

## A systematic review of sacral insufficiency fractures: Treatment modalities and outcomes

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Sacral insufficiency fractures can be managed conservatively, by surgical fixation or by sacroplasty. This systematic review compared the outcomes of different treatment modalities to ascertain the best. Studies included in this were those with sacral insufficiency fracture in elderly patients with measure of outcomes reported. Fractures due to high-energy trauma or malignancy or in non-elderly patients were excluded. The review was carried out according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. MEDLINE and Embase databases were searched from inception to January 6, 2022, yielding a total of 4299 papers of which 35 were eligible for inclusion. Pain reduction following sacroplasty (Visual Analogue Scale (VAS) difference 5.83, SD 1.14, n = 901) was superior compared with conservative management (VAS difference 3.7, SD 2.71, n = 65) ( $p < 0.0001$ ) and surgical fixation (with screws/rods +/- cement augmentation; VAS difference 4.1, SD 1.106, n = 154) ( $p < 0.001$ ). There was no significant difference between pain relief following screw fixation and after conservative management ( $p = 0.1216$ ). Hospital stay duration was shorter following sacroplasty (4.1 days (SD 3.9)) versus fixation (10.3 days (SD 5.59)) ( $p = 0.0001$ ). Sacroplasty results in better pain relief and shorter hospital stay than other options.

### Biography

Mr Praise Briggs (MBBS, MRCS) did his medical training initially in Nigeria where he graduated in 2011. He went on to do the earlier part of his Orthopaedic and Surgical training in Nigeria before going to the United Kingdom in 2018. He currently is a Specialty Trainee in Trauma and Orthopaedics in Yorkshire, UK. He has held a number of roles in research including Associate Principal Investigator, CRAFFT trial (Children's Radius Acute Fracture Fixation Trial), and Associate Principal Investigator, Hull University Teaching Hospital SCIENCE trials (Surgery or Cast for Injuries of the Epicondyle in Children's Elbows: A multi-centre prospective randomised superiority trial of operative fixation versus non-operative treatment for medial epicondyle fractures of the humerus.). While working as a Neurosurgical fellow, prior to commencing Orthopaedic Training, he was Co-Investigator, MASTERS-D2 Trial (a 5-Year Global Study on MAST™ Minimally Invasive Fusion Procedures to Treat Degenerative Lumbar Spine ). He has been involved in research in both Nigeria and the UK and has a number of publications. He underwent a 6 week Introductory course to Systematic Review and Meta-analysis in 2019 in John Hopkins University, USA, that has positioned him to carry out this systematic review on Sacral Insufficiency Fracture.