

# Whole body MRI may help to detect spread of cancers more quickly

May 10 2019

---

Trials with people with newly-diagnosed colorectal and non-small cell lung cancer suggest that whole body MRI could reduce the time it takes to diagnose the stage of cancers. The results are from two prospective trials with nearly 500 patients across 16 UK hospitals, published in *The Lancet Gastroenterology & Hepatology* and *The Lancet Respiratory Medicine* journals.

Whole [body](#) MRI scans reduced the average time to determine the size of tumours and how much they had spread by five days for colorectal cancer patients and six days for [lung](#) cancer patients. The treatments decided upon were similar, since results from MRI were as accurate as from standard investigations, but the costs per patient were reduced by nearly a quarter in the case of colorectal cancer and were almost halved for lung cancer. More research is needed to determine how this affects outcomes for patients.

Despite their accuracy and efficiency, the authors note that MRI scanners are not as widely available as other imaging technologies and are in high demand. In the [trials](#), many of the hospitals were not able to find time on their MRI scanners, meaning that patients were examined in nearby hospitals.

"Our results, obtained in a real-world NHS setting, suggest that whole body MRI could be more suitable for routine clinical practice than the multiple imaging techniques recommended under current guidelines," says lead author Professor Stuart Taylor from UCL, UK. "While

demands on NHS MRI scanners is currently high, MRI can image the whole body in one-hour or less Adopting whole body MRI more widely could save rather than increase costs, as well as reducing the time before a patient's treatment can begin."

Appropriate treatment cannot be decided upon until the size of a tumour and the extent to which it has spread to nearby lymph nodes and other parts of the body has been determined. Standard NHS pathways often involve different imaging techniques—such as CT, PET-CT or focused MRI scans—which vary in accuracy in different organs. Several appointments and follow-up examinations can therefore be necessary.

For the first time, the two new trials compare the diagnostic accuracy and efficiency of whole body MRI with the standard NHS pathways, which use a range of imaging techniques for assessing colorectal and lung cancers. The standard imaging tests recommended by the National Institute for Health and Care Excellence (NICE) were undertaken as usual and the usual multi-disciplinary panel made a first treatment decision based on their results. Once this decision had been recorded, they considered images and reports from whole body MRI. If the latter highlighted a need for further tests, these were carried out. The panel were then able to say whether their first treatment decision would have differed based on WB-MRI result. In the interests of patient care, the final decision was made based on results from all tests.

Patients were also followed up after 12 months to better evaluate the accuracy of whole body MRI compared with standard tests. For example, whether one approach was more sensitive than the other in detecting spread of the primary tumour to other parts of the body. Based on this data, the panel were able to retrospectively evaluate what the optimal treatment decision should have been.

Sensitivity and specificity of diagnosis for whole body MRI did not

differ from standard tests for both cancers. The use of whole body MRI reduced the time it took to complete diagnostic tests, from an average of 13 days to an average of 8 days in the colorectal cancer trial and from 19 days to 13 days in the lung cancer trial. Costs were reduced from an average of £285 to £216 in the colorectal cancer trial and from an average of £620 to £317 in the lung cancer trial.

In the colorectal cancer trial, agreement with the final multi-disciplinary panel treatment decision based on standard investigations and whole body MRI was similar and high (95% and 96%, respectively), as were results for the lung cancer trial (99% for standard investigations, and 98% for whole body MRI).

Eight of the 16 hospitals in the colorectal cancer trial and 11 of the 16 hospitals in the lung cancer trial did not have the infrastructure to perform whole body MRI.

The authors note that their findings are specific to colorectal and non-[small cell lung cancer](#) and might not be relevant to tumours arising in other parts of the body. In addition, waiting times might not be representative of other UK hospitals or of hospitals in other countries. A further limitation of the lung cancer trial is that sensitivity in detecting the spread of cancers—including the development of secondary tumours and the spread to lymph nodes—was low using both current standard [imaging techniques](#) and whole body MRI. Further research is needed to improve the performance of non-invasive imaging.

Writing in a linked Comment, Professor Andreas Schreyer from Brandenburg Medical School, Germany, says of the colorectal [cancer](#) trial: "MRI has faced considerable backlash within the medical community due to relatively high costs and the problems involved in finding a timely slot for imaging because of the high demand for this method. This is why it is particularly important to think outside the box

and look out for new medical pathways and paradigms and not to be driven by prejudices. It could be more efficient to adapt the known therapeutic concept of hitting hard and early to diagnostic imaging to improve medical outcomes and economic performance."

**More information:** *The Lancet Gastroenterology & Hepatology*,  
[www.thelancet.com/journals/lan ... \(19\)30056-1/fulltext](http://www.thelancet.com/journals/lan... (19)30056-1/fulltext)

*The Lancet Gastroenterology & Hepatology*,  
[www.thelancet.com/journals/lan ... \(19\)30090-6/fulltext](http://www.thelancet.com/journals/lan... (19)30090-6/fulltext)

Provided by Lancet

Citation: Whole body MRI may help to detect spread of cancers more quickly (2019, May 10)  
retrieved 26 April 2024 from  
<https://medicalxpress.com/news/2019-05-body-mri-cancers-quickly.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.