

Safety Information Message

Reference: SIM2410

Issued: 03 December 2024

Review Date: 03 December 2025

Siemens Healthcare SPECT / CT camera: an issue which causes mis-registration of SPECT & CT data may affect clinical evaluation

Summary

An issue may cause mis-registration of the SPECT and CT data when using the whole-body (WB) SPECT-CT AutoRecon feature that automatically reconstructs a single WB SPECT volume from a single multi-bed SPECT-CT acquisition. This may affect attenuation correction and clinical evaluation of the WB SPECT-CT images.

Action

1. Direct this notice to all appropriate managers, staff and users.
2. Enquiries to the manufacturer should be addressed to Ian Clark (Customer Service Manager): ianclark@siemens-healthineers.com
3. Further details of the testing and observations which uncovered this fault can be raised with Jonathan Dixon (NHS Greater Glasgow & Clyde): jonathan.dixon@nhs.scot

Background Information

IRIC has received an incident report involving a Siemens Healthcare Intevo Bold SPECT / CT camera. The incident involved the AutoRecon software feature which automatically reconstructs multiple SPECT bed positions into a single multi-bed SPECT image following a SPECT-CT scan.

Testing of this function prior to clinical use found there was mis-registration between the reconstructed multi-bed SPECT and CT datasets. The degree of mis-registration increases with distance from the gantry. Note, this mis-registration is not found when acquiring a single field of view SPECT-CT.

The observed mis-registration between the WB reconstructed SPECT image and the CT image is the result of limitations of the AutoRecon reconstruction workflow activity (released in 2008/2009).

The xSPECT workflow activity (released 2014) improves relative positioning of separate beds when reconstructed into a single WB reconstruction and alleviates the issue noted in the submission to IRIC. xRecon can be used as a suitable alternative for systems on which it is available. This activity is available to Symbia T and Symbia Intevo family scanners which may require a software upgrade to at least VB20 (available since 2017).

The mis-registration issue has been identified on three other sites within NHS Greater Glasgow and Clyde which have Siemens SPECT-CT scanners of various models and software versions.

Manufacturer name:	Siemens Healthcare
Models:	Symbia T and Symbia Intevo family scanners
Software versions:	VB10 OR VB21A (only when using AutoRecon), VB22A (only when using AutoRecon). xRecon is not affected.

Background Information (continued)

This alert is being issued to raise awareness of the mis-registration limitation of the AutoRecon software among Clinical Scientists, Radiologists and Radiographers who operate the Siemens SPECT-CT cameras to generate whole-body SPECT-CT data.

The following advice is provided by Siemens: “users of the AutoRecon activity should consider utilizing the following workarounds:

- When reconstructing multi-bed (WB) SPECT-CT images, take care to ensure registration between SPECT and CT is appropriate for each area of the body. It may be necessary to create additional reconstructions with registrations specific for specific body areas.
- Consider reconstructing each bed separately as the issue is not present in single bed reconstructions. This may be more appropriate in studies where there is not sufficient location detail to assess the SPECT to CT registration”.

Suggested onward distribution (may not include all affected departments)

Healthcare Specialties & Depts

Consultants (Nuclear Medicine)
Nuclear Medicine
Radiography / Radiology

Corporate & Support

Device Managers
Health & Safety
Risk Management

Information about IRIC

Incident Reporting & Investigation Centre (IRIC), Facilities Division, NHSScotland Assure
NHS National Services Scotland, Tel: 0131 275 7575, email: nss.irc@nhs.scot

Accessibility: Please contact us using the above details if you are blind or have a sight impairment and would like to request this alert in a more suitable format.

IRIC remit: general information about adverse incidents, safety alerts and IRIC’s role can be found in [CEL 43 \(2009\)](#), *Safety of Health, Social Care, Estates and Facilities Equipment: NHS Board and Local Authority Responsibilities*, issued 30 October 2009.

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