

VIDEO VIEWS

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The VDT Coalition

Summer 1983

* THE VDT COALITION

Are you one of this country's 10 million Video Display Terminal (VDT) operators? If not, you soon may be. It is estimated that VDT's are being installed at the rate of one every 13 minutes.

Along with the rapid increase in VDT's has come a growing concern about the health and safety aspects of their use. "No one knows what the impact will be of working on a VDT several hours a day for the next 20 years," says Laura Stock of the Bay Area VDT Coalition. "But we do know that many VDT operators already experience eye problems, muscle aches, increased stress and fatigue. And we are concerned about recent reports of 'clusters' of birth defects, miscarriages, and cataracts among VDT operators."

It was because of concerns like these that the Bay Area VDT Coalition was formed five years ago. Today the VDT Coalition has grown to represent many unions and CRT operators who are united around the following goals:

- (1) Maintaining a VDT Resource Center--including a library and staff--to provide training, information, and technical assistance to VDT operators and unions.
- (2) Working for protective legislation and governmental standards to ensure safe VDT use.
- (3) Calling for continued research on the short and longterm hazards of VDT work.
- (4) Publishing *Video Views*, a quarterly newsletter to keep CRT operators, unions and the broader public up-to-date on the latest information about VDT hazards and the continuing fight for VDT safety.

"We've made a lot of progress since the Coalition was formed five years ago, says Barbara Pottgen, a Coalition founder and member of the Office and Professional Employees, Local 3, "but we have a long way to go."

The three founding members of the Bay Area VDT Coalition-- Ms. Pottgen, Barbara Gray of the Bay Area Typographical Workers Union, Local 21, and Helen Palter of the Newspaper Guild,

Local 52--met at a California Labor Federation sponsored "Women in the Workforce Conference" on health and

safety, in 1978. As VDT operators and union activists, each went to the conference hoping to find solutions to the problems caused by the introduction of VDTs at their workplaces. "While we didn't find the answers to all our problems, we did find each other," recalls Barbara Pottgen, "and we made a commitment to start working together to find common solutions to our common problems."

According to Ms. Pottgen, "All of us were running into roadblocks in our grievance and contract negotiations on VDT health and safety because it was such a new issue. Our employers were unimpressed with studies on VDT health hazards done in European countries, so we realized that we had to bring things a little closer to home."

With the backing of 25 local and international unions, the Bay Area VDT Coalition members petitioned the U.S. government's National Institute of Occupational Safety and Health (NIOSH) to conduct on-site inspections of VDT use at their own workplaces.

NIOSH agreed and in January, 1980 conducted studies to investigate radiation hazards, psychological and health complaints and workplace design at two newspaper agencies and one insurance company in the San Francisco Bay Area.

"The results are now history," says Margaret Binkley of the Newspaper Guild, "and although we don't agree with the clean bill of health that NIOSH gave CRTs on radiation hazards, we think their recommendations on visual breaks and workplace design should become the law of the land with regard to VDT use."

continued on p 4

* EYE STRAIN: WHAT TO DO

Dr. Juanita Ardly is an optometrist in private practice in Oakland, California, who specializes in treating problems related to the use of video display terminals (VDTs). If you have further questions about this article, call her at 444-1474. She is available to consult with groups and present talks.

PROBLEMS

Do VDTs result in increased visual stress?

VDT operators do report a number vision-related complaints. Environmental factors such as glare, lighting, work station design and image quality contribute to visual stress. A recent study in the Dec. 1982 issue of *Human Factors*, showed that a group of workers working in jobs requiring a high level of near work, with or without the use of terminals, had approximately the same level of visual complaints. Thus, it is the increase in near work, as well as the environmental factors mentioned above, that contribute to visual stress.

Can VDTs hurt my eyes?

Any kind of intensive near work performed for more than 3-4 hours a day can put a strain on the visual system that will result in problems. Temporary and sometimes permanent adaptive changes can occur. These include nearsightedness, visual fatigue, suppressed accommodation in one eye, poor eye teaming, and reduced performance in both work and at play.

