EAS Journal of Orthopaedic and Physiotherapy
Abbreviated Key Title: EAS J Orthop Physiother
ISSN 2663-0974 (Print) | ISSN 2663-8320 (Online)
Published By East African Scholars Publisher, Kenya

OPEN ACCESS

Volume-8 | Issue-2 | Mar-Apr, 2026 | DOI: https://doi.org/10.36349/easjop.2026.v08i02.002

Case Report

Case Report of a Lateral Dislocation of the Right Knee Managed by Open Reduction and External Fixator in a Third Category Hospital in Cameroon

Philippe-Albert Lingo[1]*, Faustin Tatsedem Atemkeng[2], Cedrick Mbassi[2], Emelinda Berinyuy Nyuydzefon[1], Vincent Verla Siysi[1]

[1]Department of Internal Medicine and Pediatrics/Faculty of Health Sciences/University of Buea-Cameroon
[2]Faculty of Medicine and Pharmaceutical Sciences/University of Dschang-Cameroon

Article History
Received: 28.12.2025
Accepted: 26.02.2026
Published: 06.03.2026

Journal homepage:
https://www.easpublisher.com

Quick Response Code

Abstract: ***Introduction:*** Knee dislocations are rare but potentially limb-threatening injuries to the knee joint. It is of interest in emergencies because they usually occur in the context of multiple injuries and due to the possibility of vascular compromise to the affected limb. ***Case Presentation:*** We report the case of a 53-year-old man who sustained a right knee lateral dislocation after a fall from a moving construction vehicle. The knee dislocation was managed by open reduction after an unsuccessful attempt of closed reduction. Subsequently, the joint was stabilized using external fixation. The short term and long-term evolution were favorable. ***Conclusion:*** The acute management of traumatic knee dislocations should be timely and adapted based on individual cases. Thus, if manual reduction fails, open reduction with external fixation may be considered.
Keywords: Knee Dislocation, Management, Open Reduction, External Fixation.

INTRODUCTION

A knee dislocation can be defined as complete congruency loss between the distal femoral and proximal tibial articular surfaces. Bicruciate or multiligamentous injuries can also be categorized as knee dislocation due to the mechanism of injury [1]. Knee dislocation is a rare and devastating injury with an estimated prevalence of 0.02-0.2% of reported orthopedic injuries. A dislocation occurs bilaterally in only 5% of all knee dislocations. The common causes of knee dislocation are high-velocity trauma such as a motor vehicle accident (50%), low-velocity sports injuries (33%), and ultralow-velocity injuries (12%) such as a fall. The most common injury pattern is the anterior dislocation of the tibia with respect to the femur (40%), and the second most common injury pattern is a posterior dislocation (30%) [2].

It should be noted that the incidence of knee dislocations is underreported, as almost 50% of knee dislocations spontaneously reduce at the scene, before arrival to the emergency department, or are misdiagnosed. Knee dislocations are more commonly reported in men than women, with a ratio of 4:1. Obesity is an independent risk factor for sustaining this injury from an ultra–low–energy mechanism of injury [3].

Knee dislocation may result in injuries in addition to ligamentous damage such as popliteal artery disruption, peroneal nerve damage, knee joint fractures, meniscal pathology, patellar ligament tears, and iliotibial tract injury [4].

Knee dislocation patients are at risk of life-threatening concomitant injuries. One study documented that 27% of knee dislocation patients presented with life-threatening injuries to the head (subdural hematoma), chest (pneumothorax, flail chest), or abdomen (ruptured viscera) [5]. This justifies adequate trauma assessment to exclude life-threatening injuries in patients presenting with knee dislocations

Musculoskeletal injuries are frequent in Africa and Cameroon in particular due mainly to the high occurrence of road traffic accidents [6]. When this manuscript was written, no prior studies on traumatic knee dislocations in Cameroon had been published. Subsequently, a recent study reported posterior dislocation as the most frequent subtype, with cast

***Corresponding Author:** Philippe-Albert Lingo
Faculty of Health Sciences/University of Buea-Cameroon, Buea, Cameroon

immobilization being the most widely used treatment modality [7]. In this light, we are presenting a rare case of lateral knee dislocation received and managed in a tertiary hospital in Cameroon. The goal is to present the particularity of the surgical management of this patient after failed attempt of non-surgical treatment by manual reduction.

