An anteroposterior radiograph of a hip joint. The image shows the pelvic girdle and the femur. A revision hip arthroplasty is visible, featuring a modular tapered stem. The stem is inserted into the femur, and a head is attached to the proximal end. The acetabulum is also visible, showing the socket component of the prosthesis. The overall appearance is that of a well-positioned revision hip replacement.

Revision Hip Arthroplasty Using A Modular Tapered Stem: Indications For Revision and Reproduction of Limb Biomechanics

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Background

- Reproducing limb biomechanics is one of the key objectives in hip arthroplasty
- Adequate restoration of both offset and leg length is important to achieve gluteal function, gait pattern, soft-tissue tension and joint stability
- There is a perceived benefit that modular stems have greater ability to restore biomechanics in comparison to monoblock stems

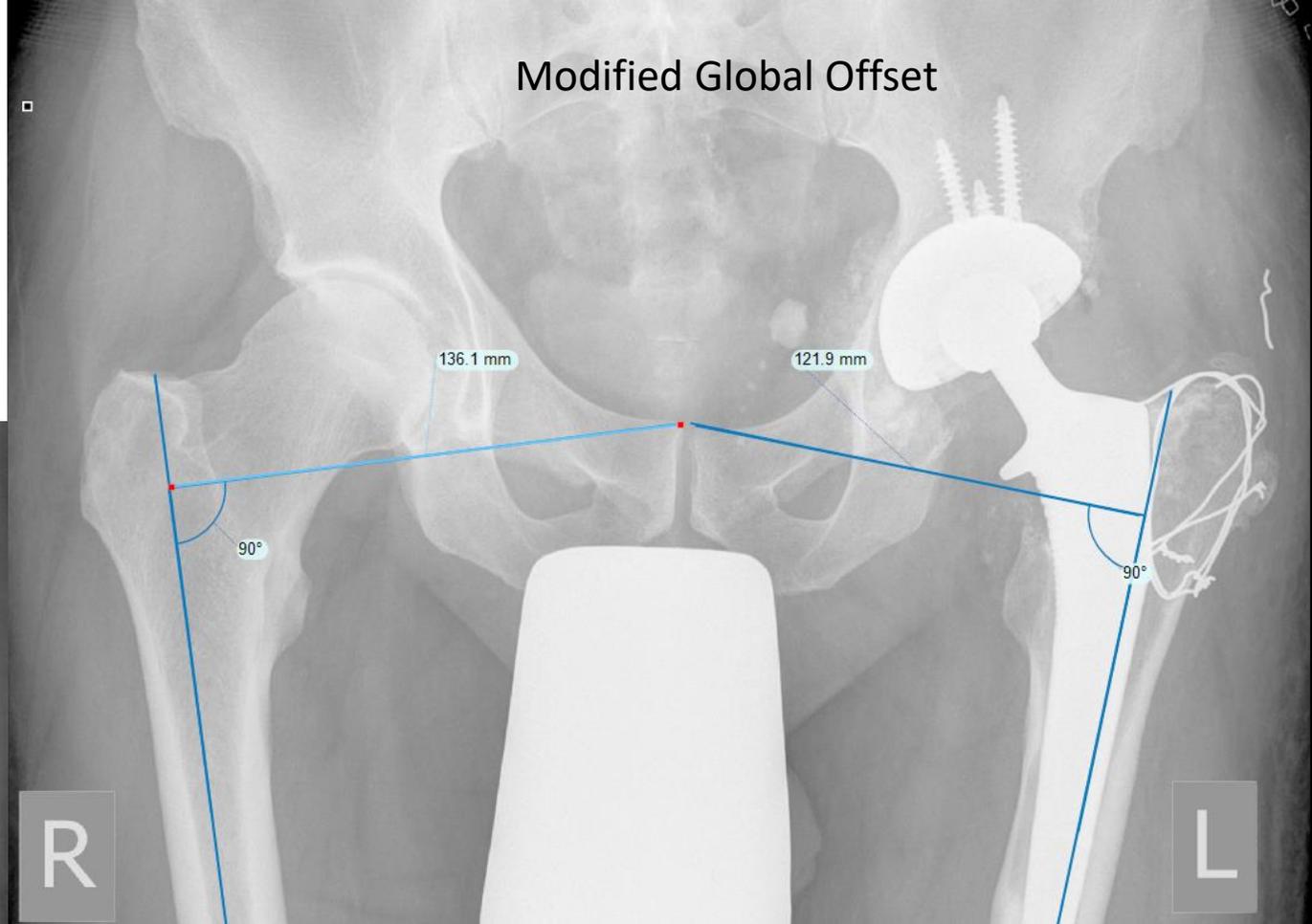
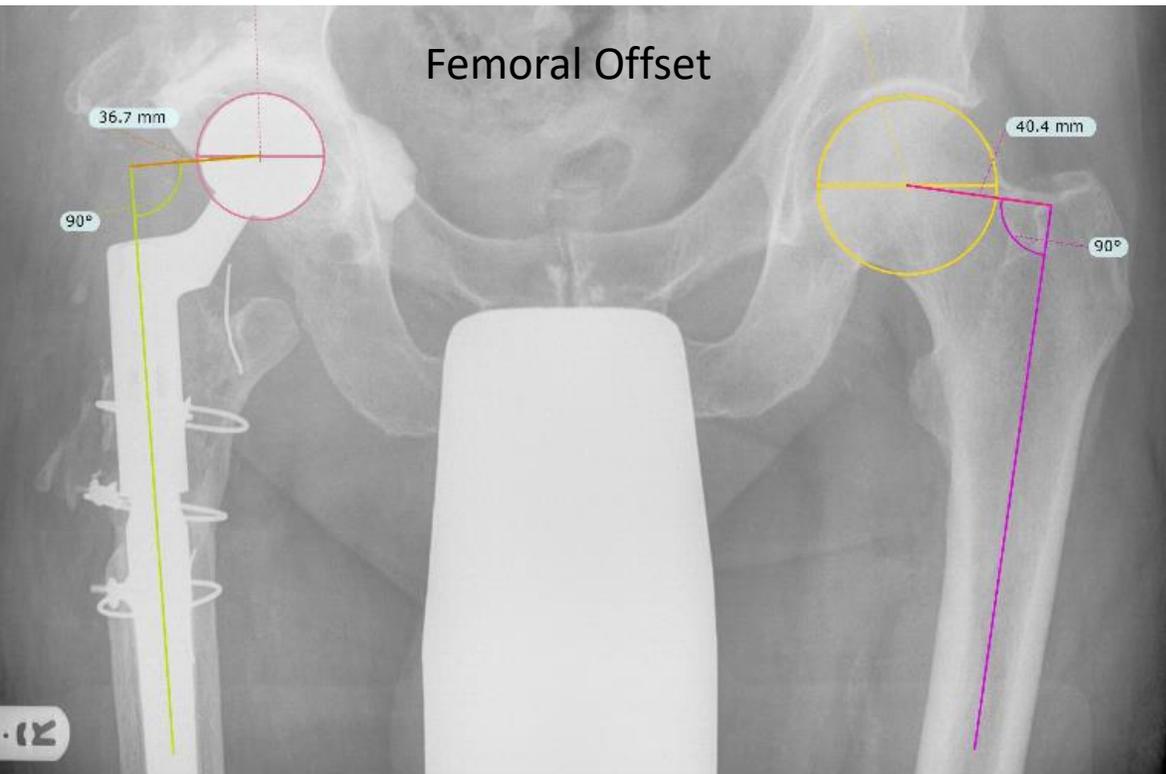


Methods

- Retrospective study, consecutive series of patients between 01/06/2012 and 30/09/2020
- Patients Identified from local revision database/NJR
- Indications for revision, implants used, femoral offset, modified global offset and leg length of operated and contralateral hip recorded



Methods



Results

- 95 hips included
- Femoral offset was restored to +/- 10mm in 86 hips (90.5%)
- Modified global offset was restored to +/- 10mm in 81 hips (85.3%)
- Leg length was restored to +/- 10mm in 81 hips (85.3%)
- At an average follow-up of 28 months 6 patients have undergone subsequent revision, 2 for recurrent dislocation, 2 for fracture and 2 for deep infection.



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Indication for Revision	Number	Percentage
Periprosthetic #	48	50.5
Aseptic loosening	32	33.7
Infection	6	6.3
ARMD	1	1.1
Stem fracture	4	4.3
Recurrent dislocation	2	2.1
Failed DHS	2	2.1



Conclusion

- Modular tapered stems provide a means to adequately restore hip biomechanics in complex revision cases
- The results compare favourably to the institutions revisions using monoblock KAR stems for revision
 - Global offset +/- 10mm 64% for monoblock 85.3% for modular
 - Leg length +/- 10mm 73% for monoblock 85.3% for modular

