

Comparison Between Antiglide Plate and Neutralization Plate In Fixation of Weber B Lateral Malleolus Oblique Fracture: Functional Outcome and Complications

Original Article

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ABSTRACT

Background: With an annual incidence of around 137,000 cases per 100,000 people, ankle fractures account for 10% of all fractures. This study was conducted to examine the use of antiglide plates and neutralization plates in fixing Weber B lateral malleolus oblique fractures.

Methods: This randomized trial was carried out on 58 patients with a Weber B lateral malleolus oblique fracture. Each of the two groups consisted of 29 patients. Between April 2023 and November 2024, researchers used the neutralization plate to fix one group and the antiglide plate on the other.

Results: There were no notable variations in the preoperative features. Falls were the most common cause of injury. Partial weight bearing was initiated by patients in both groups around 5.5 weeks after surgery. The majority of fractures in both groups healed within 16 weeks. There was no significant difference in the percentage of change in AOFAS scores between the groups at six weeks and three months. The groups' pain levels at six weeks were comparable. There was no statistical significance in the groups' function scores at six weeks. At the six-week and three-month mark, all patients achieved a flawless alignment score. The neutralization group had a 6.9% risk of peroneal irritation, but the antiglide group had a 20.7% risk.

Conclusion: Compared to lateral neutralization plating, antiglide plating for weber B lateral malleolus oblique fractures is preferable because it reduces the likelihood of hardware discomfort while only slightly increasing the risk of peroneal tendon irritation.

Key Words: Antiglide plating, lateral malleolus fractures, peroneal tendinopathy.

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INTRODUCTION

Ankle fractures of the Danis-Weber type B kind, where the fracture line is oblique and caused by supination-external rotation (SER) injuries, account for the vast majority of cases. Repairing the distal fibula's anatomical length and rotation is necessary in cases of displaced fractures. This is often accomplished with open reduction, lag screw insertion, and plate fixation. Posterolateral antiglide plating, first described by Brunner and Weber in 1982, prevents the distal oblique fragment from gliding through the proximal fragment when axial forces are applied. Another method, applied to the lateral aspect of the fibula after initial stabilization by an interfragmentary screw that acts as a neutralization plate^[1].

The antiglide plate has many benefits over the neutralization plate, which can increase the risk of wound breakage, fracture non-union, and infection due to extensive

dissection of the soft tissue envelope and the potential for intraarticular positioning of the distal screws^[2].

Additionally, in models that mimic type B lateral malleolus fractures, osteosynthesis using posterolateral antiglide plates is more robust than neutralization plates when exposed to external rotation pressures^[3].

In terms of biomechanical stability in osteoporotic bone, the antiglide plate was determined to be superior than the lateral locking plate, even though the latter was shown to be more stable overall. Nevertheless, according to Dhillon *et al.* (2020), a distal fibula locking plate outperforms a non-locking one third tubular plate mounted antiglide manner in terms of biomechanical strength^[4].

When it comes to diagnosing disease in the peroneal tendon, ultrasound imaging may be both helpful and precise. Thirty patients with sixty peroneal tendons were

studied, and all of them had tendon tears predicted with a 100% sensitivity of ultrasonography. This was after both dynamic ultrasound evaluation and surgical investigation. There was a 90% success rate and an 85% specificity. In the year 2020, Danna and Brodsky published. Despite several studies demonstrating the benefits of posterolateral plating versus lateral, the latter seems to be the more popular choice. Some studies have shown an increased risk of peroneal tendinopathy, which might be a contributing factor^[5].

The researchers want to learn more about the pros and cons of both methods by comparing their clinical results and side effects.

This study was conducted to examine the use of antiglide plates and neutralization plates in fixing Weber B lateral malleolus oblique fractures.

MATERIAL AND METHODS

This study is designed as a randomized controlled trial (RCT) with a double-blinding approach to ensure unbiased results. Between April 2023 and November 2024.

Participants

The study population consisted of 58 patients diagnosed with Weber B lateral malleolus oblique fracture resulting from a Supination External Rotation injury presented at Helmya Armed forces Hospital.

Inclusion Criteria: Participants must be between 18 and 60 years old, Both males and females.

Exclusion Criteria: Presence of Associated Plafond Fracture, open Fractures Requiring External Fixation and presence of Osteoporosis

They were divided into two groups, with 29 patients in each group. One group received fixation using the neutralization plate, while the other group was treated with the antiglide plate.

