8:05 – 9:00 am

Symposium #1:
The Science Behind TAR

Moderator:

Murray J. Penner, MD
Vancouver, BC, Canada

8:05 am
The Benefit of TAR on Gait
Timothy R. Daniels, MD
Toronto, Ont, Canada

Pre-operatively, patients with end stage ankle arthritis (ESAA) have abnormal gait patterns that include a decreased cadence, stride length, ground reactive force and power. Surgical goals should include both pain relief and to normalize the patients gait.

Arthrodesis of the ankle has long been the standard surgical treatment for ESAA. Gait parameters improve because of pain relief but the hindfoot stiffness causes continued abnormalities that are detectable by gait analysis and noticeable by the patient.

Biomechanical gait studies have shown that ankle arthroplasty confers a gait pattern closer to normal; however, abnormalities persist. The current benefit of arthroplasty on gait is improvement in the sagittal dorsiflexion plane, leading to a more symmetrical gait. Further improvements are required in both implant design and rehabilitation protocols to further normalize the gait pattern. The effect of long standing ankle stiffness on the lower leg muscle function may be irreversible.