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	Effective Date:	12-30-2021
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	Document Title:	VENOUS DUPLEX STUDY OF THE UPPER EXTREMITIES

PURPOSE:

To provide a guidelines on how to perform the procedure to the patient correctly.

SCOPE:


Applies to all Non-Invasive Cardiovascular Imaging Sciences (NICIS) staffs of Dr. Pablo O. Torre Memorial Hospital

RESPONSIBLE PERSON:

Cardiologist (Vascular Medicine Specialist), Cardiovascular Tech (Registered Nurse, Allied Healthcare Professionals who have undergone training or with certification

GENERAL GUIDELINES:

1. All venous duplex scan procedures should require a physician order and a signed consent from the patient.
2. Patient should have an appointment or schedule on the day of procedure.
3. Infection control measures should be adhered to in accordance to like handwashing, use of PPE's and proper disposals of linens and supplies.
4. The Cardiovascular Technician must ensure the comfort, safety, security and general condition of a patient throughout the procedure.
5. Patients for venous duplex scan should wear hospital gown.
6. Results will be released to out-patients upon presentation of the Official Receipt (OR) or HMO ID for charged clients.

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PROCEDURE:

EQUIPMENT:

1. Color Duplex ultrasound scanner machine (HDI 5000 or HD11-XE)
2. Low frequency transducer / select frequency appropriate to body habitus (5.0 – 7.0 Linear array with Doppler and/or color Doppler capabilities)
3. Warm acoustic coupling gel
4. Recording device (VHS tape or Compact disc and thermal paper)

OUT-PATIENT PRE-EXAMINATION PROCEDURES:

1. The client presents a written request from his/her attending or referring physician to the Nurse Technician.
2. The Nurse Technician processes the requested venous duplex procedure on the Bizbox Hospital computer system after the patient had completely filled up the admission data and consent form.
3. The Nurse Technician informs the examining Vascular Consultant once the patient arrives in the unit.
4. The Nurse Technician prepares the ultrasound machine, inputs the patient's data and sets the equipment for proper test documentation.
5. The Nurse Technician introduces self to patient and assists him/her in changing to hospital gown maintaining the patient's privacy and confirms the patient's identity by interview based on the data given on the admission slip.
6. The Nurse Technician assesses the patient prior to the venous duplex evaluation which includes patient's ability to tolerate the procedure, potential contraindications to the procedure and physical assessment.
7. The Nurse Technician explains to the patient the necessity and the time duration of the Venous duplex study of the upper extremities.
8. The Nurse Technician positions the patient in supine position exposing only the areas to be examined (thighs and legs).

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DIRECT EXAMINATION PROCEDURES:

1. Place the transducer on the neck (light touch) to visualize the internal jugular vein in long axis. Record Doppler signal and note flow pattern as spontaneous, phasic or pulsatile. Rotate the transducer to cross-sectional view of intrajugular vein and compress throughout its length to rule-out partial obstruction.
2. Visualize the internal jugular vein as it drains into the innominate vein. Angle the probe medial and caudal. Record the Doppler signal from the innominate vein.
3. At the innominate vein, angle the probe laterally to view the origin of the subclavian vein. Document flow pattern and note collateral flow channels.
4. Place the transducer posterior to the clavicle to visualize distal subclavian and axillary vein in long axis. Record doppler signal and rotate the transducer to visualize the vein in the cross section. Compress the vein to rule-out partial obstruction.
5. Continue compression maneuver to the brachial vein at the level of the elbow. Rotate the probe to visualize the brachial vein longitudinally and record doppler signal.

POST-EXAMINATION PROCEDURES:

- 1 The Nurse Technician removes the excess gel by wiping it off gently and ask the patient to wait while the ultrasound images are being reviewed by the Vascular Medicine Specialist.
- 2 The Nurse Technician gives instructions that the results are released 1-2 days after the vascular consultant specialist had affixed his/her signature and are considered official.
- 3 The Vascular consultant specialist will analyze the images and may discuss with the referring physician about his/her findings on the ultrasound procedure.
- 4 The Nurse Technician submits to the vascular consultant the filled-up worksheet of result for the final interpretation of the test.


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- 5 The Nurse Technician encodes final result in the Bizbox hospital computer system, prints them out for signing of the Vascular Consultant. The official results are then ready for sorting and releasing. The patient's data with the date and time of the procedure is being recorded in the vascular procedures log book for future reference.
- 6 The Nurse Technician does after care of the machine by wiping the excess gel on the probe and softly coils the wires and after which the probe is secured on its proper place to be ready for the next patient.
- 7 The Vascular Nurse Technician switches off the machine when not in use to conserve energy and should be covered to free it from dust.