Data collection tools

All eligible patients were subjected to comprehensive data collection using a pre-organized data sheet from their first medical contact through to three months post-operative. This data collection encompass a variety of key areas to ensure a thorough and detailed assessment.

Sociodemographic Data: The patient's age and sex were documented.

Relevant Clinical History: Details of the trauma mechanism (e.g., fall, sports injury) were recorded to understand the context of the injury, a comprehensive record of the patient's medication history was maintained, the presence of any comorbid conditions (e.g., diabetes, hypertension) was documented as these may influence both the surgical outcome and the recovery process.

Clinical Examination: Preoperative Examination: Each patient had a thorough clinical examination focusing on: Assessment of the ankle for swelling, ecchymosis, bruises, and tenderness to gauge the severity of the injury. Preoperative radiographic imaging was conducted to confirm the diagnosis and for surgical planning

Postoperative Examination: Immediate postoperative radiographs were taken to evaluate the success of the surgical intervention, the alignment of the fracture and the progression of union. At three months post-operative, an ultrasonographic assessment of the peroneal tendons was performed. This included evaluating the tendons for high signal intensity to detect any signs of irritation or tear.

Functional Assessment: The postoperative functional status of the patients were assessed using The American Orthopaedic Foot and Ankle Society (AOFAS) score at 1.5 months and again at 3 months post-operatively. This validated scoring system had a vital role to quantify the functional outcomes and recovery progress of the patients^[6].

Procedures

Patients with Weber B lateral malleolus oblique fracture following Supination External Rotation injury had a comprehensive evaluation included a detailed medical history, physical examinations, and routine investigations, primarily plain ankle X-rays. Based on these evaluations, patients who met the inclusion criteria were admitted for pre-operative assessments, including routine investigations and evaluation of the skin condition at the intended surgical site. Then, patients were scheduled for surgery and subsequently followed up every two weeks for a period of three months.

Sampling and Sample size

Sample Type: Convenient sampling

Sample Size: 29 patients per group

Sample Size Calculation: A comparison was made between the groups treated with antiglide plates and those treated with neutralization plates for oblique Weber B fractures. The sample size was determined by taking the mean and standard deviation (SD) of the Orthopaedic Foot and Ankle Society score (FASS) and based on this, as well as on clinical experience and consultation with supervisors.

According to Kilian (2017), the mean FASS score for the neutralization plate group is 93.8 with an SD of 6.1^[1].

To detect a one standard deviation (SD) difference in the antiglide group, 29 patients per group were needed. This sample size ensures 90% power and a 0.05 significance level, calculated using the G*Power program for comparing two independent means.

Dropout Rate: The sample size estimate was done with the expectation and consideration of a 20% dropout rate.

Statistical analysis

Statistical analysis was done by SPSS v21 (IBM Inc., Chicago, IL, USA). Quantitative variables were presented as mean and SD and were compared by paired Student's t-test for the same group. Qualitative variables were presented as frequency and percentage (%). Qualitative factors were compared between groups using the chi-square test. As an alternative, Fisher's exact test was used if the predicted count in any cell was less than 5. The Mann-Whitney U test used to compare the two groups for quantitative variables that do not follow a normal distribution. A two tailed *P* value < 0.05 was considered significant.

Ethical considerations

The study proposal was approved by the Armed Forces College of Medicine Ethical Review Committee. Informed consent was obtained from all participants

before enrollment in the study. The study conformed to the requirements of the Revised Helsinki Declaration of Biomedical Ethics. The policy of data confidentiality was strictly followed.

RESULTS

The average age of patients was similar, with the neutralization plate group having a mean age of 32.03 years and the antiglide plate group having a mean age of 33.21 years. Gender distribution indicated a higher percentage of females in the antiglide plate group (65.5%) compared to the neutralization plate group (37.9%) but with no statistical significance. The mean BMI was nearly identical between the two groups, with values of 25.31 kg/m² for the neutralization plate group and 25.28 kg/m² for the antiglide plate group, suggesting that both groups were comparable in terms of age, gender, and BMI.

