Intro: Permanent pacemaker (PPM) lead extractions are usually performed by interventional cardiologists in the cardiac catheterization suite. We describe the perioperative management of a patient with infected PPM leads that had eroded through the right ventricle (RV).

Case: An 82-year-old woman underwent placement of a PPM in 2008 for symptomatic bradycardia. She presented with fever, chills, and was found to have MSSA bacteremia. A transesophageal echocardiogram (TEE) was obtained and could not rule out the presence of right atrial lead vegetation. Because of persistent bacteremia and new onset atrial fibrillation, the decision was made to remove the PPM leads. The patient was brought to the cardiac catheterization suite and fluoroscopy was performed. The PPM lead appeared to have perforated the RV with its tip in the left chest. The cardiothoracic surgeons were notified and the patient was transferred to the operating room for lead extraction. With standard monitors and invasive arterial blood pressure monitoring in place, general anesthesia was induced and the patient’s trachea was intubated. A right internal jugular cordis was placed and a TEE performed. Central venous pressure (CVP) was noted to be 5 mmHg and TEE revealed a small pericardial effusion, a PPM lead that appeared to perforate the RV, and a large echodense mass on the right atrial pacemaker wires. With the CPB machine primed and perfusionists ready for emergent bypass, the previous incision at the left subclavicular area was accessed and the generator was dissected out. Both atrial and ventricular leads were unscrewed and pulled out without resistance. TEE was used throughout the procedure to detect development of tamponade, or tricuspid regurgitation. The pericardial effusion remained unchanged and CVP was 2 mmHg. The right atrial mass was unchanged despite the successful percutaneous lead extraction, and was noted to be floating in the right atrium with attachment to the inferior vena cava. The patient was transferred to the cardiothoracic intensive care unit to monitor for hemodynamic instability that would indicate a tamponade or bleeding. Her ICU stay was unremarkable and she was extubated on POD1 and transferred to the step-down unit.

Discussion: PPM lead extraction can be associated with significant complications, such as arrhythmias, tricuspid regurgitation, vascular injury, perforation of cardiac wall or intravascular migration of lead fragments. 1-2 Late perforations are a recognized rare complication of PPM placement and usually present with atypical chest pain, pericardial effusion with or without pericarditis. 3 In our patient, the decision was made to attempt a percutaneous extraction in the operating room with cardiopulmonary bypass readily available.