CASE PRESENTATION

A 53-year-old man, mechanic, married, presented with severe pain and inability to move the right knee associated with bleeding wound at the head following a fall with direct impact on the right knee and head after he attempted to jump from a moving construction vehicle. No loss of consciousness was reported. On arrival, he was assessed and prescribed tramadol, paracetamol, diclofenac, antitetanic serum, ceftriaxone, metronidazole; the wound at the head was repaired by suture.

The patient denies any past medical history or any past surgery. He reports no known allergy and no consumption of cigarette or alcohol.

On physical exam, the patient appeared to be in painful discomfort but remained conscious and oriented. Vital signs were within normal limits. Examination revealed a swollen and tender right knee with bulging on the medial surface; distal pulses and sensation were preserved, though mobilization was impossible due to pain. A sutured Y-shaped laceration was noted on the upper frontal region of the head, with no discharge observed.

Based on these clinical findings, the diagnosis was multiple injuries, including a blunt right knee injury and a mild traumatic brain injury with an associated scalp wound.

The differential diagnoses of the blunt knee injury were fracture of the lower extremity of the femur and knee dislocation thus justifying the request for an X-ray of the right knee.

Radiographic Findings:

An X-ray of the right knee was requested and showed Lateral displacement of tibial plateau with lateral displacement of the patella thus suggesting lateral femorotibial dislocation and patellar dislocation **(**Figure 1 and Figure 2).

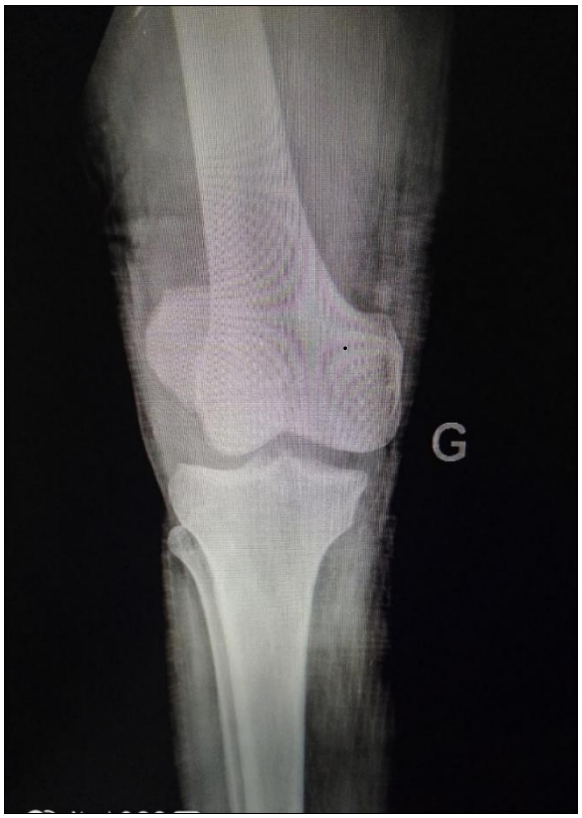

Figure 1: X-ray of right knee (anterior/ lateral): Lateral displacement of tibial plateau with lateral displacement of the patella