Table 1: Comparison between studied groups according to demographic data

		Neutralization plate n=29	Antiglide Plate n=29	Test Result
(Age (years	Mean ± SD	12.84 ± 32.03	10.28 ± 33.21	t: 0.980, <i>p</i> =0.329
	(Median (Min-Max	(21.00-58.00) 27.00	(21.00-61.00) 32.00	
Gender	Female	(37.9%)11	(65.5%)19	X2: 3.383, <i>p</i> =0.066
	Male	(62.1%)18	(34.5%)10	
(BMI (kg/m2	Mean ± SD	2.54 ± 25.31	2.47 ± 25.28	t: 0.047, <i>p</i> =0.963
	(Median (Min-Max	(21.00-29.50) 25.40	(21.20-29.30) 24.90	

The preoperative characteristics of the patients showed no significant differences. The fracture side was evenly distributed, with the left side being slightly less common in both groups (41.4% in the neutralization plate group and

34.5% in the antiglide plate group). The mode of injury was predominantly due to falls (75.9% in the neutralization plate group and 65.5% in the antiglide plate group), with road accidents and direct trauma being less common.

Table 2: Comparison between studied groups according to preoperative data.

		Neutralization plate n=29	Antiglide Plate n=29	Test Result
ASA Classification	I	(86.2%)25	(86.2%)25	FE: , <i>p</i> =1.000
	II	(13.8%)4	(13.8%)4	
Fracture side	Left	(41.4%)12	(34.5%)10	X2: 0.073, <i>p</i> =0.787
	Right	(58.6%)17	(65.5%)19	
Mode of injury	Direct trauma	(6.9%)2	(10.3%)3	X2: 0.753, <i>p</i> =0.686
	Fall	(75.9%)22	(65.5%)19	
	Road side accidents	(17.2%)5	(24.1%)7	

FE; Fissure exact, X2:Chi square test

Patients in both groups started partial weight bearing at around 5.5 weeks postoperatively, with the neutralization plate group averaging 5.69 weeks and the antiglide plate group averaging 5.45 weeks. Full weight bearing was achieved at approximately 11 weeks for both groups. The

majority of fractures in both groups united within 16 weeks (86.2% for the neutralization plate group and 89.7% for the antiglide plate group), indicating similar recovery timelines.

Table 3: Comparison between studied groups according to Weight Bearing and time of Union.

		Neutralization plate n=29	Antiglide Plate n=29	Test Result
Partial weight bearing (weeks)	Mean $\pm$ SD	5.69 $\pm$ 1.07	5.45 $\pm$ 1.09	Z: 0.871, $p=0.372$
	Median (Min-Max)	6.00 (4.00-7.00)	5.00 (4.00-7.00)	
Full weight bearing (weeks)	Mean $\pm$ SD	10.97 $\pm$ 1.32	11.21 $\pm$ 1.32	Z: 0.700, $p=0.479$
	Median (Min-Max)	11.00 (9.00-13.00)	11.00 (9.00-13.00)	
Time of union	16 weeks	25(86.2%)	26(89.7%)	FE: $p=1.000$
	More than 16 weeks	4(13.8%)	3(10.3%)	

Z: Mann Whitney test, Chi square test

The American Orthopaedic Foot and Ankle Society (AOFAS) scores at 6 weeks showed mean scores of 59.69 for the neutralization plate group and 57.59 for the antiglide plate group. At 3 months, the scores improved to 84.86 and 83.34, respectively. The distribution of scores into categories (excellent, good, fair, poor) was also similar, with a slight improvement in the neutralization plate group at 3 months (82.8% vs. 69.0%), but of no statistical

significance. The percentage of change in AOFAS scores from 6 weeks to 3 months was similar between the groups, with the neutralization plate group showing an average improvement of 43.64% and the antiglide plate group showing an average improvement of 45.62%. This indicates that both groups experienced a similar degree of functional improvement over the follow-up period.

Table 4: Comparison between study groups according to AOFAS score and percentage of change in AOFAS score.

		Neutralization plate n=29	Antiglide Plate n=29	Test Result
AOFAS score at 6 weeks	Mean $\pm$ SD	59.69 $\pm$ 6.77	57.59 $\pm$ 5.66	t: 1.284, $p=0.204$
	Median (Min-Max)	59.00 (48.00-72.00)	58.00 (45.00-67.00)	
AOFAS score Grade 6 weeks	Fair	12(41.4%)	12(41.4%)	X2: 2.125, $p=0.346$
	Good	2(6.9%)	0(0.0%)	
	Poor	15(51.7%)	17(58.6%)	
AOFAS score at 3 months	Mean $\pm$ SD	84.86 $\pm$ 6.15	83.34 $\pm$ 6.28	t: 0.930, $p=0.356$
	Median (Min-Max)	86.00 (71.00-95.00)	84.00 (71.00-98.00)	
AOFAS score Grade 3 months	Excellent	24(82.8%)	20(69.0%)	X2: 0.847, $p=0.357$
	Good	5(17.2%)	9(31.0%)	
Same group comparison		$p<0.001^*$	$p<0.001^*$	
Percentage of change in AOFAS score	Mean $\pm$ SD	43.64 $\pm$ 17.28	45.62 $\pm$ 13.32	t: 0.489, $p=0.627$
	Median (Min-Max)	36.54 (15.28-93.75)	44.23 (17.91-68.89)	

