Review Article

Surgery Versus Conservative Management in Grade III Ankle Sprain

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Abstract

Grade III ankle sprain represents a severe ligamentous injury characterized by complete rupture of the lateral ankle ligaments, particularly the anterior talofibular ligament, and is associated with marked instability, pain, swelling, bruising, and inability to bear weight. The lateral ligament complex, composed of the anterior talofibular, calcaneofibular, and posterior talofibular ligaments, plays a fundamental role in maintaining ankle stability, and disruption of these structures may lead to both mechanical and functional instability. If not properly treated, this injury can progress to recurrent sprains, chronic ankle instability, persistent pain, and long-term joint degeneration. Diagnosis relies on clinical evaluation, including assessment of weight-bearing capacity, anterior drawer test, and talar tilt test, complemented by imaging studies such as radiographs, ultrasound, and magnetic resonance imaging to confirm ligament rupture and identify associated lesions. Epidemiologically, ankle sprains are among the most common musculoskeletal injuries, especially in athletes involved in pivoting and high-impact sports, and previous ankle injury remains one of the strongest predictors of recurrence. Conservative treatment is commonly recommended as the initial approach and focuses on pain and

swelling control, short-term protection, early mobilization, progressive weight bearing, bracing, and structured rehabilitation emphasizing proprioception, neuromuscular control, and muscle strengthening. Surgical treatment, in contrast, aims to restore mechanical stability directly and may be particularly appropriate in high-demand athletes, patients with severe instability, associated injuries, or failure of conservative management. Both strategies can lead to favorable outcomes, but surgery offers more predictable restoration of stability, while conservative management provides a less invasive option with fewer complications. Therefore, treatment selection should be individualized according to clinical severity, patient expectations, functional demands, and rehabilitation response.

Key words

Grade III ankle sprain, lateral ankle instability, conservative management, surgical treatment, rehabilitation, return to sport.

Introduction

Surgical management includes several approaches aimed at restoring ankle stability and improving clinical outcomes. Among them, anatomic repair, particularly of the anterior talofibular ligament, has been identified as especially important for achieving favorable results. Studies indicate that anatomic repairs provide better clinical outcomes than non-anatomic repairs, particularly in cases of chronic ankle instability [1]. In addition to direct repair, other surgical techniques such as primary repair, reconstruction with grafts, and suture tape augmentation have also demonstrated excellent outcomes in the treatment of lateral ligament instability. These methods are associated with high functional scores and low complication rates, although reconstruction with grafts appears to have the lowest complication rate among them [2]. Reinforcement procedures have also been explored as adjuncts to surgical repair. For example, the use of the inferior extensor retinaculum may prolong operative time, but it does not appear to significantly modify clinical outcomes when compared with repair alone [3].

In contrast, conservative management is primarily based on structured rehabilitation protocols designed to control pain, reduce swelling, and promote functional recovery. Within this context, protocols such as STOP-Sprain have shown significant improvements in recovery rates and pain reduction without the need for surgical intervention [4]. The long-term results of non-operative management have also been considered acceptable, particularly in cases of high ankle sprains, where low rates of subsequent injuries and functional impairments have been reported, although a notable incidence of arthritis remains a concern [5]. Furthermore, return-to-sport decision-making within conservative treatment requires a comprehensive assessment. The PAASS framework emphasizes the evaluation of pain, ankle impairments, sensorimotor control, athlete perception, and sport-specific performance, thereby highlighting the multidimensional nature of conservative management [6].

When comparing both strategies, evidence suggests that surgical and conservative treatments can each lead to excellent functional outcomes, although the choice between them often depends on injury severity and patient-specific factors. In general, conservative treatment is recommended as the initial approach, while surgery is considered in cases where instability persists despite appropriate management [7]. This perspective is further supported by findings showing that chronic ankle instability does not necessarily correlate with the number of ruptured ligaments, which suggests that conservative management may still be effective even in severe injuries [8]. Nevertheless, the success of nonoperative treatment depends greatly on the quality of rehabilitation, since inadequate rehabilitation

may result in residual disability, underscoring the importance of a well-structured recovery program [9].

The objective of this work is to provide a structured and clinically relevant analysis of the treatment of grade III ankle sprain, with particular emphasis on the comparison between surgical and conservative management.

