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IN BRIEF

NEURO-ONCOLOGY

Exercise could help to counteract radiation damage in children with brain tumours

Results from a newly published crossover trial suggest that exercise training promotes white matter and hippocampal recovery after brain irradiation. Paediatric brain tumour survivors who had received radiotherapy were assigned to a 12 week period of group exercise followed by 12 weeks of no training, or vice versa. The participants underwent MRI and reaction time testing at baseline and at the end of the two 12week periods. Exercise resulted in increased brain connectivity (as measured by fractional anisotropy) that was sustained over the 12week off-training period. Moreover, exercise increased hippocampal volume and improved reaction times.

ORIGINAL ARTICLE Riggs, L. *et al.* Exercise training for neural recovery in a restricted sample of pediatric brain tumor survivors: a controlled clinical trial with crossover of training versus no training. *Neuro Oncol.* http://dx.doi.org/10.1093/neuonc/now177 (2016)

TRAUMATIC BRAIN INJURY

Impaired medical decision-making capacity in TBI

Many patients with mild to severe traumatic brain injury (TBI) have long-term deficits in comprehending medical information and making informed treatment decisions, according to a new study comprising 111 individuals with TBI. The participants' medical decision-making capacity was evaluated at several time points 1 year after injury. In patients with mild TBI or complicated mild TBI, the deficits in some of the cognitively complex aspects of medical decision-making were transient, whereas in patients with more-severe TBI, the capacity for reasoning and understanding medical information often remained compromised.

ORIGINAL ARTICLE Steward, K. A. *et al.* Twelve-month recovery of medical decision-making capacity following traumatic brain injury. *Neurology* http://dx.doi.org/10.1212/WNL.0000000000003079 (2016)

PARKINSON DISEASE

Retinal changes could be an early marker of PD

Neurodegeneration in the retina precedes damage to the substantia nigra and striatum in Parkinson disease (PD), as demonstrated in a recently published study using a rotenone-induced rat model of PD. 20 days after the rotenone insult, *in vivo* imaging and optical coherence tomography revealed increased retinal ganglion cell apoptosis and swelling of the retinal layers. These findings could pave the way for strategies to diagnose PD early in the disease course.

ORIGINAL ARTICLE Normando, E. M. *et al.* The retina as an early biomarker of neurodegeneration in a rotenone-induced model of Parkinson's disease: evidence for a neuroprotective effect of rosiglitazone in the eye and brain. *Acta Neuropathol. Commun.* **4**, 86 (2016)

MULTIPLE SCLEROSIS

Dehydration might contribute to fatigue in MS

Fluid hydration status correlates with fatigue in multiple sclerosis (MS), according to a new study of 50 women with MS. Patients with good hydration status (defined by urine-specific gravity (USG) <1.015) reported lower fatigue scores on Fatigue Performance Scale than did patients with low hydration status (USG >1.015). Moreover, USG correlated with MS Fatigue Severity Scale scores. Bladder dysfunction is common in MS, and some patients manage their bladder dysfunction by limiting fluid intake, which could explain the dehydration in some cases.

ORIGINAL ARTICLE Cincotta, M. C. *et al.* Fatigue and fluid hydration status in multiple sclerosis: a hypothesis. *Mult. Scler.* http://dx.doi.org/10.1177/1352458516663854 (2016)