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"IN THIS ISSUE "

VETERINARY NOTES

Shigellosis Outbreak Associated With an Unchlorinated Fill-and-Drain Wading Pool --- Iowa, 2001

On June 15, 2001, local physicians reported 11 cases of diarrhea to a county health department. Stool samples from two of these persons were culture confirmed as *Shigella sonnei*; one person was hospitalized. A preliminary investigation found that nine of these persons recently had visited a large city park with a wading pool. This report summarizes the results of the investigation, which implicated the inadequately disinfected wading pool as the source of the outbreak and presents strategies for preventing such outbreaks.

Illness onset among primary case-patients occurred during June 12-14. The median age was 6 years (range: 1-31 years); 23 were female. Symptoms included diarrhea (100%), nausea (51%), vomiting (47%), bloody diarrhea (39%), and headache (29%). Seven (16%) patients were hospitalized. Pool exposure was associated significantly with illness.

The pool, which has been in operation for approximately 60 years, is 40 feet in diameter, has a maximum depth of 14 inches, and has a 9400-gallon capacity. It is frequented by diaper- and toddler-aged children and as many as 20-30

children may be in the pool at one time. The pool is a "fill and drain" system and is filled each morning with potable city water through a direct inlet pipe and a centrally located fountain; it is drained and left empty each evening. The pool includes a backflow device but has no recirculation or disinfection system (i.e., pump, filter, or mechanical disinfection system). Each morning before filling, the pool is rinsed with a high-pressure washer and is scrubbed with a chlorine cleanser twice weekly. However, chlorine levels were not monitored and chlorine was not added to the pool water. Samples from the pool and other water sources in the park, including drinking fountains and faucets, were collected on June 15 and tested by the Colilert test, a rapid procedure to determine the presence of fecal coliforms. One pool sample tested positive for fecal coliforms and *Escherichia coli.* The pool was closed on June 15.

Editorial Note: In this outbreak, the drain-and-fill pool contained municipal water (0.4-0.5 ppm free available chlorine) with no subsequent chlorination so that the pool was probably unchlorinated for most of the time it was in use. Inadequate disinfection of this pool, combined with heavy use by diaper- and toddler-aged children, who are often incontinent and may have an increased prevalence of enteric infections, created a favorable environment for transmission of shigellosis.

Transmission of shigellosis over several days may have been a result of the residual contaminated water left in the pipes after draining the pool and persons with diarrhea visiting the pool on subsequent days. **The infectious dose for *Shigella* is low; as a result, a small volume of ingested water can cause infection.** The lack of chlorination that led to transmission of shigellosis in this wading pool also increased the risk for spreading life-threatening pathogens such as *E. coli* O157:H7.

Swimming is a shared water activity that can result in disease transmission, even with adequate chlorination, when water becomes contaminated and is subsequently swallowed. **Strategies for prevention include 1) not swimming when ill with diarrhea, 2) not swallowing recreational water, and 3) practicing good hygiene when using a pool. Parents should take children on bathroom breaks regularly, use appropriate diaper changing areas, wash hands after using the toilet or changing diapers, and shower before entering the pool.** Swim pants and diapers do not prevent leakage of diarrhea; therefore, they are not an acceptable solution for a child with diarrhea and are not a substitute for frequent diaper changing.

The ease with which single outbreaks can expand into communitywide outbreaks of *S. sonnei* underscores the importance of educating the community about potential modes of transmission (e.g., child care facilities, food handlers, and swimming) and the implementation of appropriate prevention recommendations during outbreaks (e.g., thorough hand washing after using restrooms, changing diapers, and before handling/preparing food, enforcement of exclusion criteria at child care facilities, and exclusion of persons from swimming while ill with diarrhea). Child care facilities should follow strict hygiene recommendations, including supervised hand washing for young children, and may consider refraining from using water play tables and inflatable pools that may lead to transmission. In addition, communication with pool operators about ongoing outbreaks may improve vigilance in maintaining disinfectant levels necessary to reduce the risk for transmission among bathers at community pools. Additional information about preventing recreational water illness is available at <http://www.healthyswimming.org>.

REF: Morbidity and Mortality Weekly Report, September 21, 2001 / 50(37);797-800.

National Toxicology Program's Report of the Endocrine Disruptors Low-Dose Peer Review

Executive Summary

Purpose and Background

At the request of the U.S. Environmental Protection Agency (EPA), the National Toxicology Program (NTP)/National Institute of Environmental Health Sciences (NIEHS) organized and conducted an independent and open peer review aimed at evaluating the scientific evidence on reported low-dose effects and dose-response relationships for endocrine disrupting chemicals in mammalian species that pertain to assessments of effects on human health. The peer review took place in Research Triangle Park, North Carolina, on October 10-12, 2000.

