

# PREPARING FOR YOUR FIRST DAY IN CARDIAC THEATRES

# GENERAL INFORMATION

- East wing theatres at STH
- Thoracics at Guy's
- Cardiac patients admitted to Doulton/Becket - East Wing - day before surgery
- Brief at 740am in anaesthetic room
- Realistically this will mean a 7am start!
- We acknowledge that 5 days of this is tiring so compensatory time off is given if you stay after 5pm

# WHAT DO WE DO?

- Coronary Artery Bypass Grafts (CABG) : On Pump or Off Pump
- Valve repair / replacement surgery : Aortic, Mitral, Tricuspid, Pulmonic
- Aortic surgery: Ascending, root, arch, descending
  - Procedures in conjunction with vascular surgery
    - Thoracoabdominal aortic aneurysm repair
    - Endovascular aortic arch repair
- GUCH
- TAVI, mitraclip, PFO/ASD closure
- AF/VT ablations, pacemakers, lead extractions

# PRE OPERATIVE ASSESSMENT

- Role is to identify things that will modify your anaesthetic technique
- Identifying risk factors or red flags
- Begin to understand that not all patients with AS, MR or coronary artery disease are equal
- Stratify risk mainly based on story, medications, and echocardiography

# PRE OPERATIVE ASSESSMENT

- History - SOB, chest pain, functional limitation, admissions with pulmonary oedema? How are symptoms managed?
- Examination (??) - end of the beddogram
- Investigations - FBC, renal and liver profile, clotting
- Medications
- Imaging - TTE, angiography, CT scan
- Pre medication - rarely
- Things to tell theatre - allergies, height and weight
- Things to tell the patient - process, ICU, TOE risks (1:2000 oesophageal perforation)

# MEDICATIONS

- **Antiplatelets agents**
  - Aspirin - may be continued
  - Clopidogrel - stopped > 5/7 pre op
  - Ticagrelor/similar if they've come from the cath lab acutely
- **Beta blockers**
  - Continue !
- **Heart failure medications - symptom management**
  - Diuretics
  - ACEi/ARB
- **Medications, in particular those for heart failure -will give you a clue as to how tricky the patient will be**  
- if a patient with MR needs 120mg of furosemide per day to prevent pulmonary oedema expect trouble!


# IMAGING AND TESTS

- **Echocardiography**
  - **Ejection fraction - useless in severe MR**
  - **Ventricular size**
  - **Wall thickness**
  - **Associated problems - eg. functional MR in severe AS**
- **CT scanning**
  - **Redo surgery - to assess risks of reopening**
  - **Coronary CT**
- **MRI - cardiac MRI, infiltrative disorders**
- **Coronary angiography - beware ostial / 'left main stem' coronary disease**

# SCORING SYSTEMS

- As anaesthetists we don't really use
- Euroscore used for surgical benchmarking

**Important:** The previous additive <sup>1</sup> and logistic <sup>2</sup> EuroSCORE models are out of date. A new model has been prepared from fresh data and is launched at the 2011 EACTS meeting in Lisbon. The model EuroSCORE II <sup>3</sup> - this online calculator has been updated to use this new model. If you need to calculate the older "additive" or "logistic" EuroSCORE please visit the old calculator by [clicking here](#)

