

NCC testing of radiotherapy beds could save the NHS thousands

The National Composites Centre's (NCC) testing of damaged couch tops used in radiotherapy could save the NHS up to £90,000.

Cheltenham General Hospital's Oncology Centre uses image-guided radiotherapy (IGRT) machines with composite couch tops, which ensure that patients are positioned correctly to receive their radiotherapy treatment.

Sadly, these machines are in constant use and have sustained some small-scale surface damage. Consequently they were taken out of service. The hospital was advised that the only solution was to replace their three damaged couch tops, at a cost of £30,000 each.

The hospital trust approached the NCC as a world-leading composites R&D facility to investigate the structural integrity of the most damaged couch top. The testing would determine whether patient safety could be compromised by use of the damaged beds.



The NCC partnered with the University of the West of England (UWE) to subject the most damaged couch top to **mechanical loading** beyond that of in-service use, using **non-destructive testing (NDT)** both before and after the loading to determine if any sub-surface damage to the structure existed.

The tests adhered to the standard BS EN 60601-2-46:211 (Particular requirements for the basic safety and essential performance of operating tables) in line with the manufacturer's safety standards.

The test results show that the damage sustained does not affect the load bearing capacity of the couch top and has no impact on patients' safety while in use. They could therefore still be used for treatments.

The NCC has reported the findings to the hospital and pending their decision, may have saved the hospital and wider NHS significant savings in future couch top replacements, while expanding the NCC's impact in the medical sector.