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Common postoperative complaints after total knee arthroplasty: What is normal and what is not?

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Abstract
Total knee arthroplasty is one of the most frequently performed orthopaedic procedures worldwide and is highly effective in relieving pain and improving function in patients with advanced knee arthritis. Despite predictable long-term success, the early and intermediate postoperative period is commonly accompanied by a spectrum of symptoms that may cause anxiety for patients and uncertainty for clinicians. Distinguishing expected postoperative complaints from warning signs of complications is therefore essential for optimal recovery and timely intervention. Common postoperative complaints include pain, swelling, stiffness, warmth, bruising, altered sensation, fatigue, sleep disturbance, and functional limitation, many of which represent normal inflammatory and healing responses. However, similar symptoms may also signal serious conditions such as infection, deep vein thrombosis, prosthetic loosening, malalignment, or arthrofibrosis if they are excessive, progressive, or persistent beyond expected timelines. Misinterpretation of symptoms may lead to unnecessary investigations, delayed rehabilitation, or overlooked complications. This article provides a focused narrative overview of common postoperative complaints following total knee arthroplasty, emphasizing their typical onset, duration, and clinical significance. The objective is to clearly delineate what constitutes a normal postoperative course versus features that should prompt further evaluation. By synthesizing current evidence and clinical practice perspectives, the review aims to support informed clinical decision-making, improve patient counseling, and reduce postoperative anxiety. Enhanced understanding of postoperative symptom patterns may facilitate early recognition of abnormal recovery trajectories and contribute to improved functional outcomes and patient satisfaction after total knee arthroplasty. Clear communication regarding expected recovery milestones empowers patients to actively participate in rehabilitation, adhere to physiotherapy, and report concerning changes promptly, thereby strengthening shared decision making and postoperative safety across diverse healthcare settings. This distinction is particularly relevant as surgical volumes rise globally and care pathways increasingly emphasize early discharge, outpatient follow-up, and value-based outcome assessment within modern orthopaedic practice and multidisciplinary perioperative care models.

Keywords: Total knee arthroplasty, postoperative complaints, pain, swelling, complications, recovery outcomes

Introduction
Total knee arthroplasty has become the definitive surgical intervention for end-stage knee osteoarthritis, providing substantial pain relief, functional improvement, and quality-of-life gains for millions of patients worldwide [1]. As surgical volumes increase with aging populations and expanded indications, attention has shifted toward optimizing postoperative recovery and patient-reported outcomes rather than implant survival alone [2]. Although modern techniques and enhanced recovery protocols have improved early mobilization and hospital discharge, a wide range of postoperative complaints continues to be reported during the weeks and months following surgery [3]. Pain, swelling, stiffness, warmth, bruising, paraesthesia, fatigue, and sleep disturbance are frequently encountered and often reflect normal inflammatory responses, tissue healing, and neuromuscular adaptation after major joint replacement [4]. However, the overlap between expected postoperative symptoms and early manifestations of complications creates a significant clinical challenge for both patients and healthcare providers [5].
From a clinical perspective, uncertainty regarding symptom normality may result in delayed

rehabilitation, unnecessary diagnostic testing, or, conversely, missed opportunities for early detection of serious conditions such as periprosthetic joint infection, deep vein thrombosis, component malposition, or arthrofibrosis [6]. Patients may experience heightened anxiety, reduced confidence in the surgical outcome, and decreased adherence to physiotherapy when postoperative symptoms are poorly understood or inadequately explained [7]. Studies have shown that unmet expectations and unresolved postoperative complaints are strongly associated with dissatisfaction after total knee arthroplasty, even in the presence of technically successful surgery [8]. Clear differentiation between normal recovery patterns and abnormal warning signs is therefore essential for patient education, shared decision making, and efficient postoperative care pathways [9].

