

# FDA CONSUMER

THE MAGAZINE OF THE U.S. FOOD AND DRUG ADMINISTRATION

• VOL. 31 NO. 7

NOVEMBER-DECEMBER 1997 •









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#### ◀ Inside Front Cover Photo:

# FDA CONSUMER

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## Special Section: Food Safety

### Rallying the Troops to Fight Food-Borne Illness

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Thinking about adopting an iguana for a pet? You'll have to adopt safe handling practices if you want to stay healthy. See page 33.





## Diet Drugs Off the Market

Due to new evidence suggesting that Redux (dexfenfluramine) and Pondimin (fenfluramine) are the likely cause of heart valve problems, the manufacturers have withdrawn the obesity drugs from the market at FDA's request.

People should stop use of either drug and discuss their treatment with their doctors.

The evidence comes from doctors who performed echocardiography to evaluate heart valve function in patients taking the drugs, FDA announced Sept. 15. About 30 percent of the patients had abnormal readings, even without symptoms. This percent is much higher than expected.

FDA did not request withdrawal of phentermine, the third widely used obesity drug. The combination of fenfluramine and phentermine, popularly known as "fen-phen," has been used off-label for obesity. (See "Mixing Diet Drugs Calls for Caution" in the Updates section of the September-October 1997 *FDA Consumer*.)

For more information on this topic, go to <http://www.fda.gov/cder/news/fenphenpr81597.htm> on FDA's Web site.

## Plans to Reduce Health Risk From Unpasteurized Juice

Measures to reduce the risk of illness from disease-causing bacteria in unpasteurized fruit and vegetable juices have been announced by FDA.

The measures include food-safety control programs for the industry, new labeling for products, and education programs for consumers and manufacturers. More than 98 percent of all fruit and

vegetable juices are already pasteurized.

FDA advises people in the following high-risk groups to drink *only* pasteurized cider and juice:

- children
- older adults
- people with weakened immune systems, such as those with HIV, AIDS, or cancer.

In grocery stores, fresh unpasteurized juices normally are in the refrigerated sections or on ice in the fresh fruits and vegetable section. Unpasteurized apple cider may also be found at cider mills and farm markets.

If someone in your family is in a high-risk group and you cannot determine if a juice is pasteurized, the best choice is not to use it. Another choice is to bring the juice to a boil to kill any possible harmful bacteria.

Parents of children in day-care centers and schools that serve cider and juice may want to ask if the products are pasteurized. Children on field trips to apple cider mills or farm markets should not drink unpasteurized cider.

FDA plans to propose a new rule requiring Hazard Analysis and Critical Control Point (HACCP) safety programs at all appropriate juice processing plants. The agency is considering proposing another rule to require a statement of risk on labels of fresh apple juice products until the HACCP plans are implemented. Meanwhile, FDA has asked the industry to voluntarily begin immediately labeling fresh apple juice and cider with a statement of the risk.

## 'Skin-Cap' May Cause Harm; Users Should Call Doctor

Consumers using a treatment for dandruff or psoriasis called "Skin-Cap" should immediately call their health-care providers, FDA has warned, as the prod-

uct contains prescription-strength corticosteroids, which may pose a health hazard, and stopping use abruptly may convert common psoriasis to a more serious, even life-threatening form. FDA analysis shows that Skin-Cap contains a potent topical steroid, clobetasol propionate, which can cause potentially harmful side effects such as stretch marks, thinning skin, and dilution of tiny blood vessels. Use of this drug in large amounts or long-term, can cause high blood pressure, obesity, diabetes, hairiness, acne, osteoporosis, impaired wound healing, decreased resistance to infection, muscular wasting, and behavioral changes such as mania and psychosis. The drug can also suppress the body's ability to produce its own corticosteroids for fighting infection or dealing with body trauma.

Skin-Cap is imported from Spain and is marketed as a nonprescription spray, shampoo and cream for dandruff, seborrheic dermatitis, psoriasis, and other skin disorders. FDA issued an import alert in August for detention of Skin-Cap at all border entries, and the state of Florida stopped distribution of Skin-Cap from the product's primary distributor.

Consumers can call the National Psoriasis Foundation toll-free at 1-800-723-9166 for more information.

## Free Brochure in Spanish

To order single copies of the easy-to-read brochure "Siete Fáciles Pasos Para Recibir El Sol Sin Peligro," write to FDA, HFE-88, Rockville, MD 20857. To order 2 to 25 copies, write to FDA, HFI-40, at the same address, or fax your order to 301-443-9057. Include the publication number, (FDA) 97-1279S.

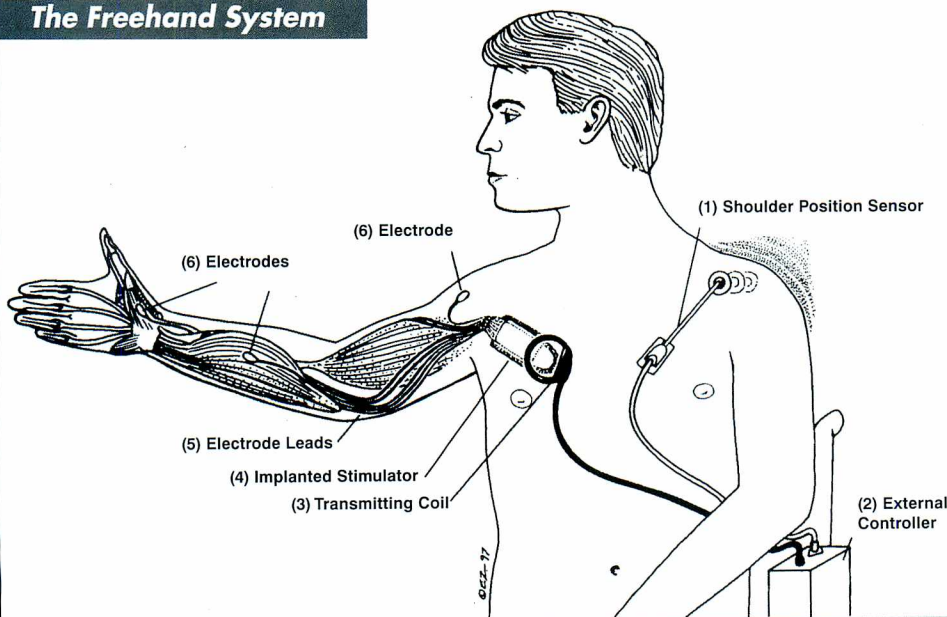


## First Implant To Restore Hand Use

The world's first implantable nerve prosthesis has been approved by FDA to restore limited hand movement in certain quadriplegic adults.

The Freehand System, approved Aug. 18, may help as many as 54,000 patients whose spinal cord injuries allow some use of the upper body. All 61 quadriplegics implanted with the medical device in clinical studies regained ability to grasp and release standard objects like forks and cans, although 20 percent needed further related surgery. Many patients reported improved daily activities and increased independence. Side effects included swelling, discomfort and skin irritation.

### The Freehand System



(1) The external **Shoulder Position Sensor** translates shoulder movements into electronic signals.

(2) The signals travel to the **External Controller** for processing,

(3) and then to the external **Transmitting Coil** for relay to the

(4) **Implanted Stimulator**, which sends electrical stimulation

(5) along implanted **Electrode Leads**

(6) to implanted **Electrodes** in forearm and hand muscles, making them contract.

(Source: NeuroControl Corp., Cleveland, 1-888-333-4918)

## Asthma Drug Linked To Rare Condition

New labeling for the asthma treatment Accolate (zafirlukast) will warn doctors that the drug has been linked to Churg-Strauss syndrome, a rare and sometimes fatal condition.

FDA learned that six asthma patients developed the syndrome while taking Accolate, the first nonsteroidal asthma drug, while their steroidal asthma drugs were being gradually lowered or discontinued. The new data do not show definitively that Accolate *caused* the syndrome, but the revised labeling urges careful monitoring while users are tapering off their steroid medications.

Churg-Strauss syndrome causes flu-like symptoms and may inflame blood vessels, especially in the lungs. Untreated, it can cause major organ damage or death.

In light of the syndrome's extremely rare occurrence, FDA believes Accolate's benefits outweigh its potential risks and recommends that patients not discontinue any asthma medication unless directed by a doctor.

(For more on asthma, see "Controlling Asthma" in the November 1996 *FDA Consumer*.)

## Proposal to Label Medicines About Use in Children

Most new medicines and some that are already approved would have to include labeling information about use in children, under an FDA proposed rule.

Most drugs and biologics today are not labeled for use in children, despite a 1994 regulation making it easier for drug manufacturers to submit pediatric data voluntarily.

"When drug labels do not include adequate pediatric information, health-care



providers are forced to play a guessing game that may compromise the care of their patients," says Michael A. Friedman, M.D., FDA lead deputy commissioner.

According to the proposal, manufacturers could submit pediatric data *after* approval if FDA has safety concerns about previous testing in children. Pediatric data would not be required if the product was likely to be unsafe or ineffective in children, if pediatric studies were impossible or highly impractical, or if reasonable efforts to develop a pediatric formulation had failed.

The public has until Nov. 13 to send written comments on the rule to: FDA Dockets Management Branch, HFA-305, Food and Drug Administration, 12420 Parklawn Drive, Room 1-23, Rockville, MD 20857. FDA published the proposal in the Aug. 15, 1997, *Federal Register*, available in some libraries and on the agency's Web site at <http://www.fda.gov/cder/guidance/pedrule.htm>.

## First Toothpaste Approved For Reducing Gum Disease

The first toothpaste shown to reduce gum disease safely and effectively has received FDA approval.

Colgate Total is the only toothpaste to contain the disinfectant triclosan as an active ingredient. It also contains fluoride.

Studies showed that, when used as directed in a conscientious program of oral hygiene and professional dental care, the new toothpaste performed significantly better than standard fluoride toothpaste in helping prevent plaque and gingivitis in adults. Its cavity-preventing effects were identical to toothpastes with fluoride alone.

FDA approved Colgate Total for ages 6 through adult, on July 14. However, its effects on plaque and gingivitis are not established in children.

Triclosan is found in many antibacterial soaps, but its antibacterial properties in the mouth have not been determined.

Colgate-Palmolive Co., of New York City, makes Colgate Total.

## First Device for Severe Epilepsy

Citing the potential importance of alternative treatment for some people with epilepsy, FDA approved the first medical device to help reduce frequent, uncontrolled epileptic seizures.

The NeuroCybernetic Prosthesis System is approved for use with drugs or surgery in adults and adolescents with partial onset seizures. These seizures, which begin in one part of the brain, may remain localized or spread to the entire brain.

The July 16 approval came just 19 days after an FDA advisory panel recommended the device.

