



# Reconstruction of Sacral Pressure Sore in a 15-Year-Old Male with Superior Gluteal Artery Perforator Flap

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## ABSTRACT

Pressure sores, a complication which is common in patients with limited mobility, pose significant challenges in management. We are presenting a case of a 15-year-old male with paraplegia due to a D12 vertebral fracture following a truck fall. He subsequently developed severe sacral and ischial pressure sores, managed successfully with surgical reconstruction using a superior gluteal artery perforator flap. This case highlights the efficacy of perforator flaps in the reconstruction of complex pressure sores in pediatric population.

**Keywords:** Gluteal artery perforator flap, Pressure sore, Reconstructive surgery  
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## INTRODUCTION

Pressure sores are a frequent complication in individuals with limited mobility, often leading to significant morbidity.<sup>1</sup> In pediatric patients having spinal cord injuries, such as in this case, the risk of pressure sore development is heightened due to prolonged immobility. Surgical reconstruction with perforator flaps has emerged as a valuable option for managing complex pressure sores, offering improved wound healing and functional outcomes.<sup>2</sup>

## CASE PRESENTATION

A 15-year-old male presented with paraplegia after falling from a truck, resulting in a D12 vertebral fracture with cord compression. Despite initial stabilization by laminectomy and decompression and rehabilitation, the patient developed severe sacral pressure sore due to prolonged immobility. The pressure sore progressed rapidly, leading to tissue necrosis and exposure of the underlying structures (Figure 1).

## MANAGEMENT

After thorough evaluation and optimization of medical conditions, surgical intervention was planned. Under general anesthesia, the patient was positioned prone, and meticulous debridement of the pressure sores was performed to remove necrotic tissue and debris. Given the extent of the wounds, reconstruction was planned with superior gluteal artery perforator flap. The flap was designed based on preoperative Doppler ultrasonography to identify suitable perforators. The flap was then elevated, preserving the perforator vessels, and

transposed to cover the sacral and ischial defects. Careful attention was paid to ensure tension-free closure and adequate vascular supply to the flap (Figure 2). Bed sore management protocol was followed.

## OUTCOME

The postoperative period was uneventful and there was no evidence of flap necrosis or wound dehiscence. The patient experienced gradual wound healing, with epithelialization and granulation tissue formation observed in the following weeks. At the three-month follow-up, complete wound closure was achieved, with significant improvement in pain and mobility.

## DISCUSSION

Perforator flaps, such as the superior gluteal artery perforator flap offer several advantages in reconstructing complex pressure sores.<sup>3</sup> These flaps provide a reliable source of well-vascularized tissue, minimizing donor site morbidity and improving wound healing. In the pediatric population with spinal cord injuries, early intervention with surgical reconstruction can prevent complications and improve quality of life. Following the bed sore management protocol, which not only involves patient at risk but also their early identification and its management by surgical debridements and dressings as needed. Additionally, measures to eliminate drainage and cellulitis are undertaken, followed by biological therapy for non-responsive wounds. Physical therapy aids in rehabilitation, and palliative care ensures comfort when needed. This comprehensive approach ensures optimal wound management, leading to rapid healing and improved outcomes.

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**Figure 1:** Preoperative picture of grade IV sacral pressure sore with marking of SGAP perforator.



**Figure 2:** Postoperative picture of SGAP flap without any complication.

## CONCLUSION

In conclusion, this case demonstrates the successful management of severe sacral pressure sore in pediatric patients using superior gluteal artery perforator flap. Surgical reconstruction with perforator flaps represents a valuable therapeutic option for complex pressure sores in pediatric patients, offering improved wound healing with good functional outcomes. Further research is needed to evaluate long-term efficacy and optimize surgical techniques in this population.

## REFERENCES

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