Methodology

This manuscript was developed as a structured narrative review aimed at providing an updated and clinically integrated analysis of grade III ankle sprain, with particular emphasis on the comparison between surgical and conservative management, their indications, functional outcomes, and long-term prognostic implications. The review was conducted in accordance with the SANRA (Scale for the Assessment of Narrative Review Articles) framework and followed a predefined methodological protocol established prior to literature screening. Given the clinical heterogeneity of severe ankle ligament injuries and the variability in treatment indications, surgical techniques, and rehabilitation protocols, a narrative interpretative synthesis was selected over quantitative pooling in order to integrate anatomical, biomechanical, functional, and therapeutic considerations into a coherent and clinically applicable framework. Special attention was given to the role of ligament injury severity, chronic instability risk, return-to-sport outcomes, rehabilitation quality, and patient-specific functional demands in determining optimal treatment selection. The objective was to provide a structured synthesis capable of supporting evidence-based and individualized decision-making in the management of severe ankle sprains.

A comprehensive literature search was conducted in PubMed, Scopus, and Web of Science, including peer-reviewed articles published in English or Spanish between January 2020 and December 2025. The final search was performed in april 2026. This timeframe was selected to capture contemporary advances in surgical repair and reconstruction techniques, rehabilitation protocols, return-to-sport frameworks, and updated perspectives on chronic ankle instability following severe ligamentous injury. Foundational studies were incorporated when necessary to contextualize biomechanical principles, ligament anatomy, or the historical evolution of treatment strategies. The search strategy combined MeSH and free-text terms using Boolean operators related to grade III ankle sprain, severe ankle sprain, lateral ankle ligament injury, anterior talofibular ligament, calcaneofibular ligament, chronic ankle instability, surgical repair, ligament reconstruction, conservative treatment, rehabilitation, functional outcomes, recurrence, and return to sport. Searches were conducted in titles and abstracts as well as indexed subject headings to maximize sensitivity.

The initial search yielded 190 records. After removal of duplicates, 108 articles remained for title and abstract screening. Of these, 75 underwent full-text evaluation, and 38 studies were included in the final synthesis. Selection was performed independently by two authors, with disagreements resolved through discussion and consensus. Exclusion criteria comprised non-peer-reviewed publications, isolated case reports, editorials without outcome data, purely technical surgical descriptions lacking clinical or functional results, redundant datasets, and studies not directly addressing treatment outcomes, indications, recurrence, instability, or rehabilitation in grade III ankle sprain or severe lateral ankle ligament injury.

Eligible studies included randomized controlled trials, large observational cohorts, systematic reviews, meta-analyses, expert consensus statements, and contemporary international guidelines from orthopedic, sports medicine, rehabilitation, and foot and ankle societies. Priority was assigned to multicenter investigations, studies with clear injury

classification criteria, and research evaluating functional recovery, recurrence, chronic instability, return-to-sport outcomes, and treatment-related complications. Extracted variables included study design, patient population, ligament injury pattern, treatment modality, rehabilitation protocol, surgical technique when applicable, functional outcome measures, recurrence rates, residual instability, return-to-sport timing, and reported complications. Methodological quality and internal validity were assessed narratively, considering risk of bias, sample size, follow-up duration, consistency of injury classification, and reproducibility of reported outcomes. In cases of conflicting evidence, greater interpretative weight was assigned to higher-level evidence and guideline-supported recommendations.

Reference lists of included studies were manually screened to identify additional relevant publications. Given its narrative design, this review is subject to potential selection bias and does not provide pooled quantitative estimates. Artificial intelligence-based tools were used exclusively to assist in literature organization and structural coherence, whereas critical appraisal, synthesis, and final interpretation were conducted independently by the authors to preserve methodological rigor.

Anatomy, Biomechanics, and Pathophysiology

The lateral ankle ligament complex is composed of the anterior talofibular ligament, calcaneofibular ligament, and posterior talofibular ligament, all of which play essential roles in stabilizing the ankle joint. Among these structures, the anterior talofibular ligament is the most commonly injured in ankle sprains and has been described as a two-fascicled structure connecting the fibula to the talus [10]. The calcaneofibular ligament, in contrast, is longer than the anterior talofibular ligament and extends from the fibula to the calcaneus, contributing particularly to resistance against inversion forces. The posterior talofibular ligament is considered the strongest of the three ligaments and provides posterior stability to the ankle joint [11].

