

A study at Cornell University suggested that the increase in reported cases of autism is related to a rise in cable subscriptions across various states.

MD2 and MDVIP are part of a group of new organizations offering "country-club medicine" to patients willing to pay more in the United States. Extra benefits include access to doctors 24/7, house calls, medical records on a wallet-sized CD, and much more.

Neurologists from the University of Florida recently discovered that brain damage in the frontal and temporal lobes improve artistic expression. This, however, decreased the emotional power of the artistic work.

Dr. Vincent Lam recently received the Giller Prize, a prestigious award given to outstanding novels written by Canadians. His novel titled "Bloodletting & Miraculous Cure" is a collection of stories involving ethical issues he has faced as an emergency physician.

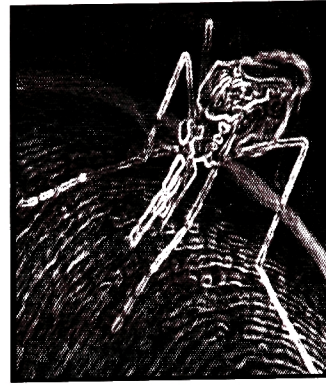
A surgical team in London, England, has received approval to perform full face transplants on patients with severe facial disfigurement. The full immunological and psychological consequences of this surgery are still uncertain.

Energy drinks are loaded with sugar and caffeine and have been linked to heart problems and caffeine addiction. Experts say prolonged use can lead to other illnesses but a healthy alternative might be difficult to introduce now.

Researchers at MIT and University of Hong Kong have developed a fluid composed of protein fragments that stop bleeding from damaged vessels within seconds. This is a promising new tool for managing bleeding during surgeries.

Several fatal cases of a bacteria called *C.difficile* have been reported by hospitals in Quebec. Researches believe that this new and powerful strain, not present in the hospital, can be found in meat.

Scientists from the UK identified two common proteins in 500 blood samples taken from Alzheimer's patients. This is a promising step towards using blood markers for early diagnosis and stabilization of this condition.



Curcumin, an active ingredient in curry, has been linked to the down-regulation of certain genes in joints leading to its anti-inflammatory effects. Researchers are now studying the use of curcumin to treat inflammatory diseases such as asthma and multiple sclerosis.

Preliminary experiments for male contraceptives have begun on rats. Scientists in Italy and the United States demonstrated that the drug "Adjudin" was able to reversibly induce infertility for a period of twenty weeks. The drug acts on important cells involved in spermatogenesis.

The Canadian Institute for Health Information recently announced that escalating healthcare

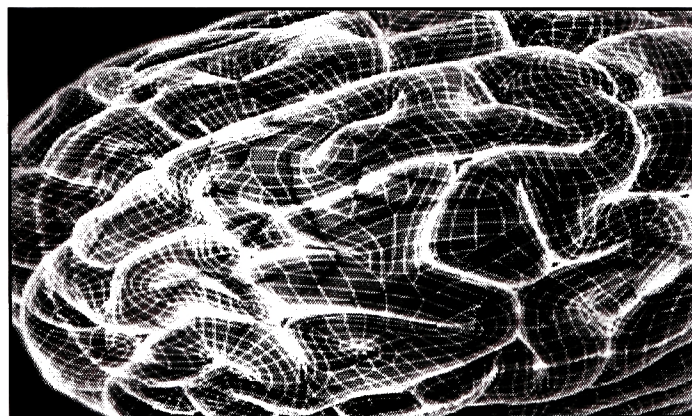
costs should continue to slow down following the trend since 2000. This is a positive outlook for advocates of a sustainable public healthcare system.

The Ontario Court of Appeal has ruled that the provincial government cannot be sued by victims of the West Nile Virus in 2002. The plaintiffs claimed that the province did not properly inform citizens of the dangerous outbreak. This case addresses the accountability of public health officials.

New studies suggest that the human sclera, the white part of the eye, developed because of the importance of early human sociability and communication. Experimental evidence has shown that the whites of the eyes are used by humans to work out where an individual is looking. Other primates developed dark sclera and do not follow an individual's eyes.

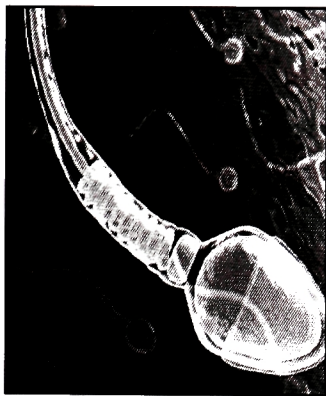
A new study underlines a lack of family physicians to be a major problem in Canadian health care. The report postulates that nearly a five million Canadians do not have a family doctor, even after searching months for one. It highlights that the search for shorter wait time should include addressing this growing problem.

A new strain of H5N1 avian influenza has been identified in China.





