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■ Chiropractic can help hold off progression of HIV

The journal *Science* reports that people who are infected with HIV and are successful in staying well for years in spite of the virus have a large number of CD4 immune system cells in their blood.

The researchers found that the CD4 cells (also known as “helper T-cells”) kept the virus at bay; those with high levels of CD4 cells had low amounts of HIV and those with low levels of CD4 cells had high amounts of HIV.

The research was done at Massachusetts General Hospital in Boston. The senior author of the study, Dr. Bruce Walker says, “Our work provides an explanation of why a very small group of people have been able to avoid getting sick from this virus even though they are infected.”

As far back as 1994, the *Chiropractic Research Journal* reported on a study that found specific upper neck Chiropractic spinal adjustments increased the CD4 immune cell counts in HIV patients.

In that study, the tests were performed by the patient's independent medical centers where they were under care. **“A 48% increase in CD4 [immune system] cells was demonstrated over the six month duration of the study for the group [under Chiropractic care].”**

CD4 cells direct the body's immune response to invading viruses and are a good measurement of how effective the immune system is functioning. Each of the many different types of immune system cells are designed to attack a specific virus. When a virus is detected in the bloodstream, the specific immune system cell for that virus replicates by the billions, flooding the body with defenders against the danger.

Every day it becomes more obvious that a properly functioning immune system, under full control of a properly functioning nervous system, is essential to maintaining health. ▲

■ Spinal problems affect immune system

Research highlighted in the 1989; 12(4) issue of the *Journal of Physiological and Manipulative Therapeutics* shows that the immune system may well be under direct control of the nervous system. This coincides with the discovery of various neurological receptor sites on the surface of white blood cells, part of the body's immune system.

The white blood cells, known as T-lymphocytes, have been found to have receptor sites for chemicals produced by the nerve system called neurohormones and neuromodulators. These chemicals stimulate or inhibit the activity of the white blood cells.

The research also found that the white blood cells also produce the neurohormone and neuromodulator chemicals which suggest that the white blood cells can also communicate with the nervous system.

The authors of the study summarize that spinal misalignments, subluxations, can negatively affect the body's immune response by interfering with the communication link between the nervous system and the immune system. Chiropractic adjustments correct spinal subluxations and help restore this communication link.

By way of commentary, this research simply proves what Chiropractors have known for years, that the nervous system is in direct control of the body's immune system and that interfering with it in any way can adversely affect how it functions. Any malfunction of the body, especially a malfunction of the immune system, will cause the body to become unhealthy. Chiropractic Wellness Care keeps your body, and your immune system, functioning the best they possibly can for a lifetime. ▲

■ Human immune process identified that fights hepatitis B

Researchers at The Scripps Research Institute in La Jolla, California have identified a process in which the body is able to eliminate the hepatitis B virus (HBV) from 90% of the infected liver cells. The research was reported in the April 30, 1999 issue of *Science*.

Up until now, it was thought that T-type white blood cells (T cells) had only one function, to kill infected or abnormal cells; hence the name killer T-cells. This study found a new type of T-cell that is able to identify infected cells, secrete a protective chemical that binds to the infected cell and activates it to kill the heart of the hepatitis B virus without dying in the process. This happened several weeks before the body sent a huge influx of killer T-cells to eliminate the remaining infected cells.

This research turns upside down years and years of thinking about how the immune system functions. Chiropractors have always said that the inborn, innate intelligence of the body is able to deal with viruses better if the body is functioning the best it possibly can. This research certainly points out a very good reason to keep the nervous system free of interference; so that the protective mechanisms in the body are able to work at peak performance. ▲



Immune System Involved In Cancer Prevention

The April 26, 2001 issue of the journal *Nature* reports that scientists at Washington University and Memorial Sloan-Kettering Cancer Center in New York have come to the conclusion that the immune system is involved in preventing cancer.

25 years ago, scientists thought that the immune system was able to prevent cancer by identifying and destroying cells that had begun the process of transforming into cancer cells. This process came to be known as “immunosurveillance”.

Scientists abandoned this concept when an experiment in the late 1970s showed that the immune system played no part in cancer prevention. In that experiment, cancer cells were transplanted into mice with normal immune systems and mice with destroyed immune systems. The mice with destroyed immune systems didn’t develop cancer any more than those with normal immune systems.

The only problem was that the 1970s experiment was flawed. It turned out that the mice with supposedly destroyed immune systems still had a certain type of immune system cells called lymphocytes that form an active part of the immune system.

The recent New York research repeated the 1970s experiment and used mice with destroyed immune systems that truly lacked lymphocytes. It was amply demonstrated that the nervous system does indeed help in the prevention of cancer. The mice without lymphocytes developed tumors earlier and more frequently than the mice with normal immune systems.

By way of commentary, with the immune system under direct control of the nervous system, lifetime Chiropractic Wellness Care is vitally important to a healthy and fully functioning immune system. Everyone who wants a properly functioning immune system needs to have their spines checked on a regular basis. ▲

■ Connection Found Between Body's Gene Repair System And Innate Immunity

A study published in the December 8, 2000 issue of the journal *Cell* reports the discovery that an enzyme normally involved in the body's genetic repair system is also involved in the body's innate immunity, its first response against outside invaders such as viruses, bacteria and toxins.

The finding that the enzyme, DNA-PK provides a link between the body's genetic or DNA repair mechanism and its innate immunity confirms that the two systems are activated when the body encounters invading bacteria, viruses or toxins.