Why do VDTs cause problems?

Evolution developed our eyes to posture straight ahead and see well into the distance. However, during the last 200 years nearly all our work has shifted to seeing within arms length. Success in our culture today requires that we see well at near distance and thus puts a very high demand on our focusing and convergence system. Nature did not expect these systems to have to work so hard and so they are not strong. They break down easily and the result is nearsightedness and eye fatigue--and reduced efficiency.

continued on p. 2



WHAT'S THIS NONSENSE ABOUT EYE STRAIN, BACK ACHE AND WRIST PAIN!

INSTITUTE OF INDUSTRIAL RELATIONS LIBRARY
MAY 28 1987
UNIVERSITY OF CALIFORNIA BERKELEY

from page 1

What happens inside my eyes while viewing a VDT?

Focusing: During VDT viewing, the focusing (ciliary) muscle in our eyes must contract so we can see clearly. After prolonged viewing this muscle gets locked in place and can't relax when we look up. Distance vision maybe momentarily blurred. The contraction of this muscle over long periods of time increases the pressure in the eye and can lead to near-sightedness and eyestrain.

Convergence: VDT viewing requires several eye muscles to contract in order to turn the eyes inward. This ability, called convergence does not come easily for everyone. It is not a natural position for the eyes and can lead to fatigue.

SOLUTIONS

How can I protect my vision?

All VDT operators should have a thorough visual exam performed by a behavioral optometrist. This doctor has received special training in problems resulting from excessive near work. These doctors can be identified by their membership in either of these professional organizations: COVD (College of Visual Development) or OEP (Optometric Extension Program).

Can special glasses help?

A behavioral optometrist will evaluate your visual system and prescribe stress relieving lenses. Such lenses can trick the eyes into thinking that the screen is further away. Thus, the focusing muscle will contract less. These lenses will protect and relax the visual system, reducing eyestrain. Those special glasses are often called "terminal spectacles" as they are designed specifically for VDT viewing; you wear them only on the job.

Can eye exercises help?

Convergence and focusing can be fine tuned and trained very easily and quickly to restore comfort. The neuro-muscular connections between the brain and the eyes can be strengthened through exercises so that the eyes will converge effortlessly. The cramped focusing muscles can be relaxed with exercises. Workers experiencing dysfunction (see checklist) will need a behavioral optometrist to design an individual program using lenses and prisms to make this muscle flexible again. However here is a basic exercise every VDT worker can use:

FOCUS ROCK: Hold a magazine or paper sixteen inches in front of you, read a sentence while focusing clearly on the letters. Now look up at a clock and quickly focus your eyes on the numbers. By stages, move the paper closer to your eyes, an inch at a time. At each stage, read one more sentence, then shift your attention back to the clock numbers.

"Rock" your focus back and forth in this way as the paper gets closer, until you can't see the words clearly any longer. This exercise will alternately contract and relax your ciliary muscle, to keep it flexible.

VDT OPERATORS' CHECKLIST

Use this checklist to identify signs that you need help with your vision.

OCULAR

- Eyes strain, ache, tear, itch or pull
- Pressure in the eye
- Heavy, dry, burning eyes
- Photophobia-light sensitivity

VISUAL

- Blur at distance after screen viewing
- You lose your place easily
- Need a finger to keep place
- Focusing problems—print blurs and then clears
- Color fringes
- After images
- Double vision

SYSTEMIC

- Headache
- Backache or neckache
- Nausea or dizziness

BEHAVIORAL

- Fatigue
- Tension
- Depression
- Difficulty concentrating
- Sleepy
- Short attention span

THESE PROBLEMS MAY BE VISION RELATED. TAKE THIS COMPLAINT LIST WITH YOU WHEN YOU VISIT YOUR OPTOMETRIST.

What is a vision break?

Regular vision breaks will keep your focusing muscle flexible and uncramped throughout the day. To focus on the screen this muscle must contract. Every 5-10 minutes look off for a second at a specific distant object and let its details come into focus. Your focusing muscle is now relaxed and you can return to work.

