



TO R. L. O'Connell, M.D. AT Stamford DATE February 1, 1980
 FROM R. Levine
 L. A. Krause AT New Haven COPY TO
 SUBJECT Male Reproductive Hazard - Procedure

By way of a further explanation of this proposed procedure governing males in the workplace exposed to reproductive hazards, the following may be helpful.

Male workers, like female workers are occasionally exposed to chemical or physical agents which may, at some unspecified concentration, cause some form of reproductive hazard. While the incidence of such an occurrence is remote, it is appropriate that a procedure for control of that possibility should be established.

There are numerous chemicals which can cause damage to the sperm, cause genetic alterations or testicular dysfunction. Ionizing radiation, microwaves (radar) and excessive body heat (febrile) also are effective. However, in only a few cases can these agents be related directly to man's exposure. Almost all data have been the results of animal studies. To date, I know of no permanent sterility associated with chemical agents. While it remains my contention that the male workers reproductive capabilities are not nearly as severely affected as those of the female, it is logical to provide a degree of protection for all male employees.

By way of information, a few of the more prominent chemicals (but in no way complete and not including any drugs, medication, etc.) which have been a cause for concern are as follows:

Lead: There is evidence that genetic material is altered in male workers exposed to lead where the blood lead level was 25 micrograms per 100 ml. Decreased libido, testicular atrophy and hormonal imbalance has also been demonstrated where excessive exposures have brought about lead intoxication.

Alcohol: Where alcohol ingestion has led to alcoholism, there is evidence of testicular atrophy. Ethanol inhibits Vitamin A metabolism in the testes, which may lead to sterility.

Carbon

Disulfide: There is evidence that exposure to CS₂ at undefined levels have caused a reduction of sex hormones and impaired sexual potency in male workers.

Vinyl

Chloride: A significant excess of chromosomal breakage in human cells have been observed. A significant excess of fetal loss was found among wives of V.C. workers. It is believed that the father exposure is primary cause of such losses. The effect is primarily upon the gene cell.

OLI 4779

R. L. O'Connell
R. LeVine
February 1, 1980
Page 2

The attached procedure for males subject to possible hazards affecting the male reproductive system has been written as a precautionary and preventive measure. As new information becomes available, it will be forwarded to the appropriate medical and satellite health personnel.

Recognize that this procedure goes into effect only where it is determined that a specific chemical or physical agent is known to affect the male worker.

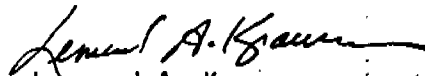
Semen analysis would be conducted only after it has been determined that an aspermatogenic or a dysfunction agent exists in the workplace. It must be recognized that this does not allow for any "base line" evaluation to preclude a previous history of abnormality. The examination must be carried out by the most qualified medical personnel having that expertise.

Contrary to some thinking, male reproductive capabilities are generally not regarded as age-dependent after puberty is reached. Therefore, all males subject to the hazards of concern, are subject to examination.

The safe guards (no eating, smoking on worksite), educational programs, and general workplace surveillance are in actuality typical of what Olin requests or provides for all employees male and female. Any educational programs on the subject would be provided by medical, industrial hygiene, and/or toxicology professionals.

At present, the responsibility for determining or measuring these potential hazards and the areas where they may be found rests with the Corporate Environmental Hygiene and Toxicology Department professional personnel. The employee monitoring programs, the toxicological review programs and dissemination of educational and medical information is coordinated between the Environmental Hygiene and Toxicology Department and Group or Corporate Medical staffs as well as group safety and loss prevention.

If there are questions, please feel free to call.


Leonard A. Krause

LAK/gam

Attachment

OLI 4780