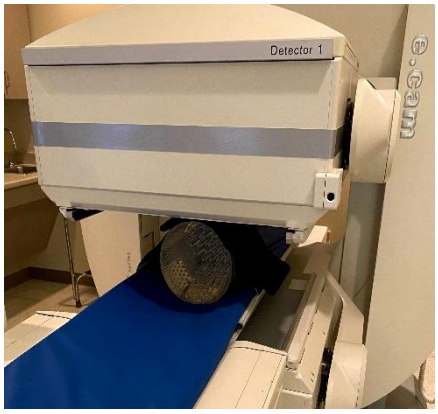
Versant
Medical Physics and Radiation Safety

Columbus Healthcare Products, LLC
Scan-Bands



December 31, 2019
Misty Liverett, MS
Pavlina Pike, PhD, DABR

Testing Results

At the request of Jan Kellogg of Columbus Healthcare Products, LLC, Misty Liverett of Versant Medical Physics and Radiation Safety and Pavlina Pike of Huntsville Hospital conducted image testing using Scan-Bands. Scan-Bands are a new product which is used for patient motion control. The system includes a strap that works with the Scan-Track™ system to aid in patient positioning during diagnostic imaging. The testing was requested to evaluate the effects, if any, the Scan-Track™ and Scan-Bands system may have on image quality for diagnostic nuclear medicine and PET/CT imaging.

Date: December 31, 2019

Individuals Present:
Misty Liverett, Versant
Pavlina Pike, Huntsville Hospital

Equipment used:
Siemens e.cam; Serial Number 620F7Q5S91
GE Discovery IQ; Serial Number 563862HM2

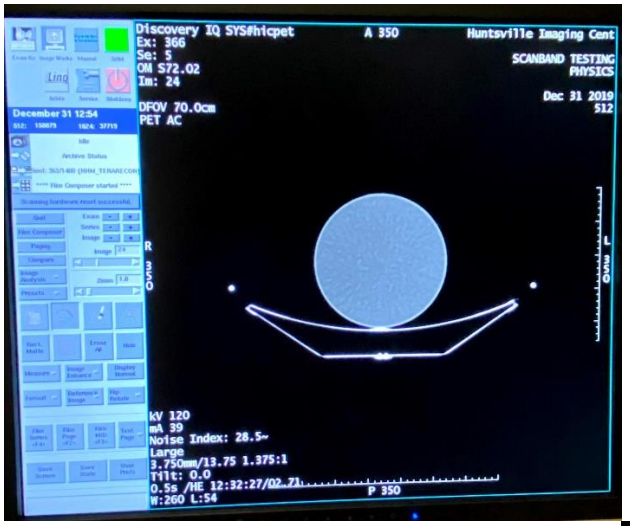
Technique:
The current patient bed pads were pulled back and the Scan-Track™ system was attached to the Velcro strips located on the beds of the Siemens e.cam and the GE Discovery. The bed pads were then put back into place before imaging took place.

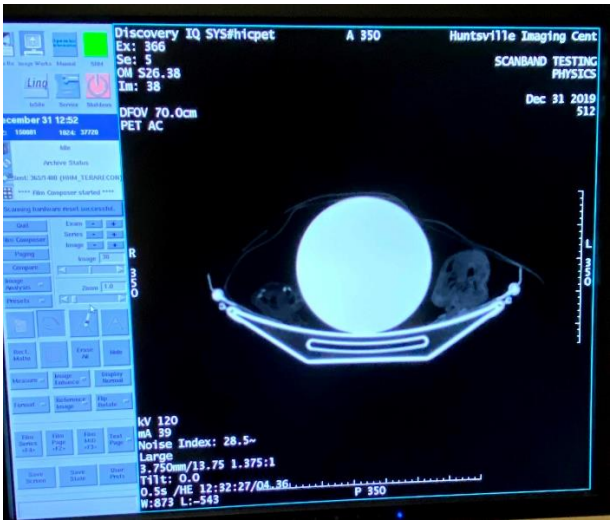
GE Discovery PET/CT Unit
The arm straps which are normally used for this unit were removed. The railing to attach arm straps is permanent to the machine and was not removed. A PET/CT water phantom was filled with distilled water and 2.7 mCi of F-18 FDG. Towels were used to keep the phantom from rolling and the Scan-Bands straps were secured around it. The phantom was imaged using a standard whole-body protocol with an attenuation correction CT set at 120 kV, and a 2 minute per bed position PET scan.