The purpose of this meeting was to establish a sound scientific foundation upon which the U.S. EPA could determine what aspects, if any, of its standard guidelines for reproductive and developmental toxicity testing need to be modified to detect and characterize low-dose effects of endocrine disruptors. Results from this review may also influence how other national and international agencies select doses, endpoints, animal models, and testing regimens for reproductive and developmental studies of endocrine active agents. In particular, the NTP is interested in evaluating the scientific underpinnings of dose-response relationships for reproductive toxicants. For this peer review, "low-dose effects" referred to biological changes that occur in the range of human exposures or at doses that are lower than those typically used in the EPA's standard testing paradigm for evaluating reproductive and developmental toxicity. The U.S. EPA's current recommended methods are described in the document "Health Effects Test Guidelines OPPTS 870.3800 Reproduction and Fertility Effects" (EPA 712-C-98-208, August 1998). **The focus of this review was on "biological change" rather than on "adverse effect" because, in many cases, the long-term health consequences of altered endocrine function during development have not been fully characterized.**

Overall Conclusions

- Low-dose effects, as defined for this review, were demonstrated in laboratory animals exposed to certain endocrine active agents. The effects are dependent on the compound studied and the endpoint measured. In some cases where low-dose effects have been reported, the findings have not been replicated. The toxicological significance of many of these effects has not been determined.
- The shape of the dose-response curves for these effects varies with the endpoint and dosing regimen, and may be low-dose linear, threshold-appearing, or non-monotonic.
- The traditional multigeneration reproduction study protocol has not revealed major reproductive or developmental effects in laboratory animals exposed to endocrine active agents at doses approaching their NOAELs set by the standard testing paradigm. However, few multigenerational studies have been conducted over expanded dose ranges, and endpoints such as cancer of reproductive organs or neurobehavioral effects are generally not evaluated in multigenerational studies.
- The Panel recommended additional research to replicate previously reported key low-dose findings, to characterize target tissue dosimetry during critical periods of development, to identify sensitive molecular markers that would be useful in understanding mechanistic events associated with low-dose effects, and to determine the long-term health consequences of low-dose effects of endocrine active agents.
- The findings of the Panel indicate that the current testing paradigm used for assessments of reproductive and developmental toxicity should be revisited to see if changes are needed regarding dose selection, animal model

selection, age when animals are evaluated, and the endpoints being measured following exposure to endocrine active agents.

If you are interested in reading this report, link to: http://ntp-server.niehs.nih.gov/htdocs/liason/LowDoseWebPage.html

GAO Report: Anti-Aging Products Pose Potential for Physical & Economic Harm

Results in Brief

Dietary supplements marketed as anti-aging therapies may pose a potential for physical harm to senior citizens. Evidence from the medical literature shows that a variety of frequently used dietary supplements can have serious health consequences for seniors. **Particularly risky are products that may be used by seniors who have underlying diseases or health conditions that make the use of the product medically inadvisable or supplements that interact with medications that are being taken concurrently.** Further, studies have found that products sometimes contain harmful contaminants or much more of an active ingredient than is indicated on the label. FDA and the Centers for Disease Control and Prevention (CDC) have received reports of adverse events for persons taking dietary supplements in recent years, including some for senior citizens. FDA has issued warnings to consumers and industry about the health risks of several dietary supplement products. The dietary supplement trade associations and medical experts we talked with generally agreed that some products may pose a potential for harm to seniors under certain conditions.

Unproven anti-aging and alternative medicine products also pose a risk of economic harm to seniors. Although we were unable to find any recent, reliable estimates of the overall economic harm to seniors from these products, we did uncover several examples that illustrate the risk of economic harm. FDA and FTC have identified a number of products that make advertising or labeling claims with insufficient substantiation, some costing consumers hundreds or thousands of dollars a piece. A recent review of cases prepared for us by FTC estimated that, for 20 companies marketing products to seniors that have been the subject of law enforcement activities, the average economic harm to consumers as a whole was about $1.8 million per company. In addition, tests of selected dietary supplements have found that some contain little or none of the active ingredient claimed on the label, rendering these products virtually worthless.

