

Lay Summary

BRAIN UK Ref: 17/010

Characterisation of neuropathy and immune response following traumatic brain injury in children

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The brain has an immune system made up of a number of different cells. It is mainly controlled by cells called microglia. These cells are central to how the brain responds to infection and injury. After a traumatic brain injury, the brain swells, a response which appears to be linked to the activation of the microglia. The primary aim of treatment is to reduce swelling. This is to prevent further damage to the remaining functional brain cells. As the brain ages, the microglia become more dysfunctional and can react to injury more aggressively than usual. This means that there is often a need to control their behaviour. By studying the microglia in paediatric patients, to compare to our adult data set, we can understand how these processes change with age we can gain a better appreciation of how these cells are both recruited to the site of injury and also how they function.