The new device has an electrical generator that is implanted under the collar bone with wires to the vagus nerve in the neck, where it delivers signals that stimulate the brain to control seizures. Doctors can change nerve stimulation settings with an external programming system, and patients can turn the device on and off by holding a magnet over it.

Approximately 1.7 million Americans have epilepsy. About 200,000 of these patients have seizures that cannot be adequately controlled by drugs or surgery. Severe, ongoing seizures can lead to death.

Clinical studies of the device included 454 patients. In the most recent study, half the patients had at least a 20 percent decrease in the number of daily seizures, one in four had a decrease of more than 50 percent, and one in five had increased seizures. Nine patients died, but clinical investigators did not believe stimulation from the device was the cause. FDA has asked the manufacturer, Cyberonics, of Houston, to provide detailed information on any further deaths.

## FDA Tobacco Poster Asks 'Who Is Too Young To Buy?'

Twenty retailer, consumer and health groups have joined FDA in offering this free poster and signs to help retailers comply with the agency's rule prohibiting sales of cigarettes and smokeless tobacco to anyone under 18. The rule requires retailers to check photo ID's of buyers under age 27.

To order the full-color 17-by-22-inch poster in English and two smaller signs, one in English and one in Spanish, call FDA toll-free at 1-888-FDA-4KIDS. The materials also are available from the poster campaign's cosponsors.

For more information, call FDA's hot line or visit <http://www.fda.gov/opacom/campaigns/tobacco.html> on the agency's World Wide Web site. (See also "Saving Our Children from Tobacco" in the October 1996 *FDA Consumer*.)

### Which One Is 16?



Lena Anita  
It is illegal to sell cigarettes or smokeless tobacco to anyone under 18.\* To eliminate the guesswork, retailers must card anyone under 27.

If you are under 27, please show us your photo ID.  
It only takes a moment. If you are under 18, retailers cannot sell you tobacco products.

\*Federal law prohibits the sale of tobacco products to anyone under 18. The sale of tobacco products to anyone under 27 is prohibited in many states. For more information, call 1-888-FDA-4KIDS or visit <http://www.fda.gov/opacom/campaigns/tobacco.html>.  
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Food and Drug Administration  
DEPARTMENT OF HEALTH AND HUMAN SERVICES



## Product for Knee Injuries Uses Patient's Own Cells

A product that uses a patient's own cells in a surgical procedure to repair cartilage damage in the knee has been granted accelerated, or early, approval.

Using cartilage cells known as autologous cultured chondrocytes, the new product, Carticel, was approved Aug. 25 to treat injuries to the end of the thigh bone behind the kneecap, but not for patients with damage to the kneecap or lower leg bones or with arthritis.

The product is used along with other procedures, including the removal of damaged tissue and the surgical addition of tissue taken from the patient's bones to cover the defect. Thorough, extensive rehabilitation is considered critical to recovery.

Carticel is the first product approval under FDA's new document for industry, called the manipulated autologous structure guidance. The document deals with products made of living human cells that are manipulated outside the body and then returned to the patient for structural repair.

Case reports of 153 patients treated in Sweden with Carticel showed improvement in 70 percent of those followed 18 months after treatment. Biopsies on 22 treated patients showed 15 had developed hyaline cartilage, which the body uses to absorb shock and friction and which usually does not form after injury. Early data from a registry of U.S. patients treated with Carticel were consistent with the Swedish study.

FDA grants accelerated approval to products that treat serious or life-threatening illnesses when studies of the products indicate early favorable outcomes will likely predict clinical benefit. However, companies must do further studies to verify the benefits.

The sponsor of Carticel, Genzyme Tissue Repair, in Cambridge, Mass., will conduct two such randomized control studies.

## Implant Approved for Tremors

A new implantable deep brain stimulator can help many people with severe tremors eat, drink, write, and perform other daily activities again.

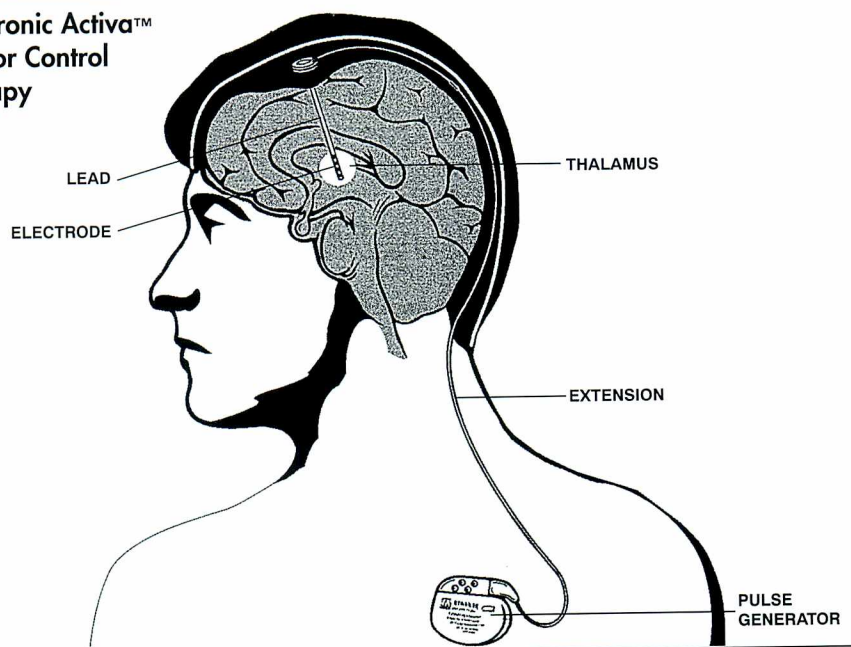
FDA approved the Activa Tremor Control System July 31 to control the arm and hand shaking caused by essential tremor, a little-understood nerve disorder, and Parkinson's disease.

The manufacturer, Medtronic Inc., of Minneapolis, tested the device in 196 patients with severe tremors caused by the two conditions in the United States and Europe. In the U.S. study, on a scale of 0 to 4, tremors declined two or more levels in 67 percent of Parkinson's patients and 58 percent of patients with essential tremor. Tremors declined one level in most of the other patients. The European findings were similar.

The reduction in tremors improved daily activities for patients with essential tremor. But most Parkinson's patients continued to have problems with activities of daily living, and a few had worsening of the tremor.

FDA requires additional studies by Medtronic to determine the device's long-term safety and effectiveness and the effects of replacing broken leads and implanting multiple leads.

### Medtronic Activa™ Tremor Control Therapy



*The patient turns the stimulator on by touching a handheld magnet to the chest where (1) a pulse generator is implanted. This sends continuous electrical pulses along (2) a lead under the skin to (3) an electrode implanted in the brain's thalamus, blocking the tremors.*

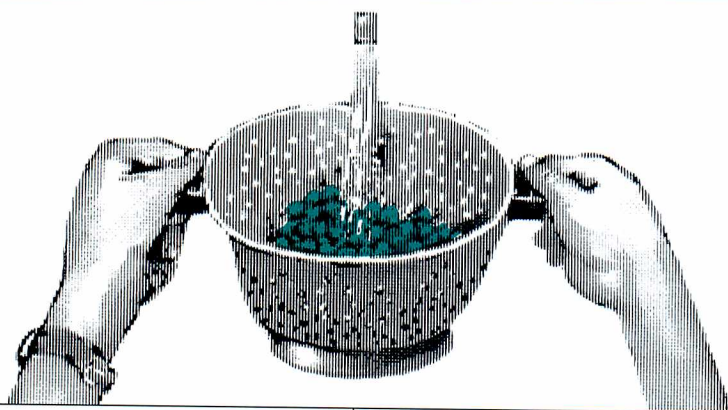
*The patient uses the magnet to turn off the device. The generator must be replaced every three to five years, the life of its battery.*

*(Source: Medtronic Inc., Minneapolis)*





## Keep Eating Those Fruits and Veggies



In the article "Bulking Up Fiber's Healthful Reputation" (July-August 1997) you recommend skins of fruits and vegetables as an important source of fiber, particularly the insoluble form.

Yet the Center for Science in the Public Interest lists strawberries, cherries, apples, apricots, grapes, blackberries, pears, and raspberries, to name a few, as posing a health risk from pesticide residues (*Nutrition Action Health Letter*; June 1997). According to the center, washing the fruits reduces the risk and removing peels helps even more.

My concern is how can the consumer increase fiber intake, particularly insoluble, without increasing the risk of pesticide residue intake? It appears we are in a double bind.

S.C. Schmittle, D.V.M., Ph.D.  
Sun City West, Arizona

*There is really no double bind at all, says Carole Schiffman, director of the consumer education staff in FDA's Center for Food Safety and Applied Nutrition. Pesticide levels are set to ensure that there is a hundredfold level of protection for the consumer. In other words, a person could not really eat enough fruits and vegetables, even in a high-fiber diet, to put them at risk for exceeding safe limits for consumption of pesticide residues. Also, according to our pesticide report, pesticide residue levels do not even come close in the American food supply to what is allowed.*

*Finally, the benefits of cancer reduction from increasing fiber is greater and more clear than the impact of the corresponding increase in pesticide residues and any potential increase in cancer.*

FDA Consumer welcomes comments from readers. Send letters to: Editor, FDA Consumer; HFI-40, 5600 Fishers Lane, Rockville, MD 20857.

## Skaters Need Helmets

I work for a county health department and find *FDA Consumer* quite good and often very timely in my work. Because of its general exceptional quality, I am sorry to have to write about a serious unsafe practice portrayed on the cover of the July-August 1997 issue.

The lady pushing the stroller is shown on in-line skates without a helmet. Although other personal protective gear is in place, the omission of the head protection is very serious. Just last week, a nurse died in Pittsburgh after a spill on a road while in-line skating the night before. It seems it is an uphill battle to educate the media to depict skaters [in helmets] the same way as bicyclists.

Mary T. Jones, Ph.D., M.P.H.  
Pittsburgh, Pennsylvania





# Rallying the Troops to Fight *Food-Borne Illness*

by Audrey Hingley

Nancy Donley remembers sitting helplessly beside the hospital bed of her 6-year-old son Alex as he fought for his life after eating hamburger contaminated with *E. coli* O157:H7.

"He endured explosive bouts of vomiting. His screams were followed by silence; he had tremors, delusions, and no longer knew who I was. I sat with him as monitors recorded organ failure after organ failure. A massive seizure left him on a respirator.

"I tell you Alex's story to remind you that behind every statistic is a life," Donley told a hushed crowd at "Changing Strategies, Changing Behavior: What Food Safety Communicators Need To Know," a food safety education conference attracting over 550 people to Georgetown University's Conference Center in Washington, D.C., last June 12 and 13. "Alex mattered—I will not allow his death to be chalked up as an unfortunate statistic. To me, the 'E' in *E. coli* O157:H7 stands for evil."

