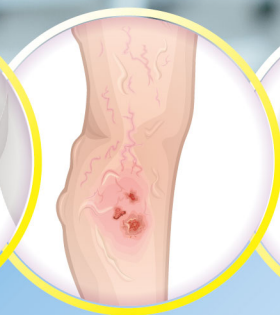
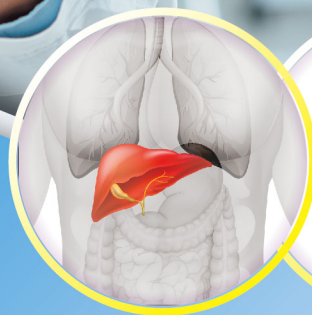


**MBi**



# HealiAid<sup>®</sup>

Collagen Wound Dressing  
MOHW-MD-No. 004222



**Safe / Convenient / No Residue**

✓ *Wound Defect Repair*

✓ *Natural Collagen is completely degraded*

✓ *Intraoperative Hemostasis*



## What's HealiAid®

HealiAid® is a white, porous, pliable and absorbable collagen wound dressing and can be applied easily to bleeding wounds.

HealiAid® is fabricated by native fibrous, absorbable Type I collagen, purified from bovine Achilles tendons.

## HealiAid® substrate

- From Australian bovine tendon
- No risk for Creutzfeld-Jakob disease
- Listed on market

Taiwan (2010)

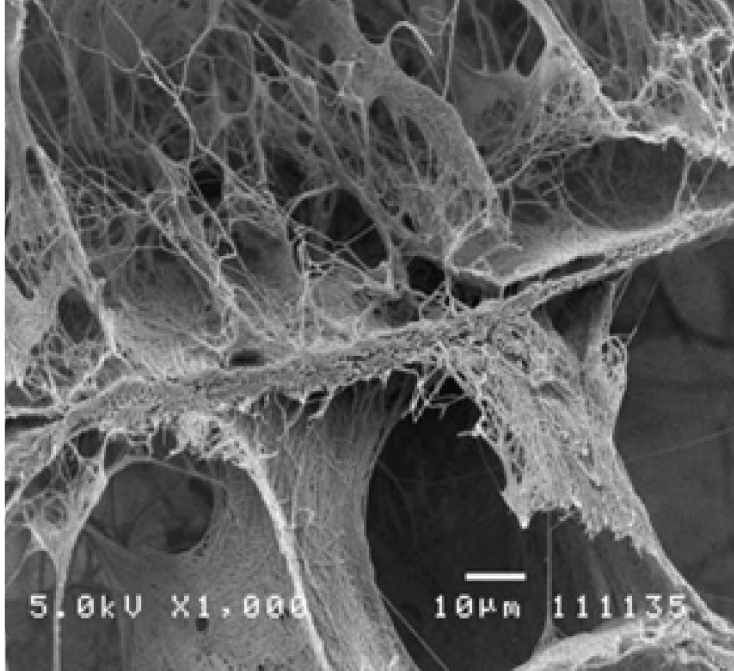
United States (2011)

Singapore (2014)