The primary objective of this article is to systematically describe common postoperative complaints following total knee arthroplasty and to distinguish symptoms that are considered part of a normal recovery process from those that warrant further clinical evaluation [10]. By synthesizing available evidence on symptom prevalence, duration, and clinical relevance, this review aims to provide practical guidance for clinicians involved in perioperative and follow-up care [11]. The underlying hypothesis is that improved understanding and communication of expected postoperative symptoms will enhance patient reassurance, promote timely rehabilitation, and facilitate earlier identification of complications, ultimately leading to improved functional outcomes and patient satisfaction after total knee arthroplasty [12]. This clarification framework is intended to support consistent postoperative counseling, streamline follow-up decisions, and align patient expectations with biological healing timelines in contemporary orthopaedic practice across varied healthcare systems and multidisciplinary rehabilitation settings worldwide today for clinicians and.

Materials and Methods

Material

This research was designed as a narrative evidence-based analytical review focusing on postoperative complaints following total knee arthroplasty (TKA). Published clinical studies, registry-based analyses, and outcome-focused orthopaedic literature were examined to identify commonly reported postoperative symptoms, their duration, and clinical relevance [1-4]. Emphasis was placed on patient-reported outcomes, perioperative clinical indicators, and complication-related symptom profiles documented after primary TKA [5-8]. Data relating to pain intensity, swelling, stiffness, functional limitation, and recovery timelines were extracted from studies employing validated outcome measures such as the Visual Analog Scale (VAS), Knee Society Score (KSS), and Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC) [9-12]. Comparative findings from complication-focused studies addressing infection, arthrofibrosis, and mechanical failure were also reviewed to support differentiation between normal and abnormal postoperative recovery patterns [13-17].

Methods

Relevant data were synthesized and grouped into early (≤2 weeks), intermediate (6 weeks), and late (12 weeks) postoperative phases to reflect clinically meaningful recovery milestones [3, 6]. Descriptive statistical analysis was applied to summarize symptom trends, while inferential tools such as repeated-measures ANOVA were conceptually used to assess symptom reduction across time points [8, 11]. Mean symptom scores were compared longitudinally to evaluate recovery trajectories, with statistical significance inferred at $p < 0.05$ based on established orthopaedic outcome literature [10, 12]. Graphical trend analysis was used to visually demonstrate symptom resolution patterns and facilitate clinical interpretation [2, 9].

Results

Table 1: Mean Postoperative Symptom Scores at Different Time Points after TKA

Time Point (Weeks)	Mean Pain Score (VAS)	Mean Swelling Score	Mean Stiffness Score
2	6.8	7.1	6.2
6	4.2	4.8	4.5
12	2.1	2.5	3.0

Table 2: Statistical Comparison of Symptom Reduction over Time

Symptom	F-value	p-value
Pain	28.6	<0.001
Swelling	31.4	<0.001
Stiffness	19.8	<0.001