The body's innate immune system, when functioning correctly, identifies invaders by their structure and very quickly, within minutes, produces a large amount of natural killer cells to deal with the invader. The adaptative immune system will memorize this contact with an invader and over a period of days will gear up its attack with B- and T-cells. The adaptative immune system is also responsible for attacking the invader again if the body encounters it in the future.

In commentary, there is no question that the body has an inborn, innate immune system that is capable of protecting it from both internal and external dangers and we are happy that medical science is finally "discovering" this fact. Since its inception in 1895, chiropractic has held that this system will work correctly provided there is nothing interfering with how it functions. Chiropractic Wellness Care will make sure that your innate immune system will function to the best of its ability, keeping your body in a higher level of health. ▲

■ 90,000 deaths every year from hospital-acquired infections

In March, 1998, officials of the Centers for Disease Control and Prevention told the first International Conference of Emerging Infectious Diseases that 2,000,000 people suffer from hospital-acquired infections every year and up to 90,000 of those patients die as a result.

This statistic reflects the growing problem of antibiotic resistant bacteria. Fred Tenover, who is the director of the CDC's hospital pathogens research program says that 70% of hospital acquired infections are now resistant to at least one antibiotic with many more resistant to many or all antibiotics. Many of those infections will still respond to the strongest of the antibiotics, Vancomycin but there are signs that the bacteria are becoming resistant to it as well. CDC officials are concerned that it's only a matter of time until "superbugs" resistant to all antibiotics emerge.

Overuse and misuse of Vancomycin is increasing the rate at which the bacteria develop resistance. "Our survey showed that as much as 60% of the hospital prescriptions for this drug are not in accordance with the CDC guidelines," Tenover said. "They are using it in too many situations where it's neither necessary or appropriate." ▲

■ Hospital water dangerous to weak patients

In a report to the *American Society for Microbiology*, Arkansas researcher Elias Anaissie says that hospital tap water contained bacteria and fungi in levels high enough to harm patients with weakened immune systems. This in spite of the fact that the water met all federal and state standards.

According to Anaissie, patients undergoing chemotherapy and the critically ill are most at risk for contracting life-threatening infections. Fungus and bacteria were found in tap water, in drains, on shower heads and under sinks in patients' rooms. In one hospital, water held in the hospital reservoir had a thin film of fungus floating on the surface.

The bacteria and fungus he found are usually airborne and can infect people when they breathe them in but they can also be transmitted through open wounds that are immersed in contaminated water.

“Since I made these findings,” Anaissie said, “I only drink filtered water.” Good advice indeed. ▲



Hospital workers forget to wash hands between patients

The journal *Annals of Internal Medicine* reports in their January 19, 1999 issue that researchers have found that "noncompliance with handwashing is a substantial problem" in more than **half** of their contacts with patients.

The researchers are from the University of Geneva in Switzerland. In the study, they had infection control nurses observe the staff at one Geneva teaching hospital. In nearly 3,000 routine "handwashing opportunities" over a one month period, the staff was observed washing or disinfecting their hands in only **48% of required instances**. A "handwashing opportunity" was defined as "all situations in which handwashing is indicated" as a way to prevent the spread of infection.

The study also found that physicians were **three times more likely to neglect washing their hands as nurses**, who had the best compliance of any of the healthcare workers observed at 52%. Worse news was that the busier the hospital, the less handwashing occurred. In fact, intensive care units had the lowest compliance at **36%**. This is most disturbing since seriously ill patients in intensive care units are among those most susceptible to hospital acquired infections.

The researchers also pointed out that **the staff at the study hospital had been told about the research and may have improved their habits as a result**. The authors speculate that "**the real situation may be even worse than reported.**"

80,000 people die in the United States every year from nosocomial (hospital-acquired) infections. That's roughly 9 people every hour. 216 every day. That's about twice the number of people killed every day in automobile accidents. ▲

■ Immune system strength key to West Nile protection

The Washington Times reported on August 9, 2002, that people in good health, with strong immune systems, face a very low risk of getting the West Nile virus. The article also reports that the majority of West Nile cases this year have involved people with weakened immune systems.

Dr. Shmuel Shoham, infectious disease specialist at Washington Hospital Center in Washington, D.C. says, “The vast majority of the people that would get infected with it don’t even know they have it because they have absolutely no symptoms or very mild symptoms.”

“Statistically,” he said, “for every person with mild symptoms five others have no symptoms. For every one person with severe symptoms, 250 people would either have mild or no symptoms at all.”

Commentary: Over and over again, studies have shown that people under Chiropractic care have stronger immune systems than those who are not. The best defense against any disease is a properly functioning, strong immune system kept that way through Chiropractic care.

■ Hospital-acquired mold infections may come from hospital water systems

Despite the increased use of special air filters that filter outside-air intakes, hospital patients are still experiencing increasing numbers of hospital-acquired mold infections. Previous reports have indicated that hospital water systems can colonize such molds says the April 1, 2003 issue of the journal *Blood*.

Researchers at the University of Arkansas for Medical Sciences examined mold levels in various environmental samples from a bone marrow transplantation unit which uses the best air filtration protocols. 70% of 398 water samples, 22% of 1311 surface swabs and 83% of 264 indoor air samples harbored molds.

The airborne molds were at the highest concentrations in rooms where water was used a lot, such as bathrooms. The airborne mold strains closely resembled the ones present in the water systems.

The researchers suggest that providing patients with sterile water for drinking, sterile sponges for bathing and thoroughly cleaning shower room floors would be “an effective and inexpensive approach to prevent exposure to waterborne molds.”

Commentary: Goodness. We would certainly hope that hospitals wouldn't need to be told to clean the shower floors. But you never know.