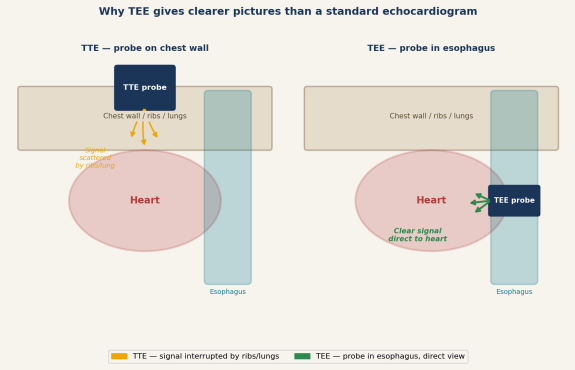
Understanding Your TEE (Transesophageal Echocardiogram)

A detailed heart ultrasound taken from inside your esophagus — the clearest view of your heart possible

Not on your chest. Down your throat. Crystal-clear pictures from 2 cm away.



Online: https://go.riasalimd.com/tee-guide

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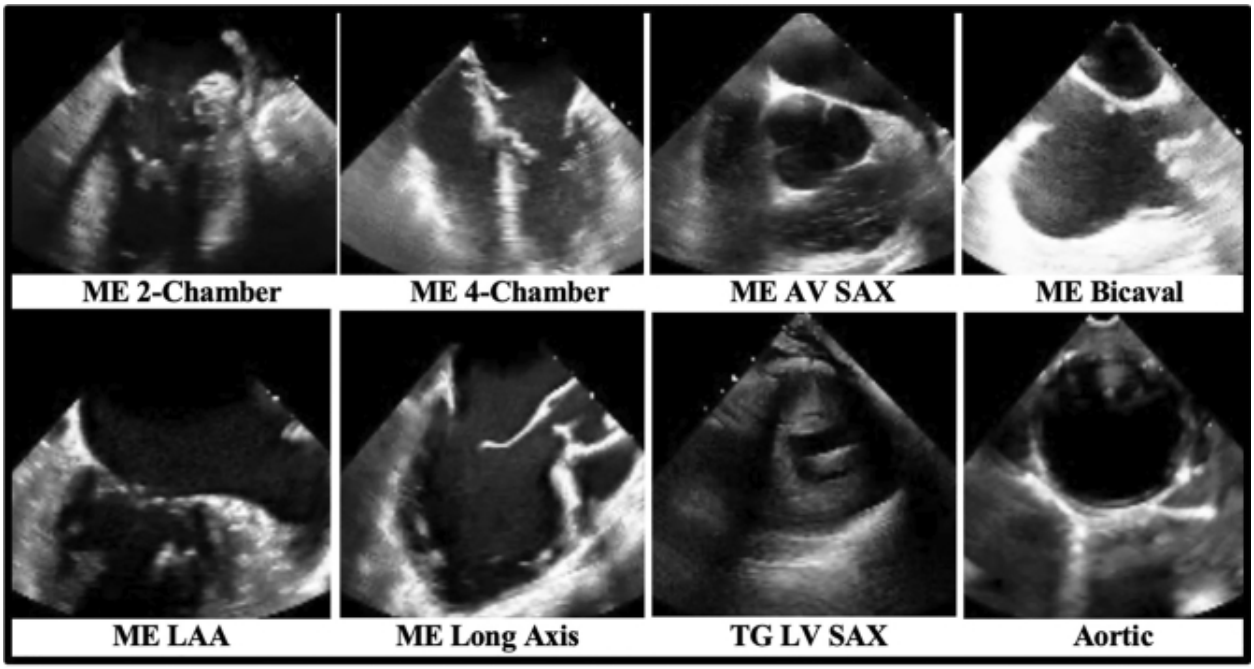
Names & Terms You Will Hear

Term	Meaning
TEE	Transesophageal echocardiogram — a heart ultrasound taken from inside the esophagus (food pipe), which lies directly behind the heart.
TTE (Transthoracic Echocardiogram)	The standard echo — probe held on the outside of the chest. Good for most purposes, but ribs, lungs, and body habitus can blur the images. TEE bypasses all of that.
Echocardiogram	An ultrasound of the heart using sound waves to create moving pictures of heart structures, valves, chambers, and blood flow. TEE is the most detailed type.
Transducer probe	The device at the tip of the TEE tube that emits and receives sound waves. It sits in the esophagus 2-3 cm from the back of the heart.
Conscious sedation (moderate sedation)	Medication — usually midazolam and fentanyl — that makes you relaxed and drowsy for the TEE. You are not fully asleep but are too sedated to remember the procedure.
Left atrial appendage (LAA)	A pouch off the left atrium where blood clots form in AFib. TEE can visualize the LAA with near-100% accuracy — standard TTE cannot reliably see it.
Endocarditis	Infection on a heart valve or implanted device. TEE detects valve vegetations (infected growths) with 90-95% sensitivity — far better than TTE's 50-60%.

