EXECUTIVE SUMMARY

MRS-TITAN Comfort
MODULAR REVISION CUP SYSTEM

PETER BREHM
Die Präzision in Titan für den Menschen

Publication	**Cementless hip revision cup for the primary fixation of osteoporotic acetabular fractures in geriatric patients.** Becker CA, Linhart C, Bruder J, Zeckey C, Greiner A, Kußmaul Cavalcanti A, Weidert S, Suero EM, Böcker W, Kammerlander C. Orthop Traumatol Surg Res. 2020 Dec 14;102745.doi: 10.1016/j.otsr.2020.102745. https://pubmed.ncbi.nlm.nih.gov/33333281/ (online ahead of print)
Study	Retrospective case series (level of evidence IIb)
Implant	MRS-TITAN Comfort (PETER BREHM GmbH)
Patients	10 geriatric trauma patients (6 male, 4 female), average age 74 years
Follow-up	Follow-up examinations were performed at 6, 12, 24 weeks, and 1 year postoperatively.
Methods	Geriatric patients with dislocated acetabular fracture were treated with cementless MRS-TITAN Comfort cup and cemented standard stem (Corail®, DePuy Synthes, USA) at the University Hospital (LMU) Munich between 2016 and 2017. Inclusion criteria were acetabular fracture, age greater than 60 years, and osteoporosis. Data collection was performed during follow-up examinations and retrospectively based on patient documentation. A 32 mm ball head was used. Bone defects were filled with autologous bone graft from the femoral head. Immediate postoperative full weight-bearing was allowed without further restrictions. Orthogeriatric recording of comorbidities and postoperative functional outcomes was performed according to *Liem et al. 2013*. The following variables were documented for each patient: Age, gender, length of hospital stay, time to surgery, duration of surgery, comorbidities, medical and surgical complications, osteoporosis screening results. Patients' functional independence was assessed by Barthel index. Functional outcomes of hip replacement and quality of life were assessed according to PMI, HHS, modified HHS, MAP, modified MAP, EQ-5D-3L questionnaire measuring health-related quality of life, and VAS. A literature review was performed in the MEDLINE/PubMed database.

PETER BREHM GmbH | Am Mühlberg 30, 91085 Weisendorf, Germany | Tel.: +49 (0)9135 7103 - 0
peter-brehm.de | info@peter-brehm.de | LinkedIn

EXECUTIVE SUMMARY

MRS-TITAN Comfort
MODULAR REVISION CUP SYSTEM

PETER BREHM
Die Präzision in Titan
für den Menschen

Results	All patients were followed up. The mean length of hospital stay was 21 days, with a mean hospitalisation of 5 ± 2 days to surgery. The mean operative time was 3 hours. Osteoporosis was newly diagnosed in 6 patients. The PMI was 5.5 points. The EQ-5D-3L 8 (0.74 points) and the Barthel Index (80 points) showed satisfactory results. Patients scored a modified MAP of 8 points. An average HHS of 72 points was obtained. The modified HHS reached an average of 63.4 points. Evaluation of the EQ-5D-3L questionnaire and all scores revealed that none of the patients reported severe pain, complete physical disability, or severe limitations. **The majority of patients had no pain**. In the HHS and modified MAP, most patients (n=7) showed the highest mobility score, whereas in the MAP, the majority of patients (n=6) scored in the category of highest achievable mobility. **Regarding the mobility of the affected hip, no patient showed limited mobility in the 3 scores (HHS, MAP, modified MAP).** Since the values of the scores may be distorted by the comorbidities of the patients, the parameters for **pain** and **mobility** were analysed separately. **Good to very good results were achieved for both parameters**. The authors interpret these results as a positive outcome of the fitting, since only the joint function of the affected hip is evaluated, but not the overall physical condition of the patient. The clinical and radiological follow-up examinations revealed **proper fracture healing** and **correct implant position**. **No signs of loosening, instability, dislocation or implant-related complications were detected**.
Key Points	Uniform treatment concepts for acetabular fractures in the elderly do not yet exist. The authors developed a **treatment algorithm** for the indication of surgical treatment of geriatric acetabular fractures. **Primary THA using the cementless modular revision cup MRS-TITAN Comfort with locked screws shows good results in the short-term follow-up of the study and proves to be a suitable, effective treatment option for acetabular fractures in geriatric patients. In particular, patients with poor bone stock can benefit from early postoperative mobilisation and full weight bearing.** The authors of the study highlight the treatment of acetabular age-related fractures with the MRS-TITAN Comfort: **„*The main advantages of this system are the modular structure and the adaptable cup, which allow adjustment even after final fixation. Furthermore, through cementless implantation techniques, cement-associates complications like bone cell necrosis or delayed revascularization can be avoided. If revision is necessary, bone cement hinders the removal, while a cementless revision cup decreases the risk of bone damage*.“**

PETER BREHM GmbH | Am Mühlberg 30, 91085 Weisendorf, Germany | Tel.: +49 (0)9135 7103 - 0
peter-brehm.de | info@peter-brehm.de | LinkedIn

EXECUTIVE SUMMARY

MRS-TITAN Comfort
MODULAR REVISION CUP SYSTEM

PETER BREHM
Die Präzision in Titan
für den Menschen

Key Points	The MRS-TITAN Comfort offers the advantage of **stable fixation** of the cup in the supra-acetabular bone by means of locked screws that ensure angular stability **without additional internal fixation**. **Economic benefits resulting from reduced complications, shortened hospitalisation time and lower postoperative mortality and morbidity are further positive effects.** (*Kammerlander C. 20th EFORT Congress 2019, Abstract*).
Abbreviations	HHS - Harris hip score, PMI - Parker mobility index, MAP - Merle d'Aubigne and Postel score, THA – total hip arthroplasty, VAS – visual analogue scale

PETER BREHM GmbH | Am Mühlberg 30, 91085 Weisendorf, Germany | Tel.: +49 (0)9135 7103 - 0
peter-brehm.de | info@peter-brehm.de | LinkedIn

LBL549-81-20210202