Low hypocretin-1 (orexin A): Narcolepsy and other hypersomnias
Three articles and an editorial consider the relationship of the hypothalamic peptide orexin A (also termed hypocretin-1) to sleep disorders. Dalal et al. (p. 1749) report that *plasma* orexin A levels are normal in patients with narcolepsy while confirming that levels are low in CSF. ◆ Scammel et al. (p. 1751) describe a young man who developed narcolepsy after a stroke that involved the hypothalamus. CSF concentration of orexin was low. ◆ Arii et al. (p. 1775) describe a 16-year-old girl who developed hypersomnia after removal of a hypothalamic astrocytoma. Again, the CSF orexin level was decreased. ◆ In their accompanying editorial, Silber and Rye (p. 1616) review the story of the hypocretins emerging over the past 2 years. The hypocretins are synthesized in the hypothalamus; it is likely that autoimmune attack on the cells producing hypocretin-1 is a cause of narcolepsy.

Acquired channelopathies: Abnormal neuronal Na+ channels in chronic pain and MS
Waxman (p. 1621) reviews evidence that the expression of Na^+ channels becomes abnormal 1) after peripheral nerve injury provokes changes in spinal sensory neurons, initiating a sequence of events that culminates in their hyperexcitablility; and 2) in association with the immune attack on the CNS in MS, in which there is abnormal expression of Na^+ channels in neurons (e.g., Purkinje cells). Many, if not all, Na^+ channelopathies may be susceptible to treatment. Thus, channel-active agents may be logical for treatment of such Na^+ channel dysfunction in acquired diseases.

Temporal lobe epilepsy (TLE) surgery in children
Mohamed et al. (p. 1643) reviewed 34 children with TLE who had surgical resection of anteromesial temporal lobe. Seventy-nine percent had *dual pathology* (cortical dysplasia and hippocampal sclerosis), and 78% became seizure-free. Fluid attenuated inversion recovery (FLAIR) images usually provided evidence of focal pathology when it was documented. ◆ Juhász et al. (p. 1650) compared preoperative PET scan abnormalities with postoperative outcome in 15 young patients with intractable epilepsy. Flumazenil (FMZ) PET, which assesses $GABA_A$ receptor binding, but not ^{18}fluorodeoxyglucose (FDG) PET, which assesses glucose metabolism, was useful for predicting postsurgical outcome. The greater the FMZ PET abnormality, the poorer the outcome. ◆ Scott et al. (p. 1659), studying 16 children with intractable epilepsy in whom mesial temporal sclerosis was found on surgically resected temporal lobe, demonstrated that preoperative quantitative MRI of the hippocampus detected differences between children with prolonged febrile convulsions and those without.

Intracarotid marrow cells for treatment of stroke
Li et al. (p. 1666) treated a rat model of ischemic stroke by injecting bone marrow stromal cells intra-arterially. After 2 weeks there was striking benefit in terms of neurologic function and evidence that the cells expressed neuronal and glial proteins.

Selective finger weakness from strokes
Kim et al. (p. 1677) studied 12 patients with MRI-documented small cortical strokes—8 with predominantly ulnar finger weakness and 4 with predominantly radial finger weakness. Lesions causing ulnar weakness were more medial and more likely caused by proximal vessel disease; radial lesions were located laterally and were more often embolic.

Risk factors for mild cognitive impairment (MCI)
Kivipelto et al. (p. 1683) obtained long-term follow-up data on 1,449 subjects for a mean of 21 years. Elevated midlife cholesterol predicted the 6.1% of subjects with MCI. Because MCI is itself a predictor of subsequent AD, this study supports prevention of AD by controlling vascular risk factors.

AD neuropathology: Incidence and *APOE*
In a prospective study of AD in patients more than 85 years old, Polvikoski et al. (p. 1690) obtained serial clinical testing for dementia and then autopsy neuropathology. Neuropathology documented AD in twice as many subjects (33%) as clinical testing (16%). The association of an *APOE* ϵ4 allele with neuropathologic AD was 71% in those more than 90 years old. ◆ Ghebremedhin et al. (p. 1696) studied the neuropathology of 729 routine autopsy cases aged 60 to 99. The *APOE* ϵ4 allele was highly associated with senile plaques and neurofibrillary tangles, but age and sex modified the risk for both of these AD lesions.

Ischemic versus non-ischemic muscle exercise testing
Lindner et al. (p. 1780) describe a severe complication of the ischemic exercise test for McArdle's disease—muscle necrosis producing acute nerve compression with paralysis, requiring fasciotomy surgery. ◆ Hogrel et al. (p. 1733) describe a non-ischemic exercise protocol that provides the same information obtained by ischemic exercise. Ischemic exercise testing should no longer be performed.