Patient related factors			Cardiac related factors		
Age <sup>1</sup> (years)	<input type="text" value="0"/>	<input type="text" value="0"/>	NYHA	<input type="text" value="select"/>	<input type="text" value="0"/>
Gender	<input type="text" value="select"/>	<input type="text" value="0"/>	CCS class 4 angina <sup>8</sup>	<input type="text" value="no"/>	<input type="text" value="0"/>
Renal impairment <sup>2</sup> <i>See calculator below for creatinine clearance</i>	<input type="text" value="normal (CC &gt;85ml/min)"/>	<input type="text" value="0"/>	LV function	<input type="text" value="select"/>	<input type="text" value="0"/>
Extracardiac arteriopathy <sup>3</sup>	<input type="text" value="no"/>	<input type="text" value="0"/>	Recent MI <sup>9</sup>	<input type="text" value="no"/>	<input type="text" value="0"/>
Poor mobility <sup>4</sup>	<input type="text" value="no"/>	<input type="text" value="0"/>	Pulmonary hypertension <sup>10</sup>	<input type="text" value="no"/>	<input type="text" value="0"/>
Previous cardiac surgery	<input type="text" value="no"/>	<input type="text" value="0"/>	Operation related factors		
Chronic lung disease <sup>5</sup>	<input type="text" value="no"/>	<input type="text" value="0"/>	Urgency <sup>11</sup>	<input type="text" value="elective"/>	<input type="text" value="0"/>
Active endocarditis <sup>6</sup>	<input type="text" value="no"/>	<input type="text" value="0"/>	Weight of the intervention <sup>12</sup>	<input type="text" value="isolated CABG"/>	<input type="text" value="0"/>
Critical preoperative state <sup>7</sup>	<input type="text" value="no"/>	<input type="text" value="0"/>	Surgery on thoracic aorta	<input type="text" value="no"/>	<input type="text" value="0"/>
Diabetes on insulin	<input type="text" value="no"/>	<input type="text" value="0"/>			
EuroSCORE II <input type="text" value="EuroSCORE II"/>		<input type="text" value="0"/>			
 Note: This is the 2011 EuroSCORE II		<input type="button" value="Calculate"/> <input type="button" value="Clear"/>			



# PRE OP PREPARATION

- Blood products?
  - Elective CABG - G+S only
  - 2 RBC for everything else
  - 4-6 RBC for redo, endocarditis, redo, double valves, aortic work requiring DHCA
  - Platelets as above plus if active anti platelet agents
  - 15-20ml/kg FFP
  - 2 cryo
  - Irradiated blood needed if Hodgkin's lymphoma etc

# PRE OPERATIVE PREPARATION

- **Drugs**
  - Will take some time to draw them all up initially
  - Each anaesthetic room contains a folder with each consultant's preferences
- **TOE - ODP will prep the probe**
- **Pacing box**
- **Defib**

\* Dermol lotion if he has cycled in for his face  
and hands \*

\* salt and vinegar crisps \* \* coffee  
milk

Mike Shaw - 07966 949504

Induction Drugs

- Midazolam 5mg
- Fentanyl 1000mcg 20ml syringe
- Propofol 100mg in 10ml syringe
- (Etomidate 20mg if emergency tamponade case and no arterial line)
- Pancuronium 12mg

