

Core Curriculum Competencies Matrix “log book”

Every time the trainee achieves a skill they should sign their initials in the proper column. The last pages of the Matrix are for documenting reflection of the trainee’s progress. The local trainer should then counter sign each level as the trainee progresses through each level of training. As some trainees learn quicker or have some type of experience they may go onto the next level quicker than others. There is no set time frame of how quickly or slowly one makes progress. The trainee must be signed off by the local trainer, before they progresses to the next level.

		1	2	3	4	5
	Fundamentals of cardiovascular pathophysiology	Knowledge	Recognises / be aware of	Ability to describe	Understands / demonstrates	Able to teach others
Coronary	Coronary anatomy					
	Coronary Physiology					
	Flow dynamics / cardiac cycle					
	Ischaemic heart disease ACS					
	Ischaemic heart disease SCS					
Non Coronary	Valvular heart disease					
	Heart failure					
	Cardiogenic shock					

	Conduction system / arrhythmias					
	Carotid vascular disease					
	Peripheral vascular disease					
	Infectious diseases (cardiogenic)					
	Congenital heart diseases					
	Abdominal Aneurisms & dissections					
	Thoracic Aortic Aneurisms & dissections					
	Parasympathetic & sympathetic Nervous system					
	Renal regulation of blood pressure					
	Procedures & Techniques	Observe only	Direct supervision	Indirect supervision	Independent	Supervises others
Aseptic Technique	Hand washing					
	Gloving					
	Universal Precaution					
	Handling of contaminated Instruments					
	Methods of disinfection					

	Sterile table set up					
	Sterile access preparation					
	Sterile Draping					
Vascular Access	Access site evaluation					
	Allen's test					
	Patient positioning					
	Manual compression femoral					
	Manual compression radial					
	Radial compression devices					
	Femoral closure devices					
	Assessment of access site for complications					
Coronary and Valvular Diagnostic Procedures & Materials	Angiographic techniques (AT) Native Coronaries					
	AT - grafts					
	AT- vasospasm					
	AT - Collateral circulation					
	AT - LIMA's					

	AT - RIMA's					
	Types of Lesions					
	QCA & vessel measurement					
	Left Ventriculography					
	Aortography					
	Left Catheterization					
	Right Catheterization					
	Hemodynamics (H) pressures					
	H – normal values					
	H – wave forms					
	H – blood flow					
	H – Cardiac output					
Coronary Angioplasty Procedures & Materials Special	PCI techniques (PCI-T) preparation of lesion					
	PCI-T- complex occlusions					
	Appropriate catheter selection					
	Types of guidewires					

Techniques	Types of Balloons (B)					
	(B) Semi compliant					
	(B) non-compliant					
	(B) DEB					
	(B) cutting					
	Types of stents (S)					
	(S) BMS					
	(S) DES					
	(S) Scaffolds					
	(S) self-expandable					
	(S) covered					
	CTO devices					
	FFR					
	iFR					
	PdPa					
	Rotational Atherectomy					

	Anti-Embolic Protection Devices (AEPD)					
	(AEPD) filters					
	(AEPD) proximal devices					
	Thrombectomy Devices (TD)					
	(TD) automatic					
	(TD) manual					
	Occlusive balloons					
	Target temperature management					
	Therapeutic Hypothermia					
	PVDA (Impella)					
	IABP					
	Temporary Pacing					
	Pericardiocentesis					
Structural Heart Disease	Mitral Valvuloplasty					
	Aortic Valvuloplasty					
	Pulmonary Valvuloplasty					

	PFO closure					
	ASD closure					
	Coils					
	VSD closure					
	Percutaneous Para-valvular leak closure					
	LAA					
	TAVI					
	Mitral Clip					
	TMV					
	Septal closure with Alcohol					
Peripheral Interventions	Carotid artery angiography					
	Carotid artery stenting					
	Carotid artery filters					
	Carotid artery- MOMA					
	Peripheral arteries angiography					
	Peripheral arteries angioplasty					

	Renal intervention					
	Neurological interventions					
	Radiation And Imaging	Observe only	Direct supervision	Indirect supervision	Independent	Supervises others
Radiation Physics & Terminology	Radiation generation					
	Radiation units					
	Radiation characteristics					
	Imaging systems					
	Principles of the fluoroscopic X-ray machine					
	Positioning of the fluoroscopic X-ray machine					
	Operation of the fluoroscopic X-ray machine					
Radiation risks & Protection	Biologic effects of radiation (injuries)					
	Radiation safety - patient					
	Radiation safety - personnel					
	Radiation protection - patient					
	Radiation protection - personnel					

	Dose reduction techniques					
	Radiation exposure monitoring					
	Radiation exposure limits					
Injection & lesion visualization	Contrast injection systems					
	Contrast injection techniques					
	Digital imaging systems					
	Flat panel systems					
Intra Coronary/Cardiac Imaging Modalities	OCT					
	IVUS					
	ICE					
	NIRS					
	Inter-modality imaging					
	Optimising Cardiovascular health in the cath lab	Knowledge	Be aware of / recognises	Ability to describe	Understands / demonstrates	Able to teach others
Cardiovascular risk factors	CVD Burden & statistics					
	Modifiable cardiac risk factors					
	Non- modifiable risk factors					
	Emerging risk factors					

