

Ways to an engineered heart

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Despite advancement in pharmacological treatment there is no cure for chronic heart failure short of heart transplantation. This lecture will provide an introduction into heart failure pathogenesis and discuss emerging gene- and cell-based strategies for functional and structural regeneration of failing myocardium. Novel experimental and pre-clinical therapies range from genetically-targeted supplementation of native myocardium and engineered heart tissue to recellularization of whole heart biological scaffolds. It is expected that these strategies will most likely have the potential to change the landscape of future clinical heart failure therapy.