Can environmental changes help?

Machines should have clear displays and adjustable brightness and contrast knobs. Glare should be eliminated, lighting levels reduced, and good posture maintained.

Can VDT work be free of visual stress?

Visual complaints can be alleviated through a continuation of correcting workstation conditions, posture, vision breaks, stress relieving lenses, and eye exercises. The result is fatigue-free VDT viewing where vision is comfortable and protected.

BARGAINING FOR SAFETY

This column is intended to be an ongoing update on labor union efforts to obtain VDT health and safety provisions for their members.

A growing number of labor unions have begun adding VDT safety clauses to their collective bargaining proposals. In fact there are some unions that have already won meaningful language in their contracts.

The San Francisco/Oakland Newspaper Guild (Local 52) and the Bay Area Typographical Union (Local 21) have, in their 1980-82 agreements, achieved some of the most far-reaching VDT safety language to date. Their contracts call for the employers to provide adjustable chairs, room lighting adjusted to reduce glare, brightness control on machines, glare shields for machines, footrests, height adjustment features, and eye exams and eyeglasses when made necessary by VDT use. Current contract proposals call for, among other things, a fifteen minute break for each hour on the VDT.

The Ontario (Canada) Public Service Employees Union has won, in an arbitration award, rest breaks, eye care, and the right to temporary reassignment during pregnancy. In addition, the arbitrator called for further negotiations between the parties in order to finalize further VDT health and safety measures.

A letter of understanding between California Blue Shield Insurance and its workers provides for adjustable chairs, specially designed work desks, footrests, and lighting adjustment.

We hope, in subsequent columns, to provide detailed summaries of gains in health and safety protections for the growing numbers of workers having to use VDTs for a significant portion of their work days.

Examples of VDT contract language are available in the VDT Resource Library (located at LOHP, 2521 Channing Way, Berkeley, CA 94720). Please send us copies of your VDT contract language so that we can share it with other workers.



REPRODUCTIVE HAZARDS

In response to workers' concerns that VDT work may be associated with an increased risk of miscarriages and birth defects, the National Institute of Occupational Safety and Health (NIOSH) is initiating a study of the effects on pregnant women of working on VDTs. NIOSH will follow 6,000 women through their pregnancies and assess whether VDT workers have a higher rate of spontaneous abortions and birth defects than average. In the current study NIOSH will be examining factors connected with VDT work, such as stress, that could be related to adverse pregnancy outcomes.

Though some experts have pointed to radiation emissions from VDTs as a possible cause of reproductive hazards, NIOSH, according to their 1980 *VDT Report*, does not believe VDTs release harmful levels of radiation.

Microwave News reports, in their April issue, that a similar study is underway in Montreal, Canada. The study, initiated by the Occupational Health and Safety Research Institute is following approximately 50,000 pregnancies.

Meanwhile, Dr. Hari Sharma of the University of Waterloo in Ontario, Canada has detected high levels of low frequency radiation being emitted from certain VDTs and has recommended that pregnant women not be allowed to work at unshielded VDTs. A federal task force in Canada has already recommended that pregnant VDT workers be given the option of doing alternative work without loss of pay.

9 to 5 National Association of Working Women, concerned about reports of problem pregnancies among VDT workers, has made a series of recommendations to ensure safe use of VDTs. Their proposals include metal shielding of VDTs, the right to transfer to non-VDT work during pregnancy without loss of pay; periodic rest breaks, properly designed VDT offices and machines; and the elimination of machine pacing or computer monitoring of employees.

9 to 5 is also setting up a central clearing house to identify and confirm new clusters of reproductive problems. They hope to gather documentation to support demands for new research into the relationship between VDT use and miscarriages and birth defects. VDT workers who have had reproductive problems are encouraged to call 1-800-522-VDTs.