IN-PATIENT PRE-EXAMINATION PROCEDURES:

1. The staff nurse on duty encodes request on the bizbox computer system and schedules patient upon receiving doctor's order for Venous duplex study of the upper extremity.
2. Nurse technician renders request for the procedure. All rendered request are automatically charged to the patient's account.
3. The nurse technician calls the station to bring down the patient at the NICIS Department before the scheduled time.
4. The nurse technician informs the examining Vascular Medicine Specialist once the patient arrives in the unit.
5. The nurse technician prepares the ultrasound machine, inputs the patient's data and sets the equipment for proper test documentation.
6. The nurse technician assesses the patient prior to the procedure which includes patient's ability to tolerate the procedure, potential contraindications to the procedure and physical assessment.
7. The nurse technician explains to the patient the necessity and the time duration of the study.


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- The nurse technician positions the patient in supine position exposing only the areas to be examined (thighs and legs).

(Direct Exam Procedures: Refer to Out-Patient Direct Examination Procedures)

POST-EXAMINATION PROCEDURES:


- The Nurse Technician removes the excess gel by wiping it off gently and asks the patient to wait while the ultrasound images are being reviewed by the vascular consultant.
- The Nurse Technician gives instructions that the results are released 1-2 days after the vascular consultant specialist had affixed his/her signature and are considered official.
- The patient is brought back to the room/ward.
- The vascular consultant will analyze the images and may discuss with the referring physician about his/her findings on the ultrasound procedure.
- The Nurse Technician submits to the vascular consultant the filled-up worksheet of result for the final interpretation of the test.
- The Nurse Technician encodes final result in the Bizbox hospital computer system, prints them out for signing of the vascular consultant. The official results are then ready for sorting and releasing. The patient's data with the date and time of the procedure is being recorded in the Vascular procedure log book for future reference.
- The Nurse Technician does after care of the machine by wiping the excess gel on the probe and softly coils the wires and after which the probe is secured on its proper place to be ready for the next patient.
- The Nurse Technician switches off the machine when not in use to conserve energy and should be covered to free it from dust.

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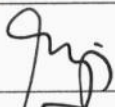


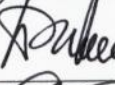
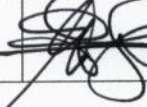
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TURN AROUND TIME (TAT)

PRE-EXAMINATION PROCEDURES:	TIME
1. Completion of pre-exam paperwork	1 minute
2. Exam charging and billing activities	3 minutes
3. Exam room and equipment preparation	3 minutes
4. Patient preparation and positioning	3 minutes
DIRECT EXAMINATION PROCEDURES:	
1. Pre infusion baseline ECG and 2DEcho	20-30minutes
2. Infusion proper	6 stages each stage duration 3-5 minutes (18-30 mins)
3. Recovery	6-15 minutes (until baseline ECG and vital signs go back to pre-infusion levels) or depending on the cardiologist.
POST-EXAMINATION PROCEDURES:	
1. Cleanup	5 minutes
2. Review exam data for preliminary and/or formal interpretation by cardiologist	15 minutes
Total:	Approximately 1 hour and 30 minutes


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APPROVAL:


	Name/Title	Signature	Date
Prepared by:	MA. LLANA LINDA D. CARDONES, RN NICIS Supervisor		01-25-22
Verified:	BONIFACIO C. SEPICO, RMT Department of Imaging Sciences Manager		1/26/22
Reviewed by:	DENNIS C. ESCALONA, MN, FPCHA, FPSQua Quality Assurance Supervisor		1/27/2022
Recommending Approval:	ROSARIO D. ABARING, RN, MN, PhD, FPCHA Ancillary Division Officer		02.02.2022
	HENRY F. ALAVAREN, MD, FPSMID, FPSQua Total Quality Division Officer		2/3/2022
Approved:	GENESIS GOLDI D. GOLINGAN President & CEO		3/3/22

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OUT-PATIENT PRE-EXAMINATION PROCEDURE	
KEY TASK	PERSON RESPONSIBLE
1. Presents a written request from the Attending or Referring Physician.	Patient
2. Encodes the requested procedure on the Bizbox computer system.	Nurse Technician
3. Informs the examining Vascular Consultant.	
4. Prepares the ultrasound machine and inputs the patient's data.	
5. Introduces self to patient and assists him/her in changing to hospital gown maintaining the patient's privacy.	
6. Assesses the patient prior to the procedure.	
7. Explains to the patient the necessity and the time duration of the study.	
8. Positions the patient in supine position exposing only the areas to be examined.	
9. Performs direct examination according to different approaches.	

