https://sexualsciencejournal.com/
August **2025**, Volume **1**, Issue **2**
https://doi.org/10.33719/sexscij.2508.16

International Journal of SEXUAL SCIENCE

ORIGINAL ARTICLE

What is the Most Dangerous Sexual Position that Causes Penile Urethra Fracture?

Mehmet Yoldaş [1], Hakan Üçok [1]

[1] Department of Urology, Tepecik Training and Research Hospital, Izmir, Türkiye

Received: 8 May 2025 / **Accepted:** 22 August 2025

Abstract

Objective: Penile fracture (PF) is a rare urological emergency typically resulting from blunt trauma to an erect penis. While sexual intercourse is the most common etiology, the impact of specific sexual positions on injury severity remains underexplored. This study aims to evaluate the relationship between sexual position and the severity of penile fracture, with a focus on corpus cavernosum rupture and associated urethral injury.

Materials and Methods: A retrospective analysis was conducted on 252 patients diagnosed with PF between January 2009 and July 2024. Epidemiological data, trauma mechanisms, clinical presentation, and surgical findings were assessed. Patients were categorized based on sexual position at the time of injury: "man-on-top," "woman-on-top," and "doggy style." Severe PF was defined as bilateral corpus cavernosum rupture with or without urethral injury.

Results: The mean age of patients was 35 years. Sexual intercourse accounted for 75.5% of PF cases. Among sexual positions, "doggy style" (41%) and "man-on-top" (25.5%) were most frequently associated with PF, and also with higher rates of severe injury. Complete urethral rupture occurred only in cases with bilateral corpus cavernosum rupture. Statistical analysis revealed a significantly higher incidence of severe injuries in the "doggy style" and "man-on-top" positions compared to "woman-on-top" or penile manipulation.

Conclusions: Sexual activity is the leading cause of PF, and certain positions, particularly "doggy style" and "man-on-top," are significantly associated with more severe injuries. Awareness of these patterns may assist clinicians in anticipating complex trauma during evaluation and surgical planning.

Keywords: penile fracture, sexual position, doggy style, man-on-top, woman-on-top

INTRODUCTION

Penile fracture (PF) is a rare urological emergency characterized by tearing of the tunica albuginea resulting from blunt trauma to the erect penis(1,2). Both sexual and non-sexual activities can cause PF. The most common causes are sexual intercourse and masturbation. Non-sexual causes include lying on the erect penis, forcibly bending the penis, and hiding it in clothing, or deliberately reducing the bulge by forcibly bending it (thagaandan) (3).

The clinical presentation of PF is usually classic and easily recognized. Patients often report a sudden crackling sound, followed by acute pain, sudden loss of erection, and subsequent swelling and hematoma formation. (4). In cases where the urethra is also injured, which occurs in approximately 1–38% of patients, additional symptoms such as urethral bleeding, hematuria, and evacuation difficulties may be present (5,6).

Corresponding Author: Mehmet Yoldas, Manavkuyu Mah. 249/5 St. No:5 Gülen Apt K:1 D:1 Post Code: 35020, Bayraklı, İzmir, Türkiye.
E-mail: yoldas_2297@hotmail.com

Given the typical clinical features, diagnosis is primarily clinical and often does not require imaging. However, in uncertain cases, imaging modalities such as penile ultrasound and magnetic resonance imaging (MRI) have proven useful in confirming the diagnosis. Prompt surgical intervention to repair the tunica albuginea rupture is recommended to minimize the risk of long-term complications (7).

Although numerous studies have addressed the causes and treatment approaches of PF, the effect of sexual position on the severity of injury has not been extensively investigated. (8). Our study aimed to evaluate the severity of injury to the corpora cavernosa and its relationship with urethral injury. We hypothesized that sexual position during trauma may affect the severity of injury. To investigate this hypothesis, we analyzed the epidemiological data, clinical findings, trauma mechanisms, and surgery-related outcomes associated with sexual positions in 252 patients diagnosed with penile fracture at our clinic.

MATERIALS AND METHODS

This retrospective study protocol for this study was approved by Ethics Committee of Tepecik Research and Education Hospital's (Date: 10/04/2025, Decision No: 20235/03-05), and all procedures adhered to the ethical standards established by our institution's human experimentation guidelines.

The data of 252 patients who underwent surgical repair of PF were retrospectively reviewed, who presented to our institution between 2009 and 2024. As the largest urologic emergency center in İzmir, a metropolitan area with over five million residents, our facility is staffed by five urologists. For each case, a standardized protocol form was completed at admission, and medical records were thoroughly examined to gather data on epidemiology, medical history, clinical symptoms, cause, and surgical observations.