What Is Your TEE (Transesophageal Echocardiogram)?

- A TEE is a specialized echocardiogram where a thin, flexible probe with an ultrasound sensor at the tip is passed through your mouth into your esophagus (food pipe), which lies directly behind the heart.
- Because the probe is inside the body — not blocked by ribs, lungs, or chest wall — the images are dramatically clearer than a standard (transthoracic) echo, especially for structures at the back of the heart.
- You receive sedation and throat numbing spray so the procedure is comfortable. Most patients have little memory of the test itself.
- The procedure takes 20-45 minutes. You stay in recovery for 1-2 hours while sedation wears off, then go home — you cannot drive yourself.
- TEE is one of the most information-rich cardiac tests available. In a single session it can visualize clots, valve infections, valve leaks, aortic tears, holes in the heart wall, and guide real-time procedures.



Real TEE pictures from an actual exam. A single TEE captures a full set of standard views like these — each angle shows a different part of the heart (chambers, valves, and the left atrial appendage where AFib clots form). This is the kind of detailed, close-up imaging a TEE provides that a standard chest-wall echo cannot match. Image: Steffner et al., Scientific Reports 2024 (CC BY 4.0).

Why It Matters

- TEE detects left atrial appendage (LAA) clots — the source of most AFib-related strokes — with near-100% accuracy. Standard TTE misses about 40-60% of LAA clots.
- For infective endocarditis (infected heart valve), TEE sensitivity is 90-95% vs 50-60% for TTE. It also reveals valve abscesses and fistulas that would be missed on standard echo.
- Before cardioversion (shock to restore heart rhythm) or AFib ablation, a TEE rules out LAA clot — proceeding without this check carries significant stroke risk.
- For acute aortic dissection (tear in the aortic wall), TEE identifies the entry tear, extent, and involvement of coronary arteries faster than any other bedside test.
- During structural heart procedures (TAVR, MitraClip, PFO closure, Watchman LAA closure), live TEE guidance is essential — the physician watches the device deploy in real time.

Treatment Options

- NPO (nothing to eat or drink) for at least 6 hours before TEE — this is a safety requirement, not a preference. An empty stomach prevents aspiration during sedation.
- Tell us about all medications in advance. Blood thinners are usually continued. Diabetes medications may need to be held if you skip meals.
- Arrange a driver — you cannot drive for 24 hours after sedation. Do not make important decisions or sign legal documents on the day of the procedure.
- Remove dentures, partial plates, and oral appliances before the procedure begins.
- During the test: you lie on your left side. After throat spray and sedation, the probe is guided down your throat while you swallow. The cardiologist captures images from multiple angles by rotating the probe.
- After the procedure: wait until your gag reflex fully returns before eating or drinking (usually 30-60 minutes). A sore throat for 1-2 days is normal. Ice chips and soft foods help.
- Results are typically discussed with you before you leave or communicated by your cardiologist within 1-2 days.

Risks, Benefits, and Alternatives

Every choice has trade-offs. Use this table to start the shared decision conversation.

Option	Risks	Benefits	Alternatives
TEE	Requires sedation (drowsiness, nausea). Sore throat 1-3 days (nearly universal). Cannot drive for 24 hours. Rare: minor throat bleeding, aspiration, transient arrhythmia. Very rare: esophageal perforation (<1 in 10,000 cases). Not possible with known esophageal disease or recent esophageal surgery.	Highest-resolution cardiac imaging available. Near-100% sensitivity for LAA clot, valve vegetation, aortic dissection. Essential for structural procedure guidance. Visualizes structures TTE cannot see (LAA, posterior structures, prosthetic valves).	Standard TTE (adequate for many indications), CT angiography of the aorta (for dissection without need for sedation), cardiac MRI (for mass/structure without sedation — slower, less real-time capable).
TTE (standard echocardiogram)	Images may be limited by body habitus, obesity, COPD, or chest wall. Cannot reliably visualize LAA, prosthetic valve detail, or small endocarditis vegetations.	No sedation, no NPO, no recovery time. Excellent for LV function, wall motion, pericardial effusion, and most valve assessments. First-line for most cardiac questions.	TEE (when TTE is inadequate or a high-stakes answer is needed), cardiac MRI, nuclear imaging.
CT angiography (CTA)	Radiation. IV contrast required (allergy risk, kidney concern). Cannot assess real-time valve function or blood flow. Cannot guide procedures in real time.	Excellent for aortic anatomy, coronary calcium, pericardium. Can be done without sedation. Three-dimensional reconstruction possible.	TEE (better for valves and LAA in real time), TTE (for functional assessment), MRI (no radiation, better soft tissue).

