OLIVE VIEW-UCLA MEDICAL CENTER
CARDIOLOGY DIVISION/NON-INVASIVE PROCEDURE
POLICY & PROCEDURE

NUMBER: 4732
VERSION: 1

SUBJECT/TITLE: TRANSESOPHAGEAL ECHOCARDIOGRAPHY

POLICY: I . Definition of Service

Trans-esophageal echocardiography (TEE) is an invasive cardiac ultrasound examination performed in patients difficult to image with conventional echocardiography. It is also indicated when intraoperative ultrasound monitoring of cardiac function or operative repair is required, however, cardiac surgery is currently not performed at OVMC.

A. Indications

1. Patients difficult to image through transthoracic approach (i.e. orbidly obese, COPD, chest wall trauma etc.)
2. Patients with prosthetic valves (assessment for perivalvular leak vegetation, function, ect.)
3. Patients suspected of intracardiac thrombus or tumor (especially left atrial appendage thrombi, or for source of embolus.
4. Patients with congenital heart ' disease.
5. Patients with suspected aortic dissection.
6. Patients with suspected endocarditis.
7. To assess the feasibility of mitral valve repair.
8. Evaluation of critically ill patient suspected of underlying acute cardiac emergency. (When Cardiothoracic Surgery is offered at OVMC, intraoperative evaluation will be added.)

B. Contraindications

1. Esophageal pathology such as stricture or tumor; active UGI bleed.
2. Relative contraindications include varices, chest radiation, diverticulum, recent thrombolysis, history of dysphagia, severe cervical arthritis.

C. Risk of Procedure (study of 10,419 patients, Circ. 1991; 83:817-21.)

1. Death -.0098% (Due to esophageal tumor with severe hematemesis.)
2. Pulmonary, cardiac or bleeding difficulty necessitating

interruption of TEE - 18% (Arrhythmia, bleeding, bronchospasm, hypoxia.)

3. Esophageal tear -rare (.02-.03% in GI literature.)

PURPOSE:

DEPARTMENTS: Cardiology, Medicine

DEFINITIONS:

PROCEDURE: **II. Definition of Procedure**

A. Level of Personnel

Attending Cardiology Faculty member, Echo Technologist, Registered Nurse , Cardiology Fellow.

B. Equipment/Supplies/Medications

1. Equipment

a. Echo machine with TEE capability
b. Transesophageal echo probe
c. Pulse oximeter
d. Automatic BP equipment
e. Continuous ECG monitor
f. Suction
g. "Crash" cart

2. Supplies

a. Syringes and needles
b. Angiocath system with needless tubing
c. Oral suction catheters with drainage tubing (Yankauer and Dental tip suction
d. Sterile and clean gloves
e. Bite guards
f. Emesis basin
g. Tongue blades
h. Oxygen and nasal cannula
i. Conductive gel and lubricant

3. Medications

a. 2% xylocaine jelly
b. 10% aerosol local xylocaine spray (or cetocaine)
c. 2% viscous xylocaine gargle 20cc
d. D5W (250cc bag)
e. Mldazolam (Versed) 2mg/2ml injectable
f. Valium injectable

g. Demerol injectable
h. Benadryl 50mg
i. Vials of normal saline/sterile water
j. Gentamicin 80mg injectable Ampicillin 19m injectable Vancomycin 500mg injectable
k. Cherry syrub to mix with byl viscous

C. General Considerations

1. TEE can be performed on an inpatient or outpatient basis.
2. Inpatient TEE will be performed at the bedside on ICU patients .
3. Outpatient and ambulatory inpatients will be performed in the Cardiology Lab/Endoscopy suite. GI Lab Admission/Discharge procedure for the same day surgery patients will be followed. (Outpatients).

D. Pre Procedure

1. Pre procedure patient instructions (to be given by physician, echo technologist or nurse)

    a. Patient instructed about the examination procedure and receives printed information instructions.
    b. NPO for 6 hours before TEE, except for medications.
    c. Ride arrangements to be made for after the procedure.
    d. Any oral prosthesis mus t be r emoved.
    e. The following to be performed by Special Procedures nurse (or designee when appropriate).

2. Verification of readiness of resuscitation equipment and supplies.
3. Verification patient has been NPO for 6 hours; oral prosthesis Removed
4. Verification of signed consent form.
5. Verifies or initiates IV access with D5W at keep open rate.
6. Performs baseline vital signs and preprocedure patient assessment.
7. Administers medications as ordered and documents on procedural notes. (Intravenous anesthesia protocol in Policy and Procedure Manual/Invasive procedures.)
8. Complete Pre Op check list sheet.

E. During Procedure

1. Patient to be monitored with automatic BP device, pulse oximetry, and continuous ECG monitor.
2. Topical anesthesia to be delivered by physician.
3. Intravenous anesthesia to be administered by R.N. or M.D. as per M.D. order.
4. Patient to be turned on side, and i f secretions are copious, continuous suction to be used. Aspiration precautions to be taken.
5. Bite guard to be fastened prior to insertion of TEE probe.
6. Continuous monitoring to be carried out, R.N. to document vital signs, 02' ECG rhythm, IV therapy, cardiopulmonary status, and general well being during examination. R.N. to immediately alert M.D. if there is any hypotension, respiratory depression, bradycardia, 02 desaturation, excessive diaphoresis or laryngospasm.
7. Echocardiographer (Cardiologist) to perform TEE, echo technologist to assist with equipment and recordings.
8. Administration of contrast material delineated in Manual under Echo.

F. Post procedure

1. Patient to be observed for appoximately 30 minutes following the study, prior to transfer to outpatient surgery day unit. Complications, unusual mental status, abnormal vital signs will be monitored.
2. Patient to remain s upine after procedure, with head of bed elevated.
3. Patient not be eat or drink for 3 hours after procedure, or until documented return of gag reflex (may occur sooner). Gag reflex to be tested by touching back of throat with tongue blade.
4. Patient instructions:
   a. May experience sore throat for 3-4 days.
   b. Throat lozenges or warm saline gargle are permitted for relief.
   c. Patient should watch for persistent difficulty swallowing, pain, fever, vomiting blood and notify M.D. or come to E.R. immediately.
   d. Patient should arrange for ride home because of sedatives received, and should not drive for at least 24 hours after test.

G. Paperwork/Care of Endoscope-Transducer

1. All procedure notes shall be completed and processed with the report after the procedure.
2. Endoscope-Transducer and bite guards are to be washed with soap and water immediately following procedure, and t hen disinfected. The electrical element shall not come in contact with water or

Cidex.

QUALITY ASSESSMENT

III. Quality Assessment

A. Infection Control
Universal infection precautions are to be observed.
Procedures for protecting patient and staff to be meticulously followed.

B. Procedure Complications All procedures, complications and statistical data to be maintained i n a log book for periodic review.

C. Staff Qualifications and Privileging.
1. The Attending cardiologist must have Hospital Staff Privileges in good standing.
2. To obtain privileges:
   a. Demonstrate knowledge of tomograph ic anatomy and imaging techniques.
   b. Demonstrate knowledge of contraindications and skills in management of complications.
   c. Must have performed endoscope introductions under the direct supervision of a Gastroenterologist or Cardiologist with established training.
   d. Must be proctored by a Cardiologist with privileges at Olive View Medical Center, or other County or UCLA facility. Documentation of competency required.
   e. No other Department (i.e. ER) to use Endoscope Transducer unless accompanied by procedure Cardiologist

References:	
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