

Health problems linked to video monitors

By Virginia Sliman
Emerald Contributor

It's late afternoon in the EMU Computer Lounge. Scattered through the lounge, students stare into video display monitors; some slouch or hunch in their seats while others sit up straight or pause for a stretch.

All sit with their faces about 12 inches from the computer monitor.

Probably, few are aware of studies linking low-level electromagnetic radiation, like that emitted by VDTs, with cancer, birth defects and miscarriages.

Scientists in Sweden noted significant increases in fetal deaths and miscarriages in mice exposed to weak magnetic fields as part of three recent studies. All three studies used radiation designed to mimic as closely as possible the magnetic fields produced by VDTs, according to a recent article in *Macworld*, a computer magazine.

The magazine also cited some American studies that showed low-level electromagnetic radiation may promote cancer by suppressing the body's immune system and increasing activity of an enzyme connected with cancer promotion.

David West, who has worked with computers for 25 years, said that while working in certain environments he and his co-workers occasionally suffered chronic headaches that he suspects may be linked to the computers.

"I didn't know about radiation then, and now I wonder if there's a connection," said West, who is now a network manager for Random Lengths publishing company in Eugene.

West became concerned about a possible link between electromagnetic emissions and cancer, brain tumors and leukemia in children after he read a series of articles in *New Yorker* this spring.

"They were well researched. I felt there was definitely something there worth worrying about, worth paying attention to," West said.

The *New Yorker* articles raised issues and evidence of the possible effects of electromagnetic fields, said Steve Hecker, occupational health

specialist at the UO's Labor Education and Research Center. "Concern about the risk of exposure to electromagnetic fields is gaining wider acceptance," he said.

The article cites studies that found a significantly higher rate of cancer — especially brain cancer and leukemia — in people who worked around electromagnetic fields, including electricians, electrical engineers, electric-utility workers, power station operators and telephone and power linemen.

"There are just as many studies that say there is something there as there are studies that say there is not a problem," said Franz St. George, a physicist and radiation safety officer at Sacred Heart General Hospital.

"It makes it very difficult for people like me to say anything," he said.

Low-frequency electric current produces a magnetic field that penetrates almost anything in its path, including the human body. Magnetic fields cause the molecules of the human body and the brain to vibrate back and forth at a rate of as much as 60 times a second, according to the July 9 issue of the *New Yorker*.

The strength of magnetic fields necessary to cause adverse health effects in human beings is central to the VDT controversy.

Levels as low as two or three milligauss have been linked to the development of cancer in children living near high-current electric distribution wires, according to studies cited in *Macworld*. A gauss is a unit of measure for electromagnetic energy; a milligauss is one one thousandth of a gauss.

In 1982, Canadian researchers measured the strength of magnetic fields 12 inches from two computer monitors and recorded a reading of more than two milligauss. The reading 20 inches away from several monitors was about one milligauss.

The Canadian Centre for Occupation Health and Safety recommended that workplaces be redesigned to put more distance between VDT operators and their display monitors and neighboring monitors. For the most part, Canadian and U.S. health officials ignored warnings, as did major media in



Photo by Sean Poston

Some studies have linked the low-level radiation from video display terminals to health problems, including cancer.

both countries, according to *Macworld*.

Originally, ionizing radiation, like that emitted from X-ray tubes, was thought to cause cancer, St. George said, but it is no longer considered a problem.

Within the last decade, however, two types of non-ionizing radiation have raised concerns: very low frequency radiation (VLF) and extremely low radiation.

There are no federal standards for either VLF or ELF radiation in the United States; however, several countries, including Sweden and Canada, have set standards for VLF emissions. A number of companies including IBM, DEC, Philips and Sigma sell monitors that meet those standards.

Using a device that measures magnetic fields, *Macworld* tested 10 display monitors commonly used with Macintosh computers.

Macworld discovered that the strongest emissions came

from the tops and sides of Macintosh computer monitors. The AppleColor High-Resolution RGB monitor gave off more than 70 milligauss 4 inches from the right side of the monitor. Emissions at the same distance from the front of the AppleColor monitor and another Macintosh color monitor measured more than 22 milligauss.

Twenty-eight inches from the front of a display screen, *Macworld* found that magnetic field emissions on all monitors commonly used with Macintosh computers fell off to less than 1 milligauss.

As a result, *Macworld* recommends that VDT users sit at least an arm's length away from monitors and at least four feet away from the sides or back of any nearby monitors.

Salespersons at several Eugene computer stores said that although they did not have computer radiation shields in stock, they could be ordered.

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