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Adelaide burns treatment offers hope to millions

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ROYAL Adelaide Hospital burns unit director John Greenwood hopes to leave a legacy of healing burns victims worldwide through an innovative new treatment to replace traditional skin grafts.

Speaking at the AusBiotech Conference being held in Adelaide for the first time, Dr Greenwood revealed he was about to begin human trials on the two-step burns treatment.

It involves the clearing of the wound, followed by maintenance to prevent it from healing before a skin graft can take place.

“The first [step] is a biodegradable material that you can apply immediately as soon the burn has been removed,” Greenwood told Indaily.

He uses a biodegradable polyurethane, made by CSIRO spin off company PolyNovo in Melbourne, which acts a protective scaffold over the burn and fully integrates within 10 days, preventing the surface from developing scar tissue.

The current standard for treatment is a material called Integra made from bovine collagen and shark crondroitin.

“This product is a very good product but it is incredibly expensive,” Greenwood said.

“I am trying to produce a material that can be anywhere, so in Africa this will be affordable, in second and third world situations.

“The material Integra ... is so expensive, about \$5000 per A4 sheet, it is only ever used in the first world.”

The second step of Greenwood’s revolutionary treatment uses a 10cm piece of skin to “grow” larger sheets of skin in his lab, making it easier to treat badly burnt patients.

Traditional skin grafts require large strips of skin from other parts of the patient’s body, which is difficult in cases where more than 50 per cent of the body is burnt.

“It is quite resistant to infection which is a real problem with other commercially available products and it also works better than others in wound contraction.”

Greenwood said the treatment would be “significantly less expensive” than current treatment.

“At the moment in second and third world countries you simply cannot afford to treat those big burns.

“Very often those burns will be deemed non survivable or the patient dies anyway ... with this we may see big burn survival in austere environments increase.

“Too bloody right it will be great. I’ve seen 8000 patients in Adelaide, if I can help millions that is a bit better legacy.”

Bio Innovation SA chief executive Jurgen Michaelis said SA was a world leader in burns treatment.

“There is very good expertise and Professor Greenwood is one of the experts.

“The bio tech industry is doing well. It has on all accounts doubled or even tripled revenue per annum

since 2001 and is about \$285 million in revenue and about \$150 million export per year.”

Michaelis said the ongoing funding and support of research was vital to the industry.

“Today I spoke about the importance of research and how important it is to ensure universities have a good funding base and also use the generated intellectual property and turn it into industrial action.”