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## A Novel Solution to Patients Exceeding Weight Limit on Computed Tomography Scanner



*To the Editor:*

Morbid obesity presents multiple diagnostic challenges. Presented here is a solution to the performance of a computed tomography (CT) angiogram in a patient exceeding the weight limit of the hospital's CT scanner.

A 38-year-old man presented to the emergency department on a Sunday morning with severe chest and shoulder pain. He stood 5 ft 11 in (155 cm) tall and weighed 485 lb (220.5 kg) for a body mass index of 67.67 kg/m<sup>2</sup>. Relevant physical findings included a blood pressure of 239/129 mm Hg as measured by a radial arterial catheter and a pulse rate of 68 beats/min. The initial physical examination was unremarkable, and his laboratory workup and ECG were completely normal. Shortly after arrival, the patient stated that he began losing sensation in his legs. Repeat examination revealed subjective hypoesthesia in both legs.

An aortic dissection was considered a leading diagnosis, and the patient was begun on a nicardipine infusion following a 20 mg bolus of labetalol. The patient's weight exceeded the 450-lb (205-kg) limit for the hospital's CT scanners. To reduce the effective weight on the CT gantry, the patient was positioned in the scanner with his legs suspended in 2 Hoyer patient lifts (Viking Patient Lift Hillrom, Chicago, IL) placed on either side of the scanner table (Figure 1). The maneuver allowed the CT table to move freely, and a CT angiogram of the aorta was completed without incident.

The angiogram was a quality study and revealed no acute aortic pathology. The patient was admitted to the

ICU for further management of his hypertension and chest pain.

Technically, Hoyer lift is a brand name for a patient lift developed by Ted Hoyer, a quadriplegic, and his cousin Victor Hildemann in the early 1950s. At present, the name is generically used in medicine to refer to any patient lift. The Hoyer lift and similar patient lifts utilize a sling suspended from a boom arm attached to a piston or winch to lift and maneuver a patient. For the patient in this report, the lift was simply used to suspend the patient's legs off of the CT gantry, reducing the effective weight on the table.

Subsequently, a more objective evaluation of this maneuver was conducted. A volunteer was placed supine on a stretcher with a built-in scale. Following a baseline weight, the subject's legs were lifted by 2 individuals standing on either side of the stretcher. The legs were lifted with the arms under the ankles and the popliteal fossa, while the knees and hips were flexed. The initial weight of the subject was 399.5 lb (181.2 kg), whereas the weight with the legs lifted was 326.3 lb (148 kg), with a reduction of 73.2 lb (33 kg) or 18.3%.

