

General Guidance on Deferring Non-Urgent CV Testing and Procedures During the COVID-19 Pandemic

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With a primary goal of reducing the risk of infection/spread of COVID-19, protecting our patients and care teams, enhancing capacity to respond to the pandemic, and preserving access to necessary cardiovascular care, many clinics and hospitals have begun deferring non-urgent cardiovascular testing and procedures.



In general, it is reasonable to consider deferring any test or procedure that is unlikely to directly impact clinical care or outcomes over the next several months.

In keeping with the **Centers for Disease Control and Prevention's recommendation** to reschedule "non-urgent outpatient visits" and "elective surgeries as necessary," an effort has been made to identify tests and procedures that have the potential to be deferred. The following list represents a "starting point" for conversations on this topic.

This list is likely to change over time, depending on hospital capacity and staff availability, particularly in the setting of a COVID-19 surge. Whenever possible, preference should be given to testing that can be done by alternative means or remotely (e.g., interrogation of cardiovascular implantable electronic devices).

Decisions about what tests/procedures to perform (or not perform) should be based on individualized risk assessment, informed by the patient's clinical status. Shared decision-making between patients and members of the care team represents an important component and as such, should be clearly documented in the medical record.

Clinical Service Area	Tests/Procedures with the Potential for Deferral
<p style="text-align: center;">Cardiovascular Stress Testing and Imaging</p>	<ul style="list-style-type: none"> • Stress testing (ECG alone or with imaging [echocardiography, radionuclide, MRI]) for suspected stable ischemic heart disease (outpatient and inpatient) • Cardiopulmonary exercise testing for functional assessment (outpatient and inpatient) • Transthoracic echocardiograms (outpatient) • Transesophageal echocardiograms in stable patients (outpatient and inpatient) • Cardiovascular computed tomography (CT) (outpatient) • Cardiovascular magnetic resonance imaging (MRI) (outpatient) • Nuclear cardiac imaging (SPECT and PET) (outpatient and inpatient) • Vascular imaging for asymptomatic carotid artery disease (outpatient and inpatient) • Vascular imaging for claudication (outpatient and inpatient) • Imaging for screening purposes (e.g., coronary calcium score, screening ultrasound to assess for an AAA) (outpatient and inpatient)

Electrophysiology

- In-person cardiovascular implantable electronic device (CIED) checks/interrogations (outpatient) and absent new cardiovascular symptoms (inpatient)
- Cardioversions in stable, asymptomatic patients (outpatient and inpatient)
- Tilt table test (outpatient and inpatient)
- Implantable loop recorder (ILR) implant absent cryptogenic stroke (outpatient and inpatient)
- Pacemaker implant for stable sinus node dysfunction or second-degree AV block without syncope (outpatient and inpatient)
- ICD placement for primary prevention in stable, low-risk patients (outpatient)
- Upgrade to cardiac resynchronization therapy (CRT) in stable patients (outpatient and inpatient)
- Atrial fibrillation ablation in stable patients (e.g., without refractory heart failure) (outpatient and inpatient)
- Atrial flutter ablation in stable patients (e.g., without refractory heart failure) (outpatient and inpatient)
- SVT ablation in stable patients (outpatient and inpatient)
- PVC ablation in stable patients (outpatient and inpatient)
- Left atrial appendage closure/occlusion (e.g., Watchman) (outpatient and inpatient)
- Lead extraction unrelated to infection or symptomatic lead failure (outpatient and inpatient)

Heart Failure/ Transplant	<ul style="list-style-type: none">• Cardiopulmonary exercise testing for functional assessment (outpatient and inpatient)• Right heart catheterization (outpatient)• Surveillance right heart catheterization and cardiac biopsy post cardiac transplant (outpatient)• Surveillance coronary angiography post cardiac transplant (outpatient)• Hemodynamic monitor implant (e.g. CardioMEMS) (outpatient and inpatient)
Interventional Cardiology	<ul style="list-style-type: none">• Coronary angiography ± intervention for stable ischemic heart disease (outpatient and inpatient)• Coronary angiography ± intervention for non-cardiac preoperative evaluation (outpatient and inpatient)• Chronic total occlusion (CTO) intervention (outpatient and inpatient)• Coronary brachytherapy (outpatient and inpatient)• Surveillance coronary angiography post cardiac transplant (outpatient)• Right heart catheterization (outpatient)• Pulmonary angiography (outpatient)• Balloon pulmonary angioplasty for CTEPH (outpatient and inpatient)• Renal angiography ± intervention (outpatient and inpatient)

Structural Heart Disease	<ul style="list-style-type: none">• PFO/ASD closure (outpatient and inpatient)• Transcatheter aortic valve replacement (TAVR) in asymptomatic patients (outpatient and inpatient)• Percutaneous mitral valve repair (e.g., MitraClip) or replacement (e.g., valve-in-valve) (outpatient)• Left atrial appendage closure/occlusion (e.g., Watchman) (outpatient and inpatient)
Cardiac Surgery	<ul style="list-style-type: none">• Coronary artery bypass graft (CABG) surgery for stable ischemic heart disease (outpatient and inpatient)• Valve repair/replacement in asymptomatic patients (outpatient and inpatient)• Repair of asymptomatic ascending aortic aneurysm (<5.5 cm) among those without additional risk factors (e.g., family history) (outpatient and inpatient)• Surgical treatment of atrial fibrillation (including convergent procedure) (outpatient)

Vascular

- Upper extremity angiography ± intervention (outpatient and inpatient)
- Lower extremity angiography ± intervention for claudication (outpatient and inpatient)
- Lower extremity surgical revascularization for claudication (outpatient and inpatient)
- Lower extremity angiography ± intervention for non-healing wounds (without impending limb/tissue loss) (outpatient and inpatient)
- Lower extremity surgical revascularization for non-healing wounds (without impending limb/tissue loss) (outpatient and inpatient)
- Carotid angiography ± intervention in asymptomatic patients (outpatient and inpatient)
- Transcarotid artery revascularization (TCAR) or other surgical revascularization in asymptomatic patients (outpatient and inpatient)
- Renal angiography ± intervention (outpatient and inpatient)
- Creation of dialysis access (AV fistula) (outpatient)
- Repair of asymptomatic ascending aortic aneurysm (<5.5 cm) among those without additional risk factors (e.g., family history) (outpatient and inpatient)
- Endovascular or open treatment of an unruptured abdominal aortic aneurysm (AAA) ≤5.5 cm (outpatient and inpatient)
- Endovascular or open treatment of an unruptured thoracic aortic aneurysm (AAA) ≤5.5 cm (outpatient and inpatient)
- Venous ablation (outpatient and inpatient)
- Venous stenting (outpatient and inpatient)

Other

- Cardiac rehabilitation, phase 1 (inpatient) and 2/3 (outpatient)
- Pulmonary rehabilitation (outpatient)
- Vascular rehabilitation (outpatient)



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