Other drugs

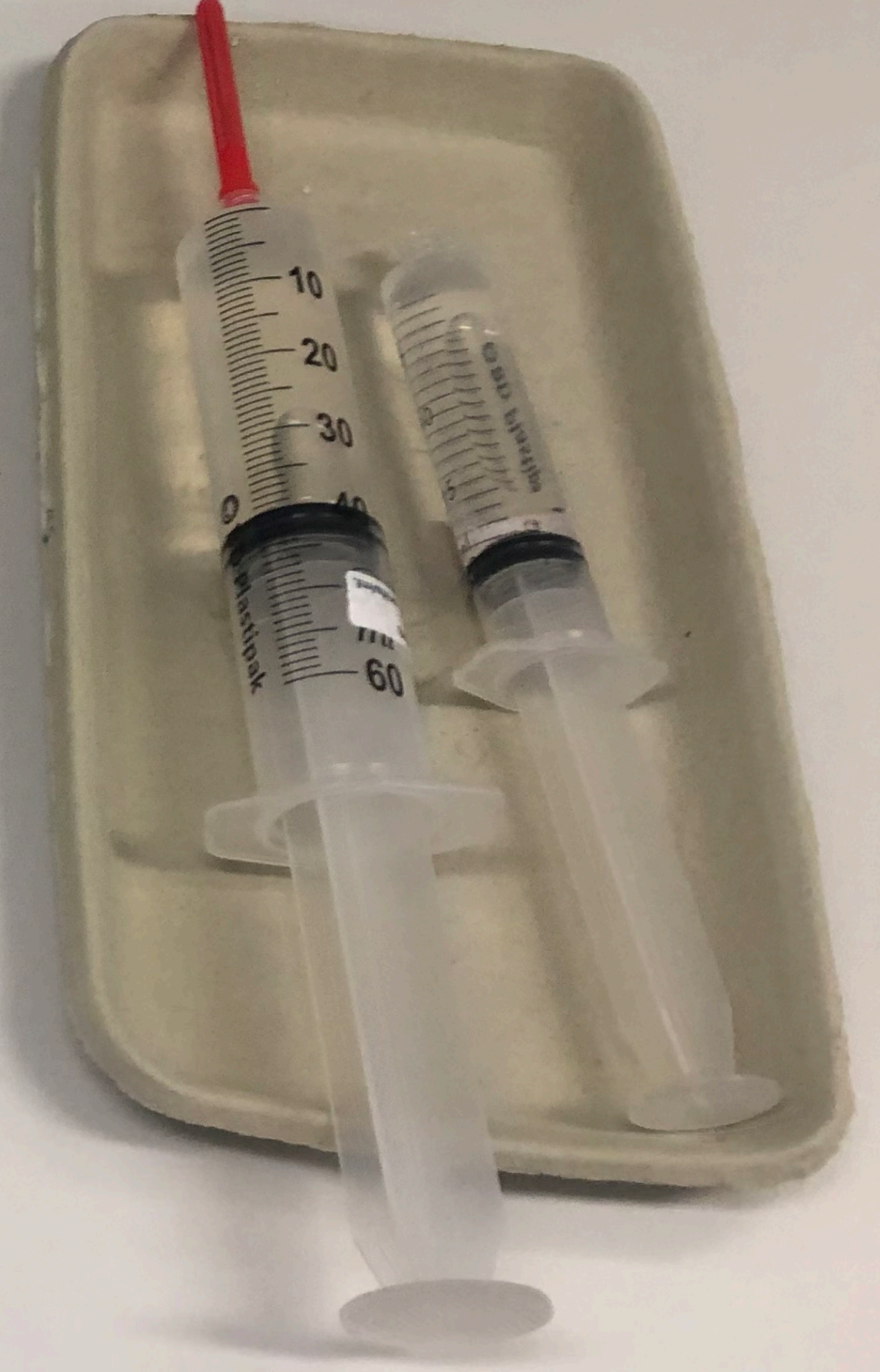
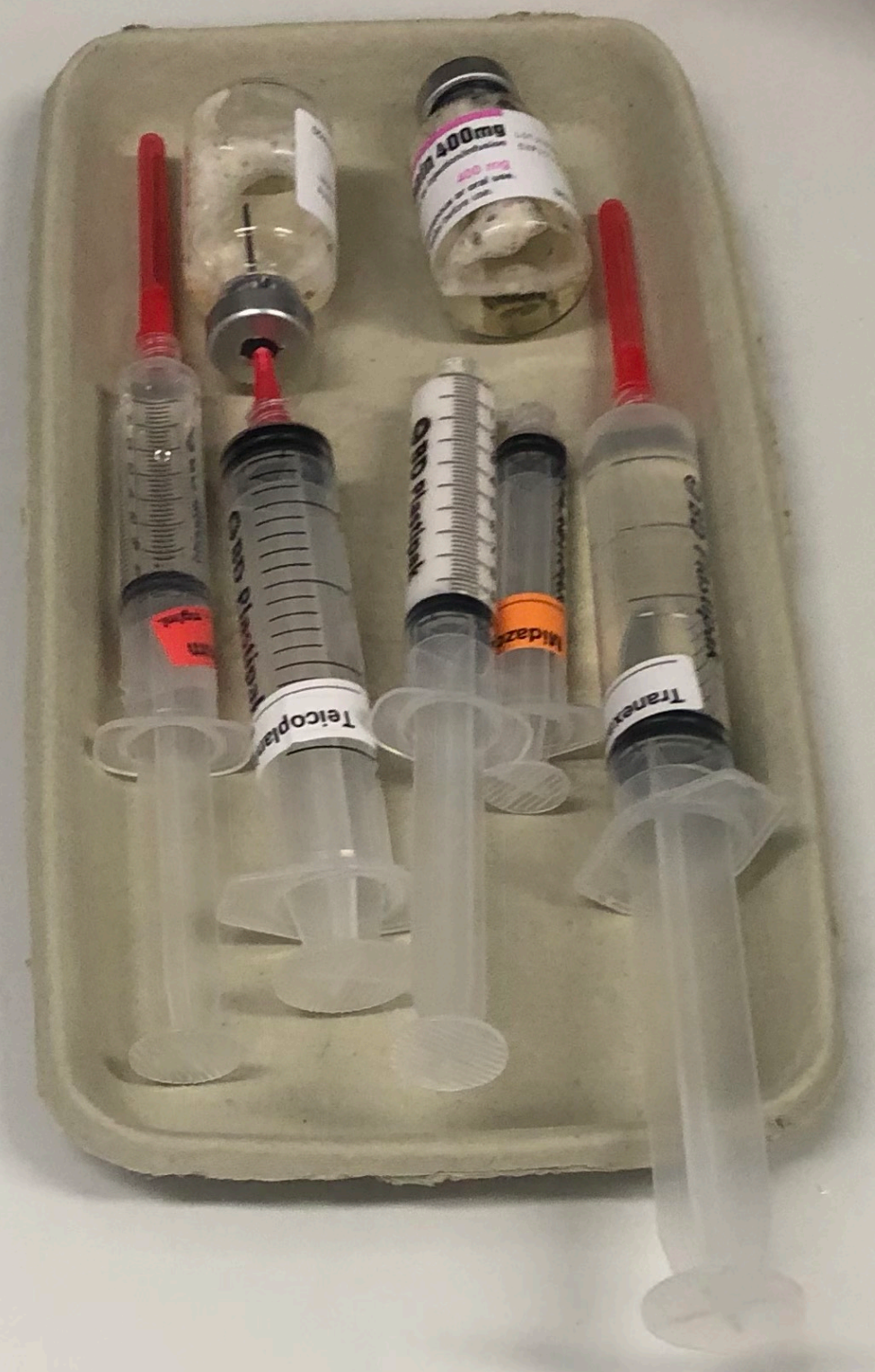
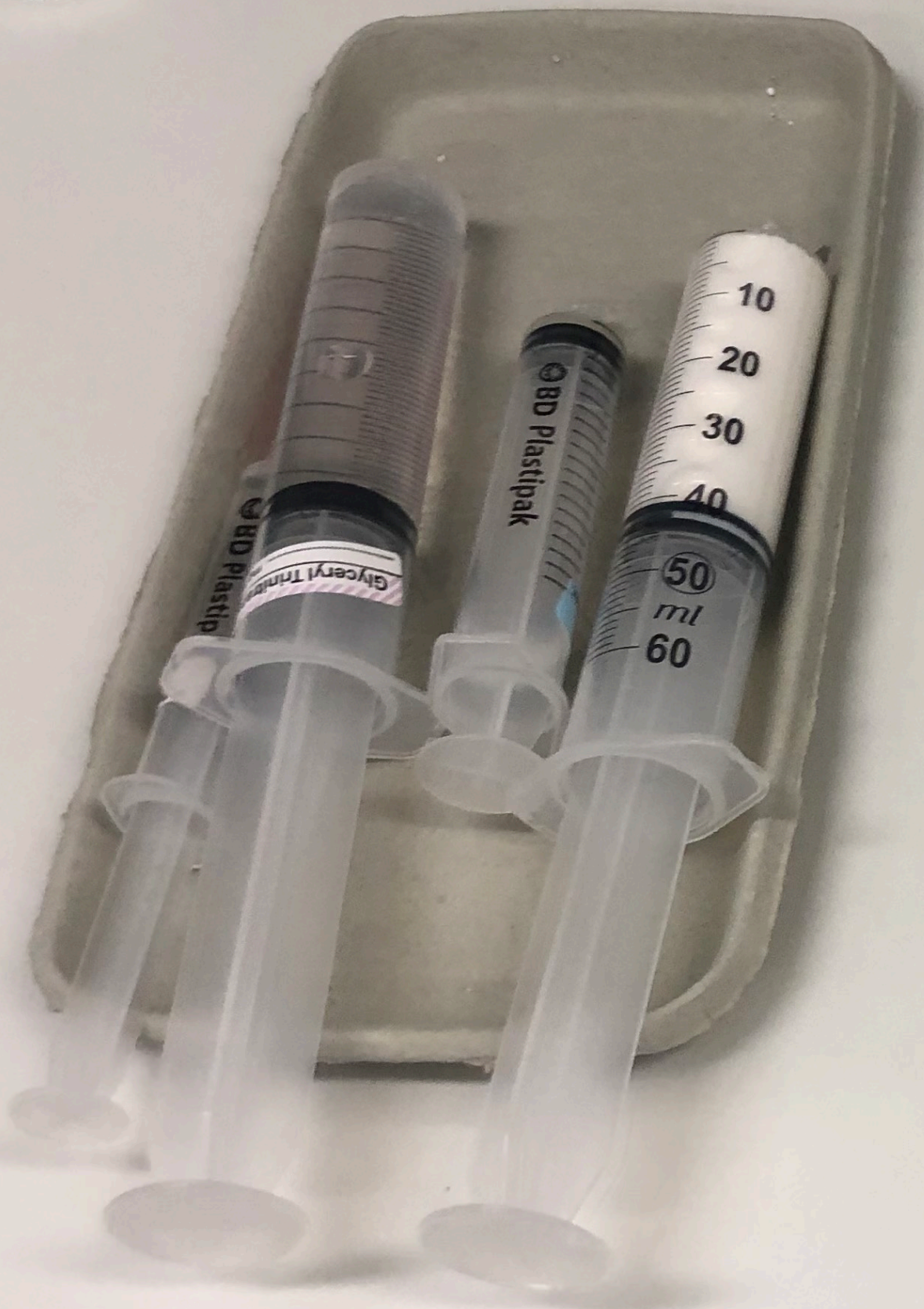
- Tranexamic acid 2g
- Heparin 40K in 50ml syringe
- Teicoplanin 800mg in 20ml water
- Gentamicin - neat.
- Propofol 1% in 50ml syringe
- GTN 50mg in 50ml syringe

