

DC On Line

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Growth Hormones for Kids

A long-term study published in the *New England Journal of Medicine*¹ is leading many experts to question the value of growth hormone treatments for healthy children. After 10 years of growth hormone treatments, few children reached the height expected by their doctors. The average increase attributable to the hormones was two inches, with 20 percent showing no improvement at all. About 6,000 children are given growth hormones in the United States each year for cosmetic reasons, a use not approved by the FDA but nonetheless permitted. Treatment costs range from \$10,000 to \$25,000 per year.

1. *NEJM*, February 18, 1999.
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Cleaning up Viruses

Researchers from Penn State University report that a detergent commonly found in shampoo and toothpaste appears to destroy a number of sexually transmitted viruses, including HIV, herpes and human papilloma virus (HPV).² It may also kill bacteria chlamydia. Researchers tested sodium dodecyl sulphate (SDS) in rabbits (by introducing the compound into the vaginal tract) and found that it killed the microbes without irritating the animals' mucous membranes.

SDS is commonly used in laboratories to dissolve viruses. Researchers are working on additional trials and also on a gel or cream product that will persist at the applied location. They warn that shampoo and toothpaste are not suitable for the job.

2. *Antimicrobial Agents and Chemotherapy*, February, 1999.
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Carcinogenic Immunosuppressant

Transplant recipients have long been known to be at higher risk of developing cancer. It was thought that the immunosuppressants given to prevent rejection simply keep the body from recognizing cancerous changes. Now it is reported that one routinely used immunosuppressant, cyclosporine, enhances tumor growth.³ Studies using human cells implanted in mice found that the drug increases the production of the "transforming growth factor beta" protein, thought to be involved in cancer aggressiveness. Cyclosporine is also used for treatment of arthritis.

3. *Nature*, February 1999.

Sterilization Leading to CJD

A British veterinary researcher reports that the new variant Creutzfeldt-Jakob disease prion (thought to be the same protein that causes BSE or mad cow disease) appears to be strengthened by certain sterilization procedures. He found that noninfectious samples obtained from tonsillar tissue became infectious when heated to 280 degrees Fahrenheit in an autoclave.⁴ He postulates that the heat (which must be higher than 273 degrees) creates new chemical links that stabilize the protein. The CJD infectious agent was recently found to exist in lymphatic tissue, not just the central nervous system as previously thought, prompting concerns that it could be spread by medical instruments. This report complicates matters a bit, suggesting that it might be caused by instrument sterilization.

4. *New Scientist*, February 1999, reporting on the work of David Taylor of the Institute for Animal Health in Edinburgh.

TB Infectious Test

A standard test used to judge if a TB patient is infectious fails half the time, according to a report in *The Lancet*.⁵ Researchers used DNA fingerprinting to track the source of infections in San Francisco and found that many were spread by patients thought to be noninfectious. The test involves microscopic examination of sputum or phlegm; the patient is considered infectious if the tuberculosis bacterium is seen.

5. *The Lancet*, February 1999.

Antioxidant Foods

A group at Tufts University in Boston, working with whole foods instead of trying to isolate individual components, has ranked a number of fruits and vegetables according to their overall antioxidant activity. The researchers used an oxygen radical absorbance capacity (ORAC) test to gauge the amount of free radicals that can be neutralized by a given sample of blood. They compared the ORAC test of persons consuming standard diets to those same individuals after making dietary adjustments. They discovered that prunes create by far the highest antioxidant activity, followed (in order) by raisins, blueberries, blackberries, kale, strawberries and spinach.

In one female test group, a 10-ounce serving of fresh, raw spinach scored better than a 1,250 milligram dose of vitamin C. An eight ounce serving of strawberries did better than three glasses of red wine. In a related study by the same group, researchers observed that rats given daily servings of spinach seemed to retain their memory better as they aged.⁶

6. Reuters, February 8, 1999, reporting on the work of Ronald Prior, et al. in studies performed for the U.S. Department of Agriculture.

Strokes from Low Cholesterol

A new study presented at the American Heart Association's annual stroke conference⁷ reports that while high cholesterol levels can be associated with ischemic (artery-clogging) strokes, low levels are related to hemorrhagic (bleeding) strokes. In a study of about 4,500 people, researchers found that a 50-point rise from their volunteers' overall average cholesterol readings translated to a doubled risk of ischemic stroke, but a 50-point drop was associated with a doubled risk of hemorrhagic stroke.

The researchers theorize that cholesterol is needed to maintain healthy blood vessel walls, which may break down in low-cholesterol situations. In the U.S., ischemic strokes occur about four times as frequently as the hemorrhagic variety.

7. Associated Press, February 6, 1999.

Benefits of Childhood Diseases

A study published in *The Lancet*⁸ suggests that childhood illnesses somehow protect children from allergic reactions as they grow older. German researchers studying the medical history of 2,250 children into their early teens found relatively few cases of hay fever, asthma and eczema in those from large families, or from small families that used day care before the child's first birthday. They credit the lack of these conditions to early exposure to normal childhood diseases.

8. *The Lancet*, February 6, 1999.

HIV Resistance

A report from a February conference on retroviruses and opportunistic infections in Chicago⁹ related some bad news to physicians who treat HIV infections. The virus appears to be developing resistance to the few drugs now used for treatment. One study found resistance in 25 percent of the patients tested. Strains have been found that are resistant to reverse transcriptase inhibitors, protease inhibitors and non-nucleoside reverse transcriptase inhibitors. One percent of the patients were infected with a strain that resisted all three classes of drugs. In a number of cases, resistant strains have been found in patients who have never had treatment for HIV, indicating that resistant strains are being transmitted.¹⁰

9. By Dr. Susan Little of the University of California, San Diego.

10. Reuter, February 4, 1999.

Chilean Wine

Scottish scientists have measured the flavonol content of what we eat and drink. Chilean red wines top the list. The scientists found marked differences in flavonol content while researching 65 wines from around the world. Chilean wines have such a high flavonol content because of that country's altitude. Flavonols develop in response to ultraviolet radiation, which is stronger in high-elevation sunshine. Some other interesting findings: cherry tomatoes tend to have 10 times the flavonol content of regular tomatoes; flavonols are also abundant in red lettuce and red and yellow onions.¹¹

11. Reuter, February 4, 1999, in an interview with Dr. Alan Crozier of the University of Glasgow.

Cervical Dysplasia

A Canadian study of cervical dysplasia questions the wisdom of immediate in-depth diagnostics and treatment for women who test positive for mild cervical dysplasia. Women are often immediately referred for extensive testing (that may include colposcopy or even biopsy) if even the slightest changes are detected on a pap smear. This study examined the medical records of nearly 18,000 women between 1970 and 1989 to determine the outcome of these patients. It turns out that there is only a one-percent chance per year that mild changes will progress to a more abnormal stage.

Over a 10-year period, the pap smears in 60 percent of these women returned to normal.¹²

12. *Journal of the National Cancer Institute*, February 3, 1999.

Live AIDS Vaccine

A paper published in the journal *Nature Medicine*¹³ is likely to postpone indefinitely human trials of a live HIV vaccine that many had hoped would begin soon. The report confirms that the "genetically crippled" version of the HIV virus given to monkeys in an attempt to make them resistant to future exposure of the virus does not work. Not only did it fail to impart resistance to HIV infection, but it created the disease in many of the hosts. All eight of the newborn monkeys given the vaccine became infected and a large number of adult monkeys did the same. It appears that the virus is able to reassemble an active version of itself once it is in the body.

13. *Nature Medicine*, February 1999.

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