ANKLE ARTHRODESIS (FUSION)

What is an Ankle Arthrodesis or Ankle Fusion?
An ankle arthrodesis is a reconstructive surgical procedure where an injured ankle joint is converted into an immobile segment of bone. The derivation of arthrodesis is from the Latin “arthron” meaning joint and the Greek “desis” meaning binding. The ankle consists of the distal tibia, talus, and fibula articulating. The motion between these bones is essentially eliminated in an ankle fusion.

Clinical Symptoms and Presentation of Ankle Arthritis?
Pain and stiffness, especially at the front of or throughout the ankle are the most common symptoms related to ankle arthritis. Swelling can also be present as well as warmth that can be seen with chronic inflammation (e.g., rheumatoid arthritis) or with infection. Arthritis related to an injury is the most common reason for a patient to consider ankle fusion. Less common indications for performing an ankle fusion include rare deformity instability due to a neurologic condition, and infection.

Causes of Ankle Arthritis
Common causes of ankle arthritis include previous trauma, either from a previous fracture or from chronic instability, inflammatory conditions such as gout and rheumatoid arthritis, and previous infection.

How is Ankle Arthritis Diagnosed?
Ankle arthritis is frequently diagnosed on clinical exam and X-ray. CAT scans, MRI scans, and bone scans are occasionally needed to make the diagnosis. Selected injection of the ankle with a steroid and/or with lidocaine can also be used for diagnostic purposes.

What Conservative Treatment Options are There?
Non-operative treatment options include activity modification, non-narcotic pain medication, bracing, and steroid injections. Some or all should be considered prior to surgery.

What Techniques are Available to Achieve an Ankle Fusion?
An ankle can be done with an arthroscopic or open surgical approach. An open surgical approach can be done from the front (anterior) or side (lateral) approach. Bone grafting may be employed, from the patient (autograft) or by using banked bone graft (allograft) or newer synthetic grafts.

What is the Recovery Like?
Expect 6-12 weeks of not being able to put weight on the operative ankle. Bracing and casting will be for 3-4 months. Swelling can last 6-9 months with even some unresolved swelling long term.

What are the Risks and Risk Factors for Complications?
Risks of surgery include infection, nonunion (the fusion doesn’t take), malalignment (the ankle isn’t optimally positioned), and medical complications such as a blood clot or heart problems due to the magnitude of the surgery. A hardware removal might be needed later. Adjacent joints may get arthritis later. A failed fusion can ultimately result in amputation. Risks for poor outcomes include smoking, noncompliance (walking on it early or removing your brace against your doctor’s advice), poorly controlled diabetes, and poor bone density.
FAQs:

How do I Decide on Fusion vs Replacement?
Ankle fusion is a durable operation that won’t fail or come apart. Ankle replacement preserves a little bit more motion (although not full motion) but carries a significant risk of failure at an earlier time interval then with hip and knee replacements. Furthermore, reconstruction of a failed ankle fusion is a formidable problem. Amputation is a possible outcome of a failed ankle fusion and failed ankle replacement.

How much Motion will I Lose with an Ankle Fusion?
Expect to lose 1/2 to 2/3 of normal up and down ankle motion. The residual motion will be through two of the hindfoot joints (the talonavicular and the calcaneocuboid).