RESOURCES

A good source of information on VDTs is the VDT Resource Center, housed in the library of the Labor Occupational Health Program (located at 2515 Channing Way, Berkeley, CA 94720). Collected are articles, reports, pamphlets, and information packets on a variety of topics pertaining to VDTs and issues involving their use. The center also subscribes to several periodicals such as the *VDT Newsletter* from the Labour Council of Metropolitan Toronto, and *Microwave News*, a monthly source of up-to-date information on non-ionizing radiation with a focus on VDTs. In addition to research on VDTs, interested individuals are encouraged to make use of the LOHP library for a variety of questions related to occupational health and safety. The library and resource center are open from 8:30 to 4:30, Monday through Friday. For further information or to make arrangements for special hours, contact Susan Salisbury or Laura Stock at 642-5507.

Below is a list of what is currently on file in the VDT Resource Center.

FILE FOLDERS

- | | |
|--|---|
| 1. General information regarding VDT hazards | 15. VDT survey forms |
| 2. Fact sheets | 16. Buying VDT equipment (machines, chairs) |
| 3. Visual effects | 17. Filters/anti-glare screens |
| 4. Cataracts | 18. Lighting |
| 5. Work station design/ergonomics | 19. OSHA standards board hearings on microwave and radiofrequency radiation |
| 6. Dermatitis | 20. Testimony regarding VDTs |
| 7. Stress | 21. Medical surveillance |
| 8. Reproductive hazards | 22. International information |
| 9. VDT studies by the National Institute of Occupational Safety and Health (NIOSH) | 23. Bibliographies |
| 10. Radiation | |
| 11. Contract language | |
| 12. Union action | |
| 13. Legislation, regulations, proposals | |
| 14. Court cases: arbitration; workers compensation | |

NEWSLETTERS

1. *VDT Newsletter*, Labour Council of Metropolitan Toronto
2. *Microwave News*, a monthly report on non-ionizing radiation

PUBLICATIONS, REPORTS, INFORMATION PACKETS

1. *VDTs Can Be Hazardous to Your Health*, Labor Occupational Health Program, Berkeley, 1981.
2. *Health Protection for Operators of VDTs/CRTs*, New York Committee on Occupational Safety and Health, 1980.
3. *The Hazards of VDTs*, Ontario Public Service Union, October 1980.
4. *Guide to Visual Display Units*, UAW, 1982.
5. "Tomorrow's Technology, Today's Headache," Slide Show, Shop Talk Productions, NYCOSH, 1980.
6. "VDTs: Video Display Terminals--Health and Safety," excerpts from *Microwave News*, by Louis Slesin and Martha Zybko.
7. *New Technologies: Their Impact on Employment and the Working Environment*, International Labour Office, Geneva, 1982.
8. *Towards a More Humanized Technology: Exploring the Impact of Video Display Terminals on the Health and Working Conditions of Canadian Office Workers*, Canadian Labour Congress, December 1982.
9. *Select Research Reports on Health Issues in Video Display Terminal Operations*, NIOSH, 1981.
10. "Potential Health Effects of VDTs," Committee Hearings of U.S. House of Representatives, Subcommittee on Investigations and Oversight, Committee on Science and Technology, Washington, D.C., 5/12/81.
11. "A Controlled Survey of Working Conditions and Health Problems of VDT Operators at the *New York Times*," conducted for the Newspaper Guild.
12. *Journalists and New Technology*, National Union of Journalists, England.

VIDEO VIEWS

Video Views will be published four times a year by the Bay Area VDT Coalition. Subscriptions: \$5.00 per year. Bulk rate (10 or more): \$3.00 per year. To subscribe, send payment with name and address to: Bay Area VDT Coalition, c/o LOHP, 2521 Channing Way, Berkeley, CA 94720.

Newsletter Committee: Margaret Binkley, Rachel Blau, Barbara Gray, John Kelly, Patti Larsen, Nancy Mennel, Barbara Pottgen, Bill Rukeyser, Laura Stock. Thanks to Cathy Davis, Robin Baker, Michaela Cooney.