Functionally, each ligament contributes in a distinct yet complementary manner to ankle stability. The anterior talofibular ligament primarily resists anterior displacement of the talus and is typically the first ligament to be injured during an inversion sprain. The calcaneofibular ligament is especially important for resisting inversion forces and preserving rotational stability of the ankle [12]. Although the posterior talofibular ligament is less frequently injured, it provides important support against excessive dorsiflexion and external rotation. In this way, the coordinated function of these ligaments is fundamental for maintaining both static and dynamic ankle stability [11].

From a biomechanical perspective, the anterior talofibular ligament and calcaneofibular ligament act together to preserve lateral ankle stability, with connecting fibers allowing transmission of tension between them [10]. Biomechanical studies have shown that injury to these ligaments increases talar displacement and alters stress distribution on the talar cartilage, which may contribute to the later development of arthritis. More specifically, the anterior talofibular ligament serves as the primary restraint for anterior stability, whereas the calcaneofibular ligament plays a predominant role in rotational stability [12].

Inversion injuries usually occur when the foot is forcefully turned inward, a mechanism that is especially common during sports activities [13]. Under these circumstances, complete rupture of the anterior talofibular ligament and calcaneofibular ligament may occur, leading to marked instability of the ankle joint [12]. When these lateral ligaments are completely disrupted, the pathological consequences may extend beyond the acute phase, as complete rupture can progress to chronic lateral ankle instability, which is characterized by both mechanical and functional instability [14]. This condition may in

turn lead to recurrent sprains, persistent pain, and long-term joint degeneration if it is not adequately managed [13].

The progression from acute ligament injury to chronic instability involves both structural and neuromuscular mechanisms. Mechanical instability results directly from ligamentous structural failure, whereas functional instability is related to neuromuscular deficits that impair joint control. In this context, surgical procedures such as the Broström-Gould technique are intended to restore mechanical stability through ligament repair or reconstruction [14, 15]. By contrast, conservative management emphasizes rehabilitation strategies designed to improve proprioception and muscle strength, which may be effective in selected cases [13].

Definition, Classification, and Diagnostic Evaluation

Grade III ankle sprain is clinically defined by a complete tear of the ankle ligaments, particularly the anterior talofibular ligament, resulting in marked joint instability and inability to bear weight [9, 14]. This distinguishes it from grade I and grade II injuries, since grade I sprains involve only mild stretching of the ligaments and grade II sprains are characterized by partial tears, whereas grade III injuries are associated with complete rupture and more severe clinical manifestations [16].

From a clinical perspective, the presentation of grade III ankle sprain is usually characterized by severe pain, swelling, bruising, and inability to bear weight on the affected ankle [17]. On physical examination, patients commonly exhibit significant swelling, ecchymosis, and tenderness over the lateral ankle ligaments [9]. In this setting, specific orthopedic maneuvers are used to assess ligament integrity. The anterior drawer test is useful for evaluating injury to the anterior talofibular ligament, whereas the talar tilt test helps determine involvement of the calcaneofibular ligament. A positive anterior drawer test suggests anterior talofibular ligament injury, while a positive talar tilt test indicates calcaneofibular ligament compromise [17].

The diagnostic evaluation also requires assessment of weight-bearing capacity, as the patient's ability or inability to bear weight is an important indicator of sprain severity [9]. Imaging studies complement the clinical examination and are used to clarify the extent of injury and exclude associated conditions. Radiographs are primarily obtained to rule out fractures and evaluate joint alignment [16]. Ultrasound can visualize ligament tears and associated soft tissue injuries, providing useful information in the evaluation of lateral ankle trauma [18]. Magnetic resonance imaging offers more detailed visualization of ligamentous injuries and is especially valuable for detecting concomitant abnormalities such as bone contusions or osteochondral lesions [16].

In addition to confirming ligament rupture, diagnostic assessment must also consider associated lesions and the differential diagnosis. Magnetic resonance imaging is particularly useful for identifying additional injuries, including bone contusions, osteochondral lesions, and syndesmotic injury [16]. At the same time, the differential diagnosis should exclude fractures, syndesmotic injuries, and other soft tissue conditions that may either mimic or accompany a grade III ankle sprain [18].