Option	Risks	Benefits	Alternatives
No additional imaging (rely on TTE alone)	May miss LAA clot (40-60% miss rate), valve vegetation (50% miss rate), or aortic dissection detail. Stroke or clinical deterioration risk if high-stakes diagnosis is missed.	Avoids sedation, NPO, and procedure burden.	TEE is recommended whenever TTE is inadequate for the clinical question and the answer will change management.

Common Misconceptions

Myth	Reality
A TEE is just a regular heart ultrasound.	TEE and TTE both use ultrasound, but TEE is done from inside the esophagus rather than through the chest wall. The proximity to the heart (2-3 cm vs 10-15 cm through ribs and lungs) makes the image quality dramatically better — especially for structures at the back of the heart.
I will be completely asleep under general anesthesia.	Most TEEs use conscious sedation (moderate sedation) — you are deeply relaxed and will have little memory of the procedure, but you are not under general anesthesia. You breathe on your own and can follow simple commands if needed. A minority of TEEs (for complex structural procedures) use general anesthesia.
My esophagus could be permanently injured.	Esophageal perforation is very rare — fewer than 1 in 10,000 procedures. The probe is flexible and designed to follow the natural curve of your esophagus. Cardiologists are trained in probe insertion, and the procedure is immediately stopped if significant resistance is felt.
I don't need to fast — I only had a small snack.	Even a small snack increases aspiration risk during sedation. A full 6-hour fast is required and non-negotiable. Aspiration pneumonia or airway obstruction during a sedated procedure is a serious preventable risk.
A TEE means my regular echo wasn't good enough — something must be wrong.	TEE is ordered because more detail is needed — not as a sign of bad news. For many conditions (AFib before cardioversion, suspected valve infection, aortic dissection, structural procedure planning), TEE is the standard first-line test regardless of TTE quality.

Myth	Reality
I can drive myself home after a few hours of rest.	You cannot drive for 24 hours after sedation. Even after you feel fully awake, sedation affects reaction time and judgment in ways you may not perceive. Driving within 24 hours is unsafe and illegal in most states.

Possible Complications

Knowing what can go wrong helps you spot problems early. Most complications are uncommon, especially with treatment.

Where / What	What Can Happen
Sore throat / dysphagia	The most common effect — affects nearly all patients to some degree. Usually mild, resolves in 1-3 days. Soft foods and throat lozenges help. Severe persistent pain or difficulty swallowing should be reported.
Sedation side effects	Nausea, prolonged grogginess, or brief low blood pressure are common. Managed in recovery. Rarely, oversedation requires reversal agents (flumazenil for benzodiazepine, naloxone for opioid).
Transient arrhythmia	Brief abnormal heart rhythms can occur during probe manipulation. Usually self-limiting and not dangerous. Continuous monitoring during the procedure catches and manages these.
Aspiration	Inhaling oral secretions into the lungs. Risk is minimized by strict NPO, left lateral positioning, and throat suctioning. Still a small risk — fasting rules are firm.
Minor mucosal bleeding	Small tears in the esophageal lining can cause minor bleeding. Usually resolves without treatment. Tell us about any history of esophageal disease, varices, or prior esophageal surgery.
Esophageal perforation	The most feared but rarest complication (<1 in 10,000 procedures). Risk is higher with Zenker's diverticulum, radiation esophagitis, esophageal stricture, or active esophageal infection. These conditions are screened for before TEE. Symptoms: severe chest/back pain, fever, difficulty swallowing. Go to the ER immediately.

Points to Know

If you remember nothing else, remember these key points.