Donley, a real estate broker who also serves as president of S.T.O.P. (Safe Tables Our Priority), frequently speaks to all types of groups about food safety issues. Her heart-wrenching story is a horrific illustration of the importance of food safety. Although the U.S. food supply is among the world's safest, as many as 9,000 Americans die each year, and millions more are sickened, as the result of a food-borne illness, according to government estimates. Those who came to Washington in June—people responsible for food safety, consumer educators, the media, and representatives from the Food and Drug Administration, the U.S. Department of Agriculture, and the Centers for Disease Control and Preven-

tion—all came with the same goal in mind: to reduce the incidence of food-borne illness to the greatest extent possible.

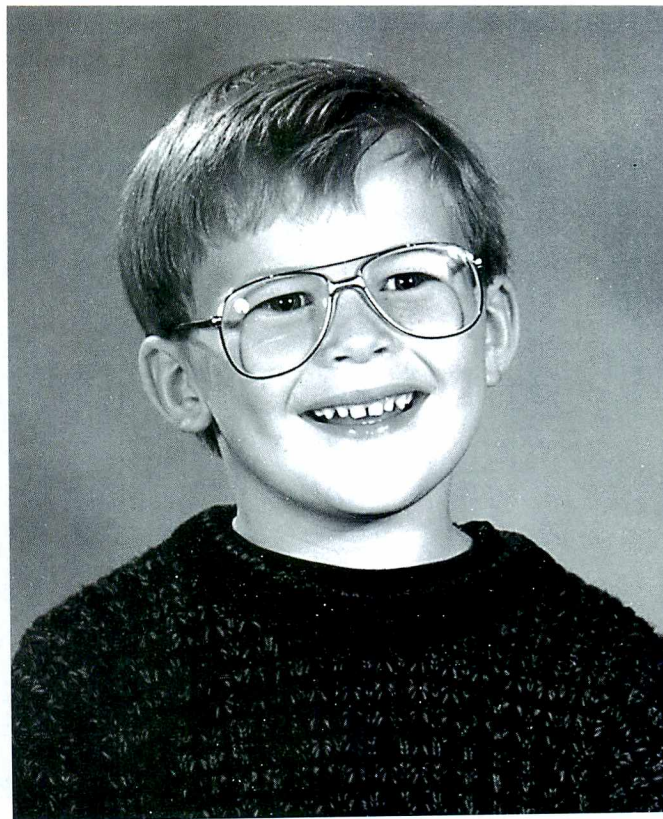
"People ask me all the time if I cooked the hamburger [Alex ate] ... of course I did," Donley said.

"But consumers need the truth: It needs to be 160 degrees as measured by a meat thermometer, or don't eat it!"

Susan Conley, director of USDA's Food Safety Education and Communications Staff, and a former director of USDA's Meat and Poultry Hotline, told the conference audience that most consumers rely on the color of meat to determine "doneness" and have little information about proper cooking techniques.

"There's a lot of conflicting information out there," Conley says. "Based on my Hotline experiences, people need to understand the characteristics of bacteria—that it grows rapidly at room temperature and slowly while refrigerated. The issues of cross-contamination, improper cooking, and poor personal hygiene of food preparers all must be addressed."

Experts agree that prevention of pathogens in food requires an under-



*Alex Donley died in 1993 after eating hamburger contaminated with dangerous bacteria.*



**Most people think food prepared at home is safer than restaurant food. Food safety experts say the opposite is true.**

standing of how foods become contaminated during production, processing and distribution, as well as understanding cultural changes affecting food consumption. Michael Sansolo, vice president of industry relations for the Food Marketing Institute, an organization supporting retail food stores, notes that changing eating habits of consumers and seeming lack of consumer concern about food safety all are important factors when it comes to understanding food-related illnesses.

“Competitors [for supermarkets] in-

rant meals, it took a long time for the message of the importance of low-fat eating to take hold in consumers’ minds. His correlation is easy to understand: Food educators also need to note that it may take time to get the issue of safe food handling and cooking practices both at home and in retail settings to become a regular part of the American psyche as well.

For example, “[When it comes to] supermarkets, consumers say they want quality produce, a clean store, etcetera, but they never mention food safety,” he explains.

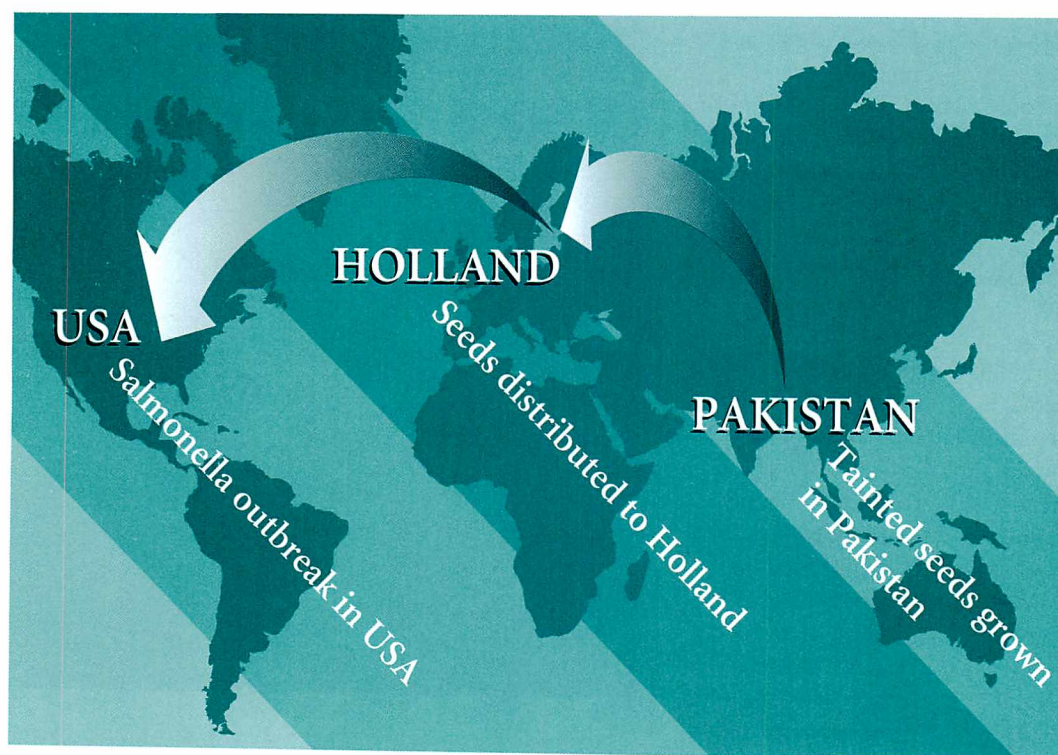
When it comes to safe food production, Sansolo says Institute members are focusing on HACCP (Hazard Analysis and Critical Control Point). A science-based preventive approach to safe food production, HACCP requires a firm to identify food production, manufacturing and transportation “critical control points” where contamination could occur. Then the firm puts control measures in place at those points. HACCP varies from plant to plant and product to product.

But the most crucial issue—educating the people who buy and prepare foods, be they consumers or restaurant workers—remains a key

challenge in the battle against food-borne illness.

### **Food Safety Misconceptions**

“People don’t see food safety problems as related to *their* personal food handling practices,” says Alan Levy, Ph.D., a statistician and chief of the consumer studies branch in FDA’s Center for Food Safety and Applied Nutrition. “[Studies have shown that] 80 percent think failures occur in the food processing system. Few see their own



*Oceans and man-made boundaries are not barriers to food-borne bacteria.*

*The map above illustrates how a 1995 outbreak of Salmonella infection in the United States began with tainted alfalfa seeds half a world away.*

clude restaurants as well as other markets. It was uncommon to eat out in the 1950s, but today restaurant eating is way up,” Sansolo told conference participants. Eating out as often as eating at home changes the way people think and cook, he explained. “For example, 70 percent of people who eat out say [they do it because] they don’t want to cook, so how do we educate them on food safety [in cooking]?” he asks.

Sansolo notes that while these days customers are demanding low-fat restau-



actions at home as having an impact.

"Consumers have major misconceptions regarding food-borne illness. Most people think food prepared at home is safer than restaurant food although food safety experts say the opposite is true. They also think food-borne illnesses are mild. If people don't see food-borne illnesses as a real problem, they will be less likely to change their behavior."

The sad fact is that food-borne illness can be very serious, as Nancy Donley's loss of her only child so clearly illustrates. Some pathogens give rise to diseases far more serious than the uncomfortable vomiting or diarrhea accompanying what most people call "food poisoning." Food-borne infections can cause spontaneous abortion, reactive arthritis, Guillain-Barré syndrome (the most common cause of acute paralysis in both children and adults), and HUS (hemolytic uremic syndrome), which can lead to kidney failure and death.

Levy says studies from the late 1980s and early 1990s have demonstrated that while people are becoming more concerned about food safety, unsafe practices are actually increasing, marking a real difference in peoples' concern vs. their actual behavior.

"There's inconsistency in food safety thinking, since normally greater knowledge is associated with better behaviors," Levy says.

One report distributed at the conference, Footnote Data Population Survey, prepared by USDA's Food Safety and Inspection Service, noted that while 87 percent of those surveyed claimed they have read the safe handling label on ground beef, only 38.5 percent have changed the way they handle or cook ground beef.

Peter M. Sandman, Ph.D., a consultant with Risk Communications in Newton, Mass., and a conference speaker, says, "The risks that do damage according to the experts are not usually the risks that upset people. Experts respond to hazards; the public responds to outrage. When hazard is high and outrage

is low, the experts will be concerned and the public will be apathetic. When people are outraged, they tend to think the hazard is serious."

For example, the risks that actually can do damage to people according to experts are not usually the risks that upset most people. Sandman cited such issues as concern about genetically altered foods and pesticides on food as "low hazard, high outrage" risks, when in actuality lack of knowledge about proper cooking temperatures and times for various meats and poultry pose more of a real hazard. Personal experience, the experience of others, and the news media, Sandman notes, all make a risk memorable in the public's mind. He says that public health personnel usually are doing a good job when it comes to dealing with hazards but are not doing a good job when it comes to outrage.

"Two concepts are important—alerting people to the risks, and assuring people," he says.

### **Food-Borne Illness Complex**

The increasing complexity of food-borne illness itself also muddies the water when it comes to understanding food-related illness. Frederick J. Angulo, Ph.D., D.V.M., a CDC medical epidemiologist, cites a 1995 *Salmonella* outbreak in which "seeds grown on one continent, distributed to a second continent, caused illness on a third continent."

