which minimizes swelling, decreased pain, earlier weight-bearing and improved cosmesis.

The most common MIS procedure of the foot involves correction of a bunion (hallux valgus) deformity. Other procedures that can be corrected via MIS approaches include hammertoe correction, metatarsal osteotomies, 1st MTP arthrodesis (big toe fusion), 1st MTP cheilectomy, midfoot arthrodesis (fusion), hindfoot fusion including medial double or triple arthrodesis, calcaneal osteotomies, and ankle arthrodesis.

At Northwestern Hospital, we have been performing MIS procedures for the last several years and have had excellent outcomes so far. Even though we are experienced in MIS surgeries, there are downsides and potential complications that can occur which is why in-person consultation is very important to ensure you are a good surgical candidate for MIS procedure.