The potential for harm to senior citizens from health products making questionable claims has been a concern for public health and law enforcement officials, and federal and state agencies have activities under way to protect consumers of these products. FDA and FTC sponsor programs and provide educational materials for senior citizens to help them avoid health fraud on the Internet and in other media. NIH has an evolving and expanding research agenda to evaluate popular alternative therapies. FDA has taken various enforcement actions against firms that have violated laws regarding the marketing and sales of anti-aging and alternative products, including products that were being marketed as dietary supplements but which are drugs. However, FDA has not prohibited the marketing of any specific substances using its administrative rulemaking authority. FDA's voluntary adverse event reporting system for dietary supplements

has shortcomings, and proposed regulations to establish standards for good manufacturing practices, which could provide FDA with additional authority to regulate facilities that manufacture, distribute, and store dietary supplement products, have not yet been issued. Recently, FTC and FDA have combined efforts to combat health fraud against seniors and other vulnerable consumer populations in an ongoing Internet-based initiative known as “Operation Cure All,” which targets companies that make unsubstantiated advertising and labeling claims for dietary supplements and other health products. At the state level, agencies are working to protect consumers of health products by enforcing state consumer protection and public health laws, although anti-aging and alternative products are receiving limited attention.

For the full report link to: http://www.gao.gov/cgi-bin/getrpt?gao-01-1129

New CDC Report on U.S. Mortality Patterns

Deaths: Final Data for 1999," prepared by the CDC’s National Center for Health Statistics, is a comprehensive report on mortality patterns in the United States, based on all death records in the United States for 1999. This latest report incorporates several significant methodological changes, including a more up-to-date age distribution for the U.S. population for calculating age-adjusted death rates and an updated cause-of-death classification and coding system -- the Tenth Revision of the International Classification of Diseases, issued by the World Health Organization (ICD-10).

Highlights of the report include:

- Life expectancy for the U.S. population remained unchanged at 76.7 years in 1999. However, life expectancy increased for men from 73.8 years to 73.9 years between 1998 and 1999, while decreasing for women over the same period (from 79.5 years to 79.4 years).
- The infant mortality rate inched down to 7.1 infant deaths per 1,000 live births in 1999, compared with 7.2 in 1998. Nearly 1 in 10 infant deaths were from sudden infant death syndrome (SIDS). There were a total of 2,648 deaths from SIDS in 1999, down from 2,822 deaths in 1998.
- Age-adjusted death rates decreased for 6 of the 15 leading causes of death between 1998 and 1999, including cancer (less than 1 percent); stroke (nearly 2 percent); influenza/pneumonia (2.5 percent); suicide (over 5 percent); homicide (4.6 percent); and aortic aneurysm (nearly 5 percent).
- Age-adjusted death rates increased for 5 of the 15 leading causes of death, including septicemia (6.6 percent); hypertension (5 percent); chronic lower respiratory diseases (4 percent), and diabetes (3.3 percent).
- Age-adjusted death rates for three leading causes of death, heart disease, accidents or "unintentional injuries," and chronic liver disease, did not change significantly between 1998 and 1999.
- The new cause-of-death classification system resulted in a significant shift in ranking for Alzheimer’s disease. In 1998 Alzheimer’s disease ranked 12th among leading causes of death but jumped to 8th in 1999, due mainly to the inclusion of a cause of death formerly classified separately as "presenile dementia," which accounted for a substantial number of additional Alzheimer’s deaths in 1999. In total there were 44,536 deaths from Alzheimer’s disease in 1999.
- Mortality from HIV infection, which dropped more than 70 percent over the previous three years (1996-98), continued to decline at a much slower pace in 1999, decreasing nearly 4 percent. Though it is no longer ranked

among the leading causes of death in the United States, HIV infection still ranks fifth among 25-44 year-olds, and is the leading cause of death for black men in this age group. Among black women in this age group, HIV ranks third.

- In 1999 a total of 28,874 persons died from firearm injuries in the United States, down nearly 6 percent from the 30,625 deaths in 1998.
- In 1999 a total of 19,102 persons died of drug-induced causes, which includes not only deaths from dependent and nondependent use of drugs, but also poisoning from medically prescribed and other drugs. This does not include deaths from accidents, homicides, or other causes indirectly related to drug use.
- A total of 19,171 persons died in 1999 from alcohol-induced causes, which includes dependent and nondependent use of alcohol and accidental poisoning from alcohol. This total excludes accidents, homicides, and other causes indirectly related to alcohol use. The total also excludes deaths from fetal alcohol syndrome.

"Deaths: Final Date for 1999" can be viewed or downloaded from the CDC Home Page.

Other new releases from the CDC include:

New CDC Report Tracks Trends in Teen Births from 1940 - 2000
Alcohol Use Among Adults: United States, 1997-98
Health, United States, 2001 With Urban and Rural Health Chartbook. Health, United States, 2001 Homepage

REF: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics Division of Data Services September 25, 2001.