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OUT-PATIENT POST-EXAMINATION PROCEDURE	
KEY TASK	PERSON RESPONSIBLE
1. Removes the excess gel by wiping it off gently and gives instructions that the results are released 1-2 days after.	Nurse Technician
2. Analyzes and discusses the images with the Referring Physician.	Vascular Consultant
3. Submits to the Vascular Consultant the filled-up worksheet of result for the final interpretation of the test.	Nurse Technician
4. Encodes final result in the Bizbox computer system.	
5. Does after care of the machine by wiping the excess gel on the probe place.	
6. Switches off the machine when not in use to conserve energy.	

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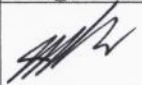


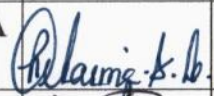

IN-PATIENT PRE-EXAMINATION PROCEDURE	
KEY TASK	PERSON RESPONSIBLE
1. Encodes request on the bizbox computer system and schedules the patient.	Nurse-on-duty
2. Renders request for the procedure.	Nurse Technician
3. Calls the Nursing Station to bring the patient down at the NICIS Section.	
4. Informs the Vascular Medicine Specialist once the patient arrives in the unit.	
5. Prepares the ultrasound machine, inputs the patient's data and sets the equipment.	
6. Assesses the patient prior to the procedure.	
7. Explains to the patient the necessity and the time duration of the study.	
8. Positions the patient in supine position exposing only the areas to be examined (thighs and legs).	

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IN-PATIENT POST-EXAMINATION PROCEDURE	
KEY TASK	PERSON RESPONSIBLE
1. Removes the excess gel by wiping it off gently and gives instructions that the results are released 1-2 days after.	Nurse Technician
2. Brings the patient back to the room/ward.	
3. Analyzes and discusses the images with the Referring Physician about his/her findings on the ultrasound procedure.	
4. Submits to the Vascular Consultant the filled-up worksheet of result for the final interpretation.	
5. Encodes final result in the Bizbox computer system and prints them out.	
6. Does after care of the machine by wiping the excess gel on the probe and softly coils the wires.	
7. Switches off the machine when not in use to conserve energy.	

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APPROVAL:

	Name/Title	Signature	Date
Prepared by:	MA. LLANA LINDA D. CARDONES, RN NICIS Supervisor		5-12-22
Verified:	BONIFACIO C. SEPICO, RMT Department of Imaging Sciences Manager		5/26/22
Reviewed:	DENNIS C. ESCALONA, MN, FPSQua Quality Assurance Supervisor		06/30/2022
Recommending Approval:	ROSARIO D. ABARING, RN, MN, PhD, FPCHA Ancillary Services Division Officer		07.01.2022
	HENRY F. ALAVAREN, MD, FPSMID, FPSQua Total Quality Division Officer		7/7/22
Approved:	GENESIS GOLDI D. GOLINGAN President and CEO		



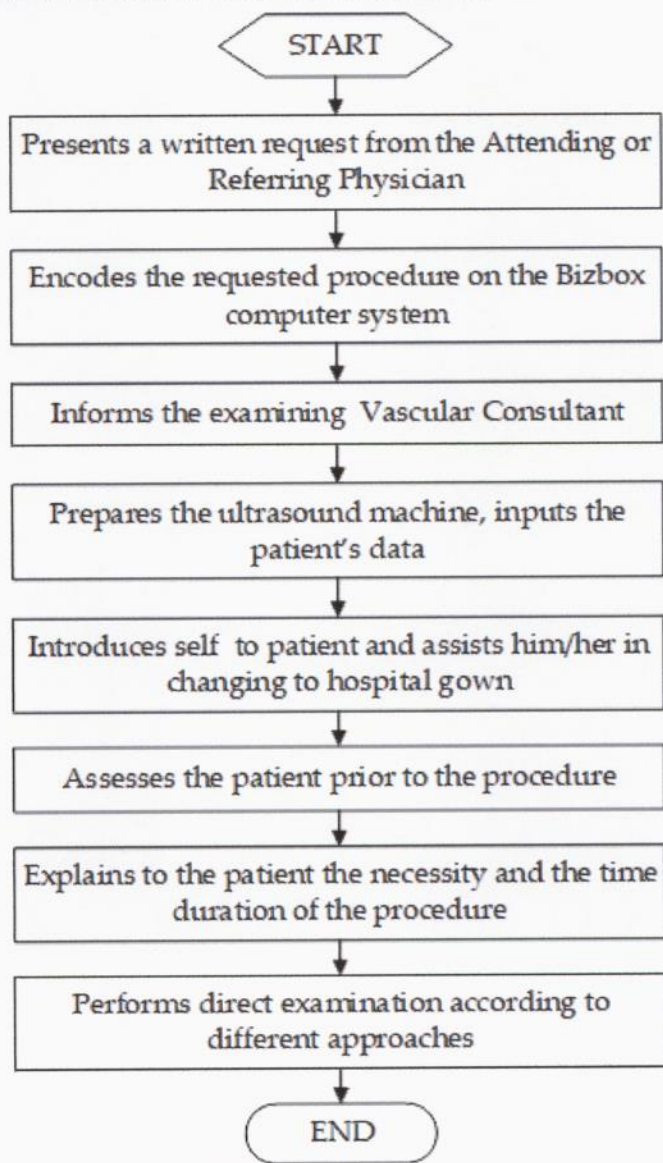
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FLOWCHART