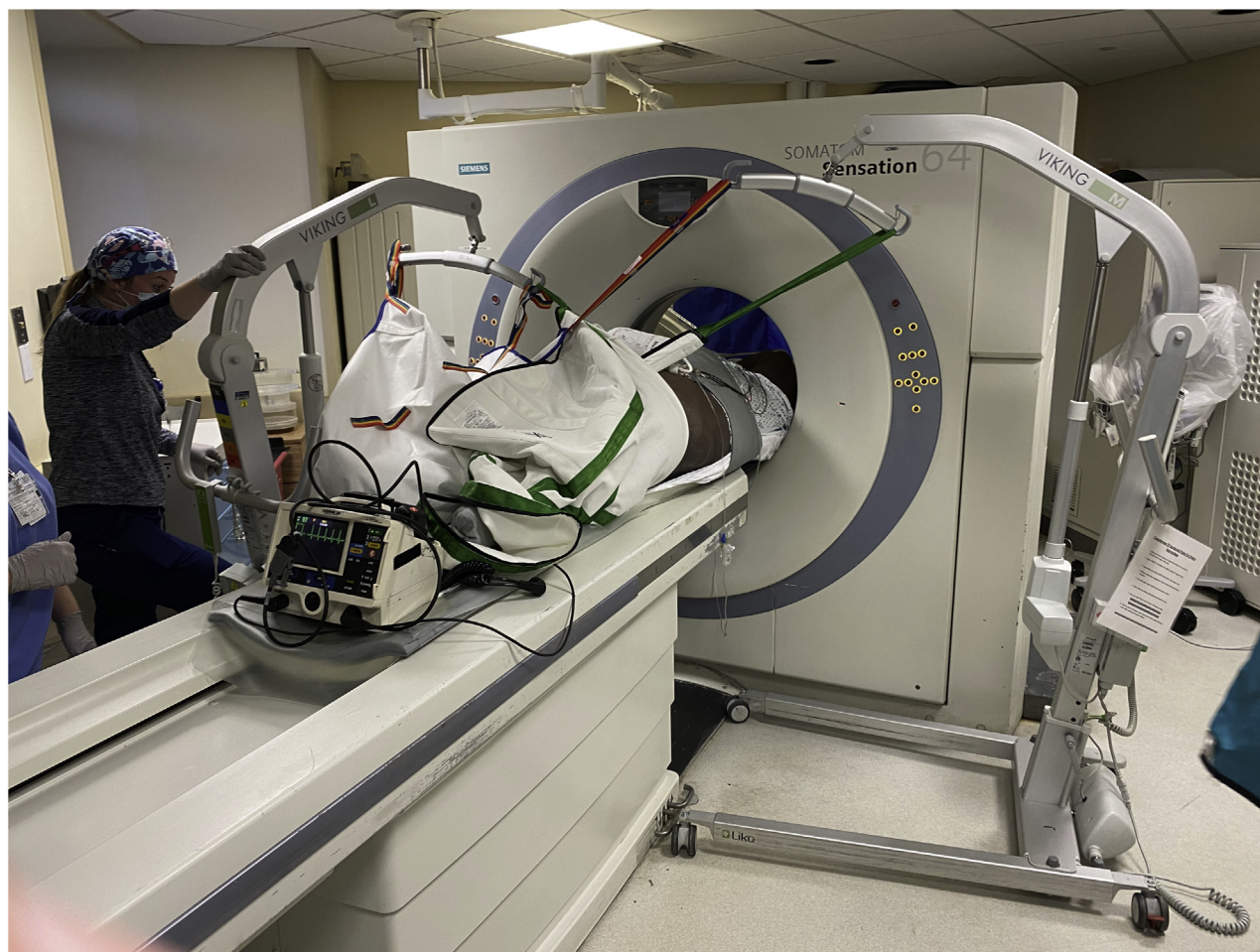
Elevation of a patient's legs with a Hoyer lift can enable the performance of a diagnostic CT study in a patient exceeding the weight limit of a CT scanner.

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**Figure 1.** Patient in computed tomography scanner with legs suspended in Hoyer lifts.

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### **Persistent Racial/Ethnic Disparities in Out-of-Hospital Cardiac Arrest**



*To the Editor:*

Successful resuscitation of out-of-hospital cardiac arrests is one of the most pressing issues within

the resuscitation field. In many communities, emergency medical services (EMS) are the first professional responders to out-of-hospital cardiac arrests, and their effectiveness greatly affects cardiac arrest survival.<sup>1</sup> Despite the importance of EMS in ensuring survival in out-of-hospital cardiac arrest, many have documented significant variability in EMS system protocols and performance.<sup>2</sup> Another key factor that has been shown to dramatically improve outcomes in out-of-hospital cardiac arrest is the initiation of pre-EMS cardiopulmonary resuscitation (CPR) by bystanders, which improves circulation and perfusion during periods of cardiac inactivity.<sup>3</sup> A significant body of prior research has outlined the existence of racial/ethnic disparities in pre-EMS CPR and cardiac arrest survival rates.<sup>4,5</sup>

To understand the magnitude of current racial/ethnic disparities in the cardiac arrest survival rate, we examined Version 3 of the National Emergency Medical Services Information System (NEMSIS), a database containing