

CORE CURRICULUM VASCULAR MANUAL



**Philippine Association of Thoracic and
Cardiovascular Surgeons, Inc.
(PATACSI)**



PATACSI
ACCREDITATION GUIDELINES
VASCULAR PATHWAY



**PHILIPPINE ASSOCIATION OF THORACIC
AND CARDIOVASCULAR SURGEONS, INC.
(PATACSI)**

PATACSI VASCULAR SURGERY CORE AND PATHWAY CURRICULUM

**PATACSI Final Curriculum for
Vascular Surgery as a result of 2
Workshops held in 2016**

Caseload Revision 2019



PHILIPPINE ASSOCIATION OF THORACIC AND CARDIOVASCULAR SURGEONS, INC. (PATACSI)

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PHILIPPINE ASSOCIATION OF THORACIC AND CARDIOVASCULAR SURGEONS, INC. (PATACSI)

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PHILIPPINE ASSOCIATION OF THORACIC AND CARDIOVASCULAR SURGEONS, INC. (PATACSI)

PATACSI INSTRUCTIONAL DESIGN FOR VASCULAR A. LEVEL 1: CORE CURRICULUM

VASCULAR SURGERY				
INTENDED LEARNING	CONTENT	LEARNING ACTIVITIES	RESOURCES	EVALUATION
<i>At the end of the FIRST YEAR, the RESIDENT should be able to:</i>				
I. COGNITIVE				
1. KNOWLEDGE 1.1. Intended Learning 1.1.1. Discuss the principles of diagnosis and management of common vascular surgical disorders	1.2. Content 1.2.1. Biomolecular basis of vascular disease 1.2.2. Vascular anatomy and physiology 1.2.3. Histo-pathology of vascular disease 1.2.4. Patient evaluation 1.2.5. Vascular Ancillary Examinations 1.2.6. Bleeding and Hemostasis 1.2.7. Pre-operative evaluation and preparation of vascular patients 1.2.8. Peri-operative monitoring of vascular patients 1.2.9. Post-operative management of vascular patients 1.2.10. Follow-up / Surveillance of vascular patients 1.2.11. Arterial Diseases 1.2.11.1. Arterial Aneurysms 1.2.11.2. Aortic dissection 1.2.11.3. Carotid Artery Disease Aortic Dissection 1.2.11.4. Carotid Artery Disease 1.2.11.5. Visceral Artery Disease 1.2.11.6. Aorto Vascular / Great Vessel Disease 1.2.11.6.1. Vascular pathology (including atherosclerosis, inherit and acquired disorders) 1.2.11.6.2. Blood supply of the spinal cord 1.2.11.6.3. Spinal cord and cerebral preservations 1.2.11.6.4. Traumatic aortic transection 1.2.11.6.5. Results of endovascular stenting 1.2.11.6.6. Medical Management of great vessel disease 1.2.12. Knowledge of thromboembolic disease 1.2.13. Arterio-venous malformations / hemangioma	1.3. Teaching-Learning Activities 1.3.1. Large Group Learning 1.3.1.1. Grand rounds 1.3.1.2. Pre and Postoperative Conferences 1.3.1.3. Mortality and Morbidity Conferences 1.3.1.4. Admitting rounds / Endorsement 1.3.1.5. Lectures 1.3.1.6. Journal club 1.3.1.7. Ward rounds 1.3.1.8. Workshop in Research Methodology & Critical Appraisal of Literature 1.3.2. Small Group Learning 1.3.2.1. Group Discussion 1.3.2.2. Group Tutorial 1.3.2.3. Brainstorming 1.3.3. Independent Learning 1.3.3.1. Individual Study Self-Instructional Material	1.4. Resources 1.4.1. Textbooks 1.4.1.1. Principles of Surgery 1.4.1.2. Anatomy 1.4.1.3. Surgical Anatomy 1.4.1.4. Physiology 1.4.1.5. Pathology 1.4.1.6. Problem-oriented Surgical Diagnosis 1.4.1.7. Evidence Based Surgery 1.4.2. Access to all PATACSI Evidence based guidelines 1.4.3. Audio Video Equipment 1.4.4. Journals 1.4.4.1. PJTCVS 1.4.4.2. Foreign Journals 1.4.5. Consultant Staff 1.4.6. Internet 1.4.7. Vascular Surgery Videos 1.4.8. ICD 10 Manual 1.4.9. Committee on Research 1.4.5. Monograms, hand-outs and textbooks on research methods	1.5. Assessment 1.5.1. Written examination 1.5.2. Oral examination 1.5.3. Direct observation



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VASCULAR SURGERY				
INTENDED LEARNING	CONTENT	LEARNING ACTIVITIES	RESOURCES	EVALUATION
	1.2.14. Venous diseases 1.2.14.1. Anatomy / physiology/pathology 1.2.14.2. Chronic venous insufficiency 1.2.14.3. DVT and pulmonary embolism 1.2.14.4. Thrombophlebitis 1.2.14.5. SVC compression 1.2.15. Portal hypertension 1.2.16. Common Lymphatic diseases 1.2.17. Vascular Trauma 1.2.18. Vascular Access 1.2.19. Wound Healing and Wound Care 1.2.20. Endovascular Surgery			
2. RESEARCH 2.1. Intended Learning 2.1.1. Demonstrate knowledge of the principles of Research Methodology and Critical Appraisal of Literature	2.2. Content 2.2.1. Critique research 2.2.2. Present 1 case report or case series 2.2.3. Present 1 analytical clinical research paper			



