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Australia develops ground-breaking heart failure treatment using 3D-printed tissue

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New technology enables 'patches' of 3D printed tissue to be applied onto the surface of damaged hearts as a safer and more cost-effective alternative to heart transplants

Researchers from The University of Technology Sydney (UTS), Australia have demonstrated that 3D bioprinted heart tissues can safely and effectively help patients recover from damage caused by an extensive heart attack.

The tissues are created from cells that are isolated from the blood of the patient. The team can then 3D model the patient's heart and identify the damaged area, before applying the new 'patch' on the surface of the heart.

The bio-engineered patches promise to be safer, more consistent and cost-effective for the patient. Because this technology will enable patients to use their own stem cells to create the heart 'patches', not only can they potentially dramatically reduce the trauma and cost of a heart transplant, but also avoid hurdles such as a body rejecting donor tissues.

Further testing for long term effects of this technology are underway before researchers begin clinical trials.