

Donor site morbidity of the different split thickness skin graft expansion techniques

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An autologous split-thickness skin graft (STSG) is frequently utilized for covering wounds that are either deep partial-thickness or full-thickness. The STSG is harvested from a donor area on the patient's own body, but this process creates a new wound at the donor site that the patient must manage alongside their primary injury.

In many cases the donor site of the STSG poses numerous problems for the patient. Often the donor site causes more pain than the grafted wound. It may also cause post operative hemorrhaging. The donor site may get infected. Patients may experience delayed or slow healing of the donor site. Especially in patients with potential wound healing problems (elderly, diabetes, corticosteroids use, vascular disease) this may cause an even bigger problem. Besides these complications, the donor site may leave an additional scar after healing.

Moreover, when the size of the STSG needed is relatively small, the STSG can be harvested in the vicinity of the recipient wound. The donor site and the recipient can then be treated in one dressing. In contrast to when a larger STSG is needed, and the patient must cope with two dressing due to the two wound sites. Moreover, in general patients appreciate that the scar of the recipient wound as well as the donor site are located on one area of the body instead of on separate areas.

To mitigate these challenges, it is crucial to keep the donor site as small as possible.

The effectiveness of the STSG expansion technique directly affects the size of the donor site; the more successful the expansion, the smaller the corresponding donor site. Research has demonstrated that the mesh technique may not provide precise expansion ratios, while the micrografting approach, which uses 3 x 3 mm grafts, consistently results in a true expansion ratio. Consequently, when grafting wounds of equivalent size with the same desired expansion ratio, the micrograft technique requires less skin tissue overall. This makes it the preferred method for procedures where minimizing donor site morbidity is of utmost importance.

In summary, patients experience significant advantages when utilizing a technique that achieves a true expansion ratio, leading to improved healing outcomes and reduced complications at the donor site.