"We truly live in a global village and this [outbreak] reflects that," Angulo says. "It illustrates the increasing complexity of food-borne disease, which is occurring in multi-state and international fashion."

Scientists are also seeing new routes of transmission, newly identified "reservoirs" of pathogens such as *Cyclospora* on raspberries, and new types of pathogens, Angulo notes. Other problems include existing organisms expressing new ways to evade immune defenses and the susceptibility of certain people—such as children, the elderly, people taking medicine for cancer treatment or organ transplants, and HIV/AIDS-infected

## **Educating the people who buy and prepare foods remains a key challenge in the battle against food-borne illnesses.**

people—to food-borne illness.

FDA, CDC, and USDA's Food Safety and Inspection Service currently support seven FoodNet (Food-borne Disease Active Surveillance Network) early-warning sites at state health departments to track cases of food-borne infections and determine their sources. Angulo says even better surveillance is needed, not to "count cases" but to identify food-borne diseases and their sources.

Levy says that studies have shown that print and electronic news stories are the number one way people get information today when it comes to food-related issues. Second on consumers' lists: food labels, food packaging, and "the government," with cookbooks occupying third place among the ways people learn about safe food handling and preparation.

The Partnership for Food Safety Education, a public/private coalition including FDA, CDC, USDA, industry, consumer groups, and the U.S. Department of Education, is currently working to come up with effective strategies to convey food safety messages via the media and other channels.

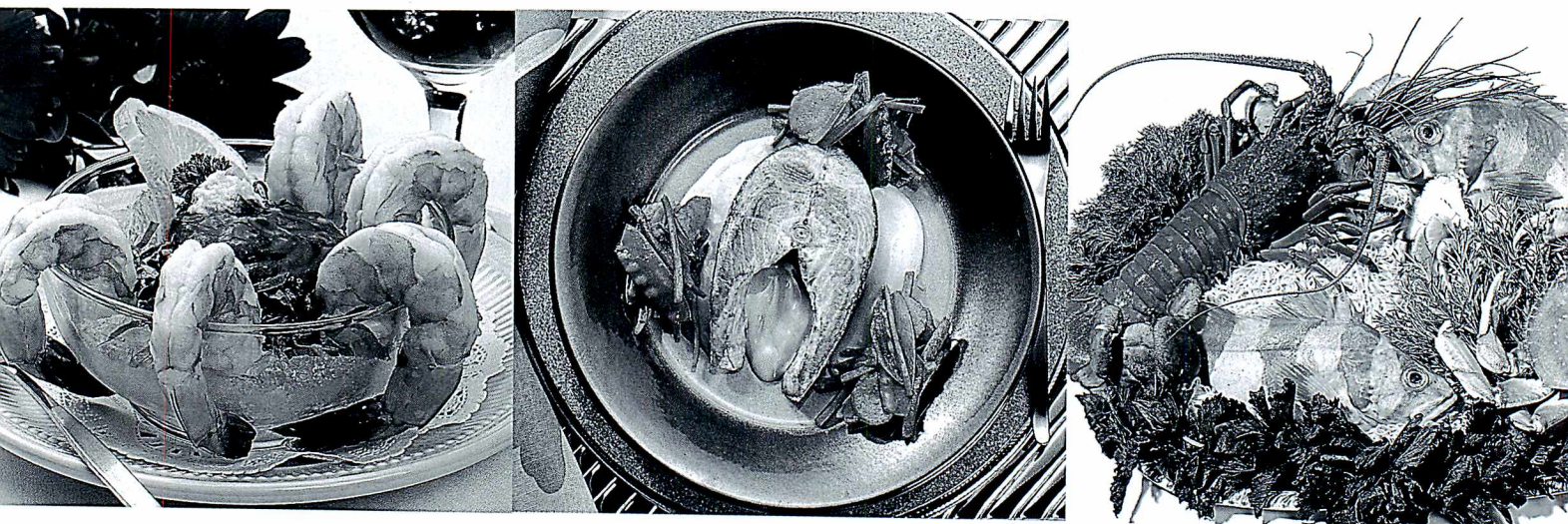
"Until Alex's death I had no idea the food we bought and served our families could be carriers of deadly pathogens," says Donley. "I am attempting in my own small way to help others, just as Alex would have done, to be the voice for those forever silenced." ■

*Audrey Hingley is a writer in Mechanicsville, Va.*



# Critical Steps Toward Safer Seafood

by Paula Kurtzweil



Images provided by ©1994 PhotoDisk Inc.

*A* tender tuna steak lightly seasoned with lemon pepper and grilled over a charcoal fire is one way to please a seafood lover's palate. Stuffed flounder, lobster thermidor, and shrimp scampi are others.

But blue marlin served up with a dose of scombroid poisoning or steamed oysters with a touch of Norwalk-like virus are more likely to turn the stomach, instead of treating the palate.

Earlier this year, 26 employees of the World Bank headquarters in Washington, D.C., developed headaches, dizziness, nausea, and rashes several hours after eating blue marlin served in their workplace cafeteria. An emergency

room doctor who treated some of the victims attributed the illness to scombroid poisoning, which is caused by a toxin produced when certain fish spoil.

In 1995, the national Centers for Disease Control and Prevention reported 34 incidences of food poisoning in people who had eaten oysters harvested from certain southern U.S. waters. Health experts blamed the flu-like illness on a virus similar to the Norwalk virus, which is usually introduced into fishing areas by human sewage.

Generally, seafood is very safe to eat, says Phillip Spiller, director of the Food and Drug Administration's Office of Seafood. "On a pound-for-pound basis,

seafood is as safe as, if not more safe than, other meat sources. But no food is completely safe, and problems do occur."

Seafood—the most perishable of flesh foods, according to FDA—comes to this country from all over the world, often traveling long distances before being processed, sold or eaten.

Spiller points out that while FDA has regulated seafood for decades, a new FDA program that goes into effect in December 1997 aims to further ensure seafood's safety. This program requires seafood processors, repackers and warehouses—both domestic and foreign exporters to this country—to follow a



modern food safety system known as Hazard Analysis and Critical Control Point, or HACCP (pronounced *hassip*). This system focuses on identifying and preventing hazards that could cause food-borne illnesses rather than relying on spot-checks of manufacturing processes and random sampling of finished seafood products to ensure safety.

This is the first time that the HACCP system will be required for the processing and storage of a U.S. food commodity on an industry-wide basis.

Seafood safety could be further ensured if seafood retailers integrate HACCP in their operations. Although seafood retailers are exempt from the HACCP regulations, FDA, through its 1997 edition of the *Food Code*, encourages retailers to apply HACCP-based food safety principles, along with other recommended practices. The *Food Code* serves as model legislation for state and territorial agencies that license and inspect food service establishments, food vending operations, and food stores.

These efforts will be accompanied by seafood safety programs already in place, such as ongoing research by FDA's seafood safety experts and others, and the National Oceanic and Atmospheric Administration's voluntary fee-for-service inspection program.

Consumers are expected to continue their role, too, choosing seafood retailers and products carefully, and handling and serving their products with care in the home.

"Consumers are a step along the way to ensuring that only safe seafood goes in the mouth," says Mary Snyder, director of programs and enforcement policy in FDA's Office of Seafood. "They have to know what they're doing."

### Reducing Hazards with HACCP

Seafood can be exposed to a range of hazards from the water to the table. Some of these hazards are natural to seafood's environment; others are introduced by humans. The hazards can involve bacteria, viruses, parasites, natural toxins, and chemical contaminants.

The HACCP system that seafood companies will have to consider and, in

# Seafood can be exposed to a range of hazards from the water to the table.

## Some of these hazards are natural to seafood's environment; others are introduced by humans.

most cases, establish will help weed out seafood hazards with the following seven steps:

- Analyze hazards. Every processor must determine the potential hazards associated with each of its seafood products and the measures needed to control those hazards. The hazard could be biological, such as a microbe; chemical, such as mercury or a toxin; or physical, such as ground glass.
- Identify critical control points, such as cooking or cooling, where the potential hazard can be controlled or eliminated.
- Establish preventive measures with critical limits for each control point.
- Establish procedures to monitor the critical control points. This might include determining how cooking time and temperatures will be monitored and by whom.
- Establish corrective actions to take when monitoring shows that a critical limit has not been met. Such actions might include reprocessing the seafood product or disposing of it altogether.
- Establish procedures to verify that the system is working properly.
- Establish effective recordkeeping.

Also, under FDA's HACCP regulations, seafood companies will have to write and follow basic sanitation standards that ensure, for example, the use of safe water in food preparation; cleanliness of food contact surfaces, such as tables, utensils, gloves and employees' clothes; prevention of cross-contamination; and proper maintenance of hand-washing, hand-sanitizing, and toilet facilities.

In addition, molluscan shellfish handlers must follow a few additional rules; for example, they must obtain shellfish only from approved waters and only if

they are properly tagged, which indicates that they have come from an approved source.

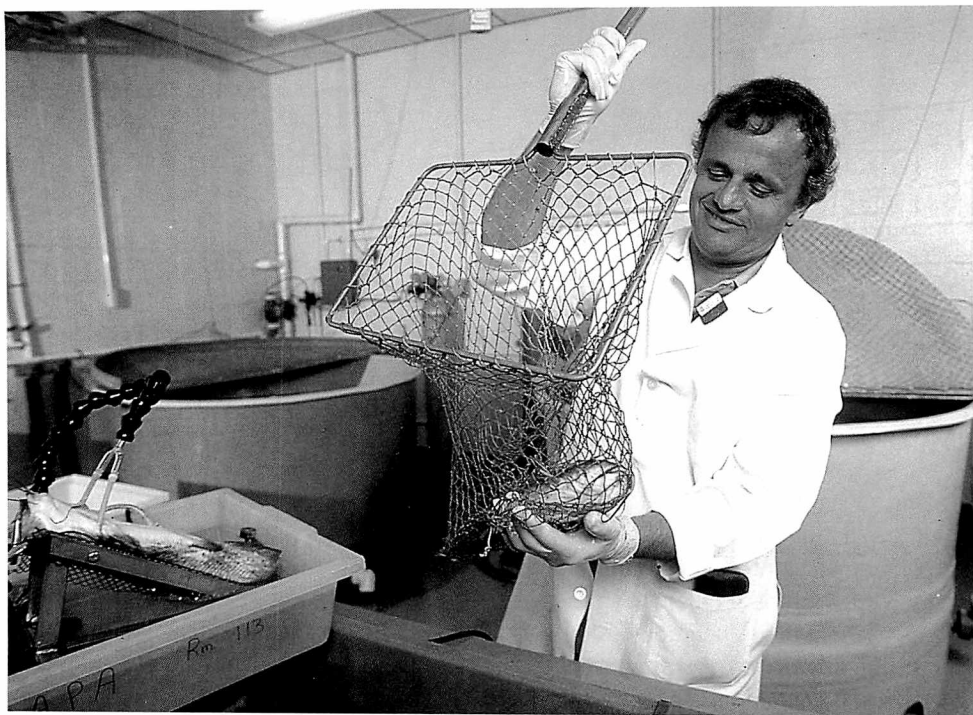
FDA estimates that more than half of the seafood eaten in this country is imported from almost 135 countries. The agency is requiring for the first time that seafood importers take certain steps to verify that their overseas' suppliers are providing seafood processed under HACCP. Food companies in some foreign countries, such as those in the European Union and in Canada, already follow HACCP, as mandated by national law. Also, FDA is working on international agreements with other countries to ensure that products imported and exported between the United States and another country are processed and inspected under a HACCP-based program.

