

\* .

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<	>
:	4cm 3.5mm
	가
: 1997 5 2001 5 2mm 77	.
4cm 3.5mm	.
Lauge-Hansen	. Meyer Kumler 가
:	
: 12.5 71 (92%)	. Lauge-Hansen
- 47 (61%) 가	.
:	
4cm	가 , 가
.	
:	,

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:

255-2,

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2.

2cm 4cm 가  
4,9) 3cm  
2.5mm  
(clip forcep)  
5,11,13,15) 가 1.8mm K 2  
3.5mm 3.5mm  
6,7) 가  
가 . 1.6  
K  
가가 .  
(short leg  
splint) 1  
3  
(short leg walking cast)  
1997 3 2001 5 1 6  
가 77  
38 (16-75 ) 49 , 28  
가 29 (12-56 3.  
) 2mm  
50  
24 14 , 10  
26(13~54) 46  
(60%), 27 (35%), 4 (5%) 1mm  
Lauge-Hansen<sup>4)</sup>  
47 (61.0%), - 14 (18.2%),  
- 10 (13.0%), - 6 (7.8%) Kumler<sup>12)</sup> Meyer  
- 가  
68 (88%) 12 (9%)

24 72 (93.5%) . 50 가  
 22 (91.6%)  
 12.8(6-15) Hughes<sup>8)</sup> AO B C  
 , 50 14.1 . Meyer 가  
 Kumler 77 가  
 71 (92%) (Table 1). 50 2mm 가  
 18 (75%/24), 4  
 (16.7%/24), 2 (8.3%/24) .

**Table 1.** The results according to the criteria of Meyer and Klumer

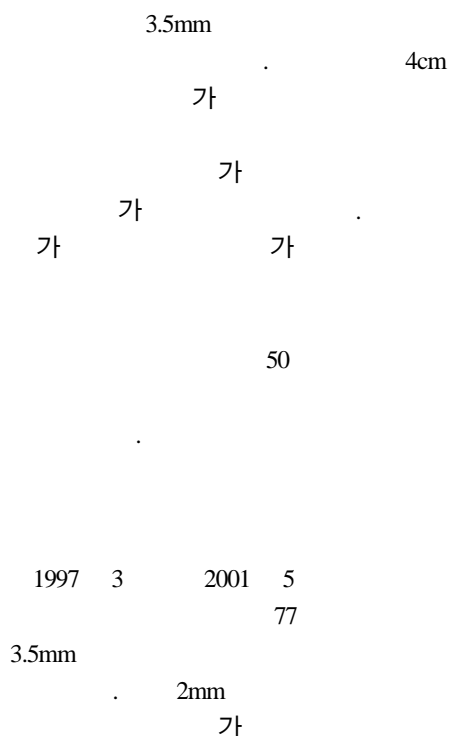
Age(yr)	Excellent	Good	Fair	Poor
Below20	15	0	0	0
21-30	18	0	0	0
31-40	11	0	0	0
41-50	10	1	0	0
51-60	9	1	1	0
Above 61	8	2	1	0
Total(77)	71(92%)	4(5%)	2(3%)	0(0%)

1  
 가  
 2 (Table 2).

**Table 2.** Early and late complications

Complication	Cases
Delayed union	0
Malunion	0
Superficial infection	1
Post traumatic arthritis	2

Burwell Chamley<sup>3)</sup> 가  
 가  
 ,  
 Beauchamp<sup>1)</sup> 50 126  
 50  
 가 가 ,  
 , 가  
 가  
 50  
 가  
 가  
 가  
 가  
 가  
 K- 8  
 . Brent Lawrence<sup>2)</sup>  
 가  
 . Meyer Kumler<sup>12)</sup>  
 50  
 Tile<sup>14)</sup>



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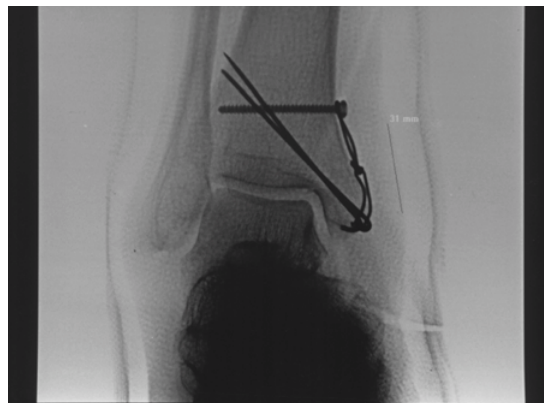
**Fig.1 :** This is preoperative radiogram of displaced medial malleolar fracture in 67 year old male patient.



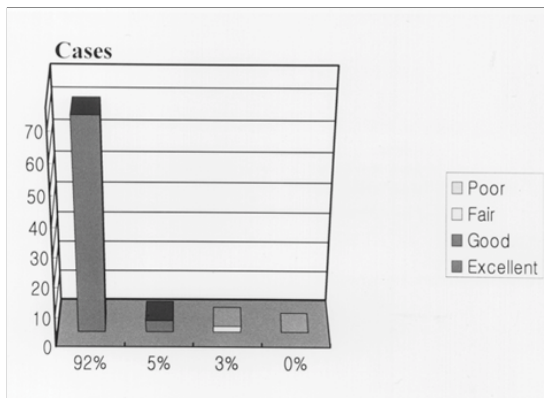
**Fig.2 :** This is anteroposterior radiogram of modified tension band wiring using by 3.5mm cortical screw.



**Fig.3 :** This is lateral radiogram of modified tension band wiring using by 3.5mm cortical screw.



**Fig.4 :** This is a line of skin incision(31mm) on reverse view.



**Fig.5 :** The graphics of result by the criteria of Meyer and Klumer.

## Abstract

## Modified Tension Band Wiring using Cortical Screw for Displaced Medial Malleolar Fractures

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**Purpose :** To evaluate the clinical results of minimal incision and modified tension band wiring using 3.5mm cortical screw in the treatment of ankle fracture including displaced medial malleolar fractures

**Materials and Methods :** From March 1997 to May 2001, 77 patients were treated by modified tension band wiring using minimal incision about 4cm for medial malleolar fracture.

**Results :** According to Lauge-Hansen classification, there were 47 supination-external rotation type fractures (61%), 14 supination -adduction type fractures (18.2%), 10 pronation-external rotation type(12.9%), 6 pronation-abduction type fracture(7.8%). The average time to union was 12.5weeks. In the functional outcome (according to Meyer and Kumler), 71 patients(92%) showed excellent results.

**Conclusion :** We concluded that modified tension band wiring using cortical screw proved effective fixation method in the treatment of the displaced medial malleolar fracture. The merits of this procedure are minimal incision about 4cm and preservation of blood supply on suprafracture area due to not injured periosteum, stable fixation and early range of motion of joint, simple procedure and reduced surgical time.

**Key Words :** medial malleolar fracture, modified tension band wiring, cortical screw

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