

5<sup>th</sup> International Conference on  
**Advances in Skin, Wound Care and Tissue Science**  
&  
14<sup>th</sup> International Conference on **Clinical Dermatology**  
October 15-16, 2018 Rome, Italy

### **NovoSorb biodegradable temporising matrix (BTM) - A paradigm shift in burn care**

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**Introduction:** NovoSorb BTM is a completely synthetic, bilayer 'active' temporizer. It buys time for patient and surgeon to allow recruitment of resources for definitive closure whilst improving the wound bed for definitive closure.

**Methods/Results:** We had noticed consistently improved surgical course and outcomes in burn patients treated with BTM and subsequent skin grafting. However, we had not fully appreciated the differences side to side until the 13th patient. In this 29 year old with 71% TBSA burns, initial complete debridement on Day 0 was followed by 1:2 meshed split skin graft to the chest and abdomen 3 days post burn. With insufficient donor sites, BTM was applied to his limbs at the same time. On Day 38 (5 weeks later), 1:2 meshed graft was applied to the integrated BTM on Day 38. At 9 months, markedly reduced mesh pattern and a softer, more supple result where BTM was implanted, even better by a year. This finding changed our practice. The next two big burn patients had similar courses. A 150Kg man with 70% TBSA full thickness burns injury to bilateral hands, forearms, arms, chest, abdomen, posterior trunk, thighs and circumferential left leg underwent tangential excision on Day 0. BTM was applied to all wounds on Day 3. Four serial grafting operations occurred between Day 42 to Day 72. He was discharged to inpatient rehabilitation at Day 91 and went home (converted to outpatient rehabilitation) three weeks later.

**Conclusions:** A better functional and cosmetic result with delayed grafting on BTM at 5 weeks compared to early grafting on fat made us question the traditional wisdom of early wound closure at all costs. Additionally, if a delay is desirable, definitive closure using autologous composite cultured skin becomes a viable option, raising the possibility of not needing skin grafts at all for closure!

#### **Biography**

John Greenwood AM is an English-trained plastic surgeon who graduated from the University of Manchester in 1989 and now working full-time in burn care as the Medical Director of the Adult Burn Centre of the Royal Adelaide Hospital in Adelaide, South Australia. He has been developing skin replacement products, utilising the NovoSorb biodegradable polyurethane platform, since 2004. He was appointed Member of the Order of Australia (AM) following his work leading Australia's only Burns Assessment Team after the carnage of the 2002 Bali Bombings which killed 202 civilians. He was the 2016 South Australian of the Year.

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#### **Notes:**