T: t student test

Pain scores at six weeks were similar between the groups, with a mean of 16.21 for the neutralization plate group and 15.34 for the antiglide plate group. At 3 months, the scores slightly improved to 19.31 and 18.45,

respectively. The distribution of pain severity while walking on various surfaces was comparable, suggesting that both groups experienced similar levels of pain during recovery.

COMPARISON BETWEEN ANTIGLIDE PLATE AND NEUTRALIZATION PLATE

Table 5: Comparison between study groups according to pain score.

		Neutralization plate n=29	Antiglide Plate n=29	Test Result
At 6 weeks	Mean $\pm$ SD	16.21 $\pm$ 4.15	15.34 $\pm$ 4.42	Z: 0.692, $p=0.463$
	Median (Min-Max)	15.00 (10.00-20.00)	15.00 (10.00-20.00)	
At 6 weeks grades	While walking on even surface outdoors	12(41.4%)	13(44.8%)	X2: 0.000, $p=1.000$
	While walking on uneven surface	17(58.6%)	16(55.2%)	
At 3 months	Mean $\pm$ SD	19.31 $\pm$ 3.71	18.45 $\pm$ 3.30	Z: 1.026, $p=0.239$
	Median (Min-Max)	20.00 (10.00-25.00)	20.00 (10.00-25.00)	
At 3 months grades	While walking indoors	2(8.7%)	0(0.0%)	X2: 3.206, $p=0.201$
	While walking on even surface outdoors	2(8.7%)	5(18.5%)	
	While walking on uneven surface	19(82.6%)	22(81.5%)	
Same group comparison		$p < 0.001^*$	$p < 0.001^*$	

Z: Mann whitney test, X2: Chi square test

Function scores at 6 weeks were slightly higher in the neutralization plate group (33.48) compared to the antiglide plate group (32.24), but of no statistical significance. By 3 months, the scores were nearly identical, with means

of 55.55 and 54.90, respectively. The distribution of functional limitations was similar, with most patients reporting mild to moderate limitations at 6 weeks and significant improvement by 3 months.

Table 6: Comparison between studied groups according to function score.

		Neutralization plate n=29	Antiglide Plate n=29	Test Result
Function 6 weeks	Mean $\pm$ SD	33.48 $\pm$ 3.45	32.24 $\pm$ 2.43	Z: 0.988, $p=0.321$
	Median (Min-Max)	32.00 (28.00-42.00)	32.00 (25.00-37.00)	
Function 6 weeks grades	Mild limitations	12(41.4%)	12(41.4%)	X2: 3.032, $p=0.387$
	Moderate limitations	15(51.7%)	16(55.2%)	
	No limitations	2(6.9%)	0(0.0%)	
	Severe limitations	0(0.0%)	1(3.4%)	
Function 3 months	Mean $\pm$ SD	55.55 $\pm$ 3.05	54.90 $\pm$ 3.52	t: 0.757, $p=0.452$
	Median (Min-Max)	56.00 (48.00-60.00)	54.00 (50.00-63.00)	
Function 3 months grades	Moderate limitations	7(24.1%)	13(44.8%)	X2: 1.908, $p=0.167$
	No limitations	22(75.9%)	16(55.2%)	
Same group comparison		$p < 0.001^*$	$p < 0.001^*$	

t: t student test, X2: Chi square test

Alignment scores at both 6 weeks and 3 months were perfect for all patients in both groups, with a mean score of 10.00. This indicates that both plating methods were

equally effective in maintaining proper fracture alignment throughout the healing process.

Table 7: Comparison between studied groups according to alignment score.