Toxicology Tidbits

CDC Weighs In On StarLink7

In response to a request by the EPA, the Food and Drug Administration (FDA) asked the Centers for Disease Control and Prevention (CDC) to assist in investigating possible adverse health effects among people who had reported to the FDA that they may have had an allergic reaction to eating corn products contaminated with the Cry9c protein in StarLink7 corn.

The CDC conducted a field investigation which began with review of Adverse Event Reports. These FDA reports came from consumers who reported health effects between July 1, 2000 and November 30, 2000 upon consumption of products suspected of containing StarLink7 corn. For people that consented to follow-up contact with the CDC,

statements were taken and blood was collected by the Center.

Meanwhile, an FDA laboratory developed a method to detect the antibody that would indicate hypersensitivity to the Cry9c protein that was inserted into StarLink7 corn. The blood samples were analyzed blindly by the FDA, which sent the results back to the CDC. The result of the analyses is that the **CDC was unable to find any evidence that hypersensitivity to the Cry9c protein was responsible for the self-reported allergic responses that people experienced in the fall of 2000. An independent laboratory confirmed the FDA analyses.** The full report can be accessed at: http://www.cdc.gov/nceh.(CDC Press Release, June 13, 2001.)

REF: *Chemically Speaking*, July 2001.

Smoking During Pregnancy -- Rates Drop Steadily in the 1990's, but among Teen Mothers Progress Has Stalled

The rate of smoking during pregnancy dropped 33 percent between 1990 and 1999, so that in 1999 just over 12 percent of all women reported smoking during their pregnancies, according to a new report from the Centers for Disease Control and Prevention (CDC). The greatest success in reducing smoking was for women in their late twenties and early thirties, where there was over a 40% drop since 1990.

"Mothers are far more likely to have healthier babies when they make the smart decision not to smoke during pregnancy," HHS Secretary Tommy G. Thompson said. "While the overall trend is encouraging, it's clear that we must do more to ensure young women understand smoking's real health risks for them and for their children."

Teenagers were more likely than women of any other age to smoke while pregnant. After experiencing a dramatic 20% decline in the first part of the decade, smoking rates among pregnant teenagers -- unlike women of all other ages -- increased by 5% from 1994 to 1999. The highest rate in 1999 (19%) was for women 18-19 years of age

"More women are making the right choice and are not smoking during pregnancy, yet too many women -- almost a half million in 1999 -- smoked while pregnant," said Dr. Jeffrey P. Koplan, CDC Director. "The best advice we can give all women is to begin their pregnancies as healthy non-smokers," he said.

"Smoking During Pregnancy in the 1990s," from CDC's National Center for Health Statistics, presents an analysis of the current patterns and trends in smoking by age, race and ethnic origin on a national basis as well as a state-by-state breakdown of smoking rates for each year and the percent change from 1990 to 1999. CDC tracks smoking rates among pregnant women because of the serious consequences to their babies, such as low birthweight, growth retardation, and infant mortality. Other highlights of the report show:

- Women of all race and ethnic groups were less likely to smoke during pregnancy in 1999 than they were in 1990. Of all groups, American Indian women still have the highest rate of smoking during pregnancy (20%) and had the smallest reduction in that rate. Smoking rates are still high for non-Hispanic white mothers (16%) whose rate dropped by 25%.
- Rates were lower for Hispanic and non-Hispanic black women during pregnancy and those rates were further reduced by about 45% during the 1990s. Already the lowest, smoking rates during pregnancy for Asian and Pacific Islander women were cut by 47%, to a smoking rate of 3% by 1999.
- Non-Hispanic white teens had the highest rate overall at 30% and represent one in seven of all women who smoked during pregnancy.
- There is great variation in smoking rates within racial and ethnic groups as well. Puerto Rican mothers were more likely to smoke during pregnancy (11%) than any other Hispanic group. Hawaiian mothers have higher rates (15%) than any other Asian and Pacific Islander women.
- The percent of mothers who smoked during pregnancy in 1999 ranged from about 2 percent for those with four or more years of college to 29 percent for those who did not complete high school.
- Nearly one-half of non-Hispanic white women with 9-11 years of education smoked during pregnancy.
- The report includes data for most States, the District of Columbia and New York City, all of which reported a drop in smoking rates from 1990 to 1999. The District of Columbia reported the largest single decline, a 77 percent drop, followed by Massachusetts and Arizona which cut their rates by more than 50%.
- New York City, the District of Columbia, Texas, Arizona, and Hawaii have the lowest smoking during pregnancy rates-below 8% in 1999.
- Women who smoked during pregnancy were more likely to have a low birthweight infant (12.1%) compared to women who did not smoke (7.2%) in 1999.

