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## Human Skin Allografts – More Than Just Dressings?

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### SUMMARY

The presentation will explore the evolving uses of allograft skin and its components. The adoption of more aggressive surgical practice enabled by the use of skin allografts sourced from budding skin banks, has possibly been one of the most important contributing factors towards improved burn survival rates. In the mid-90's, it became clear that early surgical burn excisions had a positive impact on patient survival; however, the ultimate success of this practice required the unavoidable need of effective wound closure alternatives. The acclaimed concept was that skin allografts could be used as efficient temporary dressings; by behaving as 'own tissue' until rejected within a fortnight, they would provide an efficient barrier, with consequent lessened volume loss, improved patient metabolism and resilience to infection. Further experience demonstrated that allograft skin was actually less inert than originally thought; rather, the process of initial graft revascularization ('take') preceding rejection, has a positive effect on wound bed conditions, ameliorating the inflammatory response, re-vascularization and even, spontaneous wound closure. The acceptance of this 'intelligent' role now expanded its use to diverse acute and chronic wound care. Furthermore, although the allograft epidermis would be inevitably rejected, within time, it became recognized that variable amounts of the transplanted dermal collagen had the potential to become definitively integrated to the wound bed, becoming an efficient scaffold for migrating autologous cells and neo dermis formation. The industry was soon to provide surgeons with de-cellularized allograft dermis, to be used as dermal matrix and in diverse reinforcement or protection roles. As the effectiveness of allo-dermis as a definitive matrix alternative became a given, the next stage was to explore its presence in diverse *in vitro* or *in vivo* dermo-epidermal constructs. Most recent initiatives investigate potential developments at bench level and in situ "skin 3D printing".