Epidemiology, Risk Factors, and Prognostic Determinants

Ankle sprains are among the most common musculoskeletal injuries in both the general population and athletic populations. Their incidence is especially notable in competitive sports, where exposure to jumping, pivoting, and rapid directional changes increases the risk of ligament injury. In the National Collegiate Athletic Association, the incidence of lateral ankle sprains has been reported at 4.61 per 10,000 athlete exposures, with particularly high rates in sports such as men's basketball [19]. A similar pattern has been observed in professional

football, where high ankle sprains in the National Football League showed an increasing trend over a decade, with incidence rising from 1.75 to 2.49 per 10,000 player exposures. These data illustrate the substantial burden of ankle sprains in physically demanding settings and highlight the relevance of both prevention and treatment strategies [20].

Among the factors associated with severe ankle sprain, previous ankle injury has consistently been identified as one of the most important predictors. A history of lateral ankle sprain significantly increases the risk of subsequent sprains, making prior injury a strong predictor of recurrence. Reported risk ratios range from 1.29 to 6.06 across different studies, reinforcing the importance of close monitoring and targeted preventive strategies in patients with a history of ankle trauma [21]. In addition to prior injury, other relevant risk factors include a higher body mass index, lower isometric hip abduction strength, and poorer dynamic balance performance, particularly among male athletes. Taken together, these variables suggest that ankle sprain risk is influenced not only by local ligament vulnerability but also by broader biomechanical and neuromuscular factors [22].

The risk and recovery profile of ankle sprains are also shaped by the type of sport, the level of physical activity, and the occupational demands placed on the individual. Sports characterized by high-impact loading and frequent changes in direction, such as basketball and football, show particularly high incidences of ankle sprain [19, 23]. Likewise, occupational settings that require repetitive physical stress, such as military service, may influence both injury occurrence and recovery, with structured rehabilitation protocols showing improved outcomes in these populations. This indicates that treatment and prognosis should be interpreted in relation to the specific functional demands of each patient rather than considering all ankle sprains as clinically equivalent [24].

Several factors have been associated with poor recovery after ankle sprain. Inadequate rehabilitation, high recurrence rates, and the presence of concomitant injuries such as bone contusions may all contribute to persistent symptoms and delayed functional restoration [16]. In professional football, for example, the recurrence rate of lateral ankle sprain has been reported at approximately 17%, emphasizing the need for effective management strategies capable of reducing long-term consequences. Poor recovery therefore appears to be multifactorial, resulting from the interaction between initial injury severity, associated lesions, and the quality of rehabilitation provided [24].

The progression toward chronic ankle instability and recurrent sprain represents one of the most important long-term concerns following severe ankle injury. Although chronic ankle instability does not appear to correlate significantly with the number of ruptured ligaments, it has been associated with worse clinical outcomes in cases of combined ligament injuries [8]. Its prevalence is particularly high in certain athletic groups, such as dancesport athletes, in whom it adversely affects performance and increases the risk of recurrent sprains. These findings suggest that prognostic assessment should move beyond simple structural classification and also consider functional impairment, recurrence patterns, and sport-specific demands when identifying patients at risk of chronic instability [25].

Conservative Management and Rehabilitation Strategies

Conservative treatment is commonly recommended as the first-line approach for ankle sprains because it avoids the risks associated with surgery while promoting natural healing. Its main objectives are to reduce pain, swelling, and inflammation, restore joint motion, and prevent the development of chronic instability. In this context, conservative management is not limited to symptom relief alone, but rather seeks to achieve progressive functional recovery through a structured rehabilitation process [7, 26].

The initial phase of treatment focuses on protection, rest, and symptom control. In most cases, this includes the use of the RICE protocol, consisting of rest, ice, compression, and elevation, in order to manage acute symptoms effectively. In more severe injuries, short-term immobilization may also be indicated to protect the joint and facilitate early healing. However, although temporary immobilization can be beneficial in the acute stage, prolonged restriction is generally avoided because of its potential to contribute to stiffness and delayed recovery [7].