Emergency drugs

1 syringe \*

\* 7000 1000

19G



# PRE OPERATIVE BRIEFING

- Usually early - 740am
- Surgeon - operation, concerns/technical difficulties, conduits for CABG etc
- Anaesthetist and ODP - specific patient concerns or monitoring requirements
- Perfusionist - cannula size, cooling, cardioplegia routes
- Nursing staff - sutures, valve types and size, instruments

# ARRIVAL IN THE ANAESTHETIC ROOM...

- Sign in
- Peripheral line, midazolam, arterial line
- External Defibrillation pads if indicated : Redo surgery, minimal access surgery, left main stem coronary disease
- Induction of Anaesthesia + intubation
  - Fentanyl 250 mcg - 1000 mcg
  - Propofol 10-50mg, Etomidate/Thiopentone
  - Muscle relaxant - Pancuronium 8-12mg/Rocuronium
- Antibiotics - Teicoplanin/cefuroxime, gentamicin. Endocarditis patients will have specific regimen.
- Urinary catheter and temperature probe
- TOE insertion - indicated except in elective CABG with good LV function



- **Central venous access:**
  - **4/5 lumen CVC RIJV**
  - +/- introducer sheath if poor access/expectation of bleeding++
  - Vas-cath if creatinine > 150-200
  - Pulmonary artery catheter - unusual now - but useful if very poor LV, VSD repair, major aortic work



**THEN INTO THEATRE!**