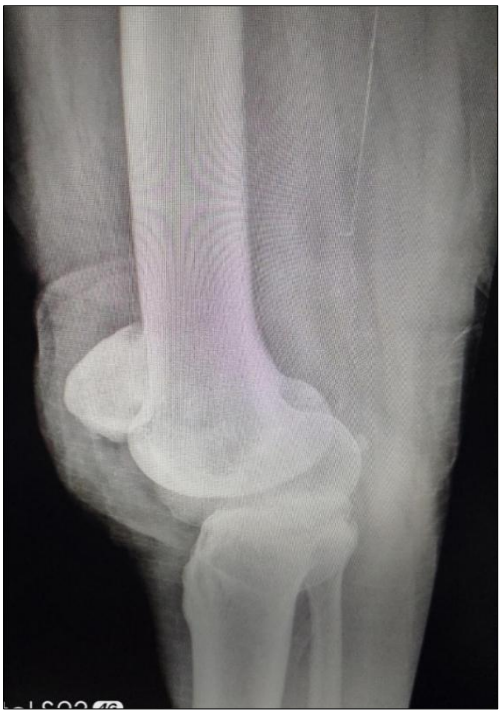

Figure 2: X-ray of the right knee (lateral view)

Preoperative work up: FBC, Coagulation panel, HIV, urea creatinine, serum electrolytes were normal.

Management:

Initial Management

Manual reduction was attempted but was unsuccessful. The patient subsequently underwent surgical treatment consisting of open reduction performed under spinal anesthesia, followed by joint stabilization using external fixation (OREF). A drain was inserted, and the surgical wound was dressed. Ambulation with crutches was encouraged beginning on the third postoperative day.

Pharmacologic Therapy

Analgesic management included paracetamol 1 g every 8 hours and tramadol 100 mg every 8 hours administered intravenously or subcutaneously. Antibiotic prophylaxis was provided with ceftriaxone 2 g intravenously every 24 hours and metronidazole 500 mg intravenously every 8 hours. Prophylactic anticoagulation was initiated with enoxaparin 40 mg subcutaneously once daily. Fluid therapy consisted of normal saline infusion at 500 ml every 6 hours.

Monitoring

Clinical monitoring focused on vital signs, pain assessment, and evaluation of the postoperative wound. Paraclinical monitoring included a control X-ray performed on the first postoperative day.

Outcome

On the first postoperative day, the patient continued to experience pain. Nefopam 20 mg intravenously every 8 hours was added to the analgesic regimen. A control X-ray was performed (Figure 3). Between days 2 and 4, pain progressively decreased, and the patient was able to ambulate with crutches. From days 5 to 11, the patient remained clinically stable, transitioned to oral medications, and was discharged with outpatient follow-up.

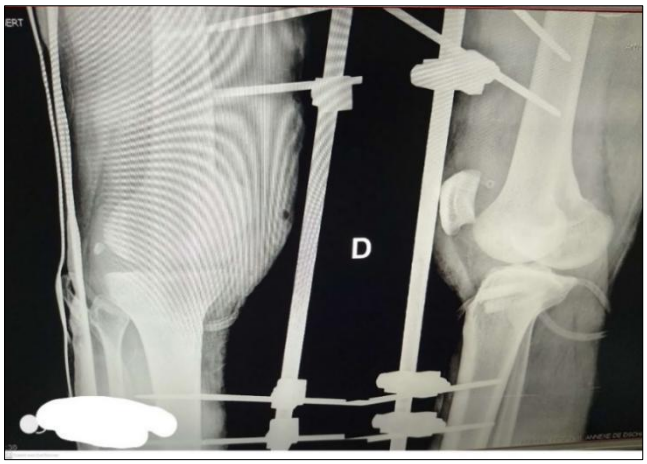

Figure 3: Control X-Ray after surgery showing the external fixators in place and the joint reduced (Anterior and Lateral view)

DISCUSSION

Traumatic knee dislocations are severe orthopedic injuries that result from high-energy trauma and involve complete disruption of the tibiofemoral joint. In addition to the femorotibial dislocation, our patient also sustained a lateral patellar dislocation which represents 2-3% of all knee injuries [7].These injuries are rare but represent a significant clinical challenge due to the risk of associated vascular, nerve, and soft tissue damage. Early diagnosis and timely intervention are critical for reducing the risk of permanent disability [8].

