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Significant Soft Tissue Problems Associated with the KineSpring Knee Implant System: A Small UK Cohort Study

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Summary:
The KineSpring® (KS) Knee Implant System (Moximed, Inc, Hayward, CA) is a novel joint preserving, extra-articular implant for the treatment of osteoarthritis in young patients; after implantation in our series functional outcomes were comparable to arthroplasty although a high proportion of patients experienced soft tissue problems and progression of arthritis.

Abstract:
INTRODUCTION
A treatment gap exists for patients with debilitating knee osteoarthritis who are too young to be considered for arthroplasty. The KineSpring® (KS) Knee Implant System (Moximed, Inc, Hayward, CA) is a novel joint preserving, extra-articular implant. The KS is a load sharing absorber which is positioned superficial to the medial collateral ligament and offloads the medial compartment. This study is a retrospective assessment of surgical results in a small cohort.

METHODS
Post-operative domains for the soft tissue problems; pain, stiffness, swelling and irritation were assessed using visual analogue scales and functional outcome measures were recorded in 18 consecutive patients with a minimum follow-up of 1 year.

RESULTS
Twenty two KS devices were implanted in 18 patients (14 unilateral, 4 bilateral) over a 3 year period (2010 to 2013). 9 KS devices (41%) have been removed during the study period. 3 were converted to high tibial osteotomy for persistent pain, 2 to uni compartmental replacement and 1 to a total knee replacement. Two KS were removed because of associated bursal swellings and synovial fistulae. One device was removed for infection. Of the 13 KS devices which remain implanted; 7 have soft tissue problems which are manageable. Median Oxford knee score in the surviving KS devices was 35 (IQR 29.5 - 44), which is comparable to typical results following arthroplasty.

CONCLUSION
Whilst functional outcome scores after implantation are favorable, a high proportion of patients experienced soft tissue problems and progression of the arthritic process. Surgeons should be aware of significant soft tissue problems associated with this bulky extra-articular device. Further research is necessary to explore wear debris generation from the load absorber unit, and the long-term results of this novel device.