

**Contact: Patrice Sayre**

**UNIVERSITY OF IOWA EQUIPMENT PURCHASE**

**Action Requested:** Consider approval for the purchase of a Siemens AXIOM Artis dFC Single Plane Fluoroscopic Digital Angiography Imaging System – total \$1,120,033.

**Executive Summary:** The University of Iowa requests approval to proceed with the purchase of a Siemens AXIOM Digital Angiography Imaging System.

**Description of Equipment**

The Siemens AXIOM Digital Angiography Imaging System will:

- ♦ Overcome the problems with the present imaging system by improving functionality and enhancing patient and staff safety. The ceiling mounted large flat detector C-Arm is ideal for multipurpose cardiac catheterization/intervention, electrophysiology, and notably, peripheral vascular procedures.
- ♦ Reduce radiation exposure significantly, which is critical given the overall increase of lifetime exposure risk due to wider use of imaging modalities. It incorporates new radiation reduction technology, which is in keeping with the ALARA (As Low As Reasonable Achievable) principle. The increasing complexity of cardiac catheterization, electrophysiology, and peripheral vascular procedures had resulted in increased radiation exposure. A tremendous advantage of the Siemens AXIOM System is the ability to digitally store the last fluoroscopic sequence rather than acquire a cine image which requires a larger radiation dose.
- ♦ Feature: (1) a CARE (Combine Applications to Reduce Exposure) package which further reduces radiation exposure; and (2) an improved digital imaging system that utilizes flat panel detectors and provides sharper images.
- ♦ Be installed in the Cardiac Catheterization Laboratory located on the fourth level of the Roy Carver Pavilion.

**Justification of Need for Equipment**

Angiographic equipment of this type has an expected life of seven years. The University of Iowa Hospitals and Clinics (UIHC) Radiologic Engineers have reported signs of significant wear in the components of the present unit, which was installed in 2000; it requires extensive repairs and experiences frequent malfunctions resulting in case prolongation and/or postponement. At a minimum, its unreliability results in patient dissatisfaction and additional expense. At worst, a breakdown during a procedure may expose the patient to significant risk.

The imaging technology in this eight-year-old system is inferior to modern equipment and has sustained a degradation of image quality, making the lab unsuitable for many procedures that require high resolution imaging. Physicians are unwilling to use the current equipment for many cases because of inadequate image quality, resulting in case delays and additional overtime. Additionally, the case mix in the laboratory has shifted to include more peripheral vascular procedures that are performed by physicians in both Cardiology and Vascular Surgery. Peripheral vascular imaging requires a large field image detector, digital subtraction imaging, and full right/left cranial/caudal imager positioning. The current equipment lacks these capabilities.

Any Known Alternatives to the Equipment Proposed

The University reports that UIHC has standardized on Siemens equipment due to the advantages gained in equipment pricing, maintenance, and training.

Estimated Cost and Source of Funding

The cost for the new Siemens AXIOM System is \$1,120,033; pricing is based on the Strategic Alliance Purchasing Agreement between Siemens Medical Solutions USA, Inc. and the University of Iowa. The source of funding is UIHC capital equipment funds. Hospital revenue bond proceeds may also be used.

**Board Policy:**

Chapter 7.06B(12) of the Regent Policy Manual requires that:

- ♦ Equipment costing more than \$1,000,000 must be submitted to the Board for approval; and
- ♦ Requests submitted to the Board Office for approval must include the following information:
  - ♦ Description of the equipment;
  - ♦ Justification of the need for the equipment;
  - ♦ Any known alternatives to the equipment proposed; and
  - ♦ Estimated cost and source of funding.