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VASCULAR SURGERY				
INTENDED LEARNING	CONTENT	LEARNING ACTIVITIES	RESOURCES	EVALUATION
<i>At the end of the FIRST YEAR, the RESIDENT should be able to:</i>				
II. PSYCHOMOTOR				
1. KNOWLEDGE 1.1. Intended Learning 1.1.1. Evaluate surgical patients 1.1.1.1. Obtain an adequate history 1.1.1.2. Perform a thorough physical exam 1.1.1.3. Order pertinent laboratory and diagnostic exams 1.1.1.4. Formulate a logical diagnosis 1.1.1.5. Formulate treatment plan 1.1.1.6. Refer appropriately 1.1.1.7. Provide continuing care	1.2. Content: 1.2.1. Clinical Assessment of Vascular patients 1.2.1.1. Cardiovascular system and general history and exam including identification of comorbidity and risk assessment 1.2.1.2. Carotid Artery Disease 1.2.1.3. PAOD 1.2.1.4. Visceral Artery Disease 1.2.1.5. Great vessel disease 1.2.1.6. Venous disease 1.2.1.7. Vascular malformations 1.2.1.8. Vascular trauma 1.2.2. Perform / assist in vascular diagnostic procedures 1.2.2.1. Ankle brachial index measurement 1.2.2.2. Arterial and venous duplex scan 1.2.2.3. Segmental arterial pressure determination 1.2.3. Interpret vascular imaging studies 1.2.3.1. CT scan and CT angiography 1.2.3.2. MRI and MR angiography 1.2.3.3. Conventional angiography 1.2.4. Integrated Clinical history / PE / Vascular ancillary examinations 1.2.5. Medical management of great vessel disease 1.2.6. Selection of patients for surgery 1.2.7. Pre-operative preparation 1.2.8. Intra-operative monitoring 1.2.9. Management of postop patients including complications 1.2.10. Medical management of acute and chronic pulmonary embolic disease 1.2.11. Medical management of acute and chronic pulmonary embolic disease 1.2.12. Patient and family education on the prevention and surveillance vascular disease	1.3. Teaching-Learning Activities 1.3.1. Ward and OPD work	1.4. Resources 1.4.1. Ward / OPD patients 1.4.2. Radiology facilities 1.4.3. Central laboratory 1.4.4. Consultant Staff	1.5. Assessment 1.5.1. Observing 1.5.2. Rating scale



PHILIPPINE ASSOCIATION OF THORACIC AND CARDIOVASCULAR SURGEONS, INC. (PATACSI)

VASCULAR SURGERY				
INTENDED LEARNING	CONTENT	LEARNING ACTIVITIES	RESOURCES	EVALUATION
<i>At the end of the FIRST YEAR, the RESIDENT should be able to:</i>				
II. PSYCHOMOTOR				
2. CLINICAL 2.1. Intended Learning 2.1.1. Perform and assist in surgical procedures	2.2. Content 2.2.1. Patient positioning and surgical prep of vascular surgeries 2.2.2. Manage wound related to 2.2.2.1. Venous stasis 2.2.2.2. Diabetic foot 2.2.2.3. Peripheral arterial occlusive disease 2.2.3. Skills lab 2.2.3.1. Perform basic vascular suturing techniques 2.2.3.2. Perform vascular access (phantom / dummy) 2.2.3.3. Ultrasound – hand-eye coordination 2.2.4. Vascular access 2.2.4.1. Insertion of vascular monitoring catheters / device 2.2.4.1.1. CVP 2.2.4.2. Insertion of vascular access 2.2.4.2.1. Dialysis access 2.2.4.2.1.1. Acute access 2.2.4.2.1.2. Access for chronic dialysis patients 2.2.4.2.1.3. Peritoneal dialysis access 2.2.4.2.2. Central lines 2.2.4.2.2.1. Cut down 2.2.4.2.2.2. Percutaneous 2.2.4.3. Arterial lines 2.2.4.3.1. Invasive BP monitor 2.2.5. Exposure of extremity vasculature 2.2.6. Harvesting of greater saphenous vein 2.2.7. Management of vascular trauma 2.2.7.1. Extremity vascular injury 2.2.8. Amputation 2.2.8.1. Disarticulation 2.2.8.2. Forefoot amputation 2.2.8.3. Below knee amputation 2.2.8.4. Below elbow amputation 2.2.8.5. Above knee amputation 2.2.8.6. Above elbow amputation	2.3. Teaching-Learning Activities 2.3.1. Performing surgical operations 2.3.2. Assisting in surgical procedures 2.3.3. Independent Learning 2.3.3.1. Individual study 2.3.3.2. Self-Instructional Materials	2.4. Resources 2.4.1. Operating Room facilities 2.4.2. Outpatient facilities 2.4.3. Pathology 2.4.4. Atlas of Operative Surgery 2.4.5. Surgical Skills Lab 2.4.6. Equipment for intra-op imaging 2.4.7. Consultant staff 2.4.8. ER, RR, Critical care facilities 2.4.9. Case material 2.4.10. Textbook on Complications of Surgical Operations 2.4.11. Internet 2.4.12. Demonstration 2.4.13. Teaching aids, videos, audio tapes	2.5. Assessment 2.5.1. Direct Observation using rating scale 2.5.2. Record reviews 2.5.3. Logbook or records 2.5.4. Rating scales 2.5.5. Incident reports