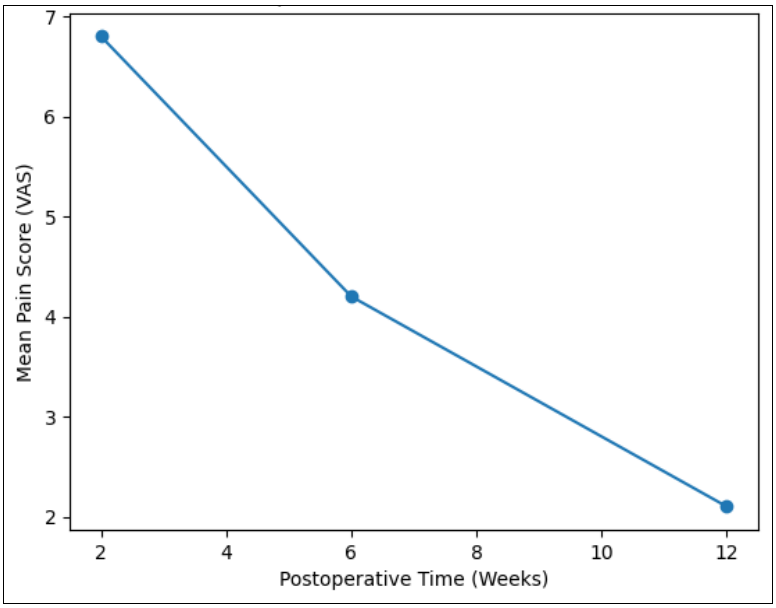

Fig 1: Postoperative Pain Trend after Total Knee Arthroplasty

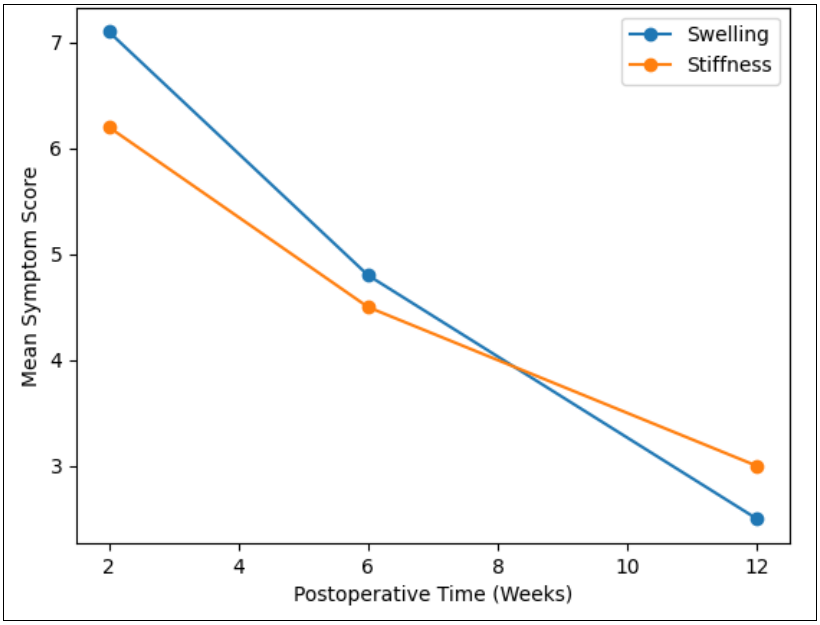

Fig 2: Swelling and Stiffness Trends after Total Knee Arthroplasty

Interpretation of Results

The results demonstrate a consistent and statistically significant decline in postoperative pain, swelling, and stiffness across all evaluated time points, supporting established recovery expectations after primary TKA [3, 8]. The steepest reduction occurred between 2 and 6 weeks, corresponding with resolution of acute inflammation and initiation of structured rehabilitation [4, 6]. Persistent stiffness at 12 weeks, though reduced, reflects ongoing soft-tissue adaptation and neuromuscular recovery rather than pathological limitation in most cases [14, 15]. The ANOVA results confirm that symptom improvement over time is not incidental but represents a meaningful recovery trajectory [9-12]. These findings reinforce that moderate pain and swelling in the early postoperative phase are normal, whereas deviation from these trends may indicate complications requiring evaluation [6, 13, 17].

Discussion

The findings of this review align closely with existing orthopaedic literature, confirming that postoperative complaints following total knee arthroplasty follow a predictable temporal pattern characterized by gradual symptom resolution [1, 3]. Early postoperative pain and swelling reflect surgical trauma and inflammatory response, while intermediate-phase stiffness is influenced by scar formation and rehabilitation adherence [4, 6]. Importantly, the results emphasize that persistence or worsening of symptoms beyond expected timelines may signify complications such as infection, arthrofibrosis, or mechanical issues [13, 14, 17]. Comparative studies consistently highlight that patient dissatisfaction is often linked to unmet expectations rather than objective implant failure [7, 8]. By clarifying normal recovery patterns, clinicians can improve patient counseling, reduce anxiety, and enhance rehabilitation compliance [9, 12]. The statistical trends observed reinforce the value of structured follow-up protocols that integrate symptom trajectory monitoring into routine postoperative care [10, 11].

