# A multicentre randomiSed controlled TRial of IntraVEnous immunoglobulin compared with standard therapy for the treatment of transverse myelitis in adults and children (STRIVE)

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Declared competing interests of authors: Intravenous immunoglobulin was provided by Biotest AG, Germany, and, should any commercial opportunity arise, the industrial partner has an option for an exclusive licence from the sponsor (Guy's and St Thomas' NHS Foundation Trust) and the potential for a revenue-sharing arrangement. Michael Absoud serves on the data safety monitoring board for a study sponsored by Neurim Pharmaceuticals, has received consultation fees from Novartis and is on the editorial advisory board for the International Journal of Language & Communication Disorders. Peter Brex has received fees for speaking and consulting from Biogen Idec, Roche, Sanofi Genzyme, Teva Pharmaceuticals Industries Ltd and Merck Serono. Olga Ciccarelli serves as consultant for Novartis, Biogen Inc. and GE Healthcare and is an Associate Editor of Neurology. Gavin Giovannoni has received consultation and speaking fees from Biogen Idec, GlaxoSmithKline, Merck Serono, Novartis, Sanofi Genzyme and Synthon BV and is on the steering committee for studies sponsored by AbbVie, Biogen Idec, Novartis, Teva Pharmaceuticals Industries Ltd and Roche. Jackie Palace serves on the scientific advisory board for the Charcot Foundation, has performed advisory work for Biogen Idec, Merck Serono, Bayer Schering Pharma, Novartis, Teva Pharmaceuticals Industries Ltd, Gilenya, Ono Pharmaceutical Co., Primary i-Research, Alexion Pharmaceuticals Inc. and Chugai Pharma Europe, receives research support from Merck Serono, Bayer Schering Pharma, Biogen Idec and Teva Pharmaceuticals Industries Ltd and has received conference expenses from Novartis, Merck Serono and Biogen Idec. Michael Pike has received a meeting support grant from EUROIMMUN. Anu Jacob is supported by the NHS National Specialised Commissioning Group for Neuromyelitis Optica, has been a consultant for Shire, Alexion Pharmaceuticals Inc. and Chugai Pharmaceutical Co. Ltd and has received research funding from Biogen Inc. and Alexion Pharmaceuticals Inc. Ming Lim has received consultation fees from CSL Behring and travel grants from Merck Serono and has been awarded educational grants to organise meetings by Novartis, Biogen Idec, Merck Serono and Bayer.

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## **Plain English summary**

## The STRIVE study

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# **Plain English summary**

Transverse myelitis (TM) is a rare immune disorder that affects the spinal cord. Patients who develop TM can quickly lose the feeling in and the ability to move lower parts of the body (paraplegia). Additionally, the upper body can also be affected (tetraplegia). TM can affect people at any age and can have a significant impact on quality of life and place a large demand on health resources.

Although immune treatments such as steroids, intravenous immunoglobulin (IVIG) and plasma exchange are being used to treat TM, until now, no high-quality trial has been conducted to measure how effective these treatments are when utilised individually or in combination. Therefore, this randomised controlled trial was designed to see whether or not newly diagnosed TM patients would benefit from early treatment with IVIG if added to steroid therapy, which we expect all patients to receive. We measured the effect of treatment using the American Spinal Injury Association (ASIA) Impairment Scale, an outcome measure that has been validated in spinal injury research, and using evaluators who were not aware of the treatment that patients had received (single blind).

After 1 year, despite 15 centres recruiting across the UK, only two patients were randomised. The key reasons for this include the strict inclusion criteria, the short enrolment window, the challenges associated with the use of the ASIA Impairment Scale as the primary outcome measure, an inaccurate estimation of the incidence of TM and the spectrum of severity within the target population and inadequate funding provision for some sites. As 170 cases were required to determine a statistically significant effect of treatment, the study was closed early as this end point would not have been realistically achieved. However, we are now aware of important factors that need to be addressed when undertaking a trial in TM or an allied rare condition.

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