PHILIPPINE ASSOCIATION OF THORACIC AND CARDIOVASCULAR SURGEONS, INC. (PATACSI)

VASCULAR SURGERY				
INTENDED LEARNING	CONTENT	LEARNING ACTIVITIES	RESOURCES	EVALUATION
<i>At the end of the FIRST YEAR, the RESIDENT should be able to:</i>				
III. AFFECTIVE				
3. RESEARCH 3.1. Intended Learning 3.1.1. Demonstrate the proper attitudes and habits in the practice of surgery	3.2. Content: 3.2.1. Intellectual integrity 3.2.2. Moral, Ethical value 3.2.3. Reliability / Responsibility 3.2.4. Appropriate Bedside Decorum / Relationship w/ patient 3.2.5. Study / Work habits 3.2.6. Relationship with co-health workers & superiors 3.2.7. Emotional maturity reaction to emergency or stress 3.2.8. Social Responsibility	3.3. Teaching-Learning Activities	3.4. Resources	3.5. Assessment 3.5.1. Direct observation 3.5.2. Rating scale 3.5.3. Checklist 3.5.4. Incident reports



PHILIPPINE ASSOCIATION OF THORACIC AND CARDIOVASCULAR SURGEONS, INC. (PATACSI)

B. LEVEL 2: CORE CURRICULUM

VASCULAR SURGERY				
INTENDED LEARNING	CONTENT	LEARNING ACTIVITIES	RESOURCES	EVALUATION
<i>At the end of the SECOND YEAR, the RESIDENT should be able to:</i>				
I. COGNITIVE				
1. KNOWLEDGE 1.1. Intended Learning 1.1.1. Discuss the principles of diagnosis and management of common vascular surgical disorders	1.2. Content 1.2.1. Biomolecular basis of vascular disease 1.2.2. Vascular anatomy and physiology 1.2.3. Histo-pathology of vascular disease 1.2.4. Patient evaluation 1.2.5. Vascular Ancillary Examinations 1.2.6. Bleeding and Hemostasis 1.2.7. Pre-operative evaluation and preparation of vascular patients 1.2.8. Peri-operative monitoring of vascular patients 1.2.9. Post-operative management of vascular patients 1.2.10. Follow-up / Surveillance of vascular patients 1.2.11. Arterial Diseases 1.2.11.1. Arterial Aneurysms 1.2.11.2. Aortic dissection 1.2.11.3. Carotid Artery Disease 1.2.11.4. Aortic Dissection 1.2.11.5. Carotid Artery Disease 1.2.11.6. Visceral Artery Disease 1.2.11.7. Aorto Vascular / Great Vessel Disease 1.2.11.7.1. Vascular pathology (including atherosclerosis, inherit and acquired disorders) 1.2.11.7.2. Blood supply of the spinal cord 1.2.11.7.3. Spinal cord and cerebral preservations 1.2.11.7.4. Traumatic aortic transection 1.2.11.7.5. Results of endovascular stenting 1.2.11.7.6. Medical Management of great vessel disease 1.2.12. Knowledge of thromboembolic disease 1.2.13. Arterio-venous malformations / hemangioma 1.2.14. Venous diseases 1.2.14.1. Anatomy / physiology/pathology 1.2.14.2. Chronic venous insufficiency 1.2.14.3. DVT and pulmonary embolism 1.2.14.4. Thrombophlebitis 1.2.14.5. SVC compression 1.2.15. Portal hypertension	1.3. Teaching-Learning Activities 1.3.1. <i>Large Group Learning</i> 1.3.1.1. Grand rounds 1.3.1.2. Pre and Postoperative Conference 1.3.1.3. Mortality and Morbidity Conference 1.3.1.4. Admitting rounds / Endorsement 1.3.1.5. Lectures 1.3.1.6. Journal club 1.3.1.7. Ward rounds 1.3.1.8. Workshop in Research Methodology & Critical Appraisal of Literature 1.3.2. <i>Small Group Discussion</i> 1.3.2.1. Group Discussion 1.3.2.2. Group Tutorial 1.3.2.3. Brainstorming 1.3.3. <i>Independent Learning</i> 1.3.3.1. Individual Study Self-Instructional Material meeting	1.4. Resources 1.4.1. Textbooks: 1.4.1.1. Principles of Surgery 1.4.1.2. Anatomy 1.4.1.3. Surgical Anatomy 1.4.1.4. Physiology 1.4.1.5. Pathology 1.4.1.6. Problem-oriented Surgical Diagnosis 1.4.1.7. Evidence Based Surgery 1.4.2. Access to all PATACSI Evidence based guidelines 1.4.3. Audio Video Equipment 1.4.4. Journals 1.4.4.1. PJTCVS 1.4.4.2. Foreign Journals 1.4.5. Consultant Staff 1.4.6. Internet 1.4.7. Vascular Surgery Videos 1.4.8. ICD 10 Manual 1.4.9. Committee on Research 1.4.10. Monograms, hand-outs and textbooks on research methods	1.5. Assessment 1.5.1. Written examination 1.5.2. Oral examination 1.5.3. Direct observation



PHILIPPINE ASSOCIATION OF THORACIC AND CARDIOVASCULAR SURGEONS, INC. (PATACSI)

