

# matriderm<sup>®</sup>

Tissue Regeneration – In a One-Step Procedure



Application Guide

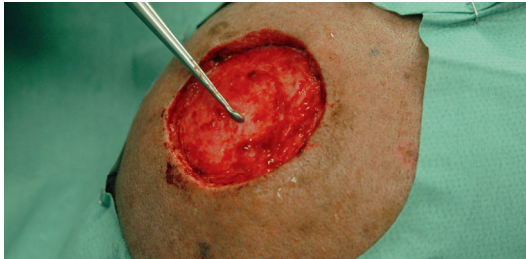


### Optional for Wound Bed Preparation

- Negative Pressure Wound Therapy (NPWT) may be used to optimize the wound bed by stimulating granulation tissue formation and to reduce the area of exposed structures (tendons, bones etc.)
- In case of wound infection, use NPWT until infection has been resolved. See manufacturer's instructions for use

## One-Step Procedure, 1 mm MatriDerm®

In the One-Step Procedure, MatriDerm® is immediately covered with a Split-Thickness Skin Graft (STSG)



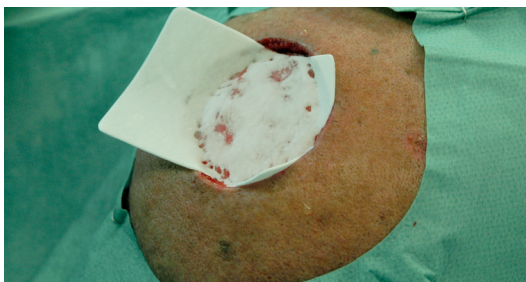
Wound bed after excision of nodular malignant melanoma at the scalp and 7 days of NPWT

### Wound Bed Preparation

- Appropriate debridement to obtain a clean and well-vascularized wound bed which must be free of infections and necrosis
- If applicable: excise scar tissue completely
- If applicable: shave granulation tissue and refresh wound edges (chamfer wound edges if necessary)
- Achieve hemostasis according to surgeon's preferred method: e.g. saline + adrenaline, mild cauterization
- Thoroughly clean and irrigate wound according to local protocol using normal saline or other solution as indicated by treating physician



**NOTE:** Do not use antiseptics containing iodine or enzymatic debridement agents in direct conjunction with MatriDerm®, as the collagen-elastin matrix can be damaged as a result. Rinse wound thoroughly to wash off the antiseptic or enzymatic debridement agents prior to MatriDerm® application.



Dry application of MatriDerm® prior to trimming

### MatriDerm® Application

- Dry application of MatriDerm® is recommended. If more than one sheet of MatriDerm® is used, the sheets should overlap by approximately 2–3mm
- Trim roughly to fit the skin defect



Rehydration of MatriDerm®

- Rehydrate in wound bed using saline or Ringer's solution. Please ensure the solution is not warmer than room temperature
- Make sure MatriDerm® evenly adheres to the wound bed
- Gently remove air bubbles



Trimming of STSG

### Application of STSG

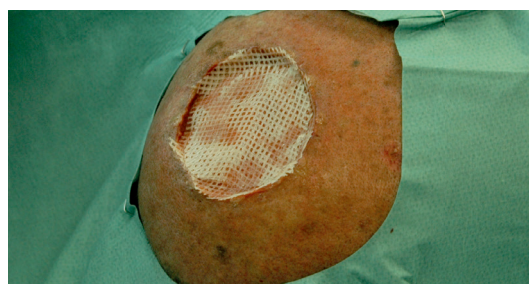
- Use STSG with optimal thickness of 0.006 inch or 0.2 mm
- Unmeshed graft shows best aesthetic results (fenestrate STSG slightly)
- Mesh the STSG if necessary (e.g. limited donor site availability). Less extension leads to better aesthetic results, with good results demonstrated for 1 : 1.5
- Ensure direct contact between the matrix and the skin graft
- Ensure there is no gap between the wound edge and STSG





Fixation of STSG with histoacryl tissue adhesive

- Attach MatriDerm® and STSG using surgeon's preferred fixation method (e.g. sutures, staples or fibrin glue)
- If more than one piece of MatriDerm® is required, it is advisable to have the seams of the STSG at right angles to the MatriDerm® seams



Placement of non-adherent dressing on top of STSG

### Dressing

- Place a non-adherent wound contact layer (e.g. Fatty Gauze, Sorbion Plus, ADAPTIC, Mepitel) on top of STSG with 1 cm skin overlap
- If required you may additionally use an antimicrobial dressing (e.g. silver impregnated dressing) to prevent infection
- Select a secondary dressing based on surgeon's preference, localization of the wound and amount of exudate:



NPWT therapy initiated

### A) With NPWT

- Apply dressing immediately after graft placement
- Set therapy at 75 mmHg continuous suction if used in areas that are not subject to shear forces; set therapy at 125 mmHg if used in areas where shear forces are present or in highly contoured areas. The higher pressure may help to hold the graft more firmly in place
- For skin protection guidelines follow NPWT manufacturer's instructions

### B) With conventional dressing

- Apply 3–4 layers of bulky dressing; add bolsters if necessary
- Moisten with saline to prevent MatriDerm® and STSG from drying out
- Fixation with tight bandaging is mandatory for optimal cell ingrowth and to avoid shear forces and hematoma/seroma formation
- Ensure appropriate immobilization/splinting according to localization of the wound
- Leave dressing and therapy on for 5–7 days for optimal splinting effect

### Follow-up

- Do not let the graft dry out
- Perform first dressing change after 5–7 days (if possible not earlier to avoid disruption of the implant)
- The non-adherent wound contact layer may stay in place
- Perform dressing changes every 5–7 days



Wound appearance after 12 days

## Two-Step Procedure, 2 mm MatriDerm®

The Two-Step Procedure involves initial attachment of MatriDerm® to the wound. As soon as good vascularization of the matrix is achieved, final grafting can take place in a second session using STSG.

This procedure can be followed when minimal vascularization of wound bed is present, if staged harvesting of the autograft is preferred, or if other co-morbidities prevent immediate wound closure.

### Wound Bed Preparation

Follow instructions as described in One-Step Procedure

### MatriDerm® Application

Follow instructions as described in One-Step Procedure

### Dressing

- Place a non-adherent wound contact layer (e.g. Fatty Gauze, Sorbion Plus, ADAPTIC, Mepitel) on top of MatriDerm® with 1 cm skin overlap
- Secondary dressing placement according to One-Step Procedure



**NOTE:** Ensure that MatriDerm® does not dry out prior to application of the STSG, by maintaining a closed moist wound environment (e.g. with NPWT).

### Placement of STSG

- When growth of healthy granulation tissue is observed through the matrix, the STSG can be placed. Often 5–6 days are sufficient. However, NPWT may be placed for additional 5–6 days, if required
- Shave granulation tissue and achieve hemostasis
- Dressing and Follow-up as described for One-Step Procedure

## One-Step and Two-Step Procedure MatriDerm®

### What to Expect:

- “Ghosting”: a pale aspect of the wound at the first dressing change. The suspicion could be that the graft has gone, but generally the basal layer is still present and is the source of epithelial cell growth. Re-assess the wound at the next dressing change
- Wound appearance may not be as pink as with STSG only.  
This is not an indication for poor vascularization, it represents the MatriDerm® matrix presence in the wound

These recommendations are designed to serve only as a general guideline, and are not intended to supersede institutional protocols or professional clinical judgment concerning patient care. Please also consult MatriDerm® instruction for use.

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