For this reason, the balance between short-term immobilization and early mobilization has become a central aspect of conservative care. While brief immobilization may be useful in severe cases, early mobilization is often encouraged to preserve joint flexibility and promote healing. Studies have shown that early weight-bearing and mobilization are associated with better functional outcomes and reduced pain when compared with delayed protocols. This supports the view that controlled movement, rather than prolonged inactivity, plays an important role in recovery [27, 28].

Alongside mobilization, functional bracing and external support are frequently incorporated into treatment. Functional bracing offers mechanical support while still allowing a certain degree of movement, which is important for maintaining muscle strength and proprioception during recovery. External supports such as controlled ankle motion boots have demonstrated improved outcomes and lower complication rates compared with traditional casting methods. These findings suggest that supportive devices are most effective when they protect the injured structures without unnecessarily restricting function [29].

Progressive weight bearing also represents a key component of rehabilitation. Gradual loading of the injured ankle is essential to stimulate healing and promote restoration of function. Evidence indicates that early weight bearing is associated with faster return to activities and reduced pain, further reinforcing the benefits of active rather than excessively restrictive management. As recovery progresses, this principle is integrated into a broader physical therapy program aimed at restoring range of motion, strength, and balance [27, 28].

Structured rehabilitation is therefore fundamental within conservative treatment. Physical therapy programs typically include exercises designed to improve mobility, muscular performance, and postural control. Among these strategies, aquatic therapy has shown particular effectiveness in reducing pain and improving balance and athletic performance, especially in elite athletes [30]. Within rehabilitation, proprioceptive and neuromuscular training are also especially important, as they help prevent re-injury by improving balance, coordination, normal movement patterns, and joint stability [9].

In addition to neuromuscular recovery, muscle strengthening is necessary to restore function and support the ankle joint. Strengthening exercises are directed at the musculature surrounding the ankle in order to improve joint protection and reduce the risk of future injuries. These interventions should be applied progressively, with exercise selection adapted to the individual’s stage of recovery and functional capacity. Through this progressive approach, rehabilitation can facilitate a safe transition from symptom resolution to full functional restoration [7, 9].

Return to sport and daily activities is determined by the degree of functional recovery achieved. This decision is based on the absence of pain and the ability to perform sport-specific or daily tasks without limitation. Common criteria include restoration of full range of motion, recovery of strength, and proprioception comparable to the uninjured side. Accordingly, return to activity should not depend solely on the passage of time,

but on the demonstration of adequate physical recovery and functional readiness [9, 30].

Surgical Management: Indications and Techniques

Operative treatment is based on the theoretical objective of restoring mechanical stability and preventing the development of chronic instability, which may otherwise lead to recurrent injuries and persistent functional limitations [13, 14]. In high-demand athletes, surgical intervention may also facilitate a faster return to sport and reduce the risk of recurrent injury, which explains why operative management is often considered more strongly in this population [15, 31].

Within surgical management, acute ligament repair involves direct suturing of the torn ligaments and is generally performed in fresh injuries in which the ligament ends remain clearly defined. This approach is most appropriate in patients with good ligament remnants and minimal associated injuries, since favorable tissue quality increases the likelihood of successful repair [13]. When direct repair is not sufficient or when instability is more complex, anatomic reconstruction techniques may be considered. Among these, the Broström-Gould procedure is regarded as the gold standard for chronic instability, as it reinforces the lateral ligament complex and restores ankle stability [14, 32]. In selected cases, suture augmentation or tendon grafts may be added to improve stability, particularly when ligament quality is poor or previous primary repairs have failed [15, 33].

Surgical techniques may be performed through either open or minimally invasive approaches. Open procedures, such as the Broström-Gould technique, provide direct visualization and access for ligament repair, which may be advantageous in certain clinical scenarios [14]. In contrast, minimally invasive approaches, including arthroscopic techniques, have been associated with reduced recovery times and less postoperative pain, while still achieving outcomes comparable to those of open surgery. The selection of surgical approach therefore depends on both the characteristics of the injury and the specific goals of treatment [33, 34].