As in the past, FDA will periodically inspect seafood processors and warehouses. But unlike in the past, when FDA's inspection reports were based mainly on activities observed during the day or days of the inspection, the required HACCP records will enable the agency to determine how well a company is complying over time.

The safety features of FDA's HACCP regulations are already incorporated into the National Seafood Inspection Program of the Department of Commerce's National Oceanic and Atmospheric Administration. For a fee, NOAA inspects seafood processors and others, checking vessels and plants for sanitation and examining products for quality. The agency certifies seafood plants that meet federal standards and rates products with grades based on their quality. Seafood processors in good standing with the program are free



*Steven Plakas, Ph.D., a researcher at FDA's Gulf Coast Seafood Laboratory on Dauphin Island, Ala., handles a live catfish he fished out of one of the lab's holding tanks. The catfish are part of an experiment to establish methods for monitoring drug residues in farm-raised seafood.*



to use official marks on products that indicate the seafood has been federally inspected.

### **Additional Protections**

FDA promotes seafood safety in other ways, including:

- Setting standards for seafood contaminants. FDA has established a legally binding safety limit for polychlorinated biphenyls and guidelines for safety limits for six pesticides, mercury, paralytic shellfish poison, and histamine in canned tuna. (Histamine is the chemical responsible for scombroid poisoning.)
  - Administering the National Shellfish Sanitation Program, which involves 23 shellfish-producing states, plus a few non-shellfish-producing states, and nine countries. The program exercises control over all sanitation related to the growing, harvesting, shucking, packing, and interstate transportation of oysters, clams and other molluscan shellfish.
  - Lending its expertise to the Interstate Shellfish Sanitation Conference, an organization of federal and state agencies and members of the shellfish industry. The conference develops uniform guidelines and procedures for state agencies that monitor shellfish safety.
  - Entering into cooperative programs with states to provide training to state and local health officials who inspect fishing areas (for example, shellfish beds), seafood processing plants and warehouses, and restaurants and other retail places.
  - Working with NOAA to close federal
- (Continued on page 14)*



*Kevin Calci (left) and William Burkhardt, Ph.D., researchers at FDA's Gulf Coast Seafood Laboratory, collect live oysters from the Mississippi Sound off of the Alabama coast. The oysters are part of a study to detect the accumulation of human pathogens in seafood caught in waters likely to be polluted with human sewage.*



# How to Spot a Safe Seafood Seller

Anyone who's ever smelled rotting seafood at the fish counter has a pretty good idea of what a poorly run seafood market smells like. But the absence of any strong odor doesn't necessarily mean that the seller is practicing safe food handling techniques.

Based on FDA's *Food Code*, here are some other points to consider:

- Employees should be in clean clothing but no outerwear and wearing hair coverings.
- They shouldn't be smoking, eating, or playing with their hair. They shouldn't be sick or have any open wounds.
- Employees should be wearing disposable gloves when handling food and change gloves after doing nonfood

tasks and after handling any raw seafood.

- Fish should be displayed on a thick bed of fresh, not melting ice, preferably in a case or under some type of cover. Fish should be arranged with the bellies down so that the melting ice drains away from the fish, thus reducing the chances of spoilage.
- What's your general impression of the facility? Does it look clean? Smell clean? Is it free of flies and bugs? A well-maintained facility can indicate that the vendor is following good sanitation practices.
- Is the seafood employee knowledgeable about different types of seafood? Can he or she tell you how old the products are and explain why their seafood is fresh? If they can't, you should take your business elsewhere. ■



PHOTOGRAPH BY RHODA BAER

*It may be tough deciding what to buy from the wide choice of seafood in this Maryland store, but safe food handling practices are easy to spot. The place is clean from top to bottom, the seafood is on ice and under cover, and the employee is wearing appropriate hair covering.*



# Figuring Out What's Fresh

- The fish's eyes should be clear and bulge a little. Only a few fish, such as walleye, have naturally cloudy eyes.
- Whole fish and fillets should have firm and shiny flesh. Dull flesh may mean the fish is old. Fresh whole fish also should have bright red gills free from slime.
- If the flesh doesn't spring back when pressed, the fish isn't fresh.
- There should be no darkening around the edges of the fish or brown or yellowish discoloration.
- The fish should smell fresh and mild, not fishy or ammonia-like. ■



Image provided by ©1994 PhotoDisk Inc.

*(Continued from page 12)*

waters to fishing whenever oil spills, toxic blooms, or other phenomena threaten seafood safety.

- Sampling and analyzing fish and fishery products for toxins, chemicals and other hazards in agency laboratories.

FDA also does extensive seafood safety research at its Gulf Coast Seafood Laboratory at Dauphin Island, Ala., and its seafood laboratories in Bothell, Wash., and Washington, D.C. In addition, research at other sites around the country will be transferred early in 1998 to the agency's national seafood safety center—a joint venture with the University of Maryland's Center of Marine Biotechnology—in Columbus Center in downtown Baltimore.

The agency's seafood scientists are tackling a number of research projects, according to George Hoskin, Ph.D., director of science and applied technology in FDA's Office of Seafood:

- Identifying a legally binding action

level for histamine in fish to protect consumers from scombroid poisoning.

- Developing chemical indicators for detecting decomposed fish. Decomposition is now identified by organoleptic techniques, in which highly trained people use their sense of smell and sight to determine quality. Hoskin says that chemical indicators could help reduce costs of training people in this highly skilled area and provide a quantitative rather than a qualitative measure of decomposition. "Once you've trained an organoleptic analyst, the technique is a fast, efficient way to detect decomposed fish," he says. "But a chemical indicator will make people think the measure is more objective."

- Pinpointing physiological changes that put people at risk for infection with *Vibrio vulnificus*, the leading cause of seafood death, so that health officials can better advise at-risk people.

- Developing cheaper and easier tests for detecting ciguatera toxin, which

affects certain warm-water reef fish. Current laboratory methods are expensive and complex, Hoskin says.

## A Safe Seafood Supply

A walk through just about any seafood market or through any grocery store's seafood section will show the diversity of today's U.S. seafood supply. There are crabs and clams, bass, red snapper, catfish, octopus and squid, mackerel and salmon, and many more—from throughout the country and the world. The selection is a seafood gourmet's delight.

But delight can quickly turn to disaster if the seafood is unsafe. The establishment of HACCP in the seafood industry, along with ongoing research and other federal and state activities, and careful handling by consumers, can help ensure that seafood is not only tasty and healthful but safe to eat, as well. ■

*Paula Kurtzweil is a member of FDA's public affairs staff.*



# On The Home Front



**Here's what you can do when it's your turn to take charge of food safety.**

**When Choosing Seafood:**

- Buy only from reputable sources. Be wary, for example, of vendors selling fish out of the back of their pick-up trucks.
  - Buy only fresh seafood that is refrigerated or properly iced.
  - Don't buy cooked seafood, such as shrimp, crabs or smoked fish, if displayed in the same case as raw fish. Cross-contamination can occur.
  - Don't buy frozen seafood if the packages are open, torn or crushed on the edges.
- Avoid packages that are above the frost line in the store's freezer. If the package cover



# Using a meat thermometer is crucial because some ground meat may prematurely brown before a safe internal temperature has been reached.

## More Information

To get more information on food safety:

- Visit <http://vm.cfsan.fda.gov/list.html> on FDA's World Wide Web site.
- Call FDA's Food Information & Seafood Hotline: 1-800-FDA-4010. In the Washington, D.C., area, call 202-205-4314. The hot line offers recorded information in English and Spanish 24 hours a day, every day. Public affairs specialists are available to answer questions from noon to 4 p.m., Eastern time, Monday through Friday.
- Write to FDA's Center for Food Safety and Applied Nutrition, Consumer Education Staff, HFS-555, 200 C St., S.W., Washington, DC 20204.

is transparent, look for signs of frost or ice crystals. This could mean that the fish has either been stored for a long time or thawed and refrozen.

- Put seafood on ice, in the refrigerator or in the freezer, immediately after buying it.
- Recreational fishers who plan to eat their catch should follow state and local government advisories about fishing areas and eating fish from certain areas.

### Storing Perishables:

- If seafood, meat or poultry will be used within two days after purchase,

store it in the coldest part of the refrigerator, usually under the freezer compartment or in a special "meat keeper." Avoid packing it in tightly with other items; allow air to circulate freely around the package. Otherwise, wrap the food tightly in moisture-proof freezer paper or foil to protect it from air leaks and store in the freezer.

- Discard shellfish, such as lobsters, crabs, oysters, clams, and mussels, if they die during storage or if their shells crack or break. Live shellfish close up when the shell is tapped.

### Preparing:

- Wash hands thoroughly with hot soapy water before and after handling any raw food.
- Thaw frozen seafood, meat and poultry in the refrigerator. Gradual defrosting overnight is best because it helps maintain quality. If you must thaw food quickly, seal it in a plastic bag and immerse in cold water for about an hour, or microwave on the "defrost" setting if the food is to be cooked immediately. For fish, stop the defrost cycle while the fish is still icy but pliable.
- Marinate food in the refrigerator, not on the counter. Discard the marinade after use because it contains raw juices, which may harbor bacteria. If you want to use the marinade as a dip or sauce, reserve a portion before adding raw food.
- Do not allow cooked food to come in contact with raw products. Use separate cutting boards and utensils or wash items completely between use. (See "Key Cutting Board Rules.")