This implies that once the diagnosis of knee dislocation is confirmed by radiologic findings, the next critical step is to restore the normal anatomic alignment of the joint [9]. This could be done either by closed reduction or by open reduction. Closed reduction which is typically done under sedation or general anesthesia, is the first attempt in restoring the knee joint [10]. If closed reduction is unsuccessful or if there is significant soft tissue or bone involvement, open reduction may be required. This technique, performed under general anesthesia, involves a surgical incision to directly visualize and reposition the joint surfaces [10]. Also, recalcitrant knee dislocations and delayed presentations are indications for open reduction [11]. Open reduction is generally indicated in cases of complex knee dislocations with associated fractures or significant ligament damage [8]. In our case presented, there was an attempt at closed reduction which was not successful, thus warranting open reduction. However, the procedure was done on our patient under spinal anesthesia.

Open reduction included soft tissue repair and was followed by joint stabilization and immobilization using external fixators. This approach was selected due to the suspected extent of ligamentous injury and the increased risk of postoperative joint instability in this patient. According to a review by Pamparato *et al*., external fixators could be indicated in the following situations: multiple trauma patients, vascular lesion, exposed dislocation, joint instability, recurrent dislocation, fracture dislocation, lesions of the extensor apparatus, morbid obesity, splint or orthosis intolerance [12]. Nevertheless, no consensus is available concerning the use of external fixators in knee dislocations [13].

As mentioned in the case presentation, the patient was discharged by the 11th day of admission with outpatient follow up with the orthopedist. Nevertheless, the external fixators were maintained for at least two months which is concordant to the findings from the review of Ramirez-Bermejo which showed total duration of external fixator on patients was ranging from 3 weeks to 3 months [14].

One of the key limitations of this case lies in the context of its management, which took place in a resource-constrained hospital setting in Cameroon. Compounding this challenge was the patient's limited financial capacity, which significantly restricted access to advanced diagnostic tools. As a result, imaging modalities such as magnetic resonance imaging (MRI) of the knee and Doppler ultrasound of the lower limbs were not performed, either during the initial diagnostic phase or throughout the follow-up period.

CONCLUSION

This case illustrates the complexity of acute management of traumatic knee dislocations in a low resource setting such as Cameroon. As a matter of fact, knee dislocations can be reduced manually by closed reduction techniques but in this patient this approach was unsuccessful thus requiring open reduction and subsequently external fixation. Although the short- and long-term evolution of our management approach was favorable, thorough outpatient follow-up was maintained. Therefore, individualized approaches must be used for the acute management of patients with traumatic knee dislocation in order to ensure efficacy and promote early mobility of patients with this condition.

Declarations

Funding: The work did not benefit from any funding nor is there any financial activity associated to this work.

Conflicts of Interest: None

Ethics Approval: Not applicable

Consent to Participate: The patient provided oral informed voluntary consent for the publication of the information in this work on the condition that his identity remains hidden.

Written Consent for Publication: The patient provided written informed consent for publishing of this research while his identity is concealed.

Availability of Data and Material: All data generated during this study are included in this manuscript.

