



# PIE

## **Practical Intermediate Echocardiography for Critical Care** *Penrith, NSW*

**Date:** 22-23 March 2025

**Where:** Astina Suites, Penrith, NSW

**Cost:** AUD1,750 (early bird) (AUD1,900 after 22 February 2025)

### **Faculty**

- Prof Anthony McLean
- Ms Iris Ting
- Mr Keren Mowbray
- Prof Stephen Huang
- Dr Vijeth Bhat

### **Organisers**



### **Contact:**

#### **Conference secretary**

Ms Lisa Deaman  
secretary@niccer.asn.au

#### **Registration:**

<https://niccer.asn.au>



### **Introduction**

PIE is a new transthoracic echocardiography (TTE) course targeting at more experienced or advanced practitioners. This course is particularly useful to:

- practitioners who are already performing basic level echo but would like to advance their skills and apply Doppler echo in their studies
- practitioners who are already performing Doppler echo but want to perfect their Doppler skills or want to learn more on assessments using proper Doppler measurements
- Practitioners who want to prepare for advanced critical care echocardiography qualifications (e.g. EDEC, DDU).

The course objective is to equip practitioners with the skills to properly assess cardiac function and haemodynamics in patients who are critically ill. There is a well balance of didactic lectures and hands-on practice in this course, and aims to fill the “gap” between basic and advanced critical care echo.

### **Course content**

The course covers basic principles and clinical topics, with the emphasis on Doppler assessment. Topics\* may include:

- Basics principles:
  - *Revisiting anatomy and views in TTE, and probe navigation*
  - *Principles of Doppler & tissue Doppler*
  - *Cardiac output measurements by Doppler*
  - *The Bernoulli's equation and assumptions*
  - *Pulmonary artery pressure estimations*
  - *Tissue Doppler and applications*
  - *Mean pressure gradient, pressure half-time, and their applications in valvular assessments*
  - *The continuity equation and its applications*
  - *Assessing LV filling pressures*
  - *Different types of dynamic LV outflow obstructions*
  - *Pitfalls of Doppler measurements*
- Case studies on Doppler applications in various clinical scenarios.

\*Decided by local organiser

### **Who should attend?**

Participants who **attended a basic level echo course**, e.g. RACEplus. We recommend you should have **performed at least 30 basic level TTE studies** or are comfortable in getting the standard TTE views.

### **Reference material (not included)**

McLean, Huang & Hilton (eds) *Oxford Textbook of Advanced Critical Care Echocardiography*, Oxford University Press, Oxford.



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## Tentative program

### Day 1

- 0845 Welcome and introduction  
0900 Probe navigation in TTE views  
0930 Hands-on warm-up: Probe navigation in TTE views  
**1030 Morning break**  
1050 Lectures:  
    Doppler principles  
    Cardiac output measurement  
1145 Hands-on: Colour Doppler and CO measurements  
**1245 Lunch**  
1330 Lectures:  
    Pulmonary artery pressure estimation  
    Tissue Doppler principles and measurements  
1415 Hands-on: PAP estimation and tissue Doppler  
**1515 Afternoon break**  
1530 Mean PG and pressure half-time  
1600 Hands-on: mean PG and PHT  
1645 Q & A  
1700 Finish

### Day 2

- 0900 Pitfalls in haemodynamic measurements  
0945 Hands-on:  
    Revisiting CO, PASP and tissue Doppler  
**1030 Morning break**  
1045 Continuity equation and applications  
    - aortic stenosis: effective orifice area  
    - regurgitation volume / fraction  
    - Septal defects:  $Q_p:Q_s$   
1115 Hands-on: Continuity equation  
**1215 Lunch**  
1300 Assessing LV filling pressures  
1330 Hands-on: LV filling pressures  
    -  $E/A$ ,  $e'$ ,  $E/e'$ , TR velocity or PASP, LAV  
1440 Dynamic outflow obstruction  
**1515 Afternoon break**  
1530 Fun with Doppler quiz  
1600 Case studies  
1650 Q&A  
1700 Finish