

**Abstract**

**Treatment of Soft Tissue Defect on Ankle or Dorsum of Foot  
with Extended Gracilis Muscle Free Flap**

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Soft tissue defects of the dorsum of foot and ankle can be covered from skin graft to free tissue transfer. The extent of injury which may be complex including the exposure of paratenons or bones requires free flap reconstruction. Some of the precautions for reconstruction are providing minimal bulkiness and well conforming to irregular contour thus making normal footwear possible. Though the muscle flap having its advantages and versatility, the fascial flap such as temporo-parietal fascial flap has been considered the choice for reconstruction of the dorsum of foot and ankle. The purpose of our study is to utilize the advantages and versatility of the muscle flap as a first choice for reconstruction for the defects involving the dorsum of foot and ankle. The gracilis muscle with its anatomic and donor characteristics, it can be utilized to maximal effect by expanding its slim muscle width removing the epimysium and reducing its bulk by muscle atrophy through denervation. We present our experience with ten cases of reconstruction for the dorsum of foot and ankle using the gracilis muscle free flap. Results were satisfactory without flap loss, skin loss and infection. The contour and aesthetic aspect of the foot was satisfactory. Gait analysis showed near normal gait without limitations from everyday activities. Normal footwear was tolerable in all the cases. The keys to consider in the reconstruction of the dorsum of foot and ankle are appropriate bulkiness, conforming to its contour and able to apply normal footwear. With minimal donor morbidity and satisfying results, the extended gracilis muscle should be considered as the first line for reconstruction of the ankle and dorsum of foot.

**Key Words** : Ankle and dorsum of foot, Extended gracilis muscle free flap



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(medial tibial epicondyle) 가 가  
(sartorius),  
(adductor magnus),  
(adductor longus) .  
(medial circumflex femoral artery)

10cm 1/3,

가 가  
1.2 ~ 1.8cm  
1.5 ~ 2.0cm 2

가 가  
가 (doppler tracing)  
가 (angiography)

가 2).

2)

1997 6 1999 1 10

가

1/3

가

가

가

1

6

가 14x8cm

가

가

X

coagulator)

가

(Monopolar

6

(forceps)

30

가  
(Fig.

1).

2

8

3

1).

가

6,7).

6 × 7cm

Hidalgo

Shaw<sup>1)</sup>

Type I,

Type II,

Type III 3가

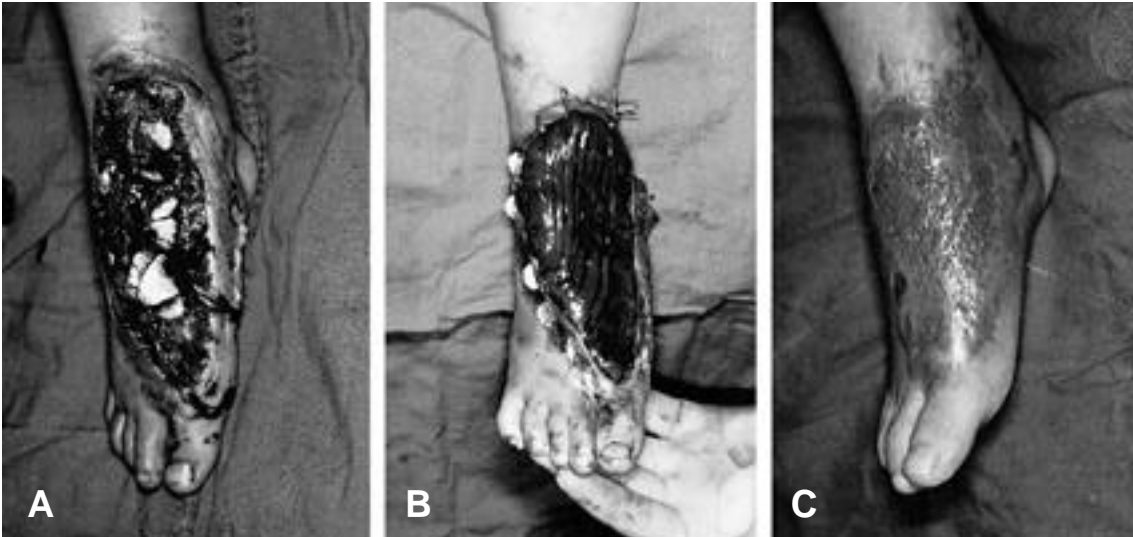
Type II

(Fig. 2).