Code Availability : Non Applicable

Large Language Model (LLM): No LLM used for this manuscript

Authors' Contributions

- Philippe-Albert Lingo

Contribution: Writing of manuscript, Data compilation, Editing

- Faustin Tatsedem Atemkeng

Contribution: Coordination of work, Methodology, Data supply and curation

- Cedrick Mbassi

Contribution: Methodology, Editing, Review, Visualization

- Vincent Verla Siysi

Contribution: Coordination and supervision, Methodology

- Emelinda Berinyuy

Contribution: Methodology and Visualization

REFERENCES

1. Wascher DC, Dvirnak PC, DeCoster TA. Knee dislocation: initial assessment and implications for treatment. J Orthop Trauma. 1997 Oct;11(7):525-9. doi: 10.1097/00005131-199710000-00011. PMID: 9334955.
2. Howells NR, Brunton LR, Robinson J, Porteus AJ, Eldridge JD, Murray JR. Acute knee dislocation: an evidence based approach to the management of the multiligament injured knee. Injury. 2011 Nov;42(11):1198-204. doi: 10.1016/j.injury.2010.11.018. Epub 2010 Dec 14. PMID: 21156317.
3. Mohseni M, Mabrouk A, Simon LV. Knee Dislocation. [Updated 2024 Feb 27]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK470595/.
4. Kupczik F, Schiavon MEG, Vieira LA, Tenius DP, Fávaro RC. Knee Dislocation: Descriptive Study of Injuries. Rev Bras Ortop. 2013 Jun 20;48(2):145-151. doi: 10.1016/j.rboe.2012.10.002. PMID: 31211120; PMCID: PMC6565857.
5. Wascher DC. High-energy knee dislocations. Oper Tech Sports Med. 2003;11(3):235–45. doi:10.1053/otsm.2003.35908.
6. Global status report on road safety: time for action. Geneva, World Health Organization, 2009 (www.who.int/violence_ injury_prevention/road_safety_status/2009).
7. Muluem Olivier K, Nyeckel Justine R, Ahanda Assiga YM, Lady Di Ayong LA, Nyankoue MF, Fonkoue Loic, et al. Traumatic Knee Dislocation in Yaounde (Cameroon): Management and Functional Outcome: Luxations Traumatiques du Genou à Yaoundé (Cameroun): Prise en Charge et Devenir Fonctionnel. Health Res. Afr. [Internet]. 2026 Jan. 25 [cited 2026 Mar. 5];4(2):158-62. Available from: https://ams-hra.org/index.php/hra/article/view/7506.
8. Johnson DS, Turner PG. Management of the first-time lateral patellar dislocation. Knee. 2019 Dec;26(6):1161-1165. doi: 10.1016/j.knee.2019.10.015. Epub 2019 Nov 11. PMID: 31727430.
9. Aborukbah FA, Anbarserri FM, Almutairi MK, Elbashir HA, Aldawood SM, Aljabri AS, et al. Traumatic knee dislocations: immediate interventions and long-term outcomes. Int J Community Med Public Health. 2024;12(1):504–8. doi:10.18203/2394-6040.ijcmph20244062.
10. Good L, Johnson RJ. The Dislocated Knee. J Am Acad Orthop Surg. 1995 Oct;3(5):284-292. doi: 10.5435/00124635-199509000-00004. PMID: 10795034.
11. Henrichs A. A review of knee dislocations. J Athl Train. 2004 Oct-Dec;39(4):365-9. PMID: 16410830; PMCID: PMC535529.
12. Pardiwala DN, Subbiah K, Rao N, Yathiraj BR. Chronic Irreducible Knee Dislocations:

Outcomes following Open Reduction and Reconstructive Surgery. J Knee Surg. 2023 Sep;36(11):1116-1124. doi: 10.1055/s-0042-1750062. Epub 2022 Jul 7. PMID: 35798343.

13. Pamparato M, Del Castillo JM, Francescoli L. Luxación traumática aguda de rodilla. Indicaciones del uso del fijador externo en la urgencia. Revisión bibliográfica sistematizada. Rev Méd Urug [Internet]. 2021 Sep [cited 2025 Aug 10];37(3):e401.doi:10.29193/rmu.37.3.7.
14. Lucidi GA, Grassi A, Cucurnia I, Macchiarola L, Zaffagnini S. Use of external fixator pre- and post-reconstruction in the multiligament injured knee. Ann Joint. 2018;3:76. doi:10.21037/aoj.2018.09.04.
15. Ramírez-Bermejo, E., Gelber, P.E. & Pujol, N. Management of acute knee dislocation with vascular injury: the use of the external fixator. A systematic review. Arch Orthop Trauma Surg 142, 255–261 (2022). https://doi.org/10.1007/s00402-020-03684-0.

Citation: Philippe-Albert Lingo, Faustin Tatsedem Atemkeng, Cedrick Mbassi, Emelinda Berinyuy Nyuydzefon, Vincent Verla Siysi (2026). Case Report of a Lateral Dislocation of the Right Knee Managed by Open Reduction and External Fixator in a Third Category Hospital in Cameroon. *EAS J Orthop Physiother, 8*(2): 36-40.