

Machine Perfusion in Solid Organ Transplantation - Surgeons 'toys' or necessity to keep organs alive

A joint session of Abdominal and Cardiothoracic Transplant Surgeons

02/05/2026 10:30-12:30

Machine perfusion of solid organs such as kidneys, livers, hearts and lungs, aims to ameliorate ischemia related organ damage. It involves circulating a preservation solution through the organ to provide oxygen, nutrients, and remove waste products, simulating normal blood flow. There are two main types: hypothermic machine perfusion (HMP), which cools the organ to slow metabolic processes, and normothermic machine perfusion (NMP), which maintains the organ at around normal body temperature, allowing more active metabolic function and potentially better assessment of organ viability. This session aims to discuss currently used machine perfusion concepts in general and specifically in the context of joint organ retrieval.

10:30-10:45 Post explant machine perfusion of liver

Speaker: *Arul Suthanathan*, Perth

Content: Evidence and contemporary practice in post explant machine perfusion of liver, technical challenges, pitfalls and outcomes

10:45-11:00 Post explant machine perfusion of kidneys

Speaker: *Bulang He*, Melbourne

Content: Management of post explant kidney perfusion, lessons learned and limitations to overcome

11:00-11:15 Abdominal and thoracoabdominal NRP & organ transplantation – the UK expertise

Speaker: *Hassiba Smail*, Papworth, UK

Content: Abdominal and thoraco-abdominal normothermic regional perfusion (NRP) of abdominal and thoracic organs reverses ischemia related organ damages. The complex retrieval process is demanding to surgical teams and raises potential ethical limitations currently banning all kind of NRP in Australia. This presentation will highlight the UK experience of NRP.

11:15-11:30 Discussion

11:30-11:45 Normothermic perfusion of the heart using OCS in DBD & DCD - current practice or history to be?

Speaker: *Ulrich Stock*, Perth

Content: DCD heart donation was initiated with normothermic perfusion. This presentation will discuss the different perfusion concepts in DCD and DBD heart transplantation.

11:45-12:00 Cold perfusion of the heart using XVIVO HOPE

Speaker: *Agneta Geldenhuys*, Perth

Content: Evidence of current hypothermic heart perfusion of hearts in DBD and DCD transplantation.

12:00-12:15 Ex vivo lung perfusion

Speaker: *Hassiba Smail*, Papworth, UK

Content: Evidence of contemporary ex vivo lung perfusion to extend the donor pool and increase lung transplantation.

12:15-12:30 Discussion

Keeping It Together: Sternum, Ribs, and Circulation Under Fire

A conjoint session of Trauma and Cardiothoracic Surgeons

02/05/2026 15:30-17:30

Chest trauma is one of the most challenging arenas where trauma surgery and cardiothoracic surgery intersect. From emergency thoracotomy to complex sternal reconstruction, management requires both decisive action and technical mastery. This conjoint session brings together experts from both specialties to explore contemporary operative strategies across the spectrum of chest injury. Topics include resuscitative thoracotomy, operative repair of cardiac trauma, the emerging role of VATS in selected patients, rib fixation and chest wall stabilisation, and lessons from post-cardiac surgery sternal reconstruction translated into trauma. The session concludes with extracorporeal life support as an evolving adjunct in thoracic trauma. By combining trauma and cardiothoracic expertise, this program aims to highlight practical surgical decision-making, share cross-specialty insights, and define future directions in collaborative care. The session will provide both trainees and senior surgeons with high-yield, clinically relevant lessons in managing injuries where seconds count and survival depends on surgical precision.

15:30-16:00 Resuscitative Thoracotomy in 2025: Indications, Outcomes, and Training

Speaker: *Juan Duchesne, FACS, Head of Trauma Surgery, University of Mississippi (USA)*

Content: Evidence and contemporary practice in resuscitative thoracotomy; operative pearls and pitfalls; simulation and training requirements for non-cardiothoracic surgeons.

16:00-16:15 Cardiac Injury in Trauma: Repair and Reconstruction

Speaker: *Agneta Geldenhuis FRCS Cardiothoracic Surgery, Fiona Stanley Hospital, WA*

Content: Management of penetrating and blunt cardiac trauma, tamponade, coronary involvement, intraoperative challenges, and outcomes.

16:15-16:30 VATS in Trauma: Indications, Limitations, and Expanding Roles

Speaker: *Josh Goldblatt, FRCS, Cardiothoracic Surgery, Fiona Stanley Hospital, WA*

Content: Use of video-assisted thoracoscopic surgery in trauma: haemothorax evacuation, diaphragm assessment, management of air leaks, and selected penetrating injuries.

16:30-16:45 Rib Fixation and Chest Wall Stabilisation: Current Indications and Techniques

Speaker: *Jeremy Hsu, FRACS, Director of Trauma Westmead Hospital, NSW*

Content: Evidence for rib plating, patient selection, operative approaches, implants, and post-op outcomes.

16:45-17:00 Sternal Trauma and Complex Reconstruction

Speaker: *Ulrich Stock FRCS, FRACS Cardiothoracic Surgery, Fiona Stanley Hospital, WA*

Content: Management of sternal fractures, dehiscence, and combined rib–sternal injuries; lessons from post-cardiac surgery repair translated into trauma.

17:00-17:30 ECMO and ECLS in Thoracic Trauma: When and How?

Speaker: *Chris Allen FRACP, FCICM Critical Care, Fiona Stanley Hospital, Perth, WA*

Content: Role of extracorporeal support in thoracic trauma patients with refractory hypoxia or circulatory collapse; system requirements and patient outcomes.

17:15-17:30 Discussion

ASC Thoracic Surgery Program (Sunday, 3 May):

Sunday, 3 May: (1030am-1230pm) – Anatomical Segmentectomy (Chaired: Agneta Geldenhuys and Pragnesh Joshi)

1030am - 1100am: Complex basal segmentectomy: Tips, Tricks and Pitfalls – Miguel Guzman (SCGH, Perth)

1100am - 1130am: 3D Planning for anatomical segmentectomies – Ilies Bouabdallah (Marseille, France)

1130am – 1145am: Localising lesions for complex segmentectomy or GGOs – Josh Goldblatt (FSH, Perth)

1145am – 1210pm: It's all about the 'margin': what to do if <2cm margin – Stephen Barnett (Austin, Melbourne)

1210pm – 1230pm: Panel discussion – Segment or Lobe (case-based discussion)

Sunday , 3 May: (1330-1530pm) – Robotic Thoracic Surgery Session (Chaired: Philipa Bowers and James Edelman)

1330pm – 1400pm: Robotic surgery in the neo-adjuvant era – Steven Barnett (Ausitn, Melbourne)

1400pm – 1430pm: Updates in robotic thoracic surgery, what is next? – Ilies Bouabdallah (Marseille, France)

1430pm – 1450pm: Oncology updates – what's on the horizon? Lydia Warburton (FSH, Perth)

1450pm – 1510pm: Robotic segmentectomy - Ilies Bouabdallah (Marseille, France)

1510pm – 1530pm: Panel Discussion: Neoadjuvant OR not? Lydia/Steve

Saturday Morning – Fiona Stanley Hospital

- Proctored subxiphoid thymectomy

Saturday Night Dinner – Device Technologies Sponsored

- Subxiphoid approach to robotic thymectomy by Ilies Bouabdallah