



NIF STORY

Safer and more accurate scans for pregnant women and children

“This is the first time we have been able to scan a pregnant patient with such a low effective dose of radiation to both mother and baby, without compromising image quality.”



– PROFESSOR DALE BAILEY, A PHYSICIST IN THE FIELD OF NUCLEAR MEDICINE, ROYAL NORTH SHORE HOSPITAL; DEPARTMENT OF NUCLEAR MEDICINE, UNIVERSITY OF SYDNEY, FACULTY OF MEDICINE & HEALTH

PROGRAM:
ADVANCED HUMAN IMAGING

INFRASTRUCTURE/
EXPERTISE:
PET

LEAD ORGANISATIONS:



The NIF-supported Australian National Total Body PET Facility creates benefits for both research translation and patient care.

Challenge

Exposure to ionising radiation is a significant concern for vulnerable patients – particularly pregnant women and children – who may require PET/CT scans for diagnosing or staging cancer, infection, or inflammatory diseases.

Traditional methods of reducing radiation often compromise image quality, limiting clinical value.

Solution

TB-PET offers dramatically increased sensitivity, enabling the use of new imaging protocols with lower radiotracer doses.

In a recent case, a pregnant patient with lymphoma was successfully scanned using a

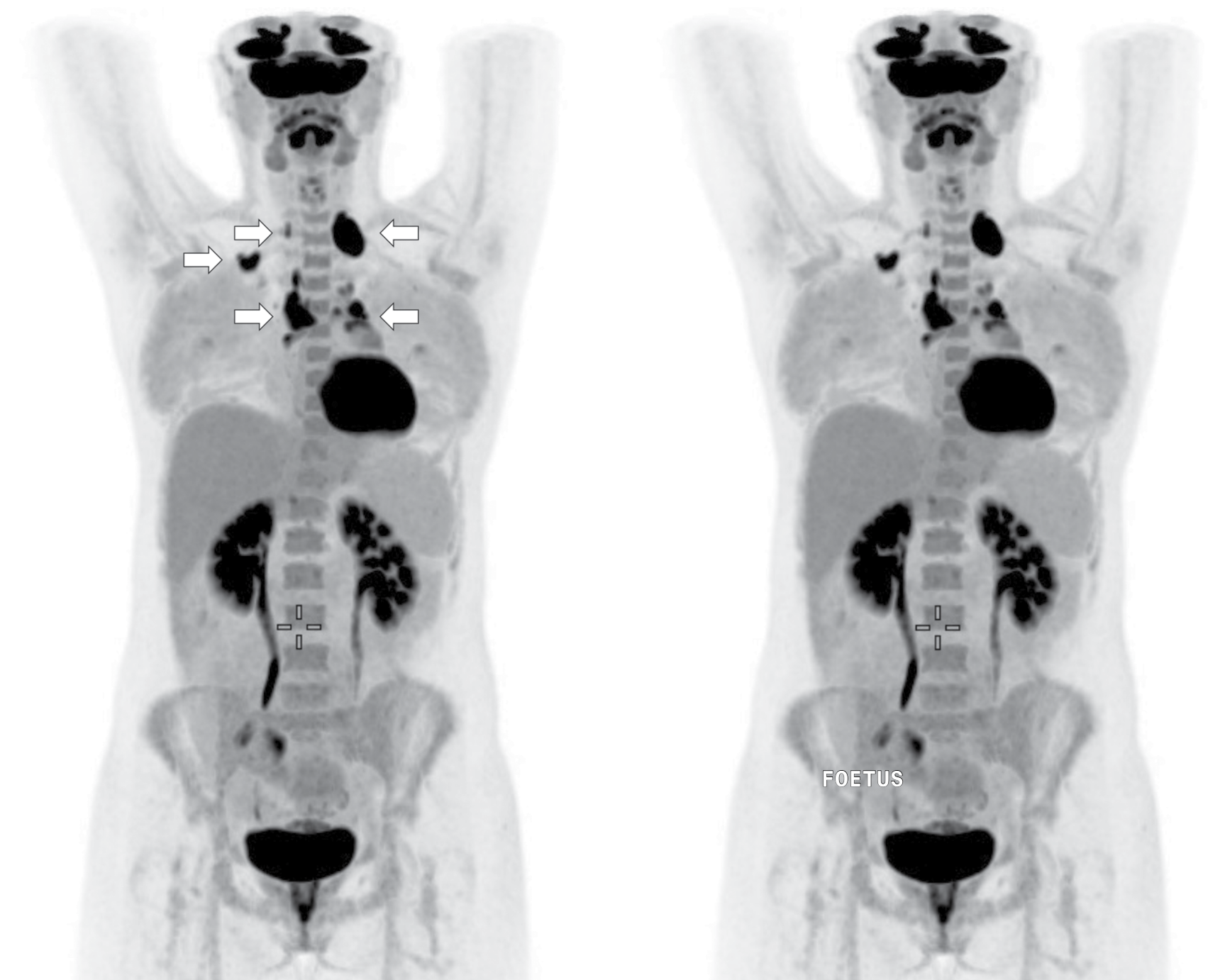
protocol that reduced total radiation exposure ten-fold – without compromising diagnostic quality.

Supported by a strong partnership between research institutions and the healthcare system, TB-PET is paving the way for safer, high-quality imaging during pregnancy and in other vulnerable patient populations.

Impact

Clinical-research partnerships enabled by NIF are improving patient outcomes by helping to implement new standards for ultra-low dose imaging and enhanced radiation safety – particularly for pregnancy, paediatric care, and repeated oncology scans.

This successful shared clinical-research model will be expanded with the arrival of two new TB PET/CT scanners at Alfred Hospital/Monash University and the Peter MacCallum Cancer Centre/Melbourne University, jointly funded by the Australian Cancer Research Foundation, Partners and NIF.



↑ THE TOTAL BODY PET SCAN SHOWING THE PATIENT WITH LYMPHOMA AND HER FOETUS, COURTESY OF THE AUSTRALIAN NATIONAL TOTAL BODY PET FACILITY AT THE UNIVERSITY OF SYDNEY. IMAGE COURTESY OF UNIVERSITY OF SYDNEY.

