The use and outcome of donor skin allograft in the RBWH Burns unit.

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Cadaveric allograft has a proven role in temporary wound closure in complex burns. Prior to the creation of the Queensland Skin Bank (QSB), the Royal Brisbane and Women's Hospital (RBWH) had limited access and inconsistent supply of cadaver skin.

The first skin from the QSB to be used was applied in December 2011. The QSB procures skin from within 15 hours of death or 24 if refrigerated. The skin is disinfected and lubricated before freezing to <-40°C. Donors are screened for HIV, HepC, HTLVI, HTLVII and syphilis. Each piece of skin is tested and is found to be either regular – no growth or SAS if it cultures permissible organisms (requires non-TGA approved access on Special Access Scheme). Skin growing pathogenic organisms is destroyed.

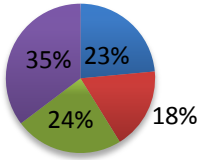
At the RBWH, the allograft is stored in a specific freezer in theatres and is thawed immediately prior to placement. We have conducted an audit of the first 31 cases (up until Oct 2012) to receive allograft from QSB.

The Queensland Skin Bank

INDICATIONS:

There are four broad indications for cadaver use at RBWH

1. **Burn (or wound) on an elderly or comorbid patient (patient factors) e.g. diabetics, AKI, meningococcal sepsis.**
2. **Infected or indeterminate depth of burn (wound factors including infection under Biobrane)**
3. **Large burn with inadequate area for autograft (to temporise while awaiting donors to regenerate.)**
4. **As a sandwich dressing over widely meshed autograft.**



% patients in each indication group

SUMMARY OF OUTCOMES

AMPLE SUPPLY
AVERAGE TAKE 84% *
1 DEATH
1 INFECTION OF ALLOGRAFT
NIL ADVERSE REACTIONS
NIL GRAFT UNUSABLE
NIL USE OF SAS (ONLY REGULAR USED)

*Towards the end of the study period a Skin Allograft Outcomes Record (SAOR) proforma was introduced which better tracks the outcome of the allograft. Of the 31 patients, 8 patients had an SAOR filled out. The largest graft failure had only 30% take in a non burn case where the allograft was used in the setting of meningococcal sepsis. The same patient had the only documented infection of the allograft.

Prior to the SAOR's the notes rarely quantified take, instead had positive comments like 'wounds good', 'excellent take' in 9 cases or less positive comments such as 'variable take' or '>50%' in 3. There was no comment on take in 11 cases.

The single death in this series was a patient with an airway and 1% facial burn who was burnt smoking on home oxygen.

Indication group	Number	gender	average age	Average LOS (days)	smallest burn (TBSA%)	largest burn (TBSA%)	average TBSA	average number of operations	average allograft area (cm2)	average cost of allograft	total cost for this indication
Deep burn with infected or dubious wound bed	8	5M, 3F	39	40	1%	62%	25%	4.5	3831	$14,117	$112,939
Large burn with inadequate donor site, temporary closure	6	4F, 2M	26	71	40%	70%	54%	10.0	6658	$24,722	$173,060
Large burn, allograft over auto sandwich technique	8	8M	32	70	40%	62%	53%	7.9	5888	$22,207	$177,658
Elderly comorbid patients	12	7M,5F	66	53	1%	40%	10%	4.2	1542	$5,702	$68,433

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Chua A, Song S, Chai A, et al. The impact of skin banking and the use of its cadaveric skin allografts for severe burn victims in Singapore, Burns 2004; 30(7): 696-700
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