

ON THE RECORD

“At the end of 2.5 years and \$1.5 billion or more, it is not clear what has been accomplished.”

Some members of a NASA task group question the success of the space shuttle's return-to-flight programme.

“They were cold and wet, had no equipment or weapons and were surrounded by hungry polar bears.”

A Norwegian official describes the plight of three Polish scientists whose boat was wrecked 1,000 km from the North Pole. The trio fended off the bears long enough to be rescued.

Source: *Chicago Tribune*

OVERHYPED**Addiction**

There's no such thing as a quick fix for heroin addiction. But some doctors offer fast detoxification — costing up to US\$15,000 — in which the patient is given an addiction-fighting drug while under general anaesthetic. Many have warned against such expensive programmes — and with good reason, says a study in which heroin addicts were given one of three treatments. Those who went through rapid detox fared no better than those getting traditional outpatient drugs, and faced the extra risks of anaesthesia (E. D. Collins *et al.* *J. Am. Med. Assoc.* 294, 903–913; 2005). The way out of addiction remains far more difficult than the way in.

NUMBER CRUNCH

The US National Institute of Allergy and Infectious Diseases surveyed some 3,500 US adults about HIV vaccine research and found:

73% feel it is important to support HIV vaccine research personally.

24% don't know whether vaccines being tested can cause HIV infection — or incorrectly believe that they do.

18% believe an HIV vaccine already exists and is being kept a secret.

Source: M. A. Allen *et al.* *J. Acq. Immun. Def. Syn.* doi:10.1097/01.qai.0000174655.63653.38 (2005).

Alertness drug arouses fears about 'lifestyle' misuse

A drug being studied as a potential treatment for Alzheimer's can also counter the effects of sleep deprivation, a new study suggests. The finding has sparked debate over the use of 'lifestyle' drugs, which people take to make themselves feel smarter or more alert, rather than for a specific medical condition.

Developers of the drug, known as CX717, say it is meant to treat a range of debilitating mental conditions. But bioethicists point out that it could easily follow in the footsteps of other treatments that are being prescribed 'off-label', such as modafinil, a narcolepsy drug that is gaining popularity as a pick-me-up pill.

On 22 August, researchers at Wake Forest University Baptist Medical Center in Winston-Salem, North Carolina, published the results of trials of CX717 in monkeys. Animals that had been deprived of sleep for up to 36 hours — equivalent to 72 hours in humans — experienced cognitive deficits that virtually disappeared after taking the drug (L. J. Porrino *et al.* *PLoS Biol.* doi:10.1371/journal.pbio.0030299). Rested animals that were given CX717 also did better on cognitive tests than control animals. The drug works by boosting the uptake by brain receptors of the neurotransmitter glutamate.

The results in monkeys support findings from an unpublished human trial, funded by the company that makes the drug. In that study, 16 men kept awake overnight did better on a range of memory and attention tests when dosed with CX717; those suffering the most from tiredness received the biggest boost

in performance. “We didn't see any adverse events,” says Julia Boyle, who ran the study at the University of Surrey in Guildford, UK.

The drug's developer, Cortex Pharmaceuticals of Irvine, California, is pushing ahead with trials in patients with Alzheimer's and attention deficit hyperactivity disorder, as well as with people working night shifts. Bioethicists say that the drug may find other 'lifestyle' uses, perhaps by allowing workaholics to work longer days.

In a similar case, modafinil (sold under trade names including Provigil) was licensed in the United States as a treatment for sleepiness caused by narcolepsy in 1998 by Cephalon of Frazer, Pennsylvania, and later for other specific sleep disorders.

If CX717 can keep users awake as well as modafinil, with an added cognitive boost, experts worry that it could be misused by tired office workers or students with essay deadlines. “This could coerce people into staying awake an extra two hours,” says Arthur Caplan, a bioethicist at the University of Pennsylvania in Philadelphia.

The US Defense Advanced Research Projects Agency is already funding studies designed to assess whether CX717 could help soldiers stay more alert.

Roger Stoll, chairman of Cortex Pharmaceuticals, says that his company is focusing only on clinical disorders in which CX717 might help. Still, he admits, “we don't know what everyone will do with it.” ■

Jim Giles

IMAGE
UNAVAILABLE
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REASONS

Ethicists fear that people might misuse a new drug, known as CX717, to work longer hours.

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