Australian and New Zealand Board of Perfusion

100 Case Evaluation

Hospital		**Case Type**	
Trainee Name			
Supervisor Name			
Date of Assessment			

Competency Standard/s	PATIENT INFORMATION	Scale (1 – 10) Please Circle
1.1.a 1.4.b 1.6.a	Reviews patient history and obtain necessary data to identify patient requirements and prepare a clinically appropriate patient-specific perfusion plan.	1 2 3 4 5 6 7 8 9 10
1.1.b	Applies calculations to correctly perform perfusion calculations including BMI, BSA, flow calculations and cannulae sizing.	1 2 3 4 5 6 7 8 9 10
1.1.d	Identifies risk factors or conditions that may affect the perfusion plan.	1 2 3 4 5 6 7 8 9 10
1.1.e 1.3.b	Completes accurate perfusion data management entries and accurately record patient details/data	1 2 3 4 5 6 7 8 9 10
1.3.a	Understands and complies with responsibility about patient confidentiality and data privacy.	1 2 3 4 5 6 7 8 9 10
5.2.a	Follows patient identification procedures to confirm the correct match of the patient with the intended procedure by avenues such as team time out.	1 2 3 4 5 6 7 8 9 10
Comments		

Competency Standard/s	COMMUNICATION AND COLLABORATION	Scale (1 – 10) Please Circle
1.4.c	Consults effectively with surgeons/anaesthetists/team throughout.	1 2 3 4 5 6 7 8 9 10
2.2.d	Actively seeks advice and discusses considerations/techniques for the case with the supervisor.	1 2 3 4 5 6 7 8 9 10
2.2.a	Understands, acknowledges and respects the roles of the members of the multidisciplinary team, and communicates/collaborates to deliver safe and competent patient care.	1 2 3 4 5 6 7 8 9 10
2.2.d	Provides timely verbal communication	1 2 3 4 5 6 7 8 9 10
1.7.g	Accurately records patient information and perfusion interventions.	1 2 3 4 5 6 7 8 9 10
3.1.g	Exercise appropriate levels of autonomy and professional judgement in the context of team-based practice.	1 2 3 4 5 6 7 8 9 10
Comments		

Competency Standard/s	EQUIPMENT SELECTION/SETUP	Scale (1 – 10) Please Circle
1.2.a	Applies the knowledge of anatomy, physiology, pathophysiology, biochemistry, haematology, pharmacology and physics, in perfusion planning, equipment selection and clinical decision making	1 2 3 4 5 6 7 8 9 10
1.2.b	Identifies anatomical structures/physiological processes of a patient and understands procedure being performed, and how this will affect their perfusion plan and equipment choice.	1 2 3 4 5 6 7 8 9 10
1.2.d	Selects the appropriate pump and perfusion technology, and other equipment relevant to the patient care plan.	1 2 3 4 5 6 7 8 9 10
1.4.c 1.5.b	Consults effectively with surgeons/anaesthetists and make necessary adjustments to equipment to adapt the perfusion plan accordingly.	1 2 3 4 5 6 7 8 9 10
1.6.b	Performs set up using aseptic and sterile techniques.	1 2 3 4 5 6 7 8 9 10
1.9	Prepares pharmacological agents, priming solutions, cardioplegia solutions.	1 2 3 4 5 6 7 8 9 10
1.6.b	Performs correct priming techniques to ensure deaired circuit.	1 2 3 4 5 6 7 8 9 10
1.5.c 1.6.b	Performs and completes procedural and equipment safety checklists/checks, ensures availability of backup safety equipment (ie hand cranks) and understands the importance of such checks.	1 2 3 4 5 6 7 8 9 10
Comments		

