

## Hindfoot Arthrodesis Nails: An Overview

Radzuan RF, Hasan MI

*Orthopaedic Department, Putrajaya Hospital, Presint 7, Putrajaya , 62250, Malaysia.*

### INTRODUCTION:

Hindfoot arthrodesis nails is one of the procedures to treat hindfoot pathology. It is recently prevalent to treat severe degenerative, inflammatory or post-traumatic arthritis, avascular necrosis of talus and Charcot arthropathy. It is able to be performed with minimal soft tissue destruction, hence, minimalizing tissue trauma, blood loss, and risk of infection. However, failure might lead to amputation. The aim of this study to report all the cases of hindfoot arthrodesis nails done at Putrajaya Hospital.

### MATERIALS & METHODS:

Data was extracted from EMR at Putrajaya Hospital. The data contains 9 patients who underwent hindfoot fusion nail between November 2014 and July 2016. Time of fusion was evaluated by earliest radiographic evidence of bony union by reviewing the serial follow up x-rays.

### RESULTS:

Result shown mean age at the time of surgery was 55 years old. 5 patients were female (55.56%) and 4 patients were male (44.44%). 8 patients with underlying diabetes mellitus (88.89%) and 1 patient was non-diabetic (11.11%). Complications reported; 1 case of a stress fracture (11.11%), 1 case of an infected implant resolved with antibiotic (11.11%) and 2 cases of non-union (22.22%). Most common indications for hindfoot arthrodesis nail were 7 cases of Charcot arthropathy (77.78%), 1 case of severe degenerative arthritis (11.11%) and 1 case of post-traumatic arthritis with deformity (11.11%).

### DISCUSSIONS:

Limitations of this study include small sample size, retrospective study, fusion determined by x-ray review only and cost of the implant.

### CONCLUSION:

Hind foot fusion is one of the alternatives to treat hindfoot deformity. It is believed to provide a better approach and outcome for hindfoot fusion. It gives the patient a better option and hopes to live a good quality of life, rather than left them with a choice for amputation. However, a larger sample study is needed to prove the efficacy of this procedure. A relevant both CT scan and clinical evidence of union would also be beneficial to determine if nails have the advantage.

### REFERENCES:

1. James T, Douglas E.L, Aimee JR, G Alex S, Terrence MP, Tibiotocalcaneal Arthrodesis Nails: A Comparison of Nails With and Without Internal Compression Utilizing the RAIN Database, AOFAS 2015
2. Rammelt S, Pyrc J, Agren PH, Hartsock LA, Cronier P, Friscia DA, Hansen ST, Schaser K, Ljungqvist J, Sands AK. Tibiotocalcaneal fusion using the hindfoot arthrodesis nail: a multicenter study. Foot Ankle Int. 2013 Sep
3. Michael Castro, Ian G Winson, Les Grujic, Andrew Sands, Per-Henrik Agren, and Juan Bernardo Gerstner Garcés. Advancing technology: the hindfoot arthrodesis nail. AO Foundation's Foot and Ankle Expert Group (FAEG).