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NIOSH/SOEH
"WORKSHOP ON THE ASSESSMENT OF
REPRODUCTIVE HAZARDS IN THE WORKPLACE"
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Good morning. I am pleased to be here today, and I am particularly pleased to be a part of this continuing discussion of a problem that is still a dilemma to us all--reproductive hazards--how to assess them--and how to protect against them.

Historically--and too often, still today--reproductive hazards have been seen as a "women's problem"--as if there were no male contribution to the continuation of the species. Recently, many of the lead industries have acted to exclude women of childbearing age, and similar exclusionary practices are apparently becoming more common in the petrochemical industry as well. This discriminatory trend is alarming to me. It also worries many in the unions and other groups. Ironically, such practices could ultimately result in discrimination against the male worker, since many substances, such as lead, which affect female reproduction and the fetus, are also harmful to men.

One company excludes fertile women from its lead operations expressing concern for the fetus. But that same company does not test male workers for effects on the sperm, even though recent studies show that lead can affect male fertility.

Just in the last year with the nematocide DBCP we saw an instance where clearly, the male reproductive capacity was affected--in some cases resulting in sterility. Nobody seriously suggested that we remove all males from that operation. Would that have been the social response if the workers in that instance had been women?

The more we learn about toxic effects on reproduction, in fact, the more we are aware of the importance of male vulnerability. Research on vinyl chloride and anesthetic gases, for example, has shown higher rates of birth defects, spontaneous abortions and other reproductive abnormalities not only among women workers, but among wives of exposed male workers.

At OSHA we are dedicated--and it is our legal responsibility--to assure so far as possible safe and healthful workplaces for all workers--men and women. And that includes protection of all functional capacities, including the reproductive capacity. We have a responsibility to insure the continuation of a healthy human population--as well as an obligation to protect every working person from the avoidable tragedy of a spontaneous abortion or stillbirth, or procreating children with birth defects.

Those of us who are scientists and those of us who are involved in government regulations have a lot of catching up to do. For too long we have been concerned with protecting only the healthy, white male worker. Any yet, paradoxically, one important reason for the discriminatory practices we are now seeing is that we know more about reproductive effects on females, especially during pregnancy.

For some inexplicable reason, little research has been done on the effects of workplace toxins on male reproduction. I think it is time we recognize the discriminatory effect of this emphasis, and make sure that in the future we do not foster a continuing bias by picturing reproductive hazards as primarily a female phenomenon.

We must be sure that attention is also addressed--where indicated--to seeking out effects on the male reproductive capacity. This does not mean ignoring gender-specific effects where they do occur. We need to be aware of these and use that information--not to exclude workers but to protect them.

It is particularly important to have meetings such as this, because as a regulatory agency, OSHA needs to be guided by the information the medical community can generate. And in this area of reproductive hazards, it is easy to lose focus, since the scientific responsibility is so diffuse among many diverse agencies including our own sister agency, NIOSH, but also the Environmental Protection Agency, the National Cancer Institute, Environmental Health Sciences, the Food and Drug Administration, the new Department of Energy, and others.

We are still on the frontier in learning about toxic effects on sexual capacity. We have vast gaps in knowledge left to fill. And our job at OSHA is that much harder because we have to develop standards for worker protection now. We have to address the social and legal dilemmas and we are, but we are limited to some degree by how little we know, scientifically, about the risks involved.

And that list includes only those substances for which we have dose-response data.

As a regulatory agency, we need answers from scientists in many areas:

- What more do we need to know about mutagens. We know that certain substances are mutagenic, but we have not yet been able to trace a defect in a human population to a mutagenic exposure.

When are epidemiological studies useful in evaluating reproductive effects, and when are they not?

- Is there any need for a tier--or hierarchical approach--in evaluating mutagenic and other reproductive toxicology?
- What other information do we need about the effects of toxic substances on male and female physiology under stress.
- How can we relate data from animal tests to human populations in determining safe exposures?
- How can we detect toxic substances that exert a weak effect? Can methodologies used in testing safety in pharmaceutical drugs be used in assessing workplace and other environmental exposures, or do we need new testing protocols?
- Should teratogenic tests consider toxic exposures prior to conception?
- What do we need to know about synergistic and additive effects of multiple toxic exposures?
- In terms of social responsibility, at what point should industry, in its testing programs, inform employees and regulatory agencies of abnormal results?
- Given the number of chemicals which still need to be evaluated for reproductive toxicity, what should be the method for assessing priorities?

These are only a few of the questions that scientists can help us to answer. None of them have simple solutions. But in talking about methodology in this field, I want to emphasize to you how important it is, because we are dealing here with substances that have a vital impact on people's lives. And the methodologies used in testing are going to be scrutinized more closely than they ever have been before.

At OSHA, we are beginning the long overdue task of formulating a fair, uniform policy aimed at protecting all workers, male and female. And by protection, let me emphasize again that our commitment is to protection, not exclusion. Employers who look at the exclusion of any group of workers as an answer should be warned that it could have legal implications both under the OSH Act, which explicitly seeks to assure a healthful

working place for every man and woman and also under the Equal Employment Opportunity Act, which protects against job discrimination.

We really don't know the scope of the problem we are facing--but we know that socially we have a problem. To illustrate, seven percent of all children born in the United States suffer from serious birth defects--a total of some 200,000 a year--accounting for a vast medical problem. One out of three beds in children's hospitals are taken by children with congenital defects. Some of these are hereditary. About ten percent we know are environmentally induced, and the vast majority--two-thirds of all defects--are of unknown origin. And we have similarly disturbing and inexplicable statistics on spontaneous abortions and stillbirths. As the more we learn about the effects of environmental toxic exposures on reproduction, the more we suspect that this is a substantial burden. The list of chemicals and other toxic substances such as radiofrequency/microwaves grows almost daily as our research efforts expand. NIOSH now lists 56 substances which are mutagenic in animal tests and 471 teratogens.

We have created a new internal task force to consider a whole series of issues related to reproductive function. The social and legal implications in this area are complex, and we don't have many answers yet.

Women employees are worried about their jobs in work situations that have been traditionally male dominated. Now that they have managed to get a foot in the door, they fear this reproductive issue is being used to exclude them. Other workers, male and female, are planning families and they are concerned about whether their workplace exposure is safe. Too often we don't have the answer.

Employees are also afraid some companies, to be candid, are acting from simple fear of liability. But in many instances they, too, are at a loss to know what policies to adopt.

Our internal committee will be looking at these problems and such issues as rate retention, maternity and paternity leave or temporary transfers.

We will also be looking at the feasibility of generic standards for certain classes of reproductive toxics.

Discussions have been underway for some time between OSHA and other involved agencies, principally the EEOC, which has responsibility for protecting workers' rights to fair employment. These discussions are still in the early stages, and will continue.

We are also concerned about increasing public understanding in this area. We are committed to educating our constituencies-- both workers and employers about this area, which is still so poorly understood by the public.

Above all, I think it is important that we keep separate which issues are medical ones, and which are social and legal ones, so that the actions we take as scientists don't simply open the door for more discriminatory practices. Our goal at OSHA is to insure that no man or woman has to choose between a job and the right to procreate healthy children.