

MAGNEZIX®

Bioreabsorbable Screws:

**A single centre prospective clinical
experience with hallux valgus reconstruction**

*Prof. Gowreeson Thevendran
Chief of Foot & Ankle Surgery
Tan Tock Seng Hospital
Singapore*



Background

- ◆ Bioreabsorbable implants considered advantageous over conventional metallic fixation given its reduced stress-shielding, no requirement for removal, & ease of imaging (MRI)
- ◆ Historically, cited disadvantages include poorer implant strength and possible local inflammatory tissue response.

Research question



In the setting of hallux valgus deformity correction,

*does the use of MAGNEZIX®
bioreabsorbable screws compare
favourably to conventional
titanium screws ?*

Patient & study demographics

- ◆ From 27th March 2015 to 22nd April 2016
- ◆ IRB-approved clinical study to prospectively recruit a consecutive series of patients
- ◆ **25 feet** with hallux valgus deformity (15 left, 10 right)
- ◆ HSA-approved 3.2 mm MAGNEZIX® screw used
- ◆ Mean age 53.1 years (range 21 to 71 years old)

Measured parameters for outcomes of surgery

◆ ***Functional evaluation***

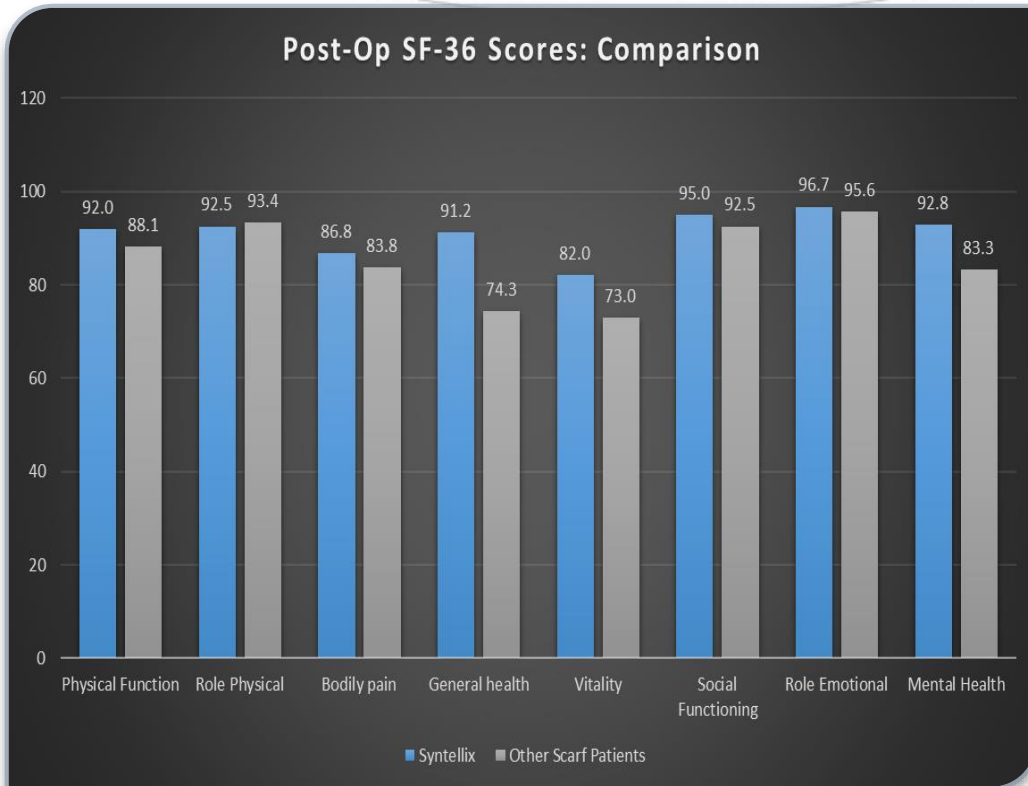
- ◆ SF-36 Scores
- ◆ American Orthopedic Foot and Ankle Society (AOFAS) Forefoot Scores
- ◆ VAS scores

◆ ***Radiological:***

- ◆ Improvement in radiological angles on X-rays (IMA & HVA)
- ◆ ** CT scans at the 6 - 9 month interval post-op

◆ ***Patient satisfaction (Likert Scale)***

These results are compared against a historical cohort of forefoot recon patients ...



- 💧 We compared the results against a historical cohort of 62 patients who had scarf osteotomy performed in our institution in the preceding 2 years
- 💧 There was no statistical difference in functional scores or radiological outcomes between the two groups.

Conclusion

- ◆ MAGNEZIX® bioreabsorbable screws, when used in hallux valgus deformity correction, is **at least as good as** conventional titanium alloy screws with regards to functional results and radiologic correction.
- ◆ Bioreabsorbable implants, however, do not necessitate removal nor cause stress shielding. Socio-culturally, patients are **much more receptive** to having these implants.
- ◆ A regional multi-centre trial comparing bioreabsorbable screws vs titanium screws in a prospective-randomised fashion will provide more robust evidence to substantiate the role of these implants in our surgical armamentarium.