

# Effective Management of a Partial Thickness Burn in a Paediatric Patient using Flaminal® Hydro

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## Introduction

A burn injury is the coagulative destruction of the skin and its structures by thermal, chemical, electrical or mechanical energy. A major burn is defined according to the percentage total body surface area (%TBSA) affected by the injury<sup>(1)</sup>.

According to the World Health Organisation (WHO), thermal burns account for an estimated 6.6 million injuries and 300 thousand deaths worldwide each year<sup>(2)</sup>.

Comprehensive up-to-date statistics for the UK are not available for reference, but there are approximately 10,000 hospital admissions and 300 major burns in adults requiring fluid resuscitation in England and Wales per year. In Scotland there is an incidence of 500 burn injury admissions per year, of which 5% are major burns. According to the annual report 'Care of Burns in Scotland' (COBIS) 62% of all burn injuries in children aged 0-4 years are attributable to scalds<sup>(3)</sup>.

There are three types of thermal burn; direct exposure to a flame source, scald burns and finally contact burns that result from direct contact with a high temperature object. Higher temperatures and extended contact times of the burn source, results in deeper burns<sup>(2)</sup>.

There is considerable variation in burn care regimens, however, all of them follow several basic principles. These include to prevent infection, support debridement, prevent fluid loss, and pain management.

This case study involves a 4-year-old male child who sustained a scald to the scapula and right upper buttock after being playfully pushed over by his sibling whilst carrying hot noodles. The child did not have any other medical issues. The thermal burn was verified as having partial thickness tissue loss with a small region

of deep dermal damage, covering 2% TBSA. The patient was transported to an accident and emergency department where blisters were deroofed and a silicone non adherent primary dressing was applied. A referral to a specialist wound care clinic was subsequently arranged following discharge from the emergency department.

## Method

The patient was reviewed by the Tissue Viability Specialist Nurse three days post injury at an out-patient clinic. The thermal burn injury presented with no obvious signs of infection, however, positive colonisation of Staphylococcus Aureus from swab results were noted. Moderate exudate levels were observed, and the surrounding skin appeared dry. The main challenges considered were high risk of infection and dressing interference due to the child's age. The clinical treatment aims were to contain the bioburden and reduce the risk of infection, to manage exudate, general pain control inclusive of an atraumatic dressing regimen and to achieve complete healing promptly.

The Tissue Viability Specialist Nurse initiated a wound management plan of irrigating the affected area using an antimicrobial solution, followed by the application of Flaminal® Hydro primary dressing. Secondary dressings included a silicone non-adherent dressing, gauze swabs and a bandage to secure, with dressing changes advised at 3-4-day intervals. The patient was reviewed again the following week and the tissue status showed 95% epithelisation, no exudate, and surrounding healthy skin; the most recent wound swab validated a negative result. Wound dressing advice remained the same apart from the secondary dressing which was exchanged for an adhesive bordered foam.

## Result

Complete healing was achieved in three weeks with application of the highlighted wound management plan. The Tissue Viability Specialist Nurse emphasised that all stated treatment aims were achieved and that the wounds remained infection free throughout the healing continuum. Pain management was accomplished, and the patient remained compliant as dressing changes were atraumatic. Exudate levels were well maintained, and the simplistic dressing regimen facilitated a shared care approach.

## Discussion

Flaminal® Hydro, an Enzyme Alginogel, is an effective primary dressing that provides antimicrobial protection. It facilitates the debridement of devitalised tissue by effectively promoting a moist healing environment and creating ideal conditions for the growth of healthy granulation tissue. Its non-toxic functions allow for continuous use, as the destruction of microbes happens only within the Flaminal® gel matrix and not in the wound bed, enabling its safe use throughout the healing trajectory on patients of any age.

## Conclusion

This case study exemplifies the importance of a holistic evidence-based approach to wound management. It also validates the efficacy of Flaminal® Hydro as a debridement agent and an effective method to reduce bioburden. In addition it highlights its ability to support pain management with its soothing capacity, in the instance of painful wounds. Finally, the importance of an effective and easy to use dressing regimen for difficult to manage areas in the infantile age group proved to be pivotal to the success of this case study.

## References

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2<sup>nd</sup> Aug 24

8<sup>th</sup> Aug 24

23<sup>rd</sup> Aug 24