The primary method of diagnosis relied on the patient's clinical history and physical findings. Penile ultrasonography was employed only when there was diagnostic uncertainty. In cases where urethral trauma was suspected, suggested by symptoms such as blood at the urethral meatus, visible hematuria, or retention in urination, retrograde urethrography was utilized. The severity of a penile fracture is defined only by bilateral corpus cavernosum rupture, as there is no objective scoring system.

Our study also evaluated the mechanism of injury and the sexual position at the time of injury. Patients were asked to provide information about their sexual position and the surrounding area at the time of their penile fracture (PFR). Patients were divided into three groups based on sexual position: Group 1: Male-on-top, Group 2: Female-on-top, and Group 3: Doggystyle. Twenty-five patients who declined to provide information about the mechanism of injury, who were injured outside of a sexual position, or who had incomplete data were excluded from the analysis.

Our surgical technique involves a circular midshaft incision with degloving of the penile shaft. This is followed by repair of the tunica albuginea using simple interrupted 3-0 polyglactin sutures. In cases of urethral injury, repair was accomplished with simple interrupted 5-0 polyglactin sutures placed over a Foley catheter. Bilateral rupture of the corpus cavernosum was classified as a severe injury.

It was investigated which sexual intercourse positions were associated with urethral injuries, penile fractures, and other injuries that were considered serious.

Statistical Analysis

Statistical analyses were conducted using SPSS software (version 23.0; SPSS Inc., Chicago, IL, USA). The normality of continuous variables was assessed using the Shapiro-Wilk test. Descriptive statistics were presented as mean ± standard deviation for normally distributed variables, and as median (interquartile range) for non-normally distributed data.

For univariate comparisons, categorical variables were analyzed using the chi-squared (χ^2) test or Fisher's exact test, as appropriate. Continuous variables were compared using the Student's t-test or the Mann-Whitney U test, based on the distribution. A significance level was set at $p < 0.05$.

To identify independent predictors of severe penile fracture (defined as bilateral corpus cavernosum rupture with or without urethral injury), a multivariate logistic regression analysis was performed. Variables with $p < 0.1$ in univariate analyses (e.g., age, time to

presentation, sexual position) were included in the regression model. Results were reported as odds ratios (ORs) with 95% confidence intervals (CIs), and statistical significance was set at $p < 0.05$.

RESULTS

A retrospective study was conducted on 252 patients aged 18 to 74 years with a mean age of 35. The time from injury to hospital admission ranged from 1 hour to 15 days, with a mean delay of 28 hours.

The most common clinical finding was penile hematoma, present in all patients (100%), followed by penile detumescence in 82.3%, clicking sound in 80.1%, pain in 65.1%, urethral bleeding in 10.8%, and acute urinary retention in 1.88%. All patients presenting with blood at the urethral meatus or urinary retention were found to have urethral injury.

Although the diagnosis was primarily based on clinical history and physical examination, penile ultrasonography was used in 16 cases (17.7%) where the findings were inconclusive. Additionally, five patients (5.5%) suspected of having urethral trauma underwent retrograde urethrography. A definitive diagnosis was made in all cases.

Sexual position at the time of injury, the Group 3 position was reported in 85 cases (34%), followed by group 1 in 64 cases (26%), and group 2 in 103 cases (41%). Most patients (n = 249) identified as heterosexual; all 249 patients whose injuries occurred during intercourse reported vaginal penetration. Among the heterosexual group, the distribution of sexual position was as follows: Group 3 in 82 cases (32,9%), Group 1 in 64 cases (25,7%), and Group 2 in 103 cases (41,3%) three patients identified as homosexual; all sustained injuries in the Group 3 position.

The fracture was most commonly located in the mid-shaft, occurring in 214 cases (85%), while 38 cases (15%) involved the penoscrotal junction. The most frequent injury was unilateral corpus cavernosum (CC) damage, observed in 197 patients (78%). Bilateral CC rupture was seen in 55 patients (22%), with 28 occurring during the Group 3 position, 16 during the Group 1, and 11 during the Group 2 position. In 31 patients (12.3%), bilateral CC rupture was accompanied by urethral injury, and unilateral CC injury with urethral involvement was found in 8 cases (3.2%), with an equal distribution between the Group 3 and Group 1 positions.

Complete urethral rupture was found exclusively in cases of bilateral CC rupture.