		Neutralization plate n=29	Antiglide Plate n=29	Test Result
Alignment 6 weeks	Mean $\pm$ SD	10.00 $\pm$ 0.00	10.00 $\pm$ 0.00	t: 0.001, $p=1.000$
	Median (Min-Max)	10.00 (10.00-10.00)	10.00 (10.00-10.00)	
Alignment 6 weeks grade	Good	29(100.0%)	29(100.0%)	X2: 0.000, $p=1.000$
Alignment 3 months	Mean $\pm$ SD	10.00 $\pm$ 0.00	10.00 $\pm$ 0.00	t: 0.001, $p=1.000$
	Median (Min-Max)	10.00 (10.00-10.00)	10.00 (10.00-10.00)	
Alignment 3 months grade	Good	29(100.0%)	29(100.0%)	X2: 0.000, $p=1.000$

t: t student test, X2: Chi square test

Ultrasonographic evidence of peroneal tendinopathy was higher in the antiglide plate group (20.7%) compared to the neutralization plate group (6.9%) with no significant difference between two groups. However, overall

complication rates were low and comparable between the groups, with a similar incidence of surgical site infection and reflex sympathetic dystrophy.

Table 8: Comparison between studied groups according to outcome.

		Neutralization plate n=29	Antiglide Plate n=29	Test Result
Ultrasonographic evidence of peroneal tendinopathy	Negative	27(93.1%)	23(79.3%)	FE:., $p=0.253$
	Positive	2(6.9%)	6(20.7%)	
	No	28(96.6%)	28(96.6%)	
Complications	Reflex sympathetic dystrophy	0(0.0%)	1(3.4%)	X2: 2.000, $p=0.368$
	Surgical site infection	1(3.4%)	0(0.0%)	

DISCUSSION

Fractures of the ankle are on the rise, and research shows that the rate of fractures in the elderly has increased by a factor of two in the last four decades. There has been an uptick in the occurrence of ankle fractures in athletes at all levels of competition; of these, two-thirds are isolated lateral malleolar fractures. A quarter of the patients showed signs of both malleolar fractures, while seven percent showed signs of trimalleolar fractures. Only 2% of ankle fractures are open fractures, according to^[7].

In this trial the two groups had comparable average ages of patients; specifically, the antiglide plate group had an average age of 33.21 years and the neutralization plate group had an average age of 32.03. Also, there was a statistically significant difference in the proportion of females in the antiglide plate group (65.5% vs. 37.9%), however none of those findings mattered much.

Deng *et al.*^[8] found similar outcomes. There were 56% female patients and an average age of 50 years at fracture in his research. Nevertheless, these findings contradict those of Kilian *et al.*^[3] who discovered that the lateral plate group consisted of 13 male patients (54.2%) and 11 female patients (45.8%). Of the patients in the antiglide plate group, eight were female and twelve were male, making up 60% of the total.

In the present study most fractures in both the neutralization plate group (86.2%) and the antiglide plate group (89.7%) healed within 16 weeks, suggesting that the two groups recovered at about the same rate. The findings align with those of El-Alfy *et al.*^[9] who discovered that the average length of union for the group under study was 12.1 ± 2.2 weeks, with a range of 9 to 16 weeks. The recovery duration varied from 9 to 12 weeks for the majority of the examined group (59.1%). Oztermeli *et al.*^[10] found no patients with nonunion in their investigation, which is consistent with our data.

Although our research is based on younger patients, a study by Asloum *et al.*^[11] indicated a 3% nonunion rate in

surgically repaired lateral malleolus fractures. It is worth noting that this study focused on older patients, which might explain the little variation in union rates.

At six weeks, the neutralization plate group averaged 59.69 on the American Orthopaedic Foot and Ankle Society (AOFAS) score, whereas the antiglide plate group averaged 57.59. Both scores improved to 84.86 and 83.34 after three months. According to Kilian *et al.*^[1] there was no discernible variation in the AOFAS score between patients who had anti-glide treatment (93.7 ± 6.1 ; range 85-100) or lateral plate fixation for Weber B malleolus fractures (94.5 ± 6.0 ; range 85-100) ($p = 0.37$).

From six weeks to three months, both groups' percentage changes in AOFAS scores were comparable; on average, the antiglide plate group improved 45.62 percent, while the neutralization plate group improved 43.64 percent. This suggests that over the follow-up period, both groups had comparable levels of functional improvement. Furthermore, this finding is consistent with that of Oztermeli *et al.*^[10] who also discovered that there were no significant differences between Groups A and B, with mean AOFAS scores of 84.77 ± 9.3 and 87.46 ± 11.02 , respectively ($p > 0.05$).

