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► **COVER:** 'Sport minded' by Kirsten Lee, inspired by the review on p585.



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Some people become great athletes, and some people struggle with addiction or eating disorders. What changes in the brain cause someone to relapse into drug taking, to develop anorexia nervosa or to become a great sports person? Three articles in this issue discuss these topics.

A major problem in addiction is relapse. On page 561, Peter Kalivas discusses how a loss of glutamate homeostasis in the nucleus accumbens impairs prefrontal regulation of striatal circuitry, resulting in a reduced ability to control drug-seeking behaviours and, thus, in relapse.

Eating disorders are a growing problem in modern society. The causes remain elusive, but several factors seem to result in a vulnerability for such disorders. Kaye and colleagues (page 573) review recent imaging data which suggest that alterations in serotonin, dopamine and the neurocircuits that underlie appetite, reward and interoception might explain the abnormal response to food in people with anorexia nervosa.

Professional sportspeople require speedy decision making and exquisite motor skills. On page 585, Brown and colleagues examine the neural and cognitive processing that sets apart a trained athlete from a novice. They also discuss emerging computational and biological models that aim to explain the enhanced motor, perception and decision-making abilities of skilled athletes.

Also in this issue, Chiara Cirelli's review on page 549 continues our article series on sleep. Sleep is vital, and sleep deprivation affects our cognitive abilities, rendering sleep an important topic for investigation. The article highlights the genetic and molecular bases of sleep regulation across species and human sleep disorders, shedding light on the function of sleep.

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