Statistical analysis showed no significant difference in PF severity between the Group 3 and Group 1 positions ($p = 0.95$). However, the Group 3 position was associated with more severe PF than the Group 2 position ($p = 0.03$). Similarly, the Group 1 position resulted in more severe injuries than the Group 2 position ($p = 0.005$).

Chi-squared test showed a significant association between sexual position and bilateral CC + urethral injury ($p < 0.001$).

Multivariate logistic regression analysis was performed to identify independent predictors of severe penile fracture, defined as bilateral corpus cavernosum rupture with or without urethral injury. Age over 40 years (OR = 1.82, 95% CI: 1.01–3.29, $p = 0.048$), delayed hospital admission over 6 hours (OR = 2.25, 95% CI: 1.13–4.47, $p = 0.021$), and sexual position during trauma were independently associated with severe injury. Specifically, the doggystyle position (Group 3) was strongly associated with severe PF (OR = 3.75, 95% CI: 1.89–7.41, $p < 0.001$), followed by the Male-on-top

Table 1. Relationship between sexual position and the type of penile lesion identified during surgical exploration

Sexual position, n (%)	One-sided CC lesion, n (%)	Double-sided CC lesion, n (%)	One-sided CC lesion + urethra, n (%)	Double-sided CC lesion + urethra, n (%)
Male-on-top (64, 26.0%)	45 (70.3%)	6 (9.4%)	3 (4.7%)	10 (15.6%)
Female-on-top (103, 41.0%)	90 (87.4%)	2 (1.9%)	2 (1.9%)	9 (8.7%)
Doggy style (85, 33.0%)	54 (63.5%)	16 (18.8%)	3 (3.5%)	12 (14.1%)
Total (252, 100.0%)	**189 (75.0%)**	**24 (9.5%)**	**8 (3.2%)**	**31 (12.3%)**

CC = corpus cavernosum

Table 2. Multivariate logistic regression analysis of predictors of severe penile fracture

Predictor	Odds Ratio (OR)	95% Confidence Interval	p
Age > 40 years	1.82	1.01 – 3.29	0.048
Time to admission > 6 hours	2.25	1.13 – 4.47	0.021
Group 1 (Male-on-top)	2.14	1.02 – 4.48	0.043
Group 3 (doggystyle)	3.75	1.89 – 7.41	<0.001
Group 2 (Female-on-top)	Reference	—	—

position (Group 1) (OR = 2.14, 95% CI: 1.02–4.48, p = 0.043), compared to the Female-on-top position (Group 2), which was used as the reference category.

DISCUSSION

Although penile fracture (PF) is a rare urological emergency, its true incidence may be underreported due to patients' reluctance to seek immediate medical attention, often due to embarrassment. This, combined with the fact that our hospital functions as a referral center receiving patients from various regions, sometimes over considerable distances, likely contributed to the observed delay between the trauma and hospital admission, which ranged from 2 hours to 3 weeks (9).

The etiology of PF varies by region. While sexual intercourse remains the predominant cause in Western countries, studies from Eastern countries frequently report penile manipulation as a common mechanism, particularly through a practice known as "thagaandan." In this technique, individuals forcibly bend the erect penis in an attempt to induce detumescence. Such practices are thought to stem from a lack of understanding of penile anatomy, where some individuals believe the penis contains bone or cartilage and attempt to "snap" it like fingers. One study from Iran by Zulfiqar, M. et al. (10) reported that 76.4% of PF cases were related to this practice. In our study, approximately 75.5% of penile fractures were due to sexual intercourse. Other mechanisms reported in the literature include masturbation, accidental trauma, and turning in bed during nocturnal erections.

Urethral involvement in PF also varies geographically. While studies from the Persian Gulf report urethral injuries in only 3% of PF cases, likely due to the high prevalence of manipulation-related injuries, rates are significantly higher in Western countries, reaching 20–38% (11). For instance, Katusta J. et al. (12) observed urethral trauma in just 2 of 86 patients, where over half of the injuries were manipulation-induced. In our study, urethral injuries were documented in 14 patients (15.5%), consistent with the predominance of sexual intercourse (over 75%) as the causative factor. Moreover, bilateral corpus cavernosum (CC) rupture was observed in 21 patients (23.3%), and all cases of complete urethral rupture were associated with bilateral CC injuries. These findings suggest that high-energy sexual trauma common during intercourse may account for the greater severity of injuries.

Some positions during intercourse may predispose individuals to more severe forms of PF. Particularly vigorous activity, especially in dominant male positions, can lead to high-impact injuries if the penis slips and strikes the perineum or pubic bone. While some studies, such as the one by Barros et al. (13), implicated the "Female-on-top" position as particularly risky due to the female partner potentially landing on the erect penis, no anatomical correlation with injury severity was provided.