Competency Standard/s	INITIATION OF BYPASS	Scale (1 – 10) Please Circle
1.6.d	Verifies the integrity and the safety of the circuit and associated equipment prior to the initiation of bypass.	1 2 3 4 5 6 7 8 9 10
1.6.d	Understands and acknowledges requirements prior to the initiation of bypass (ie. anticoagulation, safety equipment such as level/air detectors)	1 2 3 4 5 6 7 8 9 10
1.6.c	Applies knowledge of initiation and control of procedure.	1 2 3 4 5 6 7 8 9 10
1.6.c	Communicates clearly with the team throughout the initiation phase.	1 2 3 4 5 6 7 8 9 10
1.6.c	Establishes the adequate/calculated blood flow and gas flow.	1 2 3 4 5 6 7 8 9 10
1.6.e	Recognises and takes timely action to respond to any events that arise during the initiation phase that could contribute to the adequacy of perfusion (ie. inadequate venous return, airlock, blood appears dark, high arterial line pressure)	1 2 3 4 5 6 7 8 9 10
Comments		

Competency Standard/s	CONDUCT OF BYPASS	Scale (1 – 10) Please Circle
1.8.a	Applies knowledge and skills to operate HLM and associated equipment.	1 2 3 4 5 6 7 8 9 10
1.8.d 1.6.b	Applies knowledge and skills to analyse haemodynamic data and correctly respond to changing patient parameters.	1 2 3 4 5 6 7 8 9 10
1.6.d	Applies knowledge and skills to deliver, monitor and ensure adequacy of myocardial protection.	1 2 3 4 5 6 7 8 9 10
1.8.e	Applies knowledge and skills to monitor and respond to blood analysis and coagulation analysis results.	1 2 3 4 5 6 7 8 9 10
1.8.b 1.9.d 1.9.c	Applies knowledge and skills to prepare/administer pharmacological agents safely and effectively, with knowledge of pharmacokinetics, pharmacodynamics, risks, precautions and contraindications.	1 2 3 4 5 6 7 8 9 10
1.6.b	Appropriately and correctly responds to changing patient parameters.	1 2 3 4 5 6 7 8 9 10
1.6.c	Adjusts perfusion to the surgical requirements (ie, temperature, volume, MAP, flow)	1 2 3 4 5 6 7 8 9 10
2.2	Interprets, responds and communicates any relevant data and changes to the team (i.e. line pressure, venous return, ischaemic time)	1 2 3 4 5 6 7 8 9 10
1.6.g	Accurately records perfusion information and interventions made.	1 2 3 4 5 6 7 8 9 10
1.6.c	Responds appropriately to changes in patient status, and makes adjustments to the bypass conduct (ie responds to hypotension, with increase in flow or pharmacological agents)	1 2 3 4 5 6 7 8 9 10
1.8	Understands and responds appropriately to various alarms.	1 2 3 4 5 6 7 8 9 10
Comments		

Competency Standard/s	WEANING FROM BYPASS	Scale (1 – 10) Please Circle
1.6	Understands and verifies the requirements for weaning of bypass (i.e. patient temperature, volume status, pressure, electrolytes, acid-base status, ventilator status, ECG and rhythm/rate, pacemaker)	1 2 3 4 5 6 7 8 9 10
1.6	Manages the volume in accordance to the patients filling pressure and haemodynamic status.	1 2 3 4 5 6 7 8 9 10
1.6	Weans from bypass in a controlled and organised manner.	1 2 3 4 5 6 7 8 9 10
1.6	Ensures the appropriateness of equipment/disposables (eg. VAVD off, clamping lines, shunts closed)	1 2 3 4 5 6 7 8 9 10
1.4.c	Appropriately and clearly communicates with team throughout the weaning phase.	1 2 3 4 5 6 7 8 9 10
1.6.j	Once off bypass, continues to monitor the patient's status, anticipates need to transfuse, or return onto bypass.	1 2 3 4 5 6 7 8 9 10
1.9.a	Considers the implications of protamine administration and responds appropriately (ie turns off suckers/vents at appropriate times)	1 2 3 4 5 6 7 8 9 10
Comments		

Competency Standard/s	POST PROCEDURE	Scale (1 – 10) Please Circle
1.6.j 5.4.c	Applies knowledge for circuit disassembly, handling and disposal of biohazardous materials in accordance with protocols, including appropriate use of personal protective equipment.	1 2 3 4 5 6 7 8 9 10
1.6.j	Ensures completion of required checklists	1 2 3 4 5 6 7 8 9 10
1.6.j	Has awareness of patient parameters post bypass and is mindful of this during circuit disassembly, and depriming.	1 2 3 4 5 6 7 8 9 10
1.6.j	Has awareness and understands the importance of equipment readiness for the next procedure or if return to bypass is required.	1 2 3 4 5 6 7 8 9 10
Comments		