- Nothing to eat or drink for 6 hours before the procedure — no water, no sips, no small snacks.
- Arrange a driver for the day of and the day after — no driving for 24 hours post-sedation.
- Remove dentures, partial plates, and removable dental appliances before the procedure.
- Tell us about all medications — especially blood thinners, diabetes drugs, and any heart medications.
- After the test, wait until your gag reflex returns before eating or drinking (usually 30-60 minutes).
- Sore throat for 1-3 days is expected and normal — ice chips, soft foods, and throat lozenges help.
- Do not make important decisions, sign documents, or operate machinery on the day of the procedure.
- Results typically discussed same-day or within 1-2 business days — ask us before you leave.

When to Call Us - and When to Call 911

If you are not sure, call. We would rather hear from you twice than miss a real problem.

- Chest pain, difficulty swallowing, or sensation of something stuck in the throat after TEE — call us today (rare esophageal injury sign).
- Fever or chills within 24-48 hours of TEE — call us (infection risk, extremely rare).
- Coughing up blood or significant blood from the throat — call us immediately.
- Persistent difficulty breathing or severe throat swelling after leaving the facility — call 911.
- No memory of post-procedure instructions? Call us — sedation can affect short-term recall.
- Irregular heartbeat or palpitations after TEE — call us today.
- If you have questions about your TEE results — call the office; most results are available within 1-2 days.
- Questions about whether you should hold any medications before a scheduled TEE — call us at least 48 hours in advance.

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Trusted Resources

The links below are the trusted resources Dr. Ali used to write this guide and that he recommends you visit for more information. Each is a clickable link in the digital version and a Short.io tracked URL on the printed version.

- Cleveland Clinic — Transesophageal Echocardiography - Patient overview of what to expect before, during, and after TEE.
- Mayo Clinic — Transesophageal Echocardiogram - Comprehensive patient guide with preparation instructions and risk information.
- MedlinePlus — Transesophageal Echocardiography - NIH-curated procedure guide including what the test can detect.
- American Heart Association — Echocardiography - AHA patient page explaining echocardiography and its role in cardiac diagnosis.

Sources Used to Build This Guide

Every recommendation in this guide is grounded in one or more of the studies, guidelines, or trusted resources below. Short links are tracked so Dr. Ali can see which references patients are reading; nothing personally identifying is captured.

- ASE/EACVI Guidelines for TEE (Hahn et al, JASE 2013) *[Guideline]*
  ASE/EACVI comprehensive guidelines on TEE indications, image acquisition, and safety. Defines the standard TEE protocol and training requirements.
- ACC/AHA Guideline for Valvular Heart Disease (Otto et al, JACC 2021) *[Guideline]*
  TEE Class I recommendation for evaluation of prosthetic valves, infective endocarditis, and guidance during valve repair or TAVR procedures.
- Cleveland Clinic — Transesophageal Echocardiography (TEE) *[Clinical]*
  Primary patient-friendly reference: what to expect before, during, and after TEE including prep, sedation, and recovery.
- Mayo Clinic — Transesophageal Echocardiogram *[Clinical]*
  Comprehensive patient guide covering indications, preparation, procedure steps, results, and risks.
- AHA Scientific Statement — Infective Endocarditis (Baddour et al, Circulation 2015) *[Guideline]*
  TEE is the diagnostic standard for infective endocarditis — detects vegetations on valves, abscess formation, and prosthetic valve involvement better than TTE.
- Omran et al — TEE for Left Atrial Appendage Thrombus (JACC 1997) *[Clinical Trial]*
  TEE vs TTE for LAA thrombus detection: TEE sensitivity 95-100% vs TTE 40-60%. Anchors TEE as the standard before cardioversion or AFib ablation.
- MedlinePlus — Transesophageal Echocardiography *[Clinical]*
  NIH-curated patient procedure guide including preparation, what to expect, and follow-up care.
- Daniel et al — Esophageal Perforation Risk with TEE (JACC 1991) *[Clinical Trial]*
  Establishes the rarity of esophageal perforation (<0.01%) as the most feared complication of TEE. Frames the risk-benefit discussion honestly.

About This Guide

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Reviewer note: Reviewed against Cleveland Clinic, Mayo Clinic, and MedlinePlus TEE patient pages. Ours adds: side-by-side TTE vs TEE diagram explaining the anatomic advantage, the six specific indications table (clot, valve, endocarditis, aorta, PFO, procedure guidance), explicit NPO instructions and medication hold list, and the rare esophageal-perforation risk (< 1 in 10,000) put in honest context alongside the common sore-throat.

Disclaimer

This guide is for educational purposes only and does not replace medical advice from your physician. Recommendations may not apply to every patient. Always follow the specific instructions of Dr. Ali and your care team. In an emergency call 911 or go to the nearest emergency department.

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