Data on smoking during pregnancy are based on information reported on birth certificates filed in state vital statistics offices and reported to CDC through the National Vital Statistics System. Currently the birth certificate obtains information on whether the mother smoked during pregnancy and the number of cigarettes per day. Because of the importance of this information, questions on tobacco use are being improved and expanded to provide more detailed information on smoking patterns immediately before and during pregnancy.

Copies of the report can be viewed or downloaded without charge from the CDC Home Page at http://www.cdc.gov.nchs. This report updates a comprehensive review of smoking and pregnancy presented in the 2001 Surgeon General's Report on Women and Smoking, issued in March 2001. For more information on women and smoking go to: http://www.cdc.gov/tobacco.

REF: *CDC Press Release*, August 28, 2001.

OEHHA Receives Scientific Review Committee's Chromium 6 Report

A scientific panel of experts convened by the University of California has completed a review of health issues relating to the presence of chromium 6 in drinking water, and has forwarded its report to the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment (OEHHA).

The Chromate Toxicity Review Committee was formed at the request of OEHHA to provide guidance in the identification of an optimum drinking-water level, or public health goal (PHG), for chromium 6 in drinking water. The committee concluded that "**we found no basis in either the epidemiological or animal data published in the literature for concluding that orally ingested Cr (VI) [chromium 6] is a carcinogen.**"

OEHHA is preparing to develop the nation's first PHG for chromium 6. The California Health and Human Services Agency's Department of Health Services (CDHS) will use that goal to help it develop chromium 6 drinking water standard. OEHHA and CDHS will use the Review Committee's report in developing these future standards for chromium 6. Both OEHHA and CDHS will also assess health risks from chromium 6 in groundwater in the San Fernando Valley.

The committee agrees that a major study planned by the National Toxicology Project at the request of OEHHA and CDHS, is necessary in order to provide definitive data of the cancer risks of chromium 6 in drinking water. The federal study is expected to take up to five years to complete.

The committee proposes that until the federal study is complete, **California should continue to consider its current drinking water standard (maximum contaminant level) of 50 parts per billion (ppb) for "total" chromium (consisting of chromium 6 and a less-toxic form of the metal, chromium 3) to be protective of public health.**

The current drinking water standards apply only to **total chromium**. OEHHA scientists are expected to complete a public health goal for chromium 6 by the spring of 2003. The report will also assist OEHHA and CDHS in conducting an upcoming assessment of health risks posed by chromium 6 in drinking-water aquifers in the San Fernando Valley. Legislation enacted last year requires the two agencies to perform the assessment.

Last Spring CDHS adopted regulations to require all public water systems to begin statewide monitoring for chromium 6 in their drinking water supplies, making California the first state to take such an action. Water systems must report their results to CDHS by January 2003.

The report is available on line at: http://www.dhs.ca.gov/opa/prssrels/2001/pdf/

REF: *CDHS Press Release* 59-01, September 7, 2001.

Street Pesticides

The EPA and the Metropolitan Transportation Authority of New York are teaming up to educate people about pesticide safety. Bus and subway advertisements will warn in English and Spanish about the dangers of illegal street pesticides. Two of the most well-known street pesticides are *Tres Pasitos* (aldicarb used as rodent poison) and Chinese

chalk (deltamethrin B in powder form). Among the Agency's concern is the similarity in appearance between Chinese chalk and chalk with which children play. Add to this that Chinese chalk is also called *Pretty Baby chalk.* (EPA Region 2 Announcement, 9/1/01).

REF: *Chemically Speaking*, September 2001.

This Old House
Comparative Hazards of Paint Removal Techniques

Maintenance of old homes can be an extremely hazardous activity if improperly done. For example, lead poisoning can arise from exposure to lead-based paint chips as well as dust produced during prep work for repainting. In this issue of *Environmental Health Perspectives*, researchers led by Howard W. Mielke of Xavier University of Louisiana attempt to broaden the discussion by looking at a variety of metals existing in old paint besides lead, including cadmium, manganese, nickel, copper, cobalt, chromium, and vanadium [EHP 109:973-978]. They also compare the effect of two different paint renovation methods on the accumulation of lead in interior and exterior environments. Their findings illustrate the need for curtailing power sanding and the related hazards of metal dust in preparation for house painting and suggest a safer method of preparation.

REF: *Environmental Health Perspectives*, Volume 109, Number 9, September 2001.

