PIE

Practical Intermediate Echocardiography for Critical Care

Singapore

Date: 16-17 August 2027
Where: Tan Tock Seng Hospital, Singapore
Cost: AUD1,150 (working in Singapore)
[1]Participants NOT working in Singapore and from
- high income countries AUD1,750
- upper middle income countries AUD650
- lower middle to low income countries AUD300

*Supported by Tan Tock Seng Hospital.
[1]Places are limited. Definitions of income status defined by *The World Bank*.

Faculty

- *Chew Si Yuan, Singapore*
- *Chia Yew Woon, Singapore*
- *Sandra Hui, Singapore*
- *Stephen Huang, Sydney*
- *Other senior trainers*

Organizer

- *Tan Tock Seng Hospital*

and

https:// niccer.asn.au

Contact:

Conference secretary
Ms Lisa Deaman
secretary@niccer.asn.au

Registration:

https:// niccer.asn.au

Introduction
PIE is a transthoracic Doppler echocardiography course targeting at more experienced or advanced practitioners,

- who are **already performing basic level echo** but would like to **advance their skills and apply Doppler echo** in their daily practice
- who are already **performing Doppler echo** but want to **perfect their Doppler skills** or want to learn more on **principles of Doppler assessments**
- 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, and aims to fill the "gap" between basic and advanced critical care echo. There is a well balance of didactic lectures and hands-on practice in this course.

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

- *Principles of Doppler & tissue Doppler*
- *Pitfalls of Doppler measurements*
- *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 function with Doppler*
- *Assessing LV filling pressures*
- *Different types of dynamic LV outflow obstructions*

**Note that not all topics are offered due to time limitation. Suitable topics will be decided by the local organizer in discussion with the PIE team.*

Pre-requisites
Participants should have

- **attended a basic level echo course**, *e.g.* RACE*plus*, and
- have **performed at least 30 basic level TTE studies** *or are comfortable in getting the standard TTE views.*

Registration fee
Please note that this course is intended for doctors working in Singapore, and only a limited number of places are available for doctors working elsewhere.

Reference material *(not included)*
McLean, Huang & Hilton (eds) *Oxford Textbook of Advanced Critical Care Echocardiography*, Oxford University Press, Oxford.

PIE

Practical Intermediate Echocardiography for Critical Care

Singapore

Tentative Program

Faculty

- *Chew Si Yuan, Singapore*
- *Chia Yew Woon, Singapore*
- *Sandra Hui, Singapore*
- *Stephen Huang, Sydney*
- *Other senior trainers*

Organizer

- *Tan Tock Seng Hospital*

and

https:// niccer.asn.au

Contact:

Conference secretary
Ms Lisa Deaman
secretary@niccer.asn.au

Registration:

https:// niccer.asn.au

Day 1	
0900	Welcome and introduction
0915	Probe navigation in TTE views
0935	Hands-on Task 1: Warm-up probe navigation in TTE views
1030	***Morning break***
1050	Doppler principles
1120	Cardiac output measurement
1145	Hands-on Task 2: Colour Doppler and CO measurements
1245	***Lunch***
1330	*Pulmonary artery pressure estimation*
1415	Hands-on Task 3: PAP estimation and tissue Doppler
1500	***Afternoon break***
1515	Lecture: Mean PG and pressure half-time
1545	Hands-on Task 4: mean PG and PHT
1630	Q & A
1700	Finish

Day 2	
0900	Lecture: Pitfalls in haemodynamic measurements
0940	Hands-on: Revisiting CO, PASP and tissue Doppler
1030	***Morning break***
1045	Continuity equation and applications - *aortic stenosis: effective orifice area* - *regurgitation volume / fraction*
1110	Hands-on Task 5: Continuity equation
1200	***Lunch***
1240	Tissue Doppler principles and measurements
1300	Assessing ventricular function by Doppler
1330	Hands-on Task 6: TDI and Doppler in LV systolic function - *S', MPI, dP/dt*
1415	Assessing LV filling pressures
1500	***Afternoon break***
1515	Hands-on Task 7: LV filling pressures - *E/A, e', E/e', TR velocity or PAP, LAV* - *IVRT/$T_{E\text{-}e'}$*
1615	Dynamic outflow obstruction
1645	Conclusion
1700	Finish