PROFESSIONAL AND PERSONAL SKILLS	Scale (1 – 10) Please Circle
Demonstrates a strong understanding of the perfusionist role and impact to the patient. (ie. Seriousness of purpose).	1 2 3 4 5 6 7 8 9 10
Takes responsibility and accountability for own decisions/actions.	1 2 3 4 5 6 7 8 9 10
Appropriate use of scientific and perfusion knowledge.	1 2 3 4 5 6 7 8 9 10
Appropriate performance under stress and pressure.	1 2 3 4 5 6 7 8 9 10
Effective analytical and problem solving skills.	1 2 3 4 5 6 7 8 9 10
Demonstrates the ability to stay focused.	1 2 3 4 5 6 7 8 9 10
Strong attention to detail.	1 2 3 4 5 6 7 8 9 10
Recognises limits and seeks assistance when appropriate.	1 2 3 4 5 6 7 8 9 10
Accepts/responds positively to constructive feedback and demonstrates a willingness to learn and improve.	1 2 3 4 5 6 7 8 9 10
Comments	

Overall Evaluation	
Strengths:	
Areas for improvement:	
Recommendations:	

Student Name

Supervisor Name

Signature

Signature

Competency Standard/s	Up to this date, has the student had any familiarity with:	Y/N
1.8.f	Autologous Blood Processing Devices	
1.8.a	Assisted Venous Drainage Devices (VAVD or KAVD)	
1.8.e	Cerebral Monitoring Devices	
1.8.g	Intra-Aortic Balloon Pumps	
1.8.g	Veno-arterial Extracorporeal Membrane Oxygenation (VA ECMO)	
1.8.g	Veno-venous Extracorporeal Membrane Oxygenation (VV ECMO)	
1.8.g	Common ECMO Complications	
1.8.g	Ventricular Assist Devices	
1.8.h	Minimally Invasive Cardiac Surgery Techniques	
1.8.i	Deep Hypothermia	
1.8.i	Circulatory Arrest	
1.8.i	Cerebral Perfusion	
1.6.h	Transport of patients requiring cardiopulmonary support such as ECMO	
1.6.i	Simulation of emergency situations/troubleshooting including:	
	- Massive Air Embolus	
	- Pump Failure	
	- Power Failure	
	- Oxygenator/Reservoir Changeout	
	- Emergency initiation/reinitiation of bypass	
	- Gas Supply Failure	
	- Pump Boot Rupture	

Please Note: these techniques are examinable content, so it is encouraged to talk your trainees through these techniques, and visits to other units is strongly encouraged. Utilise this section as a prompt to have active discussion or education about the above techniques at an appropriate time in the second half of their training.

Please provide details of experiences here/comments:

(example: successfully performed an aortic dissection procedure, requiring DHCA, and used NIRS, and deep hypothermia circulatory arrest, and required minimal intervention by a supervisor and did ask questions showing knowledge/understanding.

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100 Case Reflection

Time as a Trainee (ie 3 months)	
Supervisor	
Hospital	
Date of Assessment	

How do you communicate with surgeons about the adequacy of cardioplegia during a case? What information do you provide them?
Can you describe a time when you encountered a challenge related to cardioplegia during a perfusion case? What was the specific issue, and how did you address it? (quick return of myocardial activity on ECG, high cardioplegia line pressures, low/high retrograde pressures, etc)
Why is cardioplegia essential for the myocardium and what are the potential consequences of inadequate cardioplegia delivery?
How do you select the appropriate cardioplegic solution for the patient? What factors influence your choice, such as the type of surgery, patient comorbidities, and institutional preferences?

How do you use blood gas monitoring to assess the adequacy of cardiopulmonary bypass? What changes in blood gas values indicate the need for adjustments to your perfusion?
How do you assess the adequacy of your cardiopulmonary bypass?
When preparing for a case, how do you assess the reliability of the equipment and identify potential backup systems? Can you explain why backup systems and checklists are necessary?
How do you prepare for a potential return to bypass? Are there any specific protocols or checklists in place to guide this process?