Surgery is generally reserved for selected patients, particularly those with chronic instability that has not responded to conservative management, high-demand athletes, and individuals with severe instability or associated injuries [14, 15]. Additional factors, such as poor ligament remnants and high preoperative activity levels, also influence the decision to proceed with surgical intervention [13]. In high-demand athletes, surgical stabilization is often favored because it may provide a quicker and more reliable return to sport [31]. Likewise, cases of severe instability may require more complex reconstructions, including tendon augmentation, in order to achieve the desired level of stability [14, 32].

The management of associated injuries is another important consideration within operative treatment. Concomitant lesions, such as medial-sided injuries or syndesmotic injuries, may require additional procedures to ensure comprehensive restoration of ankle stability [31, 32]. In this regard, arthroscopy may be especially useful, as it allows identification and treatment of associated intra-articular injuries that might otherwise go unrecognized [13].

Postoperative care and rehabilitation remain essential components of successful surgical management. Postoperative protocols generally promote early mobilization and weight bearing in order to support healing and expedite return to activity [32]. Rehabilitation after surgery focuses on restoring range of motion, strength, and proprioception, with individualized programs adapted according to the surgical technique used and the patient's functional demands [13].

Comparative Outcomes: Surgery Versus Conservative Treatment

Both surgical and conservative strategies can provide meaningful improvement in patients with grade III ankle sprain, although their comparative outcomes differ across several domains. In terms of pain relief and symptom resolution, surgical intervention has been associated with significant postoperative improvement in pain and functional scores, as reflected by increases in Foot and Ankle Ability Measure scores in patients undergoing modified Broström procedures [15]. Nevertheless, conservative management may also achieve effective pain control, particularly when patients follow a structured rehabilitation protocol, as demonstrated in military personnel treated with a self-applicable rehabilitation strategy [4]. These findings indicate that both approaches can relieve symptoms, although they do so through different mechanisms and with different clinical implications.

A major distinction between the two strategies lies in the recovery of mechanical stability. Surgical procedures, especially Broström-Gould reconstruction, have proven effective in restoring mechanical stability, particularly in cases of chronic lateral ankle instability [14]. By directly repairing or reconstructing the injured ligamentous structures, surgery addresses the anatomical basis of instability. In contrast, conservative management may not fully correct mechanical instability, which can predispose some patients to persistent or chronic problems over time. This difference is especially relevant when treatment decisions are being made in patients with marked laxity or high functional demands [23].

With regard to functional outcomes and return to activity, surgery generally appears to facilitate a higher rate of return to pre-injury levels of sport and daily functioning. Studies have reported a 95% return-to-sport rate after anatomic lateral ankle stabilization, suggesting that operative treatment may be particularly advantageous for patients seeking reliable restoration of high-demand performance [24]. Conservative treatment can also produce satisfactory functional outcomes, but return to high-level sport may be less predictable, especially when performance requirements are more demanding. Thus, although both strategies may support recovery, surgical intervention may offer greater certainty in selected populations [4].

Differences are also evident in recurrence rates and the risk of chronic instability. Surgical management tends to reduce recurrence and lower the risk of chronic instability because it directly corrects ligamentous laxity [14]. By contrast, conservative treatment may be associated with higher recurrence rates, particularly when the initial rehabilitation process is inadequate or incomplete. This suggests that the success of nonoperative treatment depends heavily on the quality and consistency of rehabilitation, whereas surgery provides a more direct structural solution to instability [4].

However, these potential advantages of surgery must be weighed against its complication profile. Surgical treatment has been associated with higher rates of complications, including infection and nerve injury, when compared with conservative management. Conservative treatment, being less invasive, generally carries a lower risk of complications, which makes it a safer option for certain patients. This difference is particularly important when balancing the benefits of mechanical restoration against the inherent risks of operative intervention [34].

In terms of patient satisfaction and quality of life, both approaches may yield favorable results. Satisfaction is generally high following surgery, largely because of improved stability and restoration of function [15]. Conservative management can likewise achieve high levels of patient satisfaction, especially when patients actively participate in their rehabilitation process and experience progressive recovery without the need for surgery. Therefore, patient perception of success appears to depend not only on the chosen

treatment but also on the quality of recovery and the alignment of outcomes with individual expectations [4].