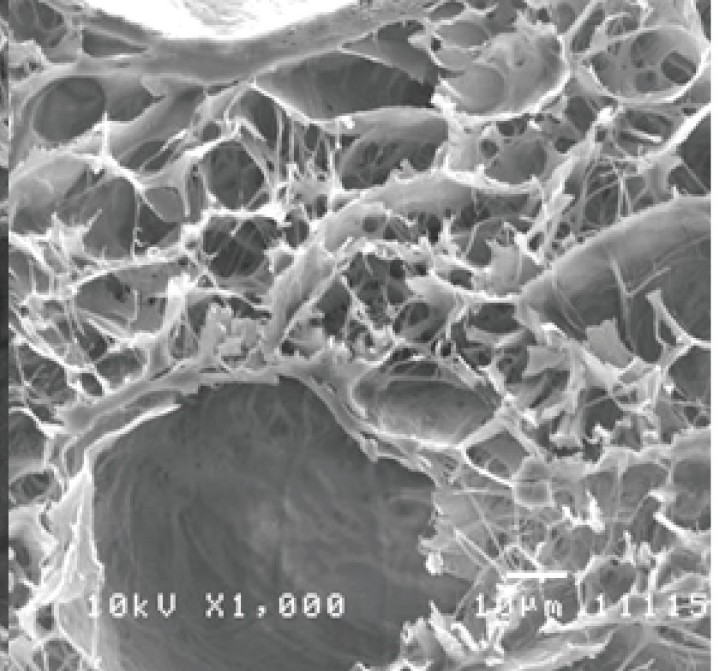
## Product characteristics

- 1) HealiAid® 3D interconnected porous structure forms a natural collagen scaffold closely resembling human skin ECM, thus can quickly guide cell migration and attachment, which facilitates tissue repair and regeneration.
- 2) Large molecular Type I native collagen fiber purified from bovine Achilles with excellent mechanical strength, 80% porosity and 6-8 week resorption time (in vivo)
- 3) No residual chemical cross-linking agent, good mechanical intensity by DHT treatment
- 4) Low risk of immune response thanks to US patented proprietary collagen purification process
- 5) Excellent biocompatibility





HealiAid 3D Structure

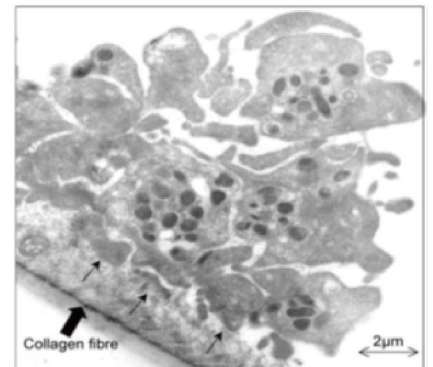


Human Extracellular Matrix

SEM analysis showed that HealiAid® has good porosity for cells to proliferate and migrate freely across the dressing for wound healing  
 Ideal pore size: 100-200 µm for cell migration/capillaries formation

## Collagen is ideally suited to initiate hemostasis

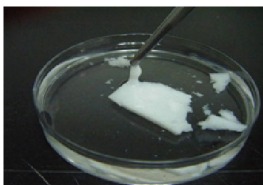
- 1) Collagen is one of the major activators of the platelet response after injury.
- 2) Collagen is the only matrix protein which supports both platelet adhesion and complete activation.
- 3) When collagen comes in contact with blood, platelets rapidly attach, spread out, activate and begin to aggregate.



Platelets aggregate on HealiAid collagen fiber

## Dehydro-Thermal (DHT) Treatment

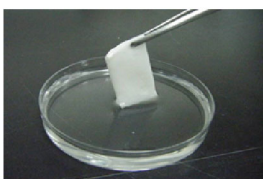
(Eliminates Need for Chemical Cross-linking)



HealiAid®  
 without DHT  
 treatment



HealiAid®  
 matrix was **disintegrated**  
 after hydrating in normal saline for  
**just 1 hour**



HealiAid®  
 with DHT  
 treatment



Easy to handle the dressing by  
**preserving its structure** after hydrating  
 in normal saline for **more than 24 hours**

# Manufacturing Process

- Patent collagen purified process
- Pepsin is used to digest antigen parts (atelocollagen)
- The integrity of fibrous structure and functions of collagen are preserved.
- Good mechanical intensity by **DHT treatment**
- Good biocompatibility
- Low risk of immune response
- **No residual chemical cross-linking agent and no cytotoxicity**



## Benefits of HealiAid®

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1) Implantable and resorbable</li> <li>2) Highly biocompatible</li> <li>3) Promotes faster wound healing and initial pain reduction</li> </ol> | <ol style="list-style-type: none"> <li>4) Preservation of moist wound environment</li> <li>5) Scar reduction</li> </ol> |
|---|---|

## Intended use

- |                    |                      |                           |                  |              |
|--------------------|----------------------|---------------------------|------------------|--------------|
| • Surgical wounds  | • Surgical defect    | • Partial thickness burns | • Chronic ulcers | • Skin tears |
| • Traumatic wounds | • Donor sites/grafts | • Surgical hemostasis     | • Oral surgery   |              |