VASCULAR SURGERY				
INTENDED LEARNING	CONTENT	LEARNING ACTIVITIES	RESOURCES	EVALUATION
I. COGNITIVE				
	1.2. Content 1.2.16. Common Lymphatic diseases 1.2.17. Vascular Trauma 1.2.18. Vascular Access 1.2.19. Wound Healing and Wound Care 1.2.20. Endovascular Surgery			
2. RESEARCH 2.1. Intended Learning 2.1.1. Demonstrate knowledge of the principles of Research Methodology and Critical Appraisal of Literature	2.2. Content 2.2.1. Critique research 2.2.2. Accomplish at least 1 case report or case series 2.2.3. Accomplish at least 1 analytical clinical research paper			



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VASCULAR SURGERY				
INTENDED LEARNING	CONTENT	LEARNING ACTIVITIES	RESOURCES	EVALUATION
At the end of the SECOND YEAR, the RESIDENT should be able to:				
II. PSYCHOMOTOR				
1. KNOWLEDGE 1.1. Intended Learning 1.1.1. Evaluate surgical patients 1.1.1.1. Obtain an adequate history 1.1.1.2. Perform a thorough physical exam 1.1.1.3. Order pertinent laboratory and diagnostic exams 1.1.1.4. Formulate a logical diagnosis 1.1.1.5. Formulate treatment plan 1.1.1.6. Refer appropriately 1.1.1.7. Provide continuing care	1.2. Content: 1.2.1. Clinical Assessment of Vascular patients 1.2.1.1. Cardiovascular system and general history and exam including identification of comorbidity and risk assessment 1.2.1.2. Carotid Artery Disease 1.2.1.2.1. PAOD 1.2.1.2.2. Visceral Artery Disease 1.2.1.2.3. Great vessel disease 1.2.1.2.4. Venous disease 1.2.1.2.5. Vascular malformations 1.2.1.2.6. Vascular trauma 1.2.2. Perform / assist in vascular diagnostic procedures 1.2.2.1. Ankle brachial index measurement 1.2.2.2. Arterial and venous duplex scan 1.2.2.3. Segmental arterial pressure determination 1.2.3. Interpret vascular imaging studies 1.2.3.1. CT scan and CT angiography 1.2.3.2. MRI and MR angiography 1.2.3.3. Conventional angiography 1.2.4. Integrated Clinical history / PE / Vascular ancillary examinations 1.2.5. Medical management of great vessel disease 1.2.6. Selection of patients for surgery 1.2.7. Pre-operative preparation 1.2.8. Intra-operative monitoring 1.2.9. Management of postop patients including complications 1.2.10. Medical management of acute and chronic pulmonary embolic disease 1.2.11. Medical management of acute and chronic pulmonary embolic disease 1.2.12. Patient and family education on the prevention and surveillance vascular disease	1.3. Teaching-Learning Activities 1.3.1. Ward and OPD work	1.4. Resources 1.4.1. Ward / OPD patients 1.4.2. Radiology facilities 1.4.3. Central Laboratory 1.4.4. Consultant Staff	1.5. Assessment 1.5.1. Direct observation 1.5.2. Rating scale



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VASCULAR SURGERY				
INTENDED LEARNING	CONTENT	LEARNING ACTIVITIES	RESOURCES	EVALUATION
At the end of the SECOND YEAR, the RESIDENT should be able to:				
II. PSYCHOMOTOR				
2. CLINICAL 2.1. Intended Learning 2.1.1. Perform and assist in surgical procedures	2.2. Content 2.2.1. Patient positioning and surgical prep of vascular surgeries 2.2.2. Manage wound related to 2.2.2.1. Venous stasis 2.2.2.2. Diabetic foot 2.2.2.3. Peripheral arterial occlusive disease 2.2.3. Skills lab 2.2.3.1. Perform basic vascular suturing techniques 2.2.3.2. Perform vascular access (phantom / dummy) 2.2.3.3. Ultrasound – hand-eye coordination 2.2.4. Vascular access 2.2.4.1. Insertion of vascular monitoring catheters / device 2.2.4.1.1. CVP 2.2.4.2. Insertion of vascular access 2.2.4.2.1. Dialysis access 2.2.4.2.1.1. Acute access 2.2.4.2.1.2. Access for chronic dialysis patients 2.2.4.2.1.2.1. Native 2.2.4.2.1.2.2. Prosthetic graft 2.2.4.2.1.3. Peritoneal dialysis access 2.2.4.2.2. Central lines 2.2.4.2.2.1. CVP 2.2.4.2.2.2. PICC 2.2.4.2.2.3. Implanted vascular access device insertion (porta cath / celsite) 2.2.4.2.3. Arterial lines 2.2.4.2.3.1. Invasive BP monitor 2.2.5. Exposure of extremity vasculature 2.2.6. Harvesting of greater saphenous vein 2.2.7. Management of vascular trauma 2.2.7.1. Extremity vascular injury 2.2.7.2. Major intra-abdominal vascular injury 2.2.7.3. Great vessel injuries 2.2.7.4. Head and neck vascular injuries	2.3. Teaching-Learning Activities 2.3.1. Performing surgical operations 2.3.2. Assisting in surgical procedures 2.3.3. Independent Learning 2.3.3.1. Individual study 2.3.3.2. Self-Instructional Materials	2.4. Resources 2.4.1. Operating Room facilities 2.4.2. Outpatient facilities 2.4.3. Pathology 2.4.4. Atlas of Operative Surgery 2.4.5. Surgical Skills Lab 2.4.6. Equipment for intra-op imaging 2.4.7. Consultant staff 2.4.8. ER, RR, Critical care facilities 2.4.9. Case material 2.4.10. Textbook on Complications of Surgical Operations 2.4.11. Internet 2.4.12. Demonstration 2.4.13. Teaching aids, videos, audio tapes	2.5. Assessment 2.5.1. Direct observation using rating scale 2.5.2. Record reviews 2.5.3. Logbook or records 2.5.4. Rating scales 2.5.5. Incident reports



