



Australian and New Zealand Board of Perfusion

Indirect Supervision

After a minimum of 125 cases and where the clinical supervisor deems appropriate, “indirect” supervision (the supervisor needs to be close or a call away and must not be simultaneously responsible for another procedure) can occur for the remainder of the training period.

At the intervals that require a supervisor case evaluation, direct supervision is required.

Approach to Indirect Supervision

The approach to indirect supervision depends on the trainee, and the type of procedure.

When starting indirect supervision, you could utilise a staged approach, where supervisors are in theatre during critical points in the procedures such as initiation and weaning.

This is a rough guide of how to determine if indirect supervision is appropriate, and at a minimum to ensure understanding of certain items before indirectly supervising trainees.

Competency Standard/s	Minimum competency for indirect supervision	Y/N
1.8.a	Apply knowledge and skills to operate blood pumps.	
1.8.a	Apply knowledge and skills to operate oxygenators.	
1.8.a	Apply knowledge and skills to operate gas delivery and analysing devices.	
1.8.a	Apply knowledge and skills to operate temperature control equipment.	
1.8.a	Apply knowledge and skills to operate safety devices.	
1.8.a	Apply knowledge and skills to operate augmented drainage devices.	
1.8.b	Apply knowledge and skills to determine and administer pharmacological agents and solutions via the extracorporeal circuit.	
1.8.c	Apply knowledge and skills to operate and respond to in-line monitoring devices.	
1.8.d	Apply knowledge and skills to analyse and respond to haemodynamic data.	
1.8.e	Apply knowledge and skills to monitor reservoirs and filters.	
1.8.e	Apply knowledge and skills to monitor and respond to cerebral monitoring devices.	
1.8.e	Apply knowledge and skills to monitor and respond to blood analysis and coagulation analysis.	
1.8.f	Apply knowledge and skills to handle, store, and administer blood products and derivatives using correct patient identification procedures.	
1.8.f	Apply knowledge and skills to operate autologous blood processing devices.	
3.1.g	Exercise appropriate levels of autonomy and professional judgement.	
3.3.a	Make appropriate decisions about patient care.	
3.3.b	Seeks assistance when beyond knowledge base or level of competence.	



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140 Case Evaluation

Hospital		Case Type	
Trainee Name			
Supervisor Name			
Date of Assessment			

Competency Standard/s	PATIENT INFORMATION	Scale (1 – 10) <small>Please Circle</small>
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
<u>Comments</u>		

Competency Standard/s	COMMUNICATION AND COLLABORATION	Scale (1 – 10) <small>Please Circle</small>
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
<u>Comments</u>		



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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
<u>Comments</u>		

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
<u>Comments</u>		



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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
<u>Comments</u>		

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
<u>Comments</u>		



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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
<u>Comments</u>		

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
<u>Comments</u>	

Overall Evaluation	
Strengths:	
Areas for improvement:	
Recommendations:	

Student Name

Supervisor Name

Signature

Signature



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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	
<p>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.</p>		
<p><u>Please provide details of experiences here/comments:</u> <i>(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.</i></p>		



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

What aspects of performing a case would you see as your strengths?
Is there anything you want to continue to work on?
During cases, we often have to manage multiple, competing priorities. How do you prioritise different tasks during bypass?
When working with a surgeon, how do you anticipate their needs and preferences?



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Can you describe a situation where your ability to anticipate the surgeon's needs led to a positive outcome or response?

How have you developed your communication and collaboration with surgeons?

Have you experienced a surgeon being grumpy, impatient, or tense during an emergency or critical point in a procedure? How did you handle this?

How do you feel about your training so far?