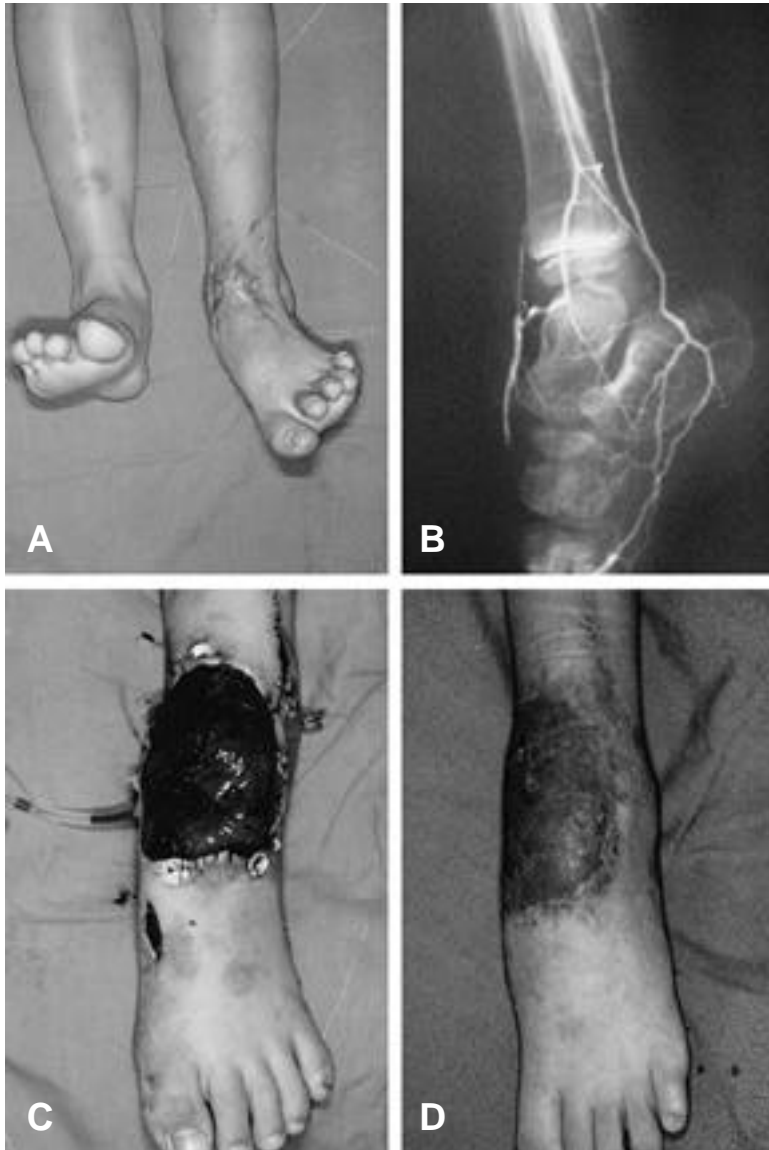
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1972 Buncke<sup>8)</sup>

(omentum)



**Fig. 1-A.** 6-year-old-male shows severe composite defect on right foot.  
**B.** Immediate postoperative view, well covered with extended gracilis muscle flap.  
**C.** Postoperative view after 2 months.



**Fig. 2-A.** 8-year-old-male show severe scar contracture on left ankle area.

**B.** Preoperative angiogram findings, narrowing change in the distal portion of dorsalis pedis artery.

**C.** Immediate postoperative view, well covered with extended gracilis muscle flap.

**D.** Postoperative view after 1 month.

Daniel<sup>9)</sup> , 1973 Taylor , 가  
 가 , 가 ,<sup>10)</sup>  
 가 , 가  
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