### Cooking:

- Meat must be cooked to an internal temperature of 160 degrees Fahrenheit (71 degrees Celsius). Using a meat thermometer is crucial, the U.S. Department of Agriculture says, because research results indicate that some ground meat may prematurely brown before a safe internal temperature has been reached. On

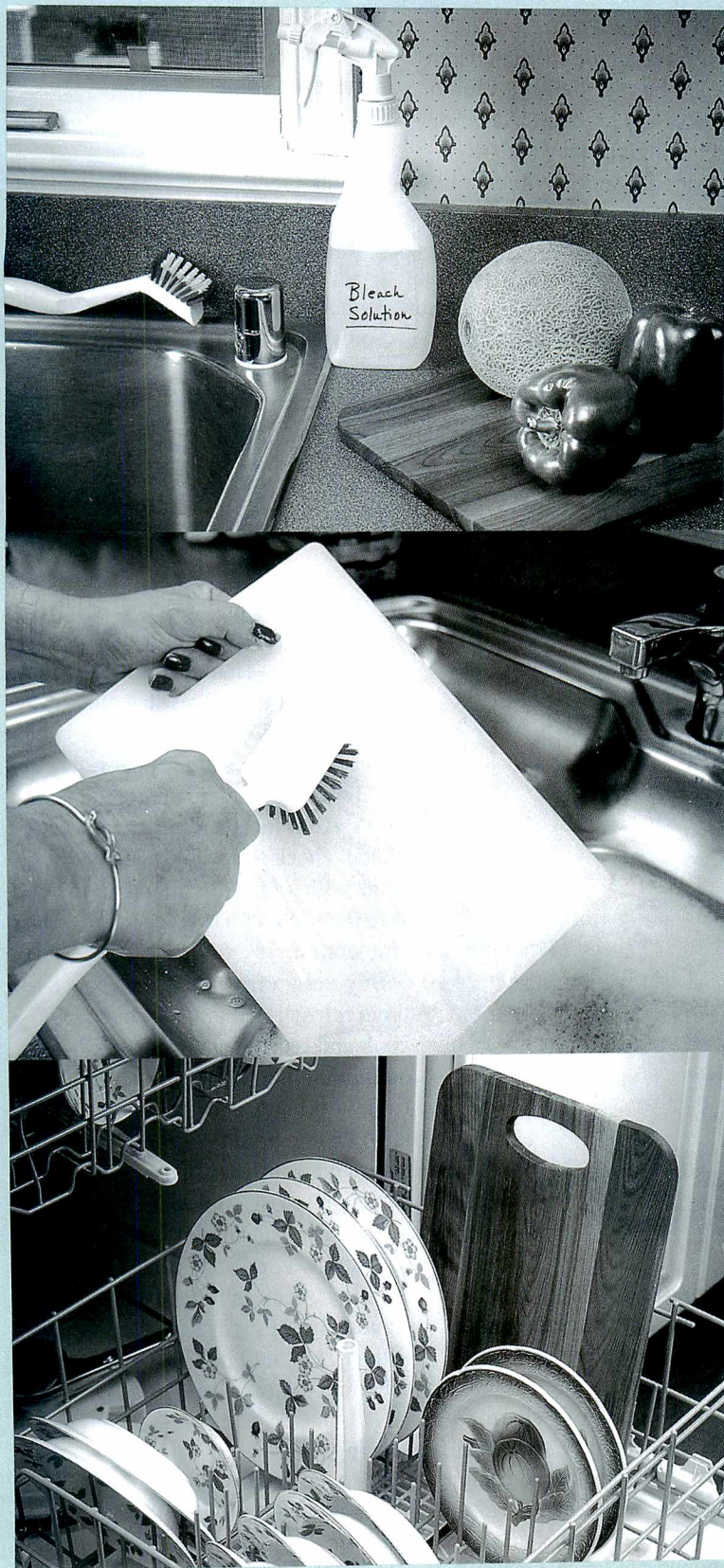
the other hand, research findings also show that some ground meat patties cooked to 160 F or above may remain pink inside for a number of reasons; thus the color of meat alone is not considered a reliable indicator of ground beef safety. If eating out, order your ground beef to be cooked well-done. Temperatures for other foods to reach to be safe include:

- pork—160 F
- whole poultry and thighs—180 F (82 C)
- poultry breasts—170 F (77 C)
- ground chicken or ground turkey—165 F (74 C)
- It's always best to cook seafood. It's a must for at-risk people. (See "Who's at Risk?") The Food and Drug Administration's 1997 *Food Code* recommends cooking most seafood to an internal temperature of 145 F (63 C) for 15 seconds.

(Continued on page 18)

**Keep hot foods hot (140 F [60 C] or higher) and cold foods cold (41 F [5 C] or lower).**





## Key CUTTING BOARD Rules

FDA advises consumers to follow these practices to prevent cross-contamination from a cutting board, not only for seafood but all other foods, as well:

- Use smooth cutting boards made of hard maple or plastic and free of cracks and crevices. These kinds of boards can be cleaned easily. Avoid boards made of soft, porous materials.
- Wash cutting boards with hot water, soap, and a scrub brush to remove food particles. Then sanitize the boards by putting them through the automatic dishwasher or rinsing them in a solution of 1 teaspoon (5 milliliters) of chlorine bleach in 1 quart (about 1 liter) of water. You may want to keep a ready-supply of the solution in a spray bottle near the sink.
- Always wash and sanitize cutting boards after using them for raw foods, such as seafood, and before using them for ready-to-eat foods. Consider using one cutting board only for foods that will be cooked, such as raw fish, and another only for ready-to-eat foods, such as bread, fresh fruit, and cooked fish. ■

—P.K.



**If you want to use the marinade as a dip or sauce, reserve a portion before adding raw food.**

## Who's at Risk?

People with certain diseases and conditions need to be especially careful to follow safe seafood practices. Their diseases or the medicines they take may put them at risk for serious illness or death from contaminated seafood.

These conditions include:

- liver disease, either from excessive alcohol use, viral hepatitis, or other causes
- hemochromatosis, an iron disorder
- diabetes
- stomach problems, including previous stomach surgery and low stomach acid (for example, from antacid use)
- cancer

- immune disorders, including HIV infection
- long-term steroid use, as for asthma and arthritis.

Older adults also may be at increased risk because they more often have these conditions.

People with these diseases or conditions should never eat raw seafood—only seafood that has been thoroughly cooked. ■

—P.K.

Images provided by ©1994 PhotoDisk Inc.



**If eating out, order your ground beef to be cooked well-done.**

*(Continued from page 16)*

• If you don't have a meat thermometer, there are other ways to determine whether seafood is done:

- For fish, slip the point of a sharp knife into the flesh and pull aside. The edges should be opaque and the center slightly translucent with flakes beginning to separate. Let the fish stand three to four minutes to finish cooking.
- For shrimp, lobster and scallops, check color. Shrimp and lobster turn red and the flesh becomes pearly opaque. Scallops turn milky white or opaque and firm.

- For clams, mussels and oysters, watch for the point at which their shells open. That means they're done. Throw out those that stay closed.
- When using the microwave, rotate the dish several times to ensure even cooking. Follow recommended standing times. After the standing time is completed, check the seafood in several spots with a meat thermometer to be sure the product has reached the proper temperature.
- Buy only refrigerated eggs, and keep them refrigerated until you are ready to cook and serve them. Cook eggs thoroughly until both the yolk and white are firm, not runny, and scramble until there is no visible liquid egg. Cook pasta dishes and stuffings that contain eggs thoroughly. Use cooked-base recipes for hollandaise and similar sauces, and do not eat raw eggs or serve food with raw eggs in it, such as homemade eggnog or mayonnaise. Egg dishes or casseroles with eggs should be cooked to an internal temperature of 160 F.

### Serving:

- Keep hot foods hot (140 F [60 C]) or higher and cold foods cold (41 F [5 C]) or lower.
- Do not keep cooked food unrefrigerated or unfrozen for more than two hours. ■

—Paula Kurtzweil and Audrey Hingley



# It's Quittin' Time

## **SMOKERS Need Not Rely on Willpower Alone**

*by Tamar Nordenberg*

"Habit is habit, and  
not to be flung out of  
the window by any man,  
but coaxed downstairs  
a step at a time."  
— Mark Twain



Even in the face of withdrawal symptoms that can challenge the strongest of wills, millions of Americans have conquered their smoking "habit," step by step. According to the U.S. government's Agency for Health Care Policy and Research (AHCPR), for every one of the 46 million American smokers, there is an ex-smoker who has successfully quit.



True, it's not easy. The nicotine in cigarettes can command both a physical and mental hold that can be tough to overcome. For some, nicotine is as addictive as heroin or cocaine, according to AHCPR.

"There's no question about it; sometimes when you're trying to give up cigarettes, you think 'I've got to have one,'" says Denis Brissette of Madison, Wis., who smoked about three packs a day for 30 years before quitting four years ago.

For many smokers who want to quit, willpower alone isn't enough to beat the yearning. For them, smoking cessation products the Food and Drug Administration has approved may reduce the cravings and other withdrawal symptoms. To help him quit, Brissette used the nicotine patch, which is now available over-the-counter along with nicotine gum. Other stop-smoking aids, available only by prescription, include nicotine nasal spray and the nicotine inhaler, as well as a stop-smoking product in pill form.

While these products can ease the symptoms resulting from the physical addiction to nicotine, group or indi-

vidual counseling and encouragement from family and friends are critical to help address the mental dependence.

"You really have to be committed to quitting," says Celia Jaffe Winchell, M.D., a psychiatrist and FDA's medical team leader for addictive drug products, "and when you've made the decision to stop smoking, commit to using whatever it takes to quit."

### Killer Addiction

Imagine: Two jumbo jets crash every day and not a single person walks away alive. That, then-Surgeon General C. Everett Coop told Americans in 1989, is the number of people who die each day from smoking.

Cigarettes alone kill more than 400,000 Americans each year—more than AIDS, alcohol, car accidents, murders, suicides, illegal drugs, and fires combined. And smoking can harm not just the smoker, according to the Environmental Protection Agency and other experts, but also family members and others who breathe "second-hand smoke."

Given that cigarettes are known killers, why do so many Americans continue to smoke?

Seventy percent of adult smokers *want* to quit completely, according to a survey by the national Centers for Disease Control and Prevention. But the nicotine in cigarettes is an addictive drug that makes quitting difficult, as confirmed by the 1988 Surgeon General's report on smoking and health.

"There is little doubt," wrote *smoking* researcher M.A.H. Russell in 1974, "that if it were not for the nicotine in tobacco smoke, people would be little more inclined to smoke than they are to blow bubbles or light sparklers."

As with other addictive drugs, people can experience withdrawal when they get less nicotine than they are used to. Symptoms can include irritability, frustration, anger, anxiety, difficulty concentrating, restlessness, and craving for tobacco.

One reason cigarettes in particular are so addictive, Winchell says, is that a person gets a "very rapid and effective dose" of nicotine by inhaling it. Within seconds of inhaling a cigarette, nicotine enters the lungs and then travels directly to the brain.