OUT-PATIENT PRE-EXAMINATION PROCEDURE



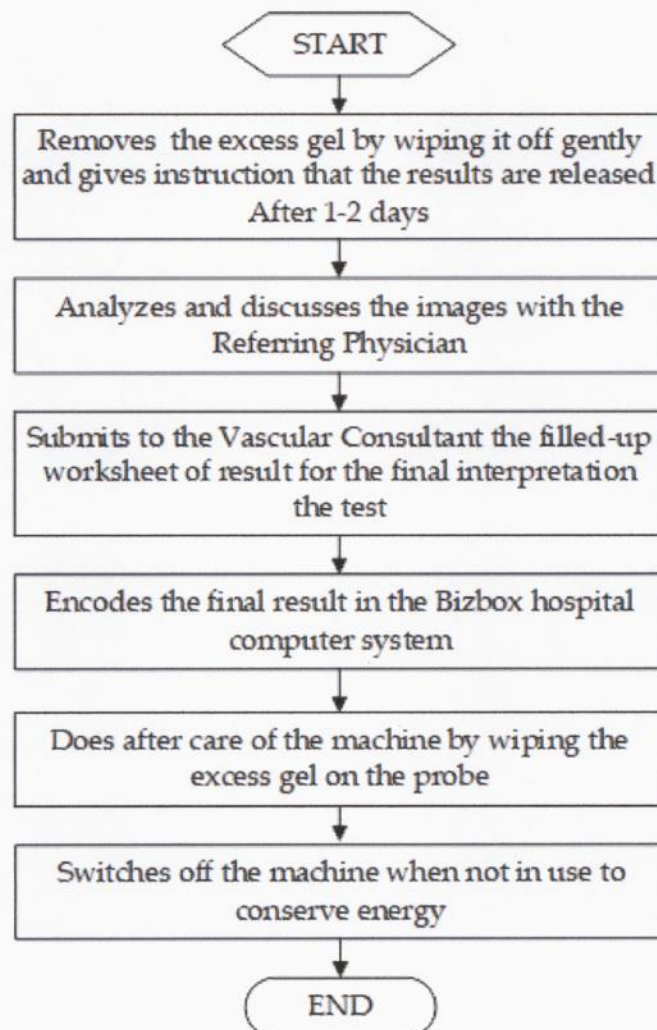


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OUT-PATIENT POST-EXAMINATION PROCEDURE