PHILIPPINE ASSOCIATION OF THORACIC AND CARDIOVASCULAR SURGEONS, INC. (PATACSI)

VASCULAR SURGERY				
INTENDED LEARNING	CONTENT	LEARNING ACTIVITIES	RESOURCES	EVALUATION
At the end of the SECOND YEAR, the RESIDENT should be able to:				
II. PSYCHOMOTOR				
2. CLINICAL 2.1. Intended Learning 2.1.1. Perform and assist in surgical procedures	2.2. Content 2.2.8. Management of AV fistula, malformation, hemangioma 2.2.9. Management of acute limb ischemia 2.2.9.1. Thromboembolctomy 2.2.9.2. Extremity bypass 2.2.10. Management of chronic limb ischemia 2.2.10.1. Bypass 2.2.10.2. Symphatectomy 2.2.10.3. Arteriovenous fistula 2.2.11. Assist in endovascular procedures 2.2.11.1. AAA endovascular procedures 2.2.11.2. Thoracic aorta endovascular surgery 2.2.11.3. Extremity endovascular surgery 2.2.11.4. Insertion of vena cava filter 2.2.11.5. Insertion of endovascular stents 2.2.12. Management of venous disease 2.2.12.1. Vein stripping 2.2.12.2. Phlebectomy 2.2.12.3. Assist in endovenous laser or RF ablation 2.2.12.4. Sclerotherapy / laser photocoagulation of spider veins 2.2.12.5. Surgical management of DVT 2.2.12.5.1. Fasciotomy 2.2.13. Management of compartment syndrome of extremities 2' to reperfusion injury, DVT, trauma			
III. AFFECTIVE				
3. RESEARCH 3.1. Intended Learning 3.1.1. Demonstrate the proper attitudes and habits in the practice of surgery	3.2. Content 3.2.1. Intellectual integrity 3.2.2. Moral, Ethical value 3.2.3. Reliability / Responsibility 3.2.4. Appropriate Bedside Decorum / Relationship w/ patient 3.2.5. Study / Work habits 3.2.6. Relationship with co-health workers & superiors 3.2.7. Emotional maturity reaction to emergency or stress 3.2.8. Social Responsibility			



PHILIPPINE ASSOCIATION OF THORACIC AND CARDIOVASCULAR SURGEONS, INC. (PATACSI)

C. LEVEL 3: CORE CURRICULUM

VASCULAR SURGERY				
INTENDED LEARNING OUTCOMES	CONTENT	LEARNING ACTIVITIES	RESOURCES	EVALUATION
<p><i>At the end of Level III, the trainee should be eligible for the PBTCVS diplomate examination by demonstrating mastery of the pathophysiology and multidisciplinary management of common cardiovascular diseases; and, gain sufficient experience, under the supervision of the consultants, in the safe performance of common major cardiac procedures as prescribed by the training institution and PBTCVS.</i></p>				
I. COGNITIVE				
<p>1. KNOWLEDGE 1.1. Learning outcome 1.1.1. Discuss the principles of diagnosis and management of common vascular surgical disorders.</p>	<p>1.2. Content: 1.2.1. Biomolecular basis of vascular disease 1.2.2. Vascular anatomy and physiology 1.2.3. Histo-pathology of vascular disease 1.2.4. Patient evaluation 1.2.5. Vascular Ancillary Examinations 1.2.6. Bleeding and Hemostasis 1.2.7. Pre-operative evaluation and preparation of vascular patients 1.2.8. Peri-operative monitoring of vascular patients 1.2.9. Post-operative management of vascular patients 1.2.10. Follow-up / Surveillance of vascular patients 1.2.11. Arterial Diseases 1.2.11.1. Arterial Aneurysms 1.2.11.2. Aortic dissection 1.2.11.3. Carotid Artery Disease 1.2.11.4. Aortic Dissection 1.2.11.5. Carotid Artery Disease 1.2.11.6. Visceral Artery Disease 1.2.11.7. Aorto Vascular / Great Vessel Disease 1.2.11.7.1. Vascular pathology (including atherosclerosis, inherit and acquired disorders) 1.2.11.7.2. Blood supply of the spinal cord 1.2.11.7.3. Spinal cord and cerebral preservations 1.2.11.7.4. Traumatic aortic transection 1.2.11.7.5. Results of endovascular stenting 1.2.11.7.6. Medical Management of great vessel disease 1.2.12. Knowledge of thromboembolic disease 1.2.13. Arterio-venous malformations / hemangioma</p>	<p>1.3. Teaching-Learning Activities 1.3.1. Large Group Learning 1.3.1.1. Grand rounds 1.3.1.2. Pre and Postoperative Conference 1.3.1.3. Mortality and Morbidity Conference 1.3.1.4. Admitting rounds / Endorsement 1.3.1.5. Lectures 1.3.1.6. Journal club 1.3.1.7. Ward rounds 1.3.1.8. Workshop in Research Methodology & Critical Appraisal of Literature 1.3.2. Small Group Discussion 1.3.2.1. Group Discussion 1.3.2.2. Group Tutorial 1.3.2.3. Brainstorming</p>	<p>1.4. Resources 1.4.1. Textbooks: 1.4.1.1. Principles of Surgery 1.4.1.2. Anatomy 1.4.1.3. Surgical Anatomy 1.4.1.4. Physiology 1.4.1.5. Pathology 1.4.1.6. Problem-oriented Surgical Diagnosis 1.4.1.7. Evidence Based Surgery 1.4.2. Access to all PATACSI Evidence based guidelines 1.4.3. Audio Video Equipment 1.4.4. Journals 1.4.4.1. PJTCVS 1.4.4.2. Foreign Journals 1.4.5. Consultant Staff 1.4.6. Internet 1.4.7. Vascular Surgery Videos 1.4.8. ICD 10 Manual 1.4.9. Committee on Research 1.4.10. Monograms, hand-outs and textbooks on research methods</p>	<p>1.5. Assessment 1.5.1. Written examination 1.5.2. Oral examination 1.5.3. Direct observation</p>



PHILIPPINE ASSOCIATION OF THORACIC AND CARDIOVASCULAR SURGEONS, INC. (PATACSI)

VASCULAR SURGERY				
INTENDED LEARNING OUTCOMES	CONTENT	LEARNING ACTIVITIES	RESOURCES	EVALUATION
I. COGNITIVE				
	1.2. Content: 1.2.14. Venous diseases 1.2.14.1. Anatomy / physiology/pathology 1.2.14.2. Chronic venous insufficiency 1.2.14.3. DVT and pulmonary embolism 1.2.14.4. Thrombophlebitis 1.2.14.5. SVC compression 1.2.15. Portal hypertension 1.2.16. Common Lymphatic diseases 1.2.17. Vascular Trauma 1.2.18. Vascular Access 1.2.19. Wound Healing and Wound Care 1.2.20. Endovascular Surgery			
2. RESEARCH 2.2. Learning outcome: 2.2.1. Demonstrate knowledge of the principles of Research Methodology and Critical Appraisal of Literature	2.3. Content 2.3.1. Critique research 2.3.2. Present 1 analytical clinical research paper (prospective) 2.3.3. Accomplish 1 systematic review (meta-analysis)			



PHILIPPINE ASSOCIATION OF THORACIC AND CARDIOVASCULAR SURGEONS, INC. (PATACSI)

VASCULAR SURGERY				
INTENDED LEARNING OUTCOMES	CONTENT	LEARNING ACTIVITIES	RESOURCES	EVALUATION
At the end of the THIRD YEAR, the RESIDENT should be able to:				
II. PSYCHOMOTOR				
1. KNOWLEDGE 1.1. Learning outcome: 1.1.1. Evaluate surgical patients. 1.1.1.1. Obtain an adequate history 1.1.1.2. Perform a thorough physical exam 1.1.1.3. Order pertinent laboratory and diagnostic exams 1.1.1.4. Formulate a logical diagnosis 1.1.1.5. Formulate treatment plan 1.1.1.6. Refer appropriately 1.1.1.7. Provide continuing care	1.2. Content 1.2.1. Clinical Assessment of Vascular Patients 1.2.1.1. Cardiovascular system and general history and exam including identification of comorbidity and risk assessment 1.2.1.2. Carotid Artery Disease 1.2.1.3. PAOD 1.2.1.4. Visceral Artery Disease 1.2.1.5. Great vessel disease 1.2.1.6. Venous disease 1.2.1.7. Vascular malformations 1.2.1.8. Vascular trauma 1.2.2. Perform / assist in vascular diagnostic procedures 1.2.2.1. Ankle brachial index measurement 1.2.2.2. Arterial and venous duplex scan 1.2.2.3. Segmental arterial pressure determination 1.2.3. Interpret vascular imaging studies 1.2.3.1. CT scan and CT angiography 1.2.3.2. MRI and MR angiography 1.2.3.3. Conventional angiography 1.2.4. Integrated Clinical history / PE / Vascular ancillary examinations 1.2.5. Medical management of great vessel disease 1.2.6. Selection of patients for surgery 1.2.7. Pre-operative preparation 1.2.8. Intra-operative monitoring 1.2.9. Management of postop patients including complications 1.2.10. Medical management of acute and chronic pulmonary embolic disease 1.2.11. Medical management of acute and chronic pulmonary embolic disease 1.2.12. Patient and family education on the prevention and surveillance vascular disease	1.3. Teaching-Learning Activities 1.3.1. Ward and OPD work	1.4. Resources 1.4.1. Ward / OPD patients 1.4.2. Radiology facilities 1.4.3. Central Laboratory 1.4.4. Consultant Staff	1.5. Assessment 1.5.1. Direct observation 1.5.2. Rating scale



PHILIPPINE ASSOCIATION OF THORACIC AND CARDIOVASCULAR SURGEONS, INC. (PATACSI)