"Tobacco use in 1997 is not just some bad habit, but a powerful addiction that warrants appropriate medical treatment," says Michael Fiore, M.D., director of the Center for Tobacco Research and Intervention at the University of Wisconsin Medical School.

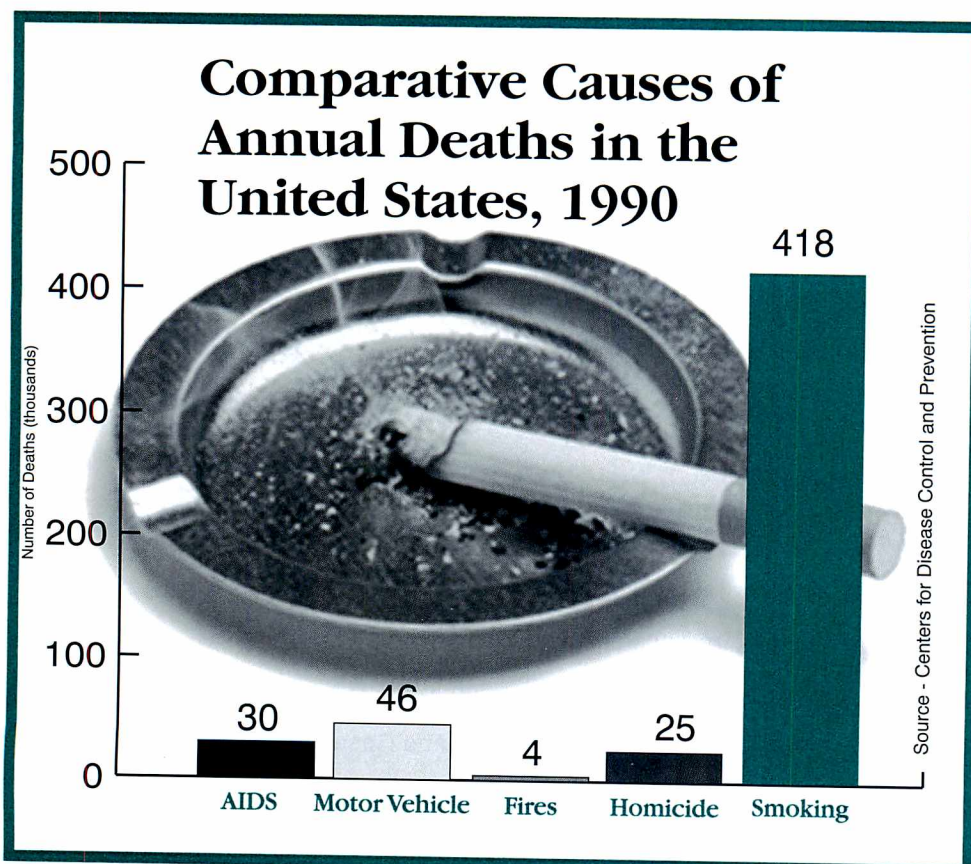
As a rule, Fiore says, people who smoke more than 10 cigarettes a day and want to quit should use an FDA-approved smoking cessation product.

### The Options

Most medical aids to smoking cessation are nicotine replacement products. They deliver small, steady doses of nicotine into the body to relieve some of the withdrawal systems, without the "buzz" that keeps smokers hooked.

Nicotine replacement products are available in four forms: the patch, gum, nasal spray, and inhaler. Although the products deliver nicotine into the blood, they don't contain the tar and carbon monoxide that are largely responsible for cigarettes' dangerous health consequences.

Studies show that the nicotine replacement therapies as much as double the chances of quitting smoking. Smokers





should choose the method that appeals to them and try a different method if the first one doesn't work.

"It's an individual decision," Winchell says. "You really can't say that one of these products works better than another." (See "Which Nicotine Replacement Product Appeals to You?")

Like the nicotine substitution products, the newest option—an anti-smoking pill—seems to reduce nicotine withdrawal symptoms and the urge to smoke. But Zyban (bupropion hydrochloride), approved by FDA in May 1997, has one thing that sets it apart. It contains no nicotine.

"We don't know exactly how Zyban works," Winchell says, "but it seems to have an effect on the chemicals in the brain associated with nicotine addiction."

Bupropion was previously approved as a prescription antidepressant under the brand name Wellbutrin. In studies of the drug for smoking cessation, there were no noticeable changes in people's moods. "Antidepressants make depressed people feel normal; they don't make non-depressed people feel happier," Winchell says. "The people who entered the trials weren't depressed, and the drug didn't make them euphoric."

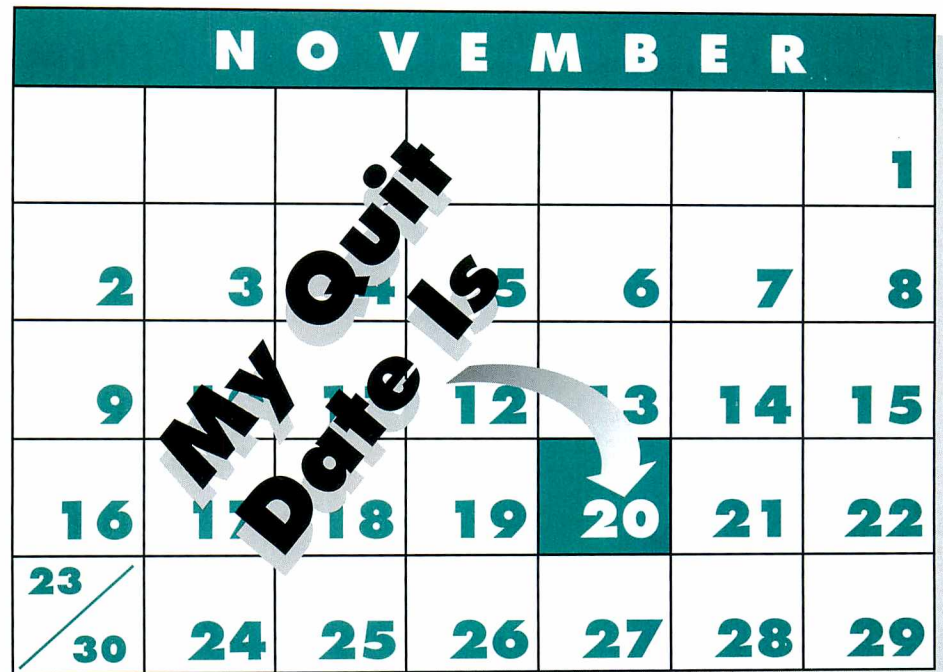
Some common side effects from Zyban are dry mouth, difficulty sleeping, shakiness, and skin rash. About one out of every 1,000 people taking bupropion may have a seizure, which may involve convulsions and loss of consciousness.

People should not use Zyban if they have a pre-existing seizure condition such as epilepsy or an eating disorder such as anorexia nervosa or bulimia, or if they are taking other medicines containing Zyban's active ingredient, bupropion hydrochloride. These circumstances can increase the chance of a seizure.

Zyban is not recommended for women who are pregnant or breast-feeding.

Zyban can be used with a nicotine substitution product, but the supervising doctor should monitor the Zyban user closely for a possible rise in blood pressure.

It is not physically dangerous to smoke while using Zyban, but continu-



ing to smoke after deciding to stop significantly reduces the chance of successfully quitting.

#### Psychological Side

Despite the availability of Zyban and the other medical aids for smoking cessation, Winchell says, "If someone is serious about quitting, the drugs alone won't do it. They must have some kind of support, whether it's from a formal stop-smoking program or at least informal support from their friends and family."

This, Winchell explains, is because nicotine addiction isn't all physical. Smokers come to enjoy the smoking behavior and are used to lighting up in certain situations. "A smoker's whole day," Winchell says, "is filled with cues that could trigger the desire for a cigarette: the first cup of coffee in the morning, sitting down to check the e-mail, opening the paper, finishing a meal."

Before quitting, a person should change his or her environment. A good way to start, according to AHCPR, is by getting rid of cigarettes and ashtrays in the home, car, and workplace.

Setting a quit date, and sticking to it, is another important step toward successfully giving up cigarettes. A good date might be Nov. 20, the day of this year's "Great American Smokeout." Each year, millions of Americans par-

## Help When You're Ready to Quit

Programs are offered by the following groups as well as many local hospitals and health centers:

Agency for Health Care Policy and Research  
800-358-9295  
<http://www.ahcpr.gov/>

American Heart Association  
800-AHA-USA1 (800-242-8721)  
<http://207.211.141.25/>

American Cancer Society  
800-ACS-2345 (800-227-2345)  
<http://www.cancer.org/>

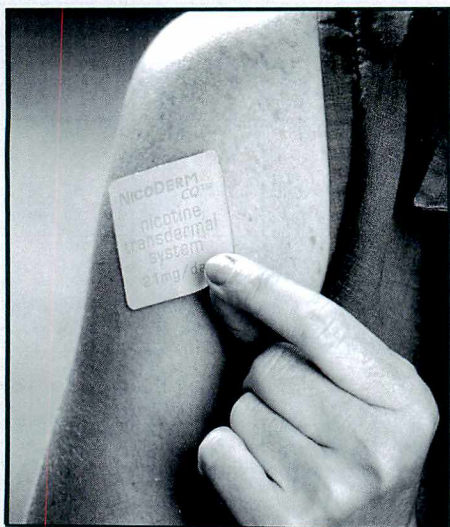
American Lung Association  
800-LUNG-USA (800-586-4872)  
<http://www.lungusa.org/>

Office of Smoking and Health  
Centers for Disease Control and Prevention  
800-CDC-1311 (800-232-1311)  
<http://www.cdc.gov/tobacco/>



# Which Nicotine Replacement Product Appeals to You?

Although they have nicotine in common, the four nicotine replacement products have some important differences.



## Nicotine Patch

Known generically as the nicotine transdermal system, this method has been available in the United States by prescription since 1992 and over-the-counter since July 1996. It is sold OTC under the brand names Nicoderm and Nicotrol and by prescription under the names Habitrol and Prostep.

Each day, a new patch that looks like a big bandage is applied to a different area of dry, clean, non-hairy skin and left on for the amount of time recommended in the product's labeling.

A mild itching, burning or tingling at the site of the patch when it is first applied is normal, but should go away within about an hour. After removing the patch, the skin might be red for up to a day. If the skin develops a rash or becomes swollen or very red, a doctor should be consulted.

The patch may not be a good choice for those with skin problems or allergies to adhesive tape.



## Nicotine Nasal Spray

FDA approved Nicotrol-brand nicotine nasal spray in March 1996, for sale by prescription only.

