Lay Summary

BRAIN UK Ref: 17/008

Analysis of paediatric brain tissue by RAMAN imaging technology

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Brain tumours are the commonest solid tumour found in children and the commonest tumour to kill children. Long-term disability is relatively frequent amongst survivors, reflecting in part the impact of intensive treatment on children's brains.

There are multiple different types of brain tumour and each type responds to different kinds of treatment. Therefore a major challenge is to be able to distinguish which kind of tumour a child has so we can adapt their treatment. Children who are most likely to respond can be offered the most appropriate treatment. Furthermore, children whose tumour is unlikely to respond to a particular treatment, can avoid the toxic effects of that treatment.

We are investigating a novel way to test the brain tumour after it has been removed from the child's brain. The technique is called Raman microspectroscopy and we hope that it will allow us to rapidly determine the type of tumour. Our aims are to use it in routine tumour diagnosis.