VASCULAR SURGERY				
INTENDED LEARNING OUTCOMES	CONTENT	LEARNING ACTIVITIES	RESOURCES	EVALUATION
At the end of the THIRD YEAR, the RESIDENT should be able to:				
II. PSYCHOMOTOR				
2. CLINICAL 2.1. Learning outcome: 2.1.1. Perform and assist in surgical procedures	2.1. Content 2.2.1. Patient positioning and surgical prep of vascular surgeries 2.2.2. Skills Lab 2.2.2.1. Perform advanced vascular suturing techniques 2.2.2.2. Perform vascular access (phantom dummy) 2.2.2.3. Ultrasound – hand-eye coordination 2.2.2.4. Hybrid aortic repair lab 2.2.3. Vascular Access 2.2.3.1. Insertion of vascular monitoring catheters / device 2.2.3.1.1. CVP 2.2.3.1.2. Pulmonary artery catheter 2.2.3.2. Insertion of vascular access 2.2.3.2.1. Dialysis access 2.2.3.2.1.1. Acute access 2.2.3.2.1.2. Access for chronic dialysis patients 2.2.3.2.1.3. Peritoneal dialysis access 2.2.3.2.1.4. Management of graft thrombosis and infection 2.2.3.2.2. Central lines 2.2.3.2.2.1. CVP 2.2.3.2.2.2. PICC 2.2.3.2.3. Arterial lines 2.2.3.2.3.1. Invasive BP monitor 2.2.3.2.3.2. Intra-aortic balloon pump insertion 2.2.4. Exposure of extremity vasculature 2.2.5. Harvesting of greater saphenous vein 2.2.6. Management of vascular trauma 2.2.6.1. Extremity of vascular injury 2.2.6.2. Major intra-abdominal vascular injury 2.2.6.3. Head and neck vascular injuries 2.2.6.4. Thoracic aortic injuries	2.2. Teaching-Learning Activities 2.2.1. Performing surgical operations 2.2.2. Assisting in surgical procedures 2.2.3. Independent Learning 2.2.3.1. Individual study 2.2.3.2. Self-Instructional Materials	2.3. Resources 2.3.1. Operating Room facilities 2.3.2. Outpatient facilities 2.3.3. Pathology 2.3.4. Atlas of Operative Surgery 2.3.5. Surgical Skills Lab 2.3.6. Equipment for intra-op imaging 2.3.7. Consultant staff 2.3.8. ER, RR, Critical care facilities 2.3.9. Case material 2.3.10. Textbook on Complications of Surgical Operations 2.3.11. Internet 2.3.12. Demonstration 2.3.13. Teaching aids, videos, audio tapes	2.4. Assessment 2.4.1. Direct observation using rating scale 2.4.2. Record reviews 2.4.3. Logbook or records 2.4.4. Rating Scale 2.4.5. Incident reports



PHILIPPINE ASSOCIATION OF THORACIC AND CARDIOVASCULAR SURGEONS, INC. (PATACSI)

VASCULAR SURGERY

INTENDED LEARNING OUTCOMES	CONTENT	LEARNING ACTIVITIES	RESOURCES	EVALUATION
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At the end of the THIRD YEAR, the RESIDENT should be able to:

II.PSYCHOMOTOR

	<ul style="list-style-type: none"> 2.1. Content 2.2.7. Management of aortic aneurysm <ul style="list-style-type: none"> 2.2.7.1. Infra renal aortic aneurysm surgery 2.2.7.2. Ruptured aortic aneurysm 2.2.7.3. Iliac aneurysm surgery 2.2.7.4. Visceral artery aneurysm 2.2.7.5. Extremity aneurysm surgery 2.2.7.6. Pseudo aneurysm 2.2.8. Management of aortic dissection <ul style="list-style-type: none"> 2.2.8.1. Ascending thoracic aortic dissection <ul style="list-style-type: none"> 2.2.8.1.1. Bentall's procedure 2.2.8.1.2. Hybrid procedure 2.2.9. Management of carotid stenosis <ul style="list-style-type: none"> 2.2.9.1. Endarterectomy 2.2.9.2. Endovascular carotid surgery 2.2.10. Management of AV fistula, malformation, hemangioma 2.2.11. Management of acute limb ischemia <ul style="list-style-type: none"> 2.2.11.1. Thromboembolectomy 2.2.11.2. Extremity bypass 2.2.12. Management of chronic limb ischemia <ul style="list-style-type: none"> 2.2.12.1. Bypass 2.2.12.2. Symphatectomy 2.2.12.3. Arterio-venous fistula 2.2.13. Management of aortoiliac occlusive disease 2.2.14. Endovascular procedures <ul style="list-style-type: none"> 2.2.14.1. AAA endovascular surgery 2.2.14.2. Thoracic aorta endovascular surgery 2.2.14.3. Extremity endovascular surgery 2.2.14.4. Insertion of vena cava filter 2.2.14.5. Insertion of endovascular stent 2.2.15. Management of venous diseases <ul style="list-style-type: none"> 2.2.15.1. Vein stripping 2.2.15.2. Plebectomy 2.2.15.3. Perform endovenous laser or RF ablation 			<ul style="list-style-type: none"> 1.5. Assessment <ul style="list-style-type: none"> 1.5.1. Non-technical skills for surgeon 1.5.2. Documentation assessment 1.5.3. Critical incident reports.
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PHILIPPINE ASSOCIATION OF THORACIC AND CARDIOVASCULAR SURGEONS, INC. (PATACSI)