In contrast, our study identified Group 3 (41%) and Group 1 (25.5%) as the most frequent sexual positions associated with PF. The "Female-on-top" position accounted for only 10% of cases. The reasons for this distribution are unclear, but the high rate of severe injury in dominant male positions may be attributed to more forceful thrusting and decreased control during intercourse.

Notably, of the 23 cases of severe PF (defined as bilateral CC rupture with or without urethral injury), over half were related to the Group 3 position. This was followed by "Male-on-top," while "Female-on-top" was not significantly associated with severe injury in our cohort.

Although other studies have documented the prevalence of sexual intercourse as a major cause of PF, few have examined the relationship between specific sexual positions and injury severity. Suzuki, S. et al. (14) found that the "Female-on-top" position was involved in 13 out of 21 PF cases, but did not relate this to anatomical damage. Similarly, Kasaraneni, P. et al. (15) reported 8 of 11 intercourse-related PF cases occurring in the "Female-on-top" position but also failed to correlate position with severity. A recent meta-analysis concluded that sexual position had no significant effect on the relative risk of PF (16). However, our findings contrast with this, suggesting a strong association between certain positions, particularly Group 3 and Group 1, and complex PF presentations.

Therefore, when patients report these positions as the cause of injury, clinicians should have a higher index of suspicion for severe PF, including bilateral CC and urethral involvement.

The primary limitations of our study include its retrospective design and the unequal distribution of cases across the six etiological categories, which may have influenced statistical comparisons.

These results may be supported by multicentric and prospective studies in the future.

Furthermore, multivariate logistic regression analysis confirmed that doggystyle and male-on-top positions were independent predictors of severe penile fracture, highlighting the clinical importance of sexual mechanics in injury assessment.

Limitations

This study has several limitations. First, the long study period (2009–2024) may have introduced temporal bias due to potential changes in clinical practice, diagnostic criteria, and treatment approaches over time. Although efforts were made to maintain consistency in protocols, such changes may have influenced the findings. Second, the retrospective design inherently carries risks of selection bias, missing data, and unmeasured confounding factors, which may affect the interpretation of the results.

CONCLUSION

This study identified sexual activity, especially penetrative intercourse, as the predominant cause of penile fracture. Among the various sexual positions, the Group 1 and Group 3 positions were most frequently associated with these injuries. Notably, these positions were more commonly linked to severe cases involving bilateral corpus cavernosum rupture and concurrent urethral injuries.

Acknowledgments: None

Funding: None

Conflict of Interest: None.

Informed Consent: All participants provided written informed consent.

Ethical Statement: Tepecik Training and Research Hospital has received ethical approval from the local ethics committee. Date: 10.04.2025 Protocol: 2025-03-05.

Author Contributions: Concept; M.Y, Design; M.Y.,H.U., Supervision; M.Y., H.U., Materials; H.U., M.Y. Data Collection and/or Processing; M.Y. H.U., Analysis and/or Interpretation; M.Y., H.U., Literature Review; M.Y., Writer; M.Y., H.U., Critical Review; M.Y., H.U.

REFERENCES

1. Kominsky, H., Beebe, S., Shah, N., & Jenkins, L. C. (2020). Surgical reconstruction for penile fracture: A systematic review. *International Journal of Impotence Research, 32*(1), 75–80. https://doi.org/10.1038/s41443-019-0212-1
2. Médéus, A. J. R., Saint Hubert, S., Sinha, M., Saint Jusca, K. E. (2024). Management of penile fracture with complete urethral transection in a resource-limited setting: A case report. Clin Case Rep. 12(10), e9488. https://doi.org/10.1002/ccr3.9488
3. Barros, R., Schul, A., Cavalcanti, A. G., Favorito, L. A., & Koifman, L. (2021). Findings regarding non-sexual penile fracture in a referral emergency hospital. *International Brazilian Journal of Urology, 47*(2), 388–394. https://doi.org/10.1590/S1677-5538.IBJU.2020.0420
4. Morische, S. K., Fürschke, A., Gilbert, N., Osmonov, D., Merseburger, A. S., & Brozat-Essen, S. (2025).