Large Volumes, Less Risk?
HPV Chemicals May Be Safer than Thought

In 1997 the group now known as Environmental Defense (ED) published Toxic Ignorance, a report focused on the dearth of basic toxicologic information on high production volume (HPV) chemicals. These chemicals, which are used in various industries and as ingredients in consumer products, are manufactured or imported into the United States in amounts exceeding 1 million pounds annually (this does not include pesticides, drugs, or food additives). The report makes the point that environmental exposures to HPV chemicals seem likely, given the large volumes of the chemicals in commerce and industry, and that whether such exposures present a risk to people and the environment is unknown.

However, an analysis conducted by Albert R. Cunningham and Herbert S. Rosenkranz, both of the Department of Environmental and Occupational Health at the University of Pittsburgh, suggests that the risk may be less than commonly anticipated [EHP 109:953-956].

REF: *Environmental Health Perspectives*, Volume 109, Number 9, September 2001.

Frozen, Fully-Cooked Products and Botulism – Food Safety Advisory

In August and September 2001, several cases of botulism, a life-threatening illness caused by the bacteria *Clostridium botulinum*, were reported in the United States. Frozen, fully-cooked products were suspected of causing these illnesses. The Food Safety and Inspection Service advises all consumers to handle frozen, fully-cooked products in accordance with these food safety recommendations.

Botulism is a rare but serious paralytic illness caused by a nerve toxin. Symptoms of botulism include double vision, blurred vision, drooping eyelids, slurred speech, difficulty swallowing, dry mouth, and muscle weakness. The illness can cause paralysis, respiratory failure and death. Symptoms usually occur from 18 to 36 hours after eating contaminated food. Anyone concerned about an illness should contact a physician.

For more information link to: USDA/FSIS Consumer Fact Sheet

REF: USDA Food Safety and Inspection Service, September 2001.

Keeping “Bag” Lunches Safe

Whether it’s off to school or work we go, millions of Americans carry “bag” lunches. Food brought from home can be kept safe if it is first handled and cooked safely. Then, perishable food must be kept cold while commuting via bus, bicycle, on foot, in a car, or on the subway. After arriving at school or work, perishable food must be kept cold until lunchtime.

For more information link to: USDA/FSIS Food Safety Facts

REF: USDA Food Safety and Inspection Service, August 2001.

Study Casts Doubt on the Placebo Effect

Placebo treatments have been reported to help patients with many diseases, but the quality of the evidence supporting this finding has not been rigorously evaluated. We conducted a systematic review of clinical trials in which patients were randomly assigned to either placebo or no treatment. A placebo could be pharmacologic (e.g., a tablet), physical (e.g., a manipulation), or psychological (e.g., a conversation).

We identified 130 trials that met our inclusion criteria. After the exclusion of 16 trials without relevant data on outcomes, there were 32 with binary outcomes (involving 3795 patients, with a median of 51 patients per trial) and 82 with continuous outcomes (involving 4730 patients, with a median of 27 patients per trial). As compared with no treatment, placebo had no significant effect on binary outcomes, regardless of whether these outcomes were subjective or objective. For the trials with continuous outcomes, placebo had a beneficial effect, but the effect decreased with increasing sample size, indicating a possible bias related to the effects of small trials. The pooled standardized mean difference was significant for the trials with subjective outcomes but not for those with objective outcomes. In 27 trials involving the treatment of pain, placebo had a beneficial effect, as indicated by a reduction in the intensity of pain of 6.5 mm on a 100-mm visual-analogue scale.

Conclusions: We found little evidence in general that placebos had powerful clinical effects. Although placebos had no significant effects on objective or binary outcomes, they had possible small benefits in studies with continuous subjective outcomes and for the treatment of pain. Outside the setting of clinical trials, there is no justification for the use of placebos.

REF: *New England Journal of Medicine*, 344(21):1594-1602, May 24, 2001.

Farm-Related Injuries

The Oklahoma Department of Health reports that like the nation, Oklahoma's farm industry has the highest annual death rate among all industries in the state. In Oklahoma, a total of 309 work-related deaths were identified from January 1, 1998 through December 31, 2000, (average annual rate 6.5 per 100,000 workers). During the three year period, farming-related deaths were the leading cause of occupational deaths in Oklahoma. A total of 67 farming-related deaths were identified from January 1998 through December 2000, averaging 22 deaths per year. Farming-related deaths accounted for 22% of all work-related deaths. The ages of farmers who died ranged from 17 to 92 years, with an average of 58 years (median 63 years). Males accounted for 97% of deaths. Twenty-seven percent of deaths occurred among males 65-74 years of age. Sixty-two farmers (93%) who died were white, and almost two thirds (64%) of farming-related deaths were related to crop production, whereas 36% were associated with livestock production or ranching.

