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**Tissue-Engineered Skin Reconstructed Using Adipose Tissue-Derived Stem Cells and Keratinocytes on Irradiated Human Dermis from Tissue Bank**

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The standard protocol for wound care is the early excision of the necrotic tissue and the immediate coverage of the exposed connective tissue. In full-thickness skin wounds, both the epithelial and dermal layers are lost. These wounds heal by secondary intention, which is characterized by formation of granulation tissue followed by wound contraction and scar formation. Advances in tissue engineering provide an alternative approach, since the reconstruction of three-dimensional skin substitutes can be achieved and used in several wound healing therapeutic strategies. It is well known the role of keratinocytes in the repair of late epithelial wounds and ulcers, and recent studies also showed the capacity of adipose tissue-derived stem cells (ADSC) to differentiate into epidermis of ectodermal cells. In this study we used irradiated glycerol-preserved acellular dermis from tissue bank as support for the proliferation of human keratinocytes and ADSC. Our results show that the preserved acellular dermis can be used as permanent skin substitute for therapeutic chronic radiations injury.

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