

THE LIFE SCIENCE GAZETTE

Mobile Cancer!

by Dr Photos Hajigeorgiou



At the first International Conference on Mobile Phone Communications and Health in Russia (2004), Professor Lennart Hardell, an oncologist at the University Hospital in Orebro, Sweden, said that people who began using mobile phones before the age of 20 showed five times the risk of developing a glioma, a type of brain cancer with a poor prognosis.

They analyzed more than 1.400 adults (20-80 years) diagnosed with a malignant or benign brain tumor, comparing them with a similar number of healthy adults living in the same area. Each group was asked to report its daily use of mobile or cordless phones.

The researchers also looked at data from 18 prior studies from the USA, Denmark, Finland, Sweden, the UK, Germany and Japan. The analysis showed that young mobile phone users were also five times more likely to develop acoustic neuromas, which are benign tumors of the auditory nerve that can cause deafness.

Continued on page 2

Issue 02, 24 October 08

Columns



“Catch” of the Month

Mobile Cancer

by Dr. Photos Hajigeorgiou
Page 2



Beauty Talks

The Good News about Skin Care

by Ms. Maria Michael
Page 3



Research News

How your Skin could save your Brain

by Dr Evi Farazi Page 2



The student Voice

Loosing weight: healthy diet or exercise?

With Human Biology student
George D. Georgiou,
Page 4



Ask Andrea

Editorial Page 4

Ads

Mediterranean Diet - Connection to Health

5th International Conference of the Cyprus Dietetic Association (www.cydadiet.org)

28-30 November 2008

Hilton Park Hotel, Nicosia Cyprus

Continued from page 1

Mobile cancer

People living in rural areas were more than eight times more likely to develop brain cancer than people living in urban areas. The study suggests that mobile phones in rural areas deliver a higher dose of electromagnetic radiation because they have to transmit a stronger signal to distant transmission towers, whereas towers are closer together in urban areas resulting in phones that transmit a weaker signal.

Hardell believes that children are at higher risk because their brains and nervous systems are still developing. Because children's heads are smaller and their skulls are thinner, the radiation would penetrate deeper into their brains. He recommends that children under 12 should use mobile phones only in emergencies and that teenagers use headsets and concentrate on "texting" until the age of 20. Beyond the age of 20, the brain and the central nervous system are fully developed, and adult mobile phone users are only twice as likely to get brain cancer. In order to establish with higher certainty the present results, Dr. Hardell believes that more research with larger groups is necessary. Dr. Hardell's study has been published in the journal *Occupational and Environmental Medicine* 2007;64:626-632.

The mobile phone industry keeps saying that these alarming studies are all nonsense and they respond with competing studies of their own.

Who do we believe? I believe that there is little point in taking unnecessary risks with young children, particularly when so many studies have shown statistically supported risks of developing brain cancer. It is also natural to expect that it is not to the best financial interests of the mobile phone industry to accept the findings of these studies. The ill effects of electromagnetic radiation on individual brain cells and on brain function have long been demonstrated scientifically. In the end, this issue is similar to the debate about cigarette smoking and lung cancer and the way in which the tobacco industry dealt with the problem. In the meantime we should all limit our use of mobile phones to essential calls, and limit the time spent on the mobile phone on individual calls.

Sources:

1. http://www.consumeraffairs.com/news04/2005/cell_tumors_sweden.html
2. <http://oem.bmj.com/cgi/content/short/64/9/626>
3. <http://www.huliq.com/3257/69028/cell-phone-use-increases-cancer-risk-children-fivefold-report>
4. http://www.breitbart.com/article.php?id=060427110534.coym1bs2&show_article=1
5. <http://www.telegraph.co.uk/digitalife/main.jhtml?xml=/connected/2002/06/25/ecnphon25.xml>

Research News

How your Skin Could Save your Brain

by Dr Evi Farazi

Studying, characterizing and providing ways to treat diseases of the nervous system has always been a problem for scientists. Why? It is very difficult to remove cells from patients (imagine being asked for a sample of your brain for research purposes) in order to study them *in vitro* (in a dish).

Amyotrophic lateral sclerosis [(ALS), also known as Lou Gehrig's disease] is a neurodegenerative disorder characterized by loss of motor neurons in the spinal cord and motor cortex. It manifests clinically as progressive muscular paralysis and death. For a long time researchers have been looking for ways to obtain a good supply of motor neurons from patients with ALS, but were faced with the problem of obtaining human tissue material for their research.

Last month, in the August 29 issue of the journal *Science*, scientists from Harvard University and a medical team from Columbia University came up with a solution to this problem and managed to obtain a large supply of motor neurons from patients with ALS without performing an invasive procedure. Instead of isolating brain cells, the Columbia medical team isolated skin cells from elderly patients with ALS. The Harvard scientists then put the skin cells in a dish to culture them and converted them into pluripotent cells by the addition of four genes (pluripotent cells can change into many different cell types, e.g. liver, muscle, brain cells). They then directed these pluripotent cells to become the type of motor neurons (nerve cells) that are damaged by ALS. In other words, at the end of their experiment they had a large supply of nerve cells that were genetically identical with the patients' cells.

The study is novel and important as it provides the basis for improved therapies and better understanding of the disease. It is a nice representation of collaborative work, where basic scientists and medical doctors worked together to address a medical problem. This work represents the first success in isolating adult skin cells from elderly patients with chronic disease and reprogramming them into another cell type. Essentially these skin cells could be reprogrammed into many other cell types, thus becoming useful for many types of diseases. In the future, our skin could not only save our brain but also possibly our liver, stomach, and other organs affected by disease.

