Research

No Evidence of Disease Activity 152
Rotstein and coauthors investigate no evidence of disease activity (NEDA) during 7 years as measured by relapses, disability progression, and yearly magnetic resonance imaging (MRI). They decided that NEDA was defined as a composite that consisted of absence of relapses, no sustained Expanded Disability Status Scale score progression, and no new or enlarging T2 or T1 gadolinium-enhancing lesions on annual MRI. They report that NEDA is difficult to sustain long term even with treatment. Editorial perspective is provided by Jaime Imitola, MD, and Michael K. Racke, MD.

Hematopoietic Cell Transplantation for Multiple Sclerosis 159
Nash and colleagues evaluate the safety, efficacy, and durability of multiple sclerosis (MS) disease stabilization 3 years after high-dose immunosuppressive therapy (HDIT) with autologous hematopoietic cell transplant (HCT). Autologous peripheral blood stem cell grafts were CD34+ selected; the participants then received high-dose treatment with carmustine, etoposide, cytarabine, and melphalan as well as rabbit antithymocyte globulin before autologous HCT. At 3 years, HDIT/HCT without maintenance therapy was effective for inducing sustained remission of active relapsing-remitting MS and was associated with improvements in neurologic function. Editorial perspective is provided by M. Mateo Paz Soldán, MD, PhD, and Brian G. Weinshenker, MD.

Isolated Optic Neuritis 187
Martinez-Hernandez et al investigate the frequency of antibodies to aquaporin 4 (AQP4), myelin-oligodendrocyte glycoprotein (MOG), and the glycine receptor α1 subunit (GlyR) in patients with unilateral or bilateral, severe, or recurrent isolated optic neuritis (ON) and determine their clinical and prognostic correlates. They determined the presence of antibodies to AQP4, MOG, and GlyR using cell-based assays. They report that 45% of patients with unilateral or bilateral, severe, or recurrent isolated ON had antibodies to MOG, AQP4, or GlyR.

Clinical Review & Education

Mobile Stroke Unit Program 229
Rajan and coauthors review existing data on prehospital stroke treatment, especially relevant to mobile stroke unit (MSU) technology. They review published data from English-language journals in PubMed from 1995 to present reviewing early treatment with tissue plasminogen activator and prehospital stroke evaluation and treatment. The MSU strategy could dramatically transform the way acute stroke is managed in the United States.

Spinal Cord Injury 235
Stenudd and colleagues indicate that spinal cord injury is followed by glial scar formation, which has positive and negative effects on recovery from the lesion. They demonstrated that the neural stem cell–derived scar component has several beneficial functions, including restricting tissue damage and neural loss after spinal cord injury. This finding identifies endogenous neural stem cells as a potential therapeutic target for treatment of spinal cord injury.