

# ADVANTAGES OF BIOCELLULOSE FOR BURN INJURES

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## Introduction:

Biological dressings have been developed as temporary substitutes for human skin to avoid infection, accelerate tissue repair and promote comfort to the patient, specially for facial burns and superficial second degree burns. The biocellulose film is produced by the bacterium *Acetobacter xylinum*. After a dehydration process, the product turns into a film. We can also use the biocellulose film still hydrated. Aim: To show the experience of the use of a biocellulose membrane at Hospital das Clínicas da Faculdade de Medicina da Universidade de São Paulo – Brazil.



*Acetobacter xylinum*



Biocellulose membrane hydrated



Dehydrated biocellulose membrane

## Methods:

This study was from January 2009 till December 2017. We selected forty five patients with facial superficial second degree burns treated with biocellulose film since day one. It remained on the face until complete epithelialization and spontaneous detachment (25 children and 20 adults). We evaluated the final healing time, the pain, the dressing changes and the facility of application (notes from 0 to 10).

## Results:

- The evaluation note for the easiness of application varied from 7 and 8 (40%) and 9 to 10 (60%).
- We saw spontaneous detachment of the dressing in all cases.
- The grade of pain varied from 0 to 2 and after day 4 no one referred pain.
- The full epithelization occurred in 8 days in 90% of the patients and in 10 days in the other 10%.

### Superficial 2<sup>nd</sup> degree burn

Initial appearance



Application of the biocellulose membrane



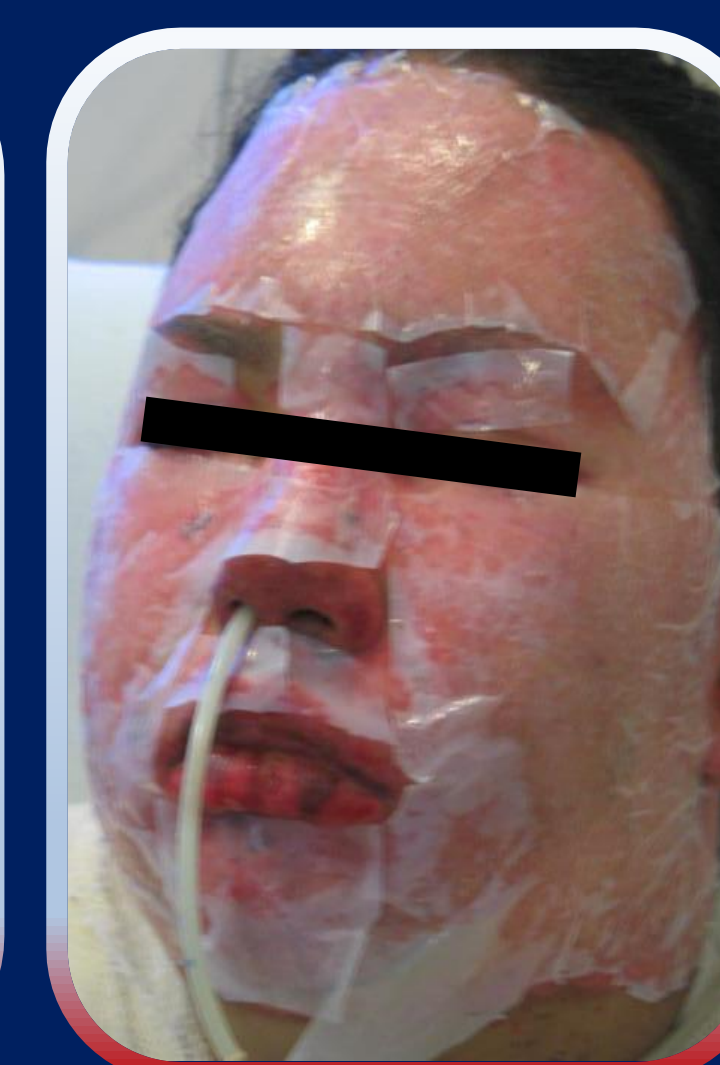
Appearance after the membrane is detached



Initial appearance



Application of the biocellulose membrane



Detachment of the membrane



Appearance after the membrane is detached



### Stevens-Johnson Syndrome



Affection of face, lips, oral mucosa, cornea.



Affection of face, lips, oral mucosa, cornea.



Face restored

## Conclusion:

The biocellulose dressing seems to be a good option for superficial facial burns. It is painless, easy to apply and has a good cost benefit relation.

The authors suggest longer randomized studies.