This is not viewed as a major cause for concern; however, it does support the need for vigilance and continued surveillance. The emergence of new strains of the virus confirms that it is increasing in prevalence in this area. These new strains also raise concerns about the effectiveness of current vaccines.



**The United States and Switzerland** have stockpiled an H5N1 bird flu vaccine produced by GlaxoSmithKline. Some researchers have expressed doubts regarding its efficacy based on a lack of pre-pandemic information and the rate of genetic change in the virus.

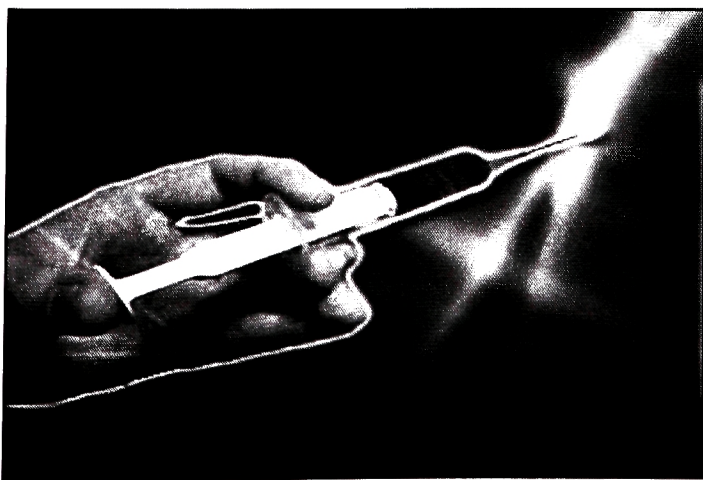
**A report in India suggests that frequent cell phone usage** reduces the quantity and quality of sperm. Men using cell phones for more than 4 hours/day have 40% less sperm than the average male.

to the individual cancer. As explained in Nature Medicine, different chemotherapies work best against specific cancer cell types. The method describes identifying the specific cell type, and picking a chemotherapy based on that.

**A research group in Canada** has identified a subset of stem cells as the culprits for colon cancer. This evidence supports the controversial belief that cancerous cells are derived from abnormal stem cells which are resistant to radiation.

**Please email any suggestions to [MedWire@learnlink.mcmaster.ca](mailto:MedWire@learnlink.mcmaster.ca).**

**A new test** aims to reduce collateral damage from chemotherapy by suiting the type of treatment



## Botulism and Vegetable Juices: Should we be concerned?



**MedWire**

By: Dr. Christian Baron

Several cases of "botulism" have recently been reported in Canada and in the US. This condition is quite rare these days, so that diagnosis was made days to weeks after the patients were admitted to hospital. The victims suffered from a paralysis that progressively extended over their entire body. Some patients are still in hospital and can only breathe with the help of respirators as their own chest muscles are largely paralyzed. The paralysis will eventually wane, but it will take a long time until these patients can go back to their normal life. After the correct diagnosis had been made, an investigation identified the ingestion of vegetable juices from California as source of the problem. You may ask yourself what type of disease botulism is and why the diagnosis was so much delayed? Could these cases have been prevented and do we have reasons to be concerned about drinking vegetable juices in future?

The recent cases of botulism were not due to an infection by bacteria, viruses or other microbial pathogens. Nonetheless, a bacterium is the source of the problem, *Clostridium botulinum*. This organism is member of the Gram-positive branch of bacteria that have very thick cell walls. *Clostridium botulinum* produces the botulinum toxin, an extremely potent neurotoxin that blocks nerve transmission and is the main cause of food-borne botulism. In fact, botulinum toxin is considered to be the most potent naturally occurring poison on earth. One milligram is enough to kill one million guinea pigs and the lethal doses for humans is two micrograms. The diagnosis of botulism intoxication should have been straight forward, in principle, as the pathology has been known for a long time. However, this food intoxication is very infrequent in these days so that other causative reasons were considered first. The explanation for these cases is linked to the fact that *Clostridium* species have the ability to form heat-, drought- and radiation-resistant endospores in unfavourable environmental conditions. This survival form of the bacteria can persist over many years without apparent growth and survives short periods of boiling.

Once the bacteria encounters a favourable environment, and in the case of *Clostridium* it has to be free of oxygen. The spores germinate and the bacteria can grow and produce the toxin. Therefore, we can hypothesize that spores of *Clostridium botulinum*, which can be readily found in soil, have likely entered the vegetable juice production process. Due to incomplete sterilization of the production pipeline, a small number of the spores survived, the bacterial germinated in a local oxygen-free environment, and produced the small amounts of toxin that are the cause of these botulism cases.

To conclude, these cases could have been prevented by better hygienic practice in food production. It is not likely that these particular juices or other products will produce worrisome risks in the future. Thus, there is no reason to fear botulinum intoxications in daily life, but it is good to be aware of the possibility, and future medical professionals should be prepared to expect the unexpected.