The leading causes of fatal farming-related events were machinery, traffic crashes, struck and/or crushed by an object, suicide, and animal-related accidents. Most deaths occurred from 4pm to 8pm with the time period noon to 4pm being the second time period when fatal accidents occurred. **It is interesting to note that pesticides were not listed among the causes of death**. (Injury Update, July 31, 2001)

REF: *Oklahoma Cooperative Extension Pesticide Reports*, September, 2001

VETERINARY NOTES.....

National Milk Drug Residue Data Base

This report presents summary data on samples and tests conducted during the Fiscal Year 2000, October 1, 1999 to September 30, 2000. Fifty States and Puerto Rico submitted data for this report. However, Hawaii and Mississippi submitted data only for the First Quarter while Louisiana and Puerto Rico submitted data only through the Third Quarter.

The Pasteurized Milk Ordinance (PMO) requires that all bulk milk tankers be sampled and analyzed for animal drug residues before the milk is processed. Any tanker found positive is rejected for human consumption.

During this period 4,428,680 samples were analyzed for animal drug residues. Of these samples 3,715 were positive for a residue. A total of 4,565,328 tests were reported on the samples for 16 different groups of families or individual drugs. Fifty-three testing methods were used to analyze the samples for residues. Details are presented in the tables in this report.

To view this report link to: FDA/CFSAN Milk Drug Residue

REF: U. S. Food and Drug Administration, Center for Food Safety and Applied Nutrition, June 1, 2001.

New Notification Program Provides Electronic Updates On Meat, Poultry, And Egg Product Testing Samples

The U.S. Department of Agriculture's Food Safety and Inspection Service today (09/24/01) launched a new notification system that will provide electronic status reports on testing samples taken from meat, poultry, and egg product establishments. The Laboratory Electronic Application for Results Notification system will allow FSIS field personnel, agency staff, establishments, and state officials, to electronically monitor information on species identification, food chemistry, microbiological samples, and completed Salmonella/HACCP sets. After a pilot test in several FSIS districts, LEARN, as the program is known, is now online across the country.

LEARN is an automated process to track each sample as it is received, analyzed, and the results are reported. The reports state whether a microbiological test -- such as *Listeria monocytogenes* in ready-to-eat meat and poultry products or *E.coli* O157:H7 in raw ground beef products -- initially indicates the presence of a pathogen. When confirmation testing on a potential or presumptive positive is complete, a report with the final analysis is posted.

LEARN replaces the notification system that used a combination of phone calls, fax, and multiple computer applications to inform field personnel and establishments of test results. LEARN combines the previous delivery methods into one application to provide faster, more up-to-date information while using fewer agency resources.

Sample status information will be automatically updated several times each day. Establishments and state officials will receive updated e-mail reports for individual samples. Agency personnel can access the information through an FSIS intranet site. Once logged on to the FSIS server, staff can check on samples from individual establishments or view circuit, district, and management summaries of results. FSIS personnel will also be able to access information on residue samples through LEARN.

The system has safeguards in place to ensure that only authorized officials will have access to the information. Establishment officials receive results only from their plant and state officials receive results only for establishments within their state. Each sample is identified with a collection date, the plant's establishment number, and a corresponding form number. At the laboratories, each sample is marked with a lab code and assigned a unique internal lab number.

FSIS is responsible for ensuring that meat, poultry, and egg products are safe, wholesome, and correctly labeled. As part of that responsibility, FSIS conducts verification sample testing to monitor microbiological, chemical, and other types of contamination.

REF: Food Safety and Inspection Service, USDA News Release, September 24, 2001.

Reptiles and Salmonella : ARAV

The Association of Reptilian and Amphibian Veterinarians (ARAV) works in collaboration with the Centers for Disease Control and Prevention to increase awareness among veterinarians regarding the risks associated with transmission of *Salmonella* bacteria from reptiles and amphibians to people.

ARAV in conjunction with the CDC, publishes a *Salmonella* handout, both for veterinarians and for the reptile owner.

For more info link to: http://www.arav.org

Fertilizer Toxicosis

DANGER!! Liquid fertilizer is toxic to cattle! Three problems from the use of tanks which had contained liquid fertilizer have occurred in recent years. Two cases involved using these tanks to haul water to beef cows which resulted in the loss of numerous animals in each herd. The other case occurred because of a leak in the fertilizer tank that resulted in contamination of the cattle's drinking water.

In the most recent case, a water tank had been used to store liquid fertilizer. It was supposedly emptied and cleaned out before water was placed in it and hauled to the herd of cattle. But within just a few hours of delivery of the water, 30 head of cattle were dead.

