Cardioprotection: Bench to Bedside

Ischaemic heart disease is the leading cause of death and disability in Singapore and worldwide. As such novel treatment strategies are required to protect the heart against acute ischaemia/reperfusion injury (IRI) - this is essential and is required to preserve cardiac function and prevent the onset of heart failure. **We use a translational approach to cardioprotection with the identification of novel therapeutic targets at the laboratory ‘bench’ using pre-clinical models of acute IRI, and investigate their therapeutic potential in proof-of-concept clinical studies and multi-centre clinical outcome randomised controlled trials in the setting of cardiac bypass surgery and acute myocardial infarction (AMI).**

**Main research interests include:**
- Mitochondria as targets for cardioprotection
- Ischaemic conditioning – underlying signalling pathways and clinical application
- Effect of co-morbidities such as diabetes on cardioprotection
- Pre-clinical and clinical cardiac MRI and hybrid PET/MR studies to investigate the pathophysiology of acute IRI and assess cardioprotection in the setting of AMI and post-ischaemic heart failure.
- Clinical proof-of-concept and multi-centre outcome studies in cardiac surgery and AMI patients