Individualized Risk Factors	Risk SCORE System GFR calculation					
	Prevention strategies					
	Assessment, planning and managing patient care in interventional cardiology	Observes only	Direct supervision	Indirect supervision	Independent	Supervises others
Patient Preparation	Assess medical records for complete medical assessment					
	Check and follow Physicians orders					
Basic Assessment Techniques	History					
	Physical exam					
	Vital signs					
	Central nervous system (CNS) assessment					
	Respiratory system assessment					
	Cardiovascular assessment					
	EKG monitoring					
	EKG interpretation					

	Peripheral vascular assessment					
		Knowledge	Be aware of / recognise	Ability to describe	Understands / Demonstrates	Able to teach others
Interpretation of Laboratory studies	Interpretation Chemistry lab results					
	Interpretation cardiac enzymes results					
	Interpretation electrolytes lab results					
	Interpretation Haematology lab results					
	Interpretation of lipid panel					
		Observes only	Direct supervision	Indirect supervision	Independent	Able to supervise others
IV Therapy	Intravenous (IV) insertion					
	IV assessment					
	IV maintenance					
Post Procedure Patient Care	Haemostasis					
	Handover					

	Transport					
Patient Management During Procedure	Point of care Oximetry					
	Point of care ACT					
	Patient positioning					
	High risk patient					
Complications & Emergencies	Shock					
	Anaphylaxis					
	Dissections					
	Tamponade					
Life Support skills	BCLS					
	ACLS					
	Pharmacokinetics & Pharmacodynamics	Knowledge	Be aware / recognise	Ability to describe	Understands / Demonstrates	Able to teach others
Pharmacology & appropriate use of medications in the cath lab	Antiplatelet agents (IIb /IIIa inhibitors, P2Y ₁₂ antagonists)					
	Anticoagulants (Heparin Low Molecular Heparins)					

	Direct Thrombin inhibitors (Bivalirudin)					
	Fibrinolytic					
	Thrombolytic					
	Contrast Media					
	Antiarrhythmic					
	Nitrates					
	Antianginals					
	Cardiac Glycosides					
	Vasopressors/Inotropes (Dopamine, Dobutamine, Adrenaline, Noradrenaline, Levosimendan)					
	Vasodilators/Adenosine					
	Antihypertensive					
	Calcium channel blockers					
	ACE inhibitors					
	Angiotensin Receptor blockers (ARBs)					

	Aldosterone Antagonist					
	Beta Blockers					
	Sedatives					
	Reversal Agents					
	Antibiotics					
	Antiemetic's					
	Steroids					
	Antihistamines					
	Cholesterol lowering agents					
	Oxygen					
Indications for use, Contraindications, Mechanisms of action, Normal doses, Side effects,	Use in the cath lab					
	Level of significance for interactions					
	Known interactions with commonly used medications in the cath lab					
	Relative vs Absolute contraindication					

Polypharmacy & Interactions with other medications & Routes of Medication administration	Beers criteria					
	Routes of Administration - Intra-arterial (IA), Intracoronary (IC), Intravenous (IV), Sublingual (SL), Oral (PO), Topical					
Proper Documentation of Medications and Medical & Legal Aspects	Risk / Benefit of medication					
	Compliance issues					
	5 Rights : Patient, method, dose, route and drug					
	Electronic and paper charting					
	Local standards & Policies of medication administration					
		Observes only	Direct supervision	Indirect supervision	Independent	Able to supervise others
Drug and IV Infusion Calculations	Basic calculations					
	IV drips units / hour					
	IV drips micrograms / min					

	IV medication preparation / correct mixing of solutions					
Conscious Sedation	Aldrete Score					
	Monitoring					
	Hospital standards					
	Agents Used					
ACLS Medications	ACLS algorithms					
	1 st Line drugs					
	2 nd line drugs					
	Principles and Practices of Person, Family & Emotional centred care	Knowledge	Be aware / Recognize	Ability to describe	Understands demonstrates	Ability to teach others
Shared Decision Making	Tools & approaches					
	Communication skills					
	Reflective practice					
Person and Family Centred Health Care	Professionalism					
	Ethics					

	Therapeutic Relationships					
	Physical Well Being & Comfort in the Cath Lab	Knowledge	Be aware / Recognize	Ability to describe	Understands / Demonstrates	Ability to teach others
Patient Rights & Safety	Informed consents					
	Hospital Standards					
	Psychosocial needs					
	Physical needs					
	Environmental needs					
Symptom Assessment	Safe care of sedated patients					
	Safe care of unconscious patients					
	Management of acute chest pain and symptoms					
End of Life Care	Patient care with dignity					
	Patient care with confidentiality					
	Evaluation of the Quality of Care & research in Interventional					

	Cardiology					
Quality Care & Quality Indicators	Systems and Organizational theory					
	Hospital standards					
	Measurement of Quality					
Risk Assessment	Audit & Inspections					
	Evaluation					
	IT Skills					
	Electronic Health Records					
Research & Investigation	Investigation & Research Methodologies					
	Articles & Publication Modalities					
	Landmark Studies of Interventional Cardiology					

Trainee Reflection	Level
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Signatures / Initials