The nicotine is inhaled into the person's nose from a pump bottle and absorbed through the nasal lining into the bloodstream.

Nasal and sinus irritation is a common side effect of the nicotine nasal spray. While most people can tolerate the irritation, the spray is not recommended for people with nasal or sinus conditions, allergies, or asthma.

Generally, people should not use the nasal spray for longer than six months. The manufacturer is continuing to gather data on use of the nasal spray to ensure that neither smokers nor nonsmokers are abusing it.



## Nicotine Inhaler

FDA approved the Nicotrol nicotine inhalation system for smoking cessation in May 1997. At press time, the prescription inhaler was not yet available for purchase.

The nicotine enters the user's mouth through a mouthpiece attached to a plastic cartridge. Although the product is called an "inhaler," it does not deliver nicotine to the lungs the way a cigarette does. Almost all of the nicotine travels only as far as the mouth and throat, where it is absorbed through the mucous membranes.

Side effects from the inhaler can include cough or throat irritation. Anyone with a bronchospastic disease such as asthma should use it with caution.

participate in the American Cancer Society event, which is designed to encourage people to give up the deadly pastime for at least a day.

Because being around smokers, being under stress, and drinking alcohol are some of the most common smoking

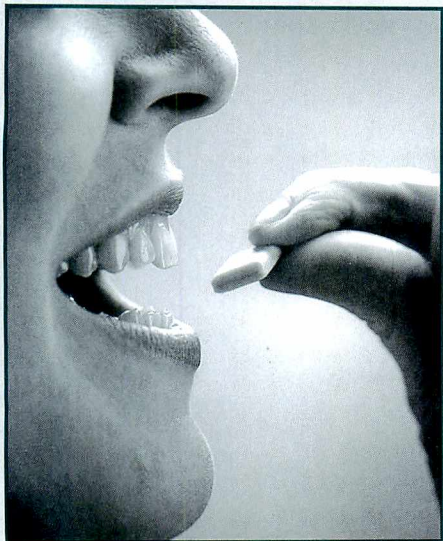
triggers, AHCPR recommends that people avoid such difficult situations whenever possible while trying to quit.

As a distraction from thoughts of smoking, the agency says, taking time for a fun activity may help. Exercising may be an especially useful distraction.

And exercising, along with eating healthier, low-fat foods, can minimize the weight gain (not more than 10 pounds on average) that sometimes goes along with quitting smoking.

Quit-smoking programs, self-help materials, and hot lines are available





### Nicotine Gum

FDA approved Nicorette gum (nicotine polacrilex) for prescription sale in 1984, and began allowing its sale without a prescription in February 1996.

Chewing Nicorette releases nicotine into the bloodstream through the lining of the mouth. Unlike gum chewed for pleasure, Nicorette requires a measured routine—it is chewed slowly until a slight tingling occurs or a peppery taste comes out, then placed between the cheek and gum until the taste or tingling is almost gone. The cycle is repeated for about 30 minutes per piece.

Most people find that chewing 9 to 12 pieces a day controls their urge to smoke, but the maximum number of pieces that can be safely chewed in a day is between 20 and 30, depending on the type of Nicorette.

Chewing nicotine gum may not be the right choice for those with temporomandibular joint disease (TMJ) or for those with dentures or other vulnerable dental work.

If you decide you want to try one of the four nicotine replacement products, you need to remember the following:

- **Keep nicotine replacement products, including those that have been used and thrown away, out of reach of children and pets. Even very small amounts of nicotine can cause them serious illness.**

- Don't smoke, chew tobacco, or use snuff or other nicotine-containing products while using any of the four therapies. It is possible to get an overdose of nicotine. Signs of overdose include headaches, dizziness, upset stomach, vomiting, diarrhea, mental confusion, weakness, or fainting.

- Depending on how much you smoked, you may still experience some withdrawal symptoms, or you may feel some side effects from the nicotine, such as headache, nausea, upset stomach, dizziness, or disturbing dreams.

- Consult a doctor before beginning any nicotine replacement therapy, even one that is available over-the-counter, if you have a medical problem such as heart disease or high blood pressure.

- If you take any medications, especially drugs for asthma or depression, speak to your doctor. The dose of a medication may need to be adjusted because, with or without nicotine replacement, the body changes when one stops smoking.

- If you are pregnant or breast-feeding, speak to your doctor before trying a nicotine replacement product. ■

—T.N.

throughout the United States. (See "Help When You're Ready to Quit.")

Also, family, friends, or a health-care provider can offer encouragement and support when the going gets tough. "The buddy system helped me," Brissette says. "My mother-in-law quit at the

same time I did. We supported each other through it."

Some people have found hypnosis and acupuncture helpful in quitting, but these methods have not been proven to work.

Cigars and smokeless tobacco should

**Don't be discouraged  
if the first attempt  
to quit doesn't  
succeed. Experts  
say it usually takes  
two or three tries.**

*not* be viewed as safe alternatives to cigarettes. They, too, can be addictive and can cause serious health effects such as cancer and heart problems.

### Not Even a Puff

Regardless of the method you decide to try, Fiore says, "hang in there." Most people who abstain from smoking for three months can be cigarette-free for the rest of their lives, he says.

Your risk of heart disease and lung cancer drop steadily after you quit. Three years after quitting, your risk of dying from a heart attack is about the same as if you had never smoked, according to the American Heart Association. And the American Lung Association estimates that in 10 years, the risk of lung cancer declines to about 30 to 50 percent of a continuing smoker's risk.

So when you try to quit, keep the rewarding health benefits in mind. Don't be discouraged if the first quit attempt doesn't succeed, because experts say it usually takes two or three tries. Think about what seemed to help during past quit attempts and what didn't, and each try will carry a better chance of success.

But even after you've abstained for a while, cautions Fiore, don't be lulled into letting your guard down. Because the nature of nicotine addiction makes it impossible for most people to be occasional smokers, "you need to treat cigarettes the way an alcoholic treats booze," he says. "Don't take even a single puff." ■

*Tamar Nordenberg is a staff writer for FDA Consumer.*



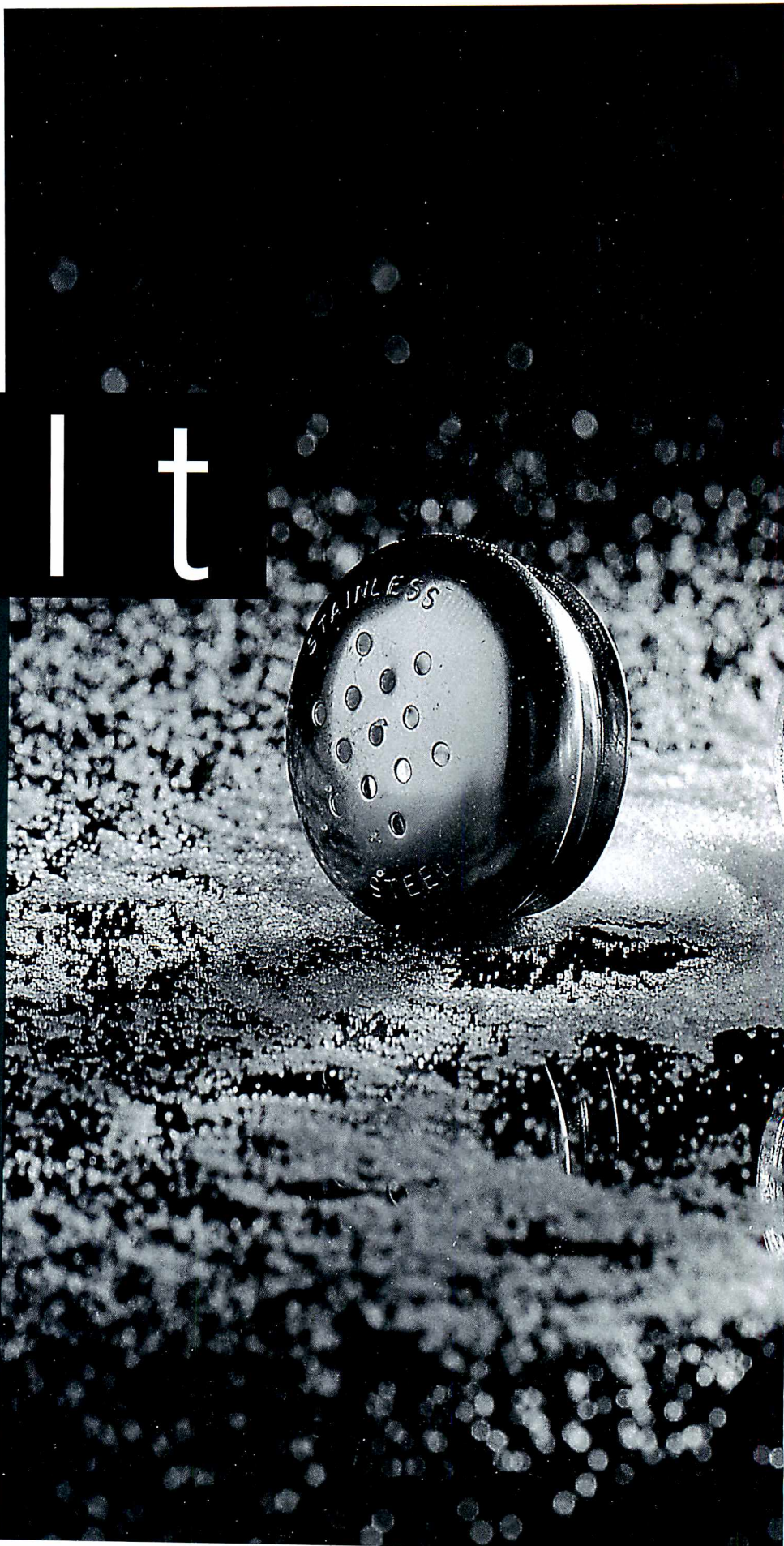
# A Pinch Of Controversy Shakes Up Dietary

# Salt

by Alexandra Greeley

For such a simple substance, common table salt has had a very complex past. Once scarce, salt was as precious as gold, valued as a chemical agent used to clean, dye, soften leather, and bleach. But more importantly, early humans recognized salt—sodium chloride, or NaCl—as a necessary part of their diets and an element worth fighting for.

Now modern technology has made salt readily available and at a price almost anyone can afford. As a result, many of us take salt and its merits for granted. But scientists keep salt in the news by debating its role in a









# Many Americans are consuming up to 6,000 milligrams of sodium a day, with possible harmful effects.

healthful diet. At times, discussion and controversy threaten to obscure salt's importance and to confuse thoughtful consumers.

To begin with, the terms "salt" and "sodium" are often used interchangeably. