

DC Online (Research)

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Learning in Your Sleep

Scientists from the University of Liege in Belgium¹ report that learning a new task during the day continues into the night while you sleep. Brain imaging studies show high levels of activity during the night in exactly the same brain areas that are active while learning a particular task. The activity occurs during REM sleep, and according to this research, appears to enhance learning. The data suggests that a poor night's sleep after intensive learning leads to poorer retention or somehow prevents the brain from organizing the day's information properly.

1. Led by Pierre Maquet, published in the journal *Neuroscience*, August, 2000.
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Chocoderm Patch

London dieticians say they've developed a "skin patch" to treat chocolate addicts. The patch uses aromatherapy to reduce cravings. It releases a mixture of scents, predominately vanilla, that seem to curb the desire for chocolate and other sweet treats. Overweight volunteers who tried it cut back their chocolate intake by 50 percent compared to those in placebo groups. However, the researchers don't quite understand why it works. The group is also working on a variation to reduce cravings for fatty snacks, such as potato chips.²

2. *Reuters*, reporting on the work of Catherine Collins of St. George's Hospital, July 24, 2000.
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Pre-Exercise Stress Tests

Yale University researchers report that a review of several studies indicates that stress tests for seniors persons (age 75 and older) are probably not useful to determine if they're fit enough for an exercise program. The research suggests that slow jogging or other mild exertion would only increase the risk of a heart attack by a negligible amount. A careful patient history and physical (to screen for recent heart attacks or high blood pressure, for example) is probably better and certainly more cost-effective, researchers say.³

3. *JAMA*, July 19, 2000.
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Exclusive Breastfeeding and HIV

Researchers from the University of Natal in South Africa report that HIV-infected mothers who breastfeed can significantly reduce the risk of transmitting the infection to their babies if they do

not supplement their milk with other fluids or solid food for at least six months.⁴ For some reason, although the HIV virus does appear in breast milk, mothers who breastfed exclusively and then rapidly weaned their children after six months did not transmit the infection as often.

4. Led by Dr. Anna Coutsooudis; reported to the 13th International AIDS Conference in Durban, South Africa, July 11, 2000.

Hypertension, Exercise and Weight

A study from Duke University of 133 overweight people concludes that exercise and weight loss can make separate contributions to an anti-hypertensive program. The subjects, average age 47, were put on a jogging program. The volunteers were divided into two groups, with one group prescribed a weight-loss diet in addition to exercise. The "exercise-only" group lowered both their systolic and diastolic pressures by four points (and lost four pounds), while the exercise/diet group decreased their systolic pressure by seven points and their diastolic by five. The latter group also lost 17 pounds in the process.⁵

5. *Archives of Internal Medicine*, July 10, 2000.

Breast Milk Allergies

The American Academy of Pediatrics⁶ suggests that mothers whose babies are reacting unfavorably to their breast milk might be able to alleviate the problem by changing their diet. Cutting out eggs, milk, fish, peanuts and tree nuts from the breastfeeding mother's diet can be enough to stop a baby's "allergic" reactions to the mother's milk.

The study recommends that mothers breastfeed their children for at least six months to promote proper development, immune resistance, and good health later in life.

6. *Pediatrics*, August 2000.

Anti-Coagulant Tomato Jelly

Researchers from Scotland report that tomatoes can reduce the risk of blood clots associated with heart attacks and strokes. More specifically, the yellow jelly around tomato seeds appears to exert a powerful anticoagulant effect on platelets. In their tests, the jelly from four tomatoes reduced platelet activity up to 72 percent, without the side effects (intestinal bleeding) of aspirin. The researchers also believe that similar (though less pronounced) effects are derived from strawberries, melons, or grapefruit.⁷

7. *Reuters*, reporting on a study by the Rowett Research Institute in Aberdeen, Scotland, July 13, 2000.

Refrigerated Brains

Researchers are becoming more convinced that a slight lowering of nervous tissue temperature after a stroke is the best way to prevent permanent damage. As one doctor puts it, "It's like putting food in the refrigerator. It doesn't go bad."⁸ One of the reasons behind the renewed interest is the discovery that slight changes in laboratory temperatures markedly change the outcome of strokes induced in rats. The cooler the room, the less damage inflicted by a researcher temporarily shutting off an artery to the brain. Unfortunately, just packing ice around a victim's head doesn't seem to be enough, since the circulatory system warms it from the inside out; the whole body temperature must be lowered by about five degrees Celsius, or nine degrees Fahrenheit.

8. Associated Press, May 13, 2000, quoting Dr. David Tong of Stanford University.

Pacifiers and Ear Infections

A new study from Finland reports that babies older than six months that are allowed to use pacifiers tend to suffer from ear infections more often. They found about fifty percent more cases of otitis media in such children in this study of 400 babies. The researchers suspect that sucking interferes with proper drainage of the Eustachian tube.⁹ The researchers propose that after six months pacifiers should be used only when the infant is put down to sleep, and discontinued entirely after 10 months.

9. *Pediatrics*, September 2000.

St. John's Wort Compared to Pharmaceutical Preparation

German researchers recently conducted a study of 324 patients suffering from depression, comparing the efficacy of St. John's wort to a common pharmaceutical treatment: imipramine. The study concludes that St. John's wort is every bit as effective (and an even better choice) if you consider the side-effects of the drug.¹⁰ They recommend it be used as a first-line treatment for patients suffering from mild to moderate depression.

10. *British Medical Journal*, September 2, 2000.

Dental Danger

According to *New Scientist* magazine, people with a weakened immune system should be wary of a visit to the dentist. Testing at 21 dentist offices in southwestern England showed a high level of opportunistic pathogens (above safety standards) in most of the water samples taken from dental unit water lines, components of those tools the dentist uses to rinse your mouth and suck out excess saliva. Bacteria isolated included mycobacterium and legionella (which are associated with some severe forms of pneumonia) and streptococci. Most of the bacteria found are associated with the oral cavity, leading researchers to conclude that they originally came from patient saliva.¹¹ Some of the highest counts were from units that had recently been sterilized or used bottled water, measures suggested by British and American dental associations to reduce such problems.

11. *New Scientist*, August 30, 2000, reporting on a study published in *Applied Environmental*

Alzheimer's Scratch & Sniff Test

Researchers from Columbia Presbyterian Medical Center think they may have a simple test to identify people at high risk for developing Alzheimer's disease. They asked 90 older men and women (average age 67) who had minor memory and cognitive problems to identify different everyday smells from a small list of options. After 20 months, none of those who had scored well on the test (about half the group) developed the disorder, but about 40 percent of those scoring poorly on the test did. Interestingly, most of these patients who were diagnosed with Alzheimer's disease had reported a good sense of smell at the time of the test. Smells used in this "scratch and sniff" test included menthol, soap, and peanuts.¹²

12. *American Journal of Psychiatry*, September 2000.

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