POTENTIAL HEALTH HAZARDS OF VDTS
NIOSH RECOMMENDATIONS 1980 -- Summary
 (National Institute for Occupational Safety and Health)

Workstation Design Features

1. Overall: Maximum possible flexibility should be designed into the workstation so that it can be adapted to the individual operator.
 - a. Chairs with adjustable seat pan height, backrest height and tension
 - b. Keyboard height and screen height and position should be independently adjustable
 - c. Screen brightness and contrast should be adjustable
2. Specific Recommendations
 - a. Viewing distance: between 450-500 mm (18-20 inches) (individualized)
 - b. Viewing angle: range of 10-20°, with the top edge of screen no higher than operator eye level and bottom of edge of screen no lower than 40° below eye level
 - c. Keyboard height: between 740-790mm (29½-31½ inches) (at home row)
 - d. Illumination: 500-700 lux
 - e. Glare control: limit glare through:
 - ✓ drapes, shades and/or blinds over windows should be closed, especially during direct sunlight conditions
 - ✓ position terminals properly with respect to windows and overhead lighting
 - ✓ screen hoods
 - ✓ anti-glare filters on screen
 - ✓ alter lighting fixtures (recessed, covers)
 - ✓ properly installed indirect lighting systems
3. Work-rest regimens to minimize the visual and muscular problems of VDT and to reduce stress.
 - a. A 15 minute work--rest break should be taken after 2 hours of continuous VDT work for operators under moderate visual demands and/or moderate workload
 - b. a 15 minute work--rest break should be taken after one hour of continuous VDT work for operators under high visual demands, high workload and/or those engaged in repetitive work tasks
4. Visual testing--pre-placement and periodically

Summary prepared by Occupational Health Service, University of California, Berkeley
 March 1983

from page 1

"Their final report," says Ms. Pottgen, "confirmed what we had experienced on our jobs, that VDT work causes eyestrain, neck, shoulder and back pain, and a variety of stress-related complaints, including depression, fatigue and irritability." NIOSH made a series of recommendations for eliminating these hazards (see box).

After a year and a half of hard work, the Coalition had achieved a major victory. The NIOSH report was an affirmation of the vital role workers and their unions have in the struggle for a safe and healthy workplace. Prior to this report virtually no information was available on the possible adverse effects of VDTS on operators. The NIOSH recommendations were quickly picked up by unions and workers across the country as a basis for collective bargaining demands and as a guideline for legislative and regulatory proposals. "Of course the NIOSH recommendations were just the first step for the VDT Coalition," adds Barbara Pottgen. "Now we have to demand more research (particularly about reproductive

hazards) and to unite VDT operators, unions, health and safety experts, public officials, and other concerned citizens to make sure the NIOSH recommendations are implemented both through governmental standards and union contracts. These days, that's what the Bay Area VDT Coalition is all about."

For more information or to join the VDT Coalition, call 415/642-5507,



REGULATING VDTS

Bills which would regulate VDT hazards have been initiated in at least five states so far this year. These bills, in Connecticut, Illinois, Oregon, Maine and Massachusetts, would all set minimum standards similar to those recommended by NIOSH, the National Institute for Occupational Safety and Health, in its 1981 *VDT Report*. Provisions would include special rest breaks for VDT operators, flexible work stations, glare and lighting control, and eye exams. Some of the bills contain additional requirements, such as employee education, controls on the size of characters and screen brightness, and, radiation testing and control. These types of regulations are also being considered throughout Canada this year.

While many unions across the country have started to bargain successfully for VDT controls in their collective bargaining agreements, they have also decided that regulation is needed as well. This is particularly true since the vast majority of VDT workers are currently unorganized and do not have the protection of a contract. Thus, unions are taking the lead in protecting all VDT workers.

In California, the VDT Coalition is currently investigating the possibilities for successful regulation of VDT hazards. The Coalition plans to initiate action on this in the coming year, either through the Cal/OSHA Standards Board or the legislature.

WE NEED YOUR HELP!

We want this newsletter to reflect your concerns and to provide a forum for sharing information about hazards, workplace struggles and successes. Please help us by sending news items, articles, contract language and any ideas and information that you want to share with other workers. We will print as much as our space permits.

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