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To Vice-President/Deans, Heads of Schools, as appropriate  
From Dr Melanie Taylor, University Safety Advisor  
Date 26 January 2007  
cc Prof M Case, Dr J Brider, Dr S A Robson, Prof P Heggs,  
School Safety Advisors & Safety Representatives as appropriate  
Reference Circular 2/2007

## Static MRI scanners / other systems using bulk cryogenic liquid coolants – risk of asphyxiation

### MRI scanners

There have been a small number of incidents nationally and one locally where MR scanners have quenched unexpectedly and, as a result of poorly designed or fitted quench pipes, the coolant has been released into the examination room with potentially fatal consequences to staff and patients. A Medical Device Alert from the Medicines and Healthcare products Regulatory Agency (MHRA) was issued in 2003 regarding failures of quench pipes and is available at

[http://www.mhra.gov.uk/home/idcplg?IdcService=SS\\_GET\\_PAGE&useSecondary=true&ssDocName=CON008663&ssTargetNodeId=365](http://www.mhra.gov.uk/home/idcplg?IdcService=SS_GET_PAGE&useSecondary=true&ssDocName=CON008663&ssTargetNodeId=365)

Those responsible for MR equipment fitted with quench pipes must ensure that they comply with the design, fitting and maintenance recommendations of competent persons (usually, the specialist supplier / installation engineers).

### Any other equipment using bulk liquid nitrogen and/or helium

Your attention is also drawn to all activities using cryogenic materials. This includes, but is not exclusive to, smaller MR systems used in laboratories, NMR suites, and to general storage and use of cryogenic materials. There must be a risk assessment and standard operating procedure in place which includes an assessment of the risks of failing to contain the coolant and of consequential oxygen depletion in areas that people could work in. Typically, this will require an expansion calculation to determine the need for oxygen monitors and alarms, and documentation of emergency procedures. Details are at

[http://www.campus.manchester.ac.uk/healthandsafety/CoPs&Guidance/Cryogenic\\_materials.doc](http://www.campus.manchester.ac.uk/healthandsafety/CoPs&Guidance/Cryogenic_materials.doc)

Further advice can be obtained from your Safety Co-ordinator.

Dr Melanie Taylor  
University Safety Advisor