## Comparison of hemostasis

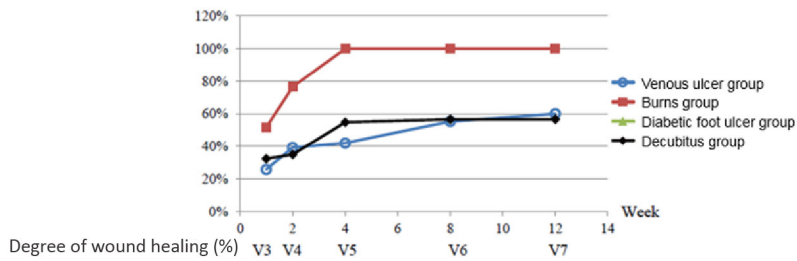
Hemostatic test in the hepatic portal vein of rat model

Group	Body weight of animal model (g)	Amount of bleeding (mg) Same incision condition	Hemostatic time (sec)
Other	304.2±7.6	1300.8±526.5*	102.2±26.8
<b>HealiAid®</b>	<b>305.6±14.9</b>	<b>909.4±215.5*</b>	<b>96.2±23.6</b>

\*: Statistical significant differences when  $p < 0.05$ . Values are reported as mean (SD) (N=5)

# Degree of different wound healing (%)

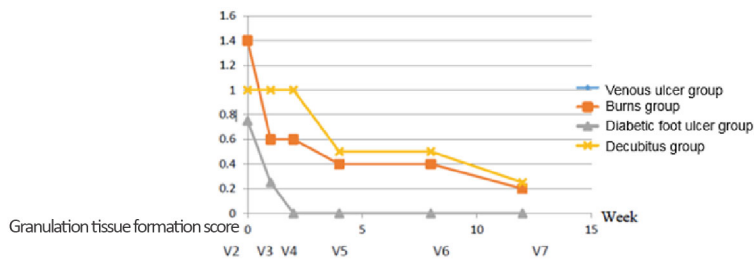
Degree of different wound healing of PP analysis



- Degree of wound healing in the second month after surgery (V6) of PP analysis
  - Burns group : 56.69%
  - Venous ulcer group : 100%
  - Decubitus group : 56.69%
- That injury is healed and all groups gradually getting better with time

# Granulation tissue formation

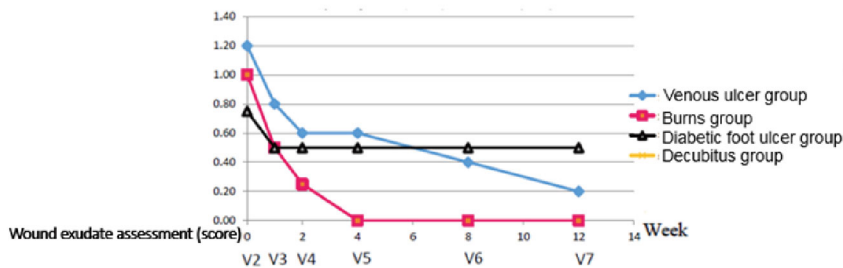
The granulation tissue formation of PP analysis



- The granulation tissue of all groups increased with time
- Granulation tissue formation score
  - 0 : Fully healed or shallow wounds
  - 1 : The granulation tissue accounts for 90% of the wound area
  - 2 : Granulation tissue occupies wound area  $\geq 50\%$  ,  $< 90\%$

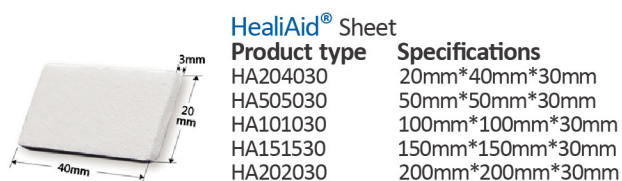
# Wound exudate assessment

The wound exudate assessment of PP analysis



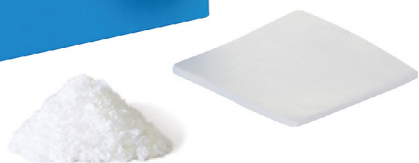
- That wound exudate of all group decreased with time
- Wound exudate score
  - 0 : Fullt None (None= wound tissues dry)
  - 1 : Slight , No need to change dressings every day
  - 2 : Large , Dressings should be changed at least twice a day

# Product range





Safe  
Convenient  
No Residue



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Collagen Wound Dressing  
MOHW-MD-No. 004222



**群曜醫療儀器有限公司**  
**Glory Group medical Co.,Ltd**

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