When short-term and long-term outcomes are compared, short-term results tend to favor surgical intervention because of its potential to support a more rapid return to activity. In the long term, however, both treatment approaches appear to produce favorable outcomes, with no significant differences reported in chronic instability in some studies [35]. Likewise, long-term results after conservative management can also be positive, particularly when structured rehabilitation is appropriately implemented. These findings suggest that although surgery may offer earlier functional advantages, conservative treatment remains a valid long-term option in many cases [36].

Each strategy presents specific advantages and limitations. Surgical treatment offers the benefit of directly addressing mechanical instability, which may improve stability and reduce recurrence, but it is also associated with higher complication risks and longer recovery demands related to the procedure itself [34]. Conservative management, on the other hand, is less invasive and has fewer complications, although it may not fully restore stability in all patients [4].

Clinical Decision-Making and Treatment Selection

The choice between surgical and conservative treatment in grade III ankle sprain should be individualized according to patient-specific and injury-specific factors. Among these, patient age and biological considerations are important because they influence healing potential and complication risk. Older patients may face a greater risk of surgical complications, whereas younger patients may benefit more from operative treatment due to better tissue healing and generally higher activity levels [37].

Activity demands and athletic expectations also play a central role in treatment selection. Athletes and individuals with high physical demands may prefer surgical management in order to achieve a quicker and more reliable return to sport. In this context, procedures such as the Broström-Gould technique have demonstrated high rates of return to sport, with 95% of patients returning to some level of sport participation and 83% returning to their pre-injury level. These results support the consideration of surgery in patients for whom optimal performance and predictable recovery are especially important [31, 37].

The severity of instability and the presence of associated lesions must also be considered. Patients with severe instability, or with additional lesions such as subtalar instability, may be more likely to require surgical treatment. In such cases, combined ligament repairs, including anterior talofibular ligament and calcaneofibular ligament repair, have shown superior outcomes in restoring joint stability when compared with isolated repairs. This suggests that treatment should not be based solely on the presence of ligament rupture, but also on the overall pattern and extent of instability [38].

Another major factor guiding treatment choice is the response to initial conservative management. When rehabilitation and nonoperative measures fail to relieve symptoms or restore function, surgery becomes a reasonable option. In this regard, operative treatment has been shown to reduce re-rupture rates and improve functional outcomes in comparison with conservative management. Therefore, failure of an adequately structured rehabilitation program is an important indication to reconsider the therapeutic approach [34].

A careful risk-benefit assessment is equally necessary. Surgical treatment may offer important advantages, such as improved stability and reduced re-rupture rates, but it also carries risks including infection and nerve injury. Conservative management, while less invasive and generally safer, may not provide the same

degree of stability in high-demand patients. For this reason, treatment selection should involve balancing the expected functional benefit against the potential risks associated with each strategy [34].

Shared decision-making remains essential in individualized care. Engaging patients in the treatment process allows the clinician to consider personal preferences, lifestyle, and expectations when designing the management plan. This patient-centered approach ensures that individuals are informed about the benefits and limitations of both surgery and conservative treatment, thereby supporting decisions that are both clinically appropriate and aligned with patient goals [14, 32].

Conclusions

Grade III ankle sprain requires individualized management rather than a universal treatment approach, since outcomes depend on the interaction between ligament injury severity, mechanical instability, associated lesions, patient age, biological healing potential, and functional demands. Conservative treatment remains an appropriate first-line strategy in many patients, particularly when supported by structured rehabilitation, whereas surgery is more strongly justified in cases of persistent instability, failed nonoperative treatment, or high-demand athletic expectations.

Both surgical and conservative treatment can achieve favorable clinical and functional outcomes, but they differ in their strengths and limitations. Surgical treatment offers a more direct correction of mechanical instability, higher predictability in return to sport, and lower recurrence in selected patients, although it carries greater procedural risk. Conservative management, in contrast, is less invasive and safer, and can produce good long-term results when rehabilitation is well designed, but it may be less reliable in restoring stability in all cases.

The long-term prognosis of grade III ankle sprain is strongly influenced by the quality of rehabilitation and early decision-making, because inadequate treatment may lead to recurrent sprains, chronic ankle instability, persistent symptoms, and progressive joint degeneration. For this reason, accurate diagnosis, recognition of associated injuries, structured functional recovery, and shared decision-making are essential to optimize outcomes and reduce long-term disability.

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