Sources: Dimos et al., *Science*, 321: 1218-1221, 29 August 2008.

Beauty talks

The Good News about Skin Care

by Maria Michael



Feeling overwhelmed by all the advertisements that claim their lotion or potion will make your skin look so much better? Totally confused by the choices in the skin care section of your local pharmacy or supermarket? Don't worry – it's perfectly normal! The good news is that skin care can be simple. Caring for your skin doesn't have to be a 10-step process, and you don't have to spend a lot of money on fancy products. Good skin care involves 3 basic steps:

Step 1 - Cleansing - removing makeup and grime without stressing the skin.

Cleansing is an important part of good skin care. The purpose of a cleanser (or soap) is to surround, loosen, and make it easy to remove dirt, debris, germs, excess oils, and left over products applied to the skin. Be aware that overdoing it can have side effects. Often people think that their skin isn't clean unless it feels dry and tight after they wash it. Sometimes it is their choice of cleanser that could be hurting their skin. So, use the mildest cleansers possible to remove dirt, oil, debris, and makeup.

Examples of cleansers- foaming facial wash, cleansing milk or lotion and cleansing soap bars.

Step 2 - Moisturizing - Hydrating and nourishing the skin

Moisturizing is an essential step in good skin care. An effective moisturizer will have a combination of ingredients that should replenish the skin's natural ingredients and maintain its structure; this cuts down on damage from free-radicals and helps cells function more normally.

What should you be looking for? Good Moisturizer Ingredients

Things have changed since moisturizers were essentially water and wax mixtures trying to hold water in the skin, we now have new state-of-the-art moisturizers with active specialized ingredients.

Glycerol - Helps water and other moisturizer ingredients penetrate the skin to get where they are needed.

Ceramides - Help replenish the skin's natural oils.

Hydroxy Acids - Help with exfoliation of dead skin cells

Step 3 - Sunscreen - Protecting the skin from harmful UV rays

The final but the most forgotten step in a good skin care program is using sunscreen, especially in sunny climates like in Cyprus..

Unfortunately, while we can easily detect if our skin needs cleansing or moisturizing, most of the damage to the skin from UV radiation is beneath the surface and happens so slowly that we can't see it. Even though people are aware of the damaging effects of sun exposure (sunburn, photo aging, and increased risk of skin cancer), most are not aware that even small amounts of exposure are enough to seriously damage the skin. Did you know that sun damage can occur when you walk from your house to your car or sit next to a window during the day? Every little bit of exposure adds up over the years.

How to choose a sunscreen? Sunscreen decisions to consider:

How sunscreens work

Everyday sunscreen vs. out-in-the-sun sunscreen

Using a sunscreen alone vs. sunscreen plus moisturizer

Understanding the UV-index

If you take the time to care for your skin by cleansing and moisturizing, don't undo all those benefits by exposing it to UV radiation. Find a good broad-spectrum sunscreen and use it as part of your daily routine just like brushing your teeth!

The Student Voice



George D Georgiou, AFAA Certified Personal trainer and Group fitness specialist is a Human Biology major student from Cyprus at the University of Nicosia.

Which has the most impact on weight loss, a healthy diet or exercise?

This one is easy. Short answer first: A healthy diet. The Longer answer: If I had to put it down in numbers, then diet would probably be about 65-70% of the whole equation. Exercise would be another 20-25%,

and the remainder would be rest, recovery and keeping stress levels to a minimum. There is a (not so common) saying, which says that given the ultimate, perfect exercise routine, and following it diligently whilst not really caring about your diet, will give you minimum results. On the other hand, following a mediocre training routine, whilst making a great effort to eat correctly will give you great results and fairly quickly too. Another perspective is that exercise is a stimulus to physical improvement, and if you deny your body the raw materials it needs to make the improvements then the process becomes inefficient.

It was put extremely well by a lecturer here at the University, Dr. Michaelides (Physics). "It's like Maths or Physics, if you understand the class well (Analogous to performing the exercise routine well) but don't ever do homework to practice (The Diet, which amplifies the effects of the workout) then chances are you will never really do well, unless you are genetically gifted". I rest my case.

To sum up, there are certain things you should look for when enquiring about a personal trainer. Ask questions, and ask for explanations. They should be willing to share their knowledge with you to arm you with the tools you need to eventually take charge of your own fitness. If after 3 or 4 months, you feel you have learned enough to design your own program based on your needs then your personal trainer has succeeded. If not, then the problem lies either with the trainer, or yourself. If you don't want to better yourself then no one on earth will ever be able to help you, no matter how skilled. This goes for anything in life. In our case, a good personal trainer that is able to inspire you... is a Great personal trainer.

Don't forget, it is a fact that a healthy body makes for a healthier mind.

Thanks.



Ask Andrea Editorial

In the first issue of the "Life Science Gazette" in order to impress the reading audience, we talked about genes acting as "genies", a male genetic condition called... "cheating" and how love should not be illustrated as a red heart but rather as a red brain! Indeed, the first issue was a success and we now proudly present Issue #2. In addition to scientific and research news, this issue deals with aesthetics and fitness, giving tips on how to have both the looks and the brains. Enjoy!

Andrea Pavlou

The Team

Director:

Dr Edna Yamasaki

Editor In Chief:

Andrea Pavlou

Assistant Editor:

Dr Evdokia Kastanos

Revising:

Carrie Rodomar



DID YOU KNOW.... that the first sense to develop in the fetus during pregnancy is touch. The developing fetus responds to touch of the lips and cheeks by 8 weeks and to other parts of its body at 14 week.

Source: Hepper, P., "Unraveling our beginnings", *The Psychologist*, 18:474-477, 2005