In another problem a couple of years ago, a Utah producer lost 22 out of 50 head of cows due to fertilizer toxicosis. He used a liquid fertilizer tank to haul water to cattle. He had done this for two years previously, and with washing it out thoroughly, there had been no problem. But this time some fertilizer was evidently left in the tank, mixed with the water, and resulted in nitrate poisoning. He was certain that it had been well cleaned out this time also (but there had to have been a significant amount of fertilizer still present in the tank to result in this severe of an intoxication). Finally someone admitted that perhaps the hoses had not been flushed out, but even this would probably not have been enough

to cause such an extensive loss. The fatal load of water was hauled to the cattle at 4:30 pm and they had been out of water since about 11:00 am. When he returned at about 8:30 pm there were three cows down. The signs he described were kicking, shaking, and sweating. Only about 100 gallons of the water had been used by then. The fertilizer contained in the plastic tank on wheels was 38% nitrogen.

Fertilizer toxicosis is generally due to the nitrogen component of the fertilizer, although mineral supplemented fertilizers have the additional risk from the other minerals. The nitrogen component of fertilizers is generally in the form of nitrate-nitrogen, but can be in the form of urea based nitrogen or ammonium salts. Thus, poisoning can be in the form of nitrate poisoning or ammonia poisoning (by the ammonia salts or breakdown of the urea based fertilizers).

Although the signs of poisoning and treatment are different for the different fertilizer nitrogen components, the amount necessary for poisoning cattle is quite similar. About 1/2 to 1 gram per Kg of body weight of nitrate-nitrogen, urea, or ammonia salts can be lethal in cattle. Liquid fertilizers can vary in nitrogen content from very low diluted concentrations to close to 50%. For a lethal dose, a 1,000 lb cow would have to drink between 1 pint and 1 quart of a 50% nitrogen liquid fertilizer. Even in a very diluted form of 5%, a 1,000 lb cow would only have to drink 1 1/4 to 2 1/2 gallons of the material. Thus, since adult cattle will often drink 8 to 12 gallons of water in a day, one can quickly see the ease with which liquid fertilizer contaminated drinking water can kill cattle.

Just a sad reminder for all to be careful!!

REF: *Penn State Veterinary News*, July 2001.

Secondary Poisoning from Euthanasia Drug

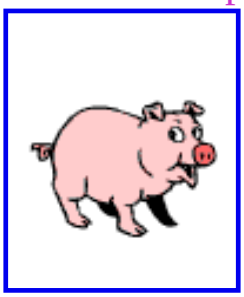
Veterinarians use highly concentrated solutions containing sodium pentobarbital for euthanasia of both pets and farm animals. This potent drug, which is usually given intravenously, produces rapid unconsciousness without pain or distress to the animal, and lethal injection is considered an ideal method of euthanasia. Unfortunately, few people are aware that there is a hazard for secondary poisoning with euthanasia solution. In a notable case, 26 bald eagles were poisoned, 5 fatally, following ingestion of a cow that had been euthanized in British Columbia. The problem has occurred sporadically in both bald and golden eagles throughout the U.S., and barbiturate toxicosis has become a too familiar diagnosis in eagles submitted to the National Wildlife Health Center, Madison, Wisconsin, and the U.S. Fish and Wildlife Service Forensic Laboratory in Ashland, Oregon.

At present, the problem appears to be limited to eagles, however, it is likely to affect other wildlife species that ingest the euthanized carcass. There is one reported case of a lion being poisoned after it was fed a euthanized horse. Farm animals, mainly cows and horses, that are left exposed in remote locations are frequent sources of toxicosis, but dog and cat carcasses that are not properly covered in landfills also are hazardous. Cases have been diagnosed more frequently in the winter and early spring, probably as a result of the difficulties associated with burying carcasses in frozen ground and the shortage of natural foods.

Sodium pentobarbital is a well-known sedative/anesthetic, and therefore, clinical signs in affected birds include drowsiness, incoordination, and ultimately, unconsciousness and death. Poisoned birds may be found near the tainted carcass source or at distant locations. Birds that are not dead may recover if given supportive care; removal of the crop contents may be helpful. The best diagnostic samples to confirm sodium pentobarbital poisoning are stomach contents or liver from the affected animal. Tissue samples from a suspect source carcass also would be useful. Veterinarians, landfill operators, and farmers who improperly dispose of euthanized animal carcasses may be held legally responsible for wildlife toxicoses under authority of several federal regulations, so awareness of this potential problem is in everyone's best interest.

REF: *Penn State Veterinary News*, July 2001.

!! Click on the pig !!



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