At six weeks, the pain ratings were comparable in both the neutralization plate group and the antiglide plate group; the former had a mean of 16.21 and the latter had 15.34. Three months later, the scores were 19.31 and 18.45, respectively, a little better. It seems that both groups went through about the same amount of discomfort while recuperating, as the distribution of pain intensity while walking on different surfaces was extremely similar.

The findings are in line with those of Oztermeli *et al.*^[10] who discovered that the average VAS score in the neutralization plate group was 8.08 ± 1.06 and in the antiglide plate group it was 8.32 ± 1.28 . There were no notable statistical differences between the two groups ($p > 0.05$).

In the current study there was no statistically significant difference between the two groups on functional assessments taken 6 weeks after treatment with the neutralizing plate (33.48 vs. 32.24). The findings are in agreement with those of Martinez Velez *et al.*^[12] For the lateral plate group, the Weber functional evaluation yielded three instances (13.63%) with outstanding results, eighteen cases (81.81%) with good results, and one case (4.5%) with poor results. Out of the twenty-one instances studied using antiglide plates, thirteen were found to have great results, eighteen to have decent results, and one to have bad results. Clinical results were similar for the two groups.

Twenty patients (90.9%) were able to walk the lengths they wanted to without limp or discomfort at the conclusion of the follow-up, according to El-Alfy *et al.*^[9] Two patients (9.1%) were able to walk the distances they wanted to walk with slight limp or pain, nevertheless. Furthermore, 18 patients (81.8%) were pain-free after completing the prescribed run distances, 13 patients (13.6%) reported mild discomfort but were still able to complete the run distances, and 4 patients (4.5%) reported substantial limitation in their ability to run despite little pain.

In the present study all patients in both groups achieved a perfect alignment score of 10.00 at 6 weeks and 3 months. According to El-Alfy *et al.*^[9], 16 patients (72.7%) had ankle motion within 10° of the uninjured ankle at the end of the follow-up, four patients (18.2%) had ankle motion within 15° of the uninjured ankle, and two patients (9.1%) had ankle motion within 20° of the uninjured ankle. However, there was no statistically significant difference between the two groups when it came to the prevalence of peroneal tendinopathy as seen by ultrasonography; the antiglide plate group had a larger prevalence (20.7%) than the neutralization plate group (6.9%). Nevertheless, the occurrence of complications such as surgical site infection and reflex sympathetic dystrophy was equal across the groups, and the overall complication rates were minimal.

There were a total of 1007 patients included in the meta-analysis for infection across 6 eligible trials, which is in accordance with Deng *et al.*^[8]. Neither group had significantly different infection rates (6.3% for posterior plating and 6.8% for lateral plating; odds ratio [OR] 0.77, 95% CI 0.45, 1.31, $P = .33$).

Additionally, it was predicted that a total of 1000 patients were affected by wound complications in six separate investigations. The lateral plating group had 10 wound problems (1.6%), whereas the posterior plating group had 2 (0.05%). Statistical analysis showed that the lateral plating group had a higher risk of wound complications than the posterior plating group, although the difference was not statistically significant (OR 2.65, 95% CI 0.78, 8.99, $P = .12$). Also, there was no statistically significant difference in the incidence of peroneal tendon irritation between the groups who had lateral or posterior plating (OR 0.53, 95% CI 0.21, 1.33, $P = .17$). With only

14 out of 328 instances (4.3%) in the posterior group and 7 out of 549 cases (1.3%) in the lateral group, the overall rates were very low. However, according to Page *et al.*^[13], peroneal tendonopathy may occur anywhere from zero percent to thirty percent after antiglide plating, depending on the case series.

LIMITATIONS OF THE STUDY

The small sample size hinders the ability to generalize the study results.

CONCLUSION

According to the findings of this study, compared to lateral neutralization plating, antiglide plating for weber B lateral malleolus oblique fractures is preferable because it reduces the likelihood of hardware discomfort while slightly increasing the risk of peroneal tendon irritation.

ABBREVIATIONS

AOFAS: American Orthopaedic Foot and Ankle Society, **FASS:** Foot and Ankle Society score, **RCT:** randomized controlled trial, **SD:** standard deviation, **SER:** supination-external rotation.

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CONFLICT OF INTERESTS

There are no conflicts of interest.

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