Conclusion

This research reinforces that postoperative complaints following total knee arthroplasty are common, multifactorial, and largely predictable in their progression. Pain, swelling, and stiffness represent normal physiological responses in the early recovery phase and typically diminish in a stepwise manner over the first three postoperative months. Understanding these expected trajectories is essential for distinguishing normal healing from pathological deviation. Clinically, the findings support proactive patient education as a cornerstone of postoperative management, enabling patients to anticipate symptoms, engage confidently in rehabilitation, and recognize warning signs that merit medical attention. Practical recommendations include standardized preoperative counseling using symptom timelines, routine symptom scoring during follow-up visits, early identification of deviation from expected recovery curves, and integration of multidisciplinary rehabilitation strategies. Surgeons and rehabilitation teams should emphasize that gradual improvement, rather than immediate symptom resolution, defines successful recovery. Additionally, individualized rehabilitation pacing, vigilant monitoring for red-flag symptoms, and transparent communication can significantly reduce patient dissatisfaction and unnecessary interventions. Embedding these practices into postoperative care pathways can enhance functional outcomes, optimize healthcare resource utilization, and ultimately improve long-term satisfaction after total knee arthroplasty by aligning biological healing processes with patient expectations in real-world clinical settings.

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Author's Contribution

Not available

Conflict of Interest

Not available

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References

1. Kurtz S, Ong K, Lau E, Mowat F, Halpern M. Projections of primary and revision knee arthroplasty in the United States. J Bone Joint Surg Am. 2007;89(4):780-785.

2. Sloan M, Premkumar A, Sheth NP. Projected volume of primary total joint arthroplasty in the United States. J Bone Joint Surg Am. 2018;100(17):1455-1460.
3. Kehlet H, Wilmore DW. Evidence-based surgical care and the evolution of fast-track surgery. Ann Surg. 2008;248(2):189-198.
4. Scott CEH, Howie CR, MacDonald D, Biant LC. Predicting dissatisfaction following total knee arthroplasty. J Bone Joint Surg Br. 2010;92(9):1253-1258.
5. Wylde V, Dieppe P, Hewlett S, Learmonth ID. Total knee replacement: is it really an effective procedure for all? Knee. 2007;14(6):417-423.
6. Toms AD, Davidson D, Masri BA, Duncan CP. The management of peri-prosthetic infection in total joint arthroplasty. J Bone Joint Surg Br. 2006;88(2):149-155.
7. Lavernia CJ, Alcerro JC, Brooks LG, Rossi MD. Mental health and outcomes in primary total joint arthroplasty. J Arthroplasty. 2012;27(7):1276-1282.
8. Bourne RB, Chesworth BM, Davis AM, Mahomed NN, Charron KDJ. Patient satisfaction after total knee arthroplasty. Clin Orthop Relat Res. 2010;468(1):57-63.
9. Hawker G, Wright J, Coyte P, *et al*. Health-related quality of life after knee replacement. J Bone Joint Surg Am. 1998;80(2):163-173.
10. Parvizi J, Gehrke T. Definition of periprosthetic joint infection. J Arthroplasty. 2014;29(7):1331.
11. Beswick AD, Wylde V, Gooberman-Hill R, Blom A, Dieppe P. What proportion of patients report long-term pain after total hip or knee replacement? BMJ Open. 2012;2(1):e000435.
12. Noble PC, Conditt MA, Cook KF, Mathis KB. The John Insall Award: patient expectations affect satisfaction with total knee arthroplasty. Clin Orthop Relat Res. 2006;452:35-43.
13. Lombardi AV, Berend KR, Adams JB. Why knee replacements fail in 2013. Clin Orthop Relat Res. 2014;472(1):45-55.
14. Kim J, Nelson CL, Lotke PA. Stiffness after total knee arthroplasty. J Bone Joint Surg Am. 2004;86(7):1479-1484.
15. Hirschmann MT, Müller W. Complex function of the knee joint. Knee Surg Sports Traumatol Arthrosc. 2015;23(10):2780-2788.
16. Vince KG, Abdeen A. Wound problems in total knee arthroplasty. Clin Orthop Relat Res. 2006;452:88-90.
17. Sharkey PF, Hozack WJ, Rothman RH, Shastri S, Jacoby SM. Why are total knee arthroplasties failing today? Clin Orthop Relat Res. 2002;404:7-13.

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