

## Introduction

The history of burn care and skin grafting has a long history, dating back to as far as 3000 years ago in India. The procedures are constantly changing as old products are discontinued it creates a need for replacements. We seek to assess a new product to the burn market, acellular fish skin as a replacement for a xenograft that is no longer available.

## Methods

In this case series, multiple burn patients of varying age and ethnicity with wide range of burn wound sizes, had fish skin graft applied post debridement and/or excision. The fish skin graft provides much of the features and benefits of the discontinued product including, faster wound closure, restoration barrier function and reduction in healing time, infection rate and pain. These factors were evaluated once the burn wound was closed or healed by secondary intention.

## Results

Overall, the cohort of patients treated with fish skin graft had an observed decrease in healing time, infection rate and patient-reported pain.

## Conclusions

In this case study, the fish skin graft demonstrated comparable or better results with the discontinued product for temporary coverage and augmented healing. The results demonstrate that fish skin graft has the potential to fill this gap in burn care management and should be trialed in larger scale studies.

## CASE 1: 22-year-old Male Back Thermal Burn

**Patient History:** 22-year-old male with past medical history of hydronephrosis.

**Wound History:** Patient presented with a 19% TBSA thermal burn as result of clothes catching fire from a bonfire to burn center two days post initial injury recieved previous treatment with silver sulfadiazine cream.

**Patient Outcomes:** Single application of fish skin graft resulted in good secondary intention healing for the patient.



Initial presentation

Day 2



Day 2 – Dermabrasion and fish skin graft application

POD 4



POD 15

POD 21

## CASE 2 : 71-year-old Male Thermal Burn

**Patient History:** 71-year-old male with past medical history of hypertension and hyperlipidemia

**Wound History:** Patient presented on day 4 post injury with 17% TBSA thermal burn due to a lawn tractor explosion after hitting a gas line.

**Patient Outcomes:** At 1 year follow up visit, skin pigment matching is significantly improved. Skin is soft, flat and pliable. Minimum itching. Excellent ROM with no limitation.



Initial presentation 4 days following the burn injury, prior to fish skin graft application

POD 3



POD 10

Healing outcomes at POD 60



Follow-up at 12 months

## CASE 3: 65-year-old Female Scald Burn

**Patient History:** 65-year-old female with small cell carcinoma stage IV undergoing chemotherapy, inflammatory arthritis and rheumatoid arthritis, chronic kidney disease stage 3, obesity and pulmonary valve dysfunction.

**Wound History:** Patient presented on day 10 post injury with a 3% TBSA scald burn, with previous treatment standard of care and Santyl

**Patient Outcomes:** Patient was discharged from the practice due to follow up limitations and chemotherapy treatments. As reported during follow up phone call (10 months after treatment), improved pigment matching. Skin not raised. No itching. No limitation of movement.



Appearance of wound on day 10



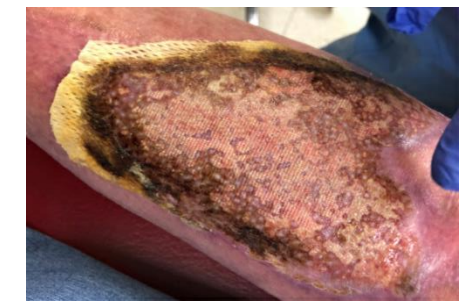
Post debridement



Fish skin graft application



POD 8



POD 15



POD 25