

## Propositions

1. Radical and rational improvements in composition of cardiothoracic organ preservation solutions are pivotal to significantly improve *ex vivo* storage times. (this thesis)
2. To reduce the incidence and long-term risks of post-operative atrial fibrillation, anti-inflammatory prophylaxis should be implemented as standard of care in open-heart surgery. (this thesis)
3. Mitochondria-targeted therapy is a promising approach to optimize coronary artery bypass surgery outcomes after chronic myocardial ischemia. (this thesis)
4. Myocardial injection of stem cells is a safe, novel approach to prevent immunosensitization of recipients, which could be lifesaving in the case of a suitable graft becoming available. (this thesis)
5. As cardiac assist devices are increasingly used as destination therapy in heart failure, targeted nutritional management is crucial to improve long-term outcomes. (this thesis)
6. Assessment of mitochondrial integrity and functionality will markedly improve graft quality appraisal in cardiopulmonary transplantation.
7. As health care costs continue to rise each year, a return to the former Dutch insurance system of public ('ziekenfonds') and private ('ziektekostenverzekering') is inevitable.
8. Organ-on-chip technologies may reduce the number, but will never replace the role, of laboratory animals in medical research.
9. In studies on scarce and valuable human material, power calculation is overrated.
10. The enormous impact of the COVID-19 pandemic on virtually all aspects of modern society will redefine the field of medical ethics.

11. Hyperspecialization in medicine impedes a holistic view, thus posing a threat to optimal patient care.