



SUPPLEMENT

## The role of early enteral nutrition in an adult patient with severe burn injury II-III degree, 28% TBSA, and inhalation injury: A case report

Received 19 September 2025  
Accepted 22 September 2025  
Published 29 September 2025

Link to DOI:

[10.25220/WNJ.V09.S1.0020](https://doi.org/10.25220/WNJ.V09.S1.0020)

**Citation:** Bella P, Felicia A. The role of early enteral nutrition in an adult patient with severe burn injury II-III degree, 28% TBSA, and inhalation injury: A case report. World Nutrition Journal. 2025 September 29, 9(S2): 25.



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Petra Bella<sup>1</sup>, Angeline Felicia<sup>2</sup>

1. Pusat Pertamina Hospital, Jakarta, Indonesia

2. Department of Nutrition, RSUP Kariadi, Semarang, Indonesia

### Abstract

**Background:** Burn patients experience increased energy demands, muscle mass loss, and infection risk due to hypermetabolism. This case report highlights the benefits of initiating early enteral nutrition (EEN) within 24 hours post-burn.

**Case report:** A 55-year-old male with second- to third-degree burns covering 28% of TBSA and inhalation injury was hospitalized for 24 days at RSPP. He weighed 70 kg (BMI of 25.7 kg/m<sup>2</sup>). Within 24 hours, he received fluid resuscitation, wound excision, and tracheostomy. Calculated via the Curreri formula, his caloric requirement was 2,870 kcal/day, and protein needs were 105–140 g/day. Enteral nutrition was initiated within 24 hours and advanced gradually. Partial parenteral nutrition was also provided: 63 g carbohydrates, 25 g protein, and 19 g fat daily. The patient was also treated for hypoalbuminemia and received oral vitamin B complex, vitamin C, and iron.

**Results:** Regular monitoring showed no signs of overfeeding, sepsis, or gastrointestinal complications. Laboratory values, including CBC, electrolytes, albumin, procalcitonin, renal function, and arterial blood gases, improved alongside clinical recovery. The patient was discharged on day 24. Although inhalation injuries and extensive burns may prompt clinicians to delay enteral nutrition, evidence supports early initiation within 24–48 hours when no contraindications exist. EEN helps preserve gut integrity, muscle mass, wound healing, and reduce ICU stay. Baik et al. reported increased gastrointestinal risk with EEN, therefore monitoring is necessary.

**Conclusion:** EEN within 24 to 48 hours is beneficial for severe burn patients, including those with inhalation injury. Individualized clinical assessment and careful monitoring are crucial to optimize outcome.

**Keywords:** early enteral nutrition, severe burn, inhalation injury, clinical outcome

### Presenting author:

Petra Bella

Pusat Pertamina Hospital, Jakarta, Indonesia

Email: [petrabellar@gmail.com](mailto:petrabellar@gmail.com)