

Counseling highlighted for gene test

In April, a panel convened by the National Institutes of Health recommended wider use of a DNA test for the defective gene responsible for cystic fibrosis (SN: 4/26/97, p. 253). Subsequently, in response to concerns about the difficulty of ensuring that people are sufficiently informed about the disease and the test, given the shortage of qualified counselors and resources, the panelists made a small, but significant, addition to the statement. The final version, now available online and slated for publication this fall, emphasizes that genetic testing should "be phased in over a period of time to ensure that adequate education and appropriate genetic testing and counseling services are available to all persons tested."

The original statement broke new ground in its recommendation that the DNA test for the cystic fibrosis gene be offered to couples expecting a child or contemplating pregnancy, even if they do not have a family history of the disease. For people of northern European descent, according to NIH, 1 out of 29 carries a copy of the defective gene. The test picks up most carriers of the defective gene in this group. Two carriers have a one-in-four chance of giving birth to an affected child.

By advising that testing be phased in rather than offered immediately, the change should alleviate concerns that the tests might be administered without giving individuals the information necessary to understand results, says panel chair R. Rodney Howell of the University of Miami School of Medicine. "I think it improves the document," he says.

"It was a very important omission [from the original] and a very important correction," says bioethicist Norman Fost of the University of Wisconsin-Madison. "What the document now says is that [testing] is a goal to which we ought to aspire . . . but we can't just do it on Monday morning."

For the 4 million women who become pregnant in the United States each year, Fost estimates that there are fewer than 2,000 health care providers in the United States qualified to offer genetic counseling. Cystic fibrosis carrier testing could require an hour or more of counseling, according to the panel. —C.M.

Retirement plan for research chimps

In 1975, an international conservation convention put an end to the importation of chimpanzees from the wild. Since then, biomedical researchers in the United States have relied on the existing population of captive chimps for studies of behavior, cognition, reproduction, and infectious diseases.

In 1986, researchers began breeding those animals in response to an anticipated need for more chimps in AIDS research. Chimpanzees are not easily infected with HIV, however, and so have not proved a good model of the disease in people. Today, the U.S. supply of 1,500 chimpanzees exceeds the research demand. Consequently, the National Institutes of Health requested an advisory report on the management of these animals. That report, released last month by the National Research Council (NRC), recommends that a new NIH office take over the now-splintered ownership and management of the chimpanzees.

Chimpanzees can live 30 years or more, at a lifetime cost of up to \$300,000. The nine-member NRC panel, chaired by AIDS researcher Dani P. Bolognesi of Duke University in Durham, N.C., said euthanasia should not be used as population control. Instead, a breeding moratorium should be kept in place until at least 2001, allowing natural mortality to reduce numbers. Over the long run, the government should maintain a core research population of 1,000. Chimps no longer used in research should be cared for in public or private sanctuaries.

The similarity of chimps to humans, says the report, "implies a moral responsibility for the long-term care of chimpanzees that are used for our benefit in scientific research." —C.M.

Ammonia enhances cigarettes' nicotine . . .

Three years ago, after intense congressional probing, the tobacco lobby released a hush-hush list of 599 additives that have been used in cigarettes (SN: 5/21/94, p. 330). Many substances on the list, such as carrots, figs, vanilla, dill seeds, and cocoa, were undoubtedly added to impart some characteristic flavor to the products. The function of others, such as ammonia, was less obvious—though the Food and Drug Administration had obtained tobacco industry documents suggesting that such high-pH substances might facilitate nicotine's addictiveness.

Now, researchers at the Oregon Graduate Institute in Portland have confirmed that suspicion. Their experiments show that ammonia helps turn the nicotine in smoke into gas, rendering the drug more available to the lungs.

Much of a cigarette's nicotine starts out in a fairly non-volatile, acid form, notes environmental chemist James F. Pankow, who led the study. This acid also possesses an electric charge, which keeps the nicotine from moving easily through tissue and into blood. Ammonia converts the acid form of nicotine into a free base—an uncharged alkaline form that moves more freely into the air and tissue. Pankow likens this to treating cocaine with alkaline materials to create the more lipid-soluble, potent freebase cocaine known as crack.

In the August ENVIRONMENTAL SCIENCE & TECHNOLOGY, Pankow's team shows that ammonia can increase nicotine's availability as a gas by 100 times. —J.R.

. . . and music videos their image

Television exerts a powerful influence on children, shaping their culture, desires, and self-image. A new study finds that children who watch music videos on television receive constant reinforcement of a message that runs counter to their health: It's cool to smoke and drink.

Robert H. DuRant of the Bowman Gray School of Medicine at Wake Forest University in Winston-Salem, N.C., and his coworkers recorded more than 500 different music videos at random from four television networks in early 1994. All aired during periods when young children might watch.

At least 10 percent of the videos on each network depicted tobacco use, and at least 20 percent showed drinking, they report in the July AMERICAN JOURNAL OF PUBLIC HEALTH. Music Television (MTV) led the pack in both categories, DuRant notes, "with almost 26 percent of its videos containing smoking—more than twice as many as on Country Music Television."

In general, a lead singer or performer was twice as likely to smoke and three times as likely to drink as a background player. Musical genres also differed in their depiction of these legal drugs. For instance, almost 30 percent of rap videos depicted smoking—three times the rate seen in country videos. Moreover, DuRant found, smoking and drinking "were portrayed as positive" in 75 percent of the cases.

One-third of the alcohol use occurred in conjunction with at least mildly sexual behavior. DuRant's group now worries that this "positive pairing of alcohol use with sexually explicit themes" could have a "profound influence" on how children view drinking.

Particularly troubling, of those videos with smoking or drinking, between 6 and 10 percent involved use of the substances by what appeared to be children.

DuRant, a medical sociologist, worries that if young people "see these behaviors glamorized by role models, it might encourage them to consider smoking and drinking acceptable." While he would not advocate government censorship of such videos, he believes networks "need to make a stand, saying 'we're not going to play these any more'"—much as MTV recently moved to pull all videos depicting guns, he says. —J.R.