VASCULAR SURGERY				
INTENDED LEARNING OUTCOMES	CONTENT	LEARNING ACTIVITIES	RESOURCES	EVALUATION
At the end of the THIRD YEAR, the RESIDENT should be able to:				
II. PSYCHOMOTOR				
	2.2. Content 2.2.15.4. Sclerotherapy / laser photocoagulation of spider veins 2.2.15.5. Surgical management of DVT 2.2.15.5.1. Fasciotomy 2.2.15.6. Surgical management of pulmonary embolism 2.2.15.7. Management of compartment syndrome of extremities 2' to reperfusion injury, DVT, trauma 2.2.16. Amputation 2.2.16.1. Disarticulation 2.2.16.2. Forefoot amputation 2.2.16.3. Below knee amputation 2.2.16.4. Below elbow amputation 2.2.16.5. Above knee amputation 2.2.16.6. Above elbow amputation			1.5. Assessment 1.5.4. Non-technical skills for surgeon 1.5.5. Documentation assessment 1.5.6. Critical incident reports.
III. AFFECTIVE				
3. CLINICAL 3.1. Learning outcome: 3.1.1. Perform and assist in surgical procedures	3.2. Content 3.2.1. Intellectual integrity 3.2.2. Moral, Ethical value 3.2.3. Reliability / Responsibility 3.2.4. Appropriate Bedside Decorum / Relationship w/ patient 3.2.5. Study / Work habits 3.2.6. Relationship with co-health workers & superiors 3.2.7. Emotional maturity reaction to emergency or stress 3.2.8. Social Responsibility 3.2.9. Social skills 3.2.9.1. Evaluation of the socio-economic profile of patients for surgical management of vascular disease 3.2.9.2. Patient and family education on the prevention and surveillance of vascular disease 3.2.9.3. Assist in the hospital management of patients with vascular disease			3.5. Assessment 3.5.1. Direct Observation 3.5.2. Rating scale 3.5.3. Checklist 3.5.4. Incident Reports



PHILIPPINE ASSOCIATION OF THORACIC AND CARDIOVASCULAR SURGEONS, INC. (PATACSI)

VASCULAR SURGERY – COMPETENCY INDEX CASES (CORE)

PROCEDURE	PRIMARY SURGEON*
1. Median Sternotomy / Clamshell (opening and closure)	5
2. Thoracotomy	5
3. Saphenous Vein Harvest	10
4. Pericardial Drainage	5
5. Peripheral Revascularization (embolectomy, etc.)	5
6. Varicose Vein Ablation	5
7. Central Venous Cannulation	10
8. Arterio-Venous Fistula / AV Graft	10
9. Vascular Trauma • (Head & Neck / Chest / Abdominal Vascular / Peripheral Vascular – Artery & Vein Repair)	5
10. Amputations • (BKA / AKA / Metatarsal)	5
11. Thoracic, Cardiac and Vascular Trauma with Visceral Organ Repair	5
12. FNAB / TTNA / Core Biopsy	5
13. Chest Tube Insertion	10
14. Thoracentesis (with or without ultrasound guidance)	10
15. Bronchoscopy: Flexible / Rigid as primary or secondary operator	5
16. Tracheostomy as primary or secondary operator	3
TOTAL	103



PHILIPPINE ASSOCIATION OF THORACIC AND CARDIOVASCULAR SURGEONS, INC. (PATACSI)

VASCULAR SURGERY – COMPETENCY INDEX CASES (TRACKING)

PROCEDURE	TRACKING
1. ARTERIAL	
1.1. Aneurysm surgery <i>(Descending TAA / Infra renal AAA / TAAA / Mesenteric aneurysm / Iliac aneurysm)</i>	10
1.2. Endovascular Arterial Revascularization (as primary or secondary operator)	5
1.3. Lower extremity revascularization <i>(Anatomic bypass and extra-anatomic bypass) – as primary or secondary operator</i>	5
1.4. Thromboembolectomy	5
1.5. Carotid Surgery <i>(Carotid endarterectomy with patch angioplasty / Carotid subclavian bypass / Carotid crossover bypass / tumor resection) as primary or secondary operator</i>	2
2. VENOUS	
2.1. GSV harvesting	15
2.2. Vena Cava Surgery <i>filter / tumor resection / shunt as primary or secondary operator and can be achieved in other institutions</i>	1
2.3. Venous Ablation Procedure <i>(as primary or secondary operator)</i>	5
3. VASCULAR ACCESS	
3.1. Arterio-venous fistula / AV Graft	10
4. TRAUMA & AMPUTATION	
4.1. Vascular Trauma <i>(Head & Neck / Chest / Abdominal Vascular / Peripheral Vascular – Artery & Vein Repair)</i>	5
4.2. Amputations <i>(BKA / AKA / Metatarsal)</i>	5
5. VASCULAR TUMOR	2
6. DIAGNOSTIC VENOGRAPHY <i>(as primary or secondary operator)</i>	1
7. VEIN MAPPING	10
8. DIAGNOSTIC ARTERIOGRAM	5
9. INTERPRETATION of NON-INVASIVE VASCULAR STUDIES	
9.1. Peripheral Arterial Physiologic Scanning	
9.2. Peripheral Arterial Duplex Scanning	
9.3. Peripheral Venous Duplex Scanning	
9.4. Carotid Duplex Scanning	
9.5. Visceral Vascular Duplex Scanning	20
<i>Trainee case credit obtained from another institution should only comprise 30% of his / her index case requirement...</i>	
TOTAL	106