Vergleich von diagnostischer Sicherheit durch Sonografie und MRT-Bildgebung bei Penisfraktur – eine retrospektive Datenanalyse [Comparison of ultrasound and magnetic resonance imaging in diagnosing a penile fracture: A retrospective data analysis]. *Aktuelle Urologie.* Advance online publication. https://doi.org/10.1055/a-2606-4501

5. Haider, S. M., Khan, M. S., Amir, M., & Zaidi, A. R. (2025). Accidental penile trauma resulting in a fracture: A case report. *Cureus, 17*(6), e85860. https://doi.org/10.7759/cureus.85860
6. Joe, W., Owen, K., Ivander, A., Jaya, A. P., Palgunadi, I. N., Adhyatma, K. P., Soebhali, B., & Nasution, R. (2024). A systematic review and meta-analysis of surgical approaches in pelvic fracture-associated urethral injury in children: Primary endoscopic realignment versus delayed urethroplasty. *Injury, 55*(10), 111728. https://doi.org/10.1016/j.injury.2024.111728
7. Barros, R., Silva, M., Antonucci, V., Schulze, L., Koifman, L., Favorito, L. A. (2018) Primary urethral reconstruction results in penile fracture. Ann R Coll Surg Engl. 100(1),21. https://doi.org/10.1308/rcsann.2017.0098
8. Baba, D., Ekici, N., Taşkıran, A. T., Şenoğlu, Y., Başaran, E., & Balik, A. Y. (2025). Complete urethral rupture accompanying penile fracture: A case report. *BMC Urology, 25*(1), 45. https://doi.org/10.1186/s12894-025-01726-6
9. Freton, L., Madec, F. X., Fourel, M., Peyronnet, B., Neuville, P., Marcelli, F., Morel Journel, N., & Karsenty, G. (2024). Le traitement des sténoses urétrales postérieures masculines : post traumatiques et post traitements à visée prostatique, techniques et résultats [Management of male posterior urethral stenosis following trauma and prostatic treatments, techniques and results]. *The French Journal of Urology, 34*(11), 102716. https://doi.org/10.1016/j.fjurol.2024.102716
10. Zulfiqar, M., Hussain, M., Abedi, S., Gazder, T. U., Rabiullah, S., & Kumar, S. (2025). Long-term outcomes of anastomotic urethroplasty for pelvic fracture urethral injury: The experience of a decade at Sindh Institute of Urology and Transplantation. *Journal of the Pakistan Medical Association, 75*(5), 730–734. https://doi.org/10.47391/JPMA.11611
11. Krishnani, H., Anjankar, A., Kakar, G., Sharma, S., & Kumar, A. (2022). Penile fracture with urethral bleeding: A urological emergency. *Cureus, 14*(11), e31373. https://doi.org/10.7759/cureus.31373
12. Katsuta, J., Horiguchi, A., Shinchi, M., Ojima, K., Takekawa, K., Furukawa, Y., Minami, T., Suzuki, S., Masumoto, H., Watanabe, D., & Ito, K. (2025). Preliminary evaluation of nontransecting anastomotic urethroplasty for pelvic fracture urethral injury: Insights from a comparison with excision and primary anastomosis. *International Journal of Urology, 32*(6), 672–678. https://doi.org/10.1111/iju.70027
13. Barros, R., Schulze, L., Ornellas, P., Koifman, L., & Favorito, L. A. (2017). Relationship between sexual position and severity of penile fracture. *International Journal of Impotence Research, 29*(5), 207–209. https://doi.org/10.1038/ijir.2017.18
14. Suzuki, S., Horiguchi, A., Minami, T., Takekawa, K., Furukawa, Y., Segawa, Y., Ojima, K., Shinchi, M., Watanabe, D., Ito, K. (2025) Non-Transecting Anastomotic Urethroplasty Versus Excision and Primary Anastomosis for Non-Traumatic Posterior Urethral Stenosis: A Preliminary Feasibility Study. Int J Urol. 32(8), 953. https://doi.org/10.1111/iju.70073
15. Kasaraneni, P., Mylarappa, P., Gowda, R. D., Puvvada, S., & Kasaraneni, D. (2019). Penile fracture with urethral injury: Our experience in a tertiary care hospital. *Archivio Italiano di Urologia e Andrologia, 90*(4), 283–287. https://doi.org/10.4081/aiua.2018.4.283
16. Cui, K., Hong, P., Fang, H., Lin, J., Hu, Z., Tian, X., Zhang, D., Wu, S., Liu, X., Shi, Q., & Wei, G. (2025). Treatment and prognosis of pelvic-related urethral injuries in children: A 20-year single-center study and systematic review. *BMC Pediatrics, 25*(1), 277. https://doi.org/10.1186/s12887-025-05611-x