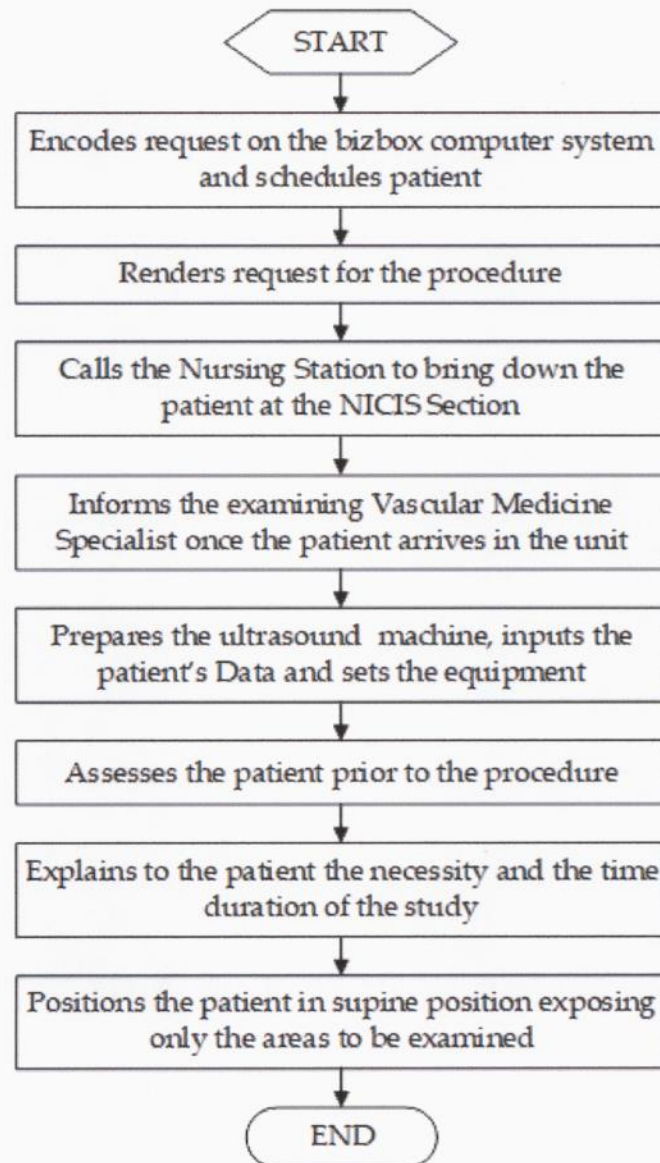


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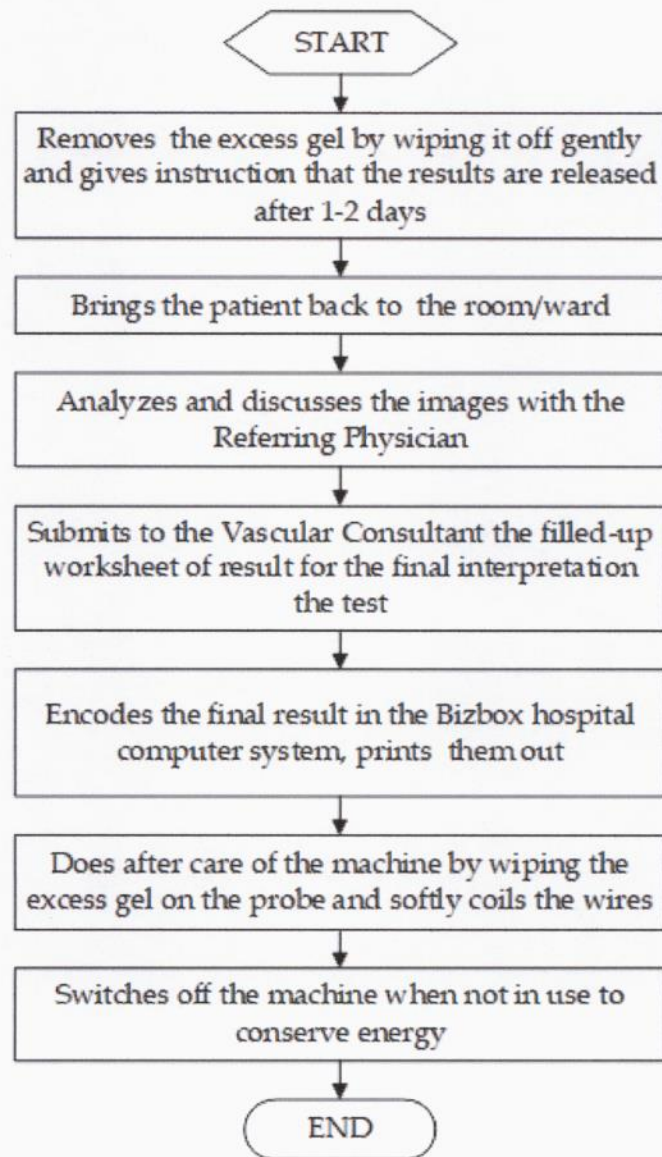



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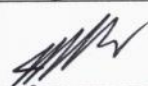
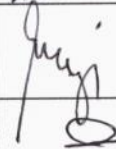

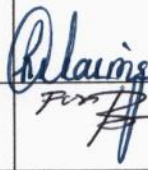

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APPROVAL:

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