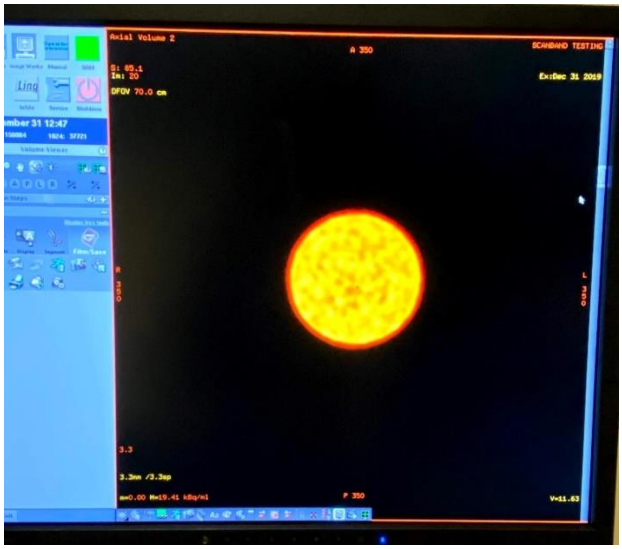
Siemens e.cam Gamma Camera
For planar imaging, a Co-57 sheet source was placed on the lower detector. Then the Scan-Bands were secured on top of the patient bed and anterior images were acquired. A comparison image without the Scan-Bands was also acquired. For SPECT imaging, a nuclear medicine ACR phantom was filled with distilled water and 15 mCi of Tc99m. The phantom was placed on the bed and secured with the Scan-Bands. 360° SPECT imaging was acquired with a total of 60 frames per detector head, each with a duration of 30 seconds. All gamma camera imaging was completed with low energy high resolution collimators in place.

Images:

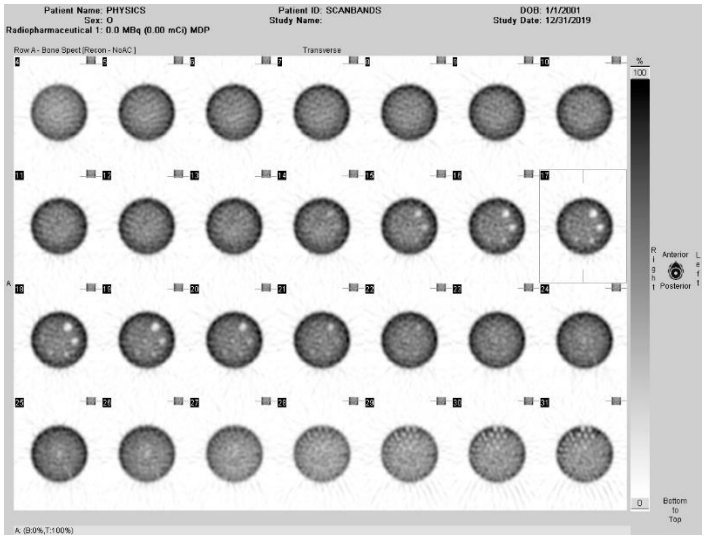
GE Discovery

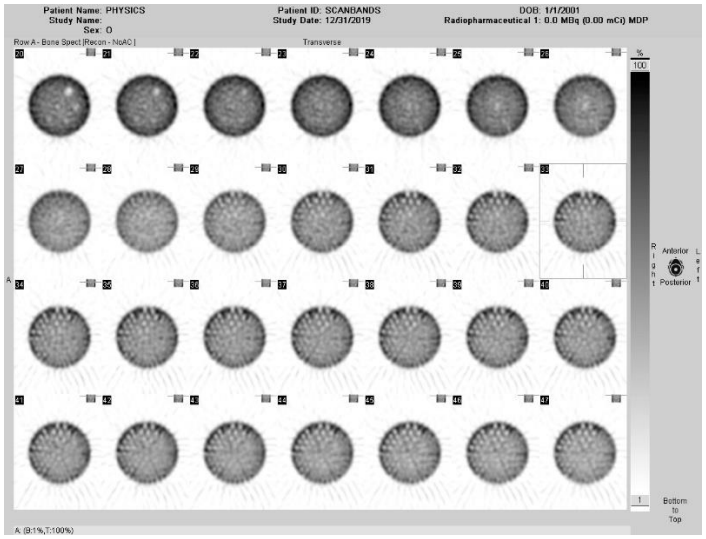


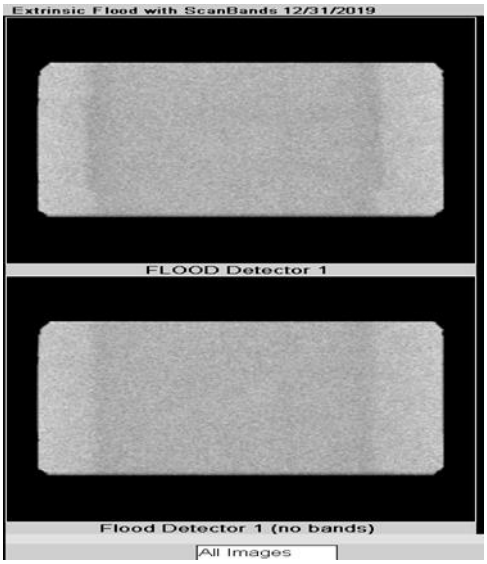




Siemens e.cam







Results:

Images were visually inspected for uniformity and artifacts. Axial slice imaging was reviewed for both phantom image sets, and static views were evaluated for the planar nuclear medicine imaging. Overall the image quality is unchanged when using Scan-Bands during nuclear medicine or PET/CT imaging. No artifacts were identified in any of the images, and all images appear to have the same uniformity as would be expected for their respective image types.

Current ACR accreditation standards use qualitative evaluation by inspection of planar and tomographic images for scoring based on defined acceptable standards. Upon review of the images acquired during this testing, both physicists found the images to be acceptable with the use of the Scan-Bands. They found that the Scan-Bands had no effect on image quality.

Questions about this report should be submitted to:

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Respectively Submitted by:

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Versant Medical Physics and Radiation Safety

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