# ACCESS GATE RELATED LOWER-LIMB FRACTURES IN CHILDREN AND ADOLESCENTS: A REVIEW OF INJURY PATTERNS AND EVALUATION OF ASSOCIATED INJURIES

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BACKGROUND AND OBJECTIVES:
Lower limb fractures occurring in and around the home environment and caused by collapsing access gates present frequently to our emergency unit. There is currently limited literature evaluating injuries resulting from access gate accidents. The aim of this study was to evaluate the patterns of lower limb fractures, management options offered and concomitant injuries in children as well as adolescents presenting with access gate-related lower limb traumas.

METHODOLOGY
A retrospective cross-sectional review of 43 children with 46 lower limb fractures was conducted between 1 January and 31 December 2020. Hospital records and radiology archives of all children and adolescents under 12 years of age (24 males and 8 female) with lower limb fractures sustained following an access gate injury were reviewed and included for analysis. Data was analysed descriptively using SAS ( SAS Institute Inc, Carey, NC, USA), Release 9.4.
RESULTS
The prevalence of access gate-related injuries for all lower limb fractures in children and adolescents treated during the four-year period was 11%. The findings revealed that femur fractures are more common, accounting for 50.0% of the cases. The majority of cases were of patients younger than 6 years (71.9%), and predominantly affecting males (3:1). The fractures occurred in a home environment and were commonly related to non-motorised gates, in 93.8% of the cases. The oblique fracture patterns comprised 40.6% of the fractures, and 68.8% of the fractures were located in the diaphysis. Open fractures constituted 50.0% of the tibia fractures. Mild head injuries associated with lower limb fractures were observed in 12.5% of the cases.
CONCLUSION
The results demonstrate the prevalence of lower limb fractures above all injuries related to access gates. The majority of injuries observed in this study occurred in manually operated gates, and commonly affected younger patients. In light of these findings, further studies are required into the reasons for these injuries and preventative measures.

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BIOGRAPHY
Mashupse Phala completed his him MBCHB at university of Pretoria. He subsequently completed his orthopaedic fellowship at the college of orthopaedic surgeons of South Africa and MMED at SMU ( Sefako Makgatho Health sciences university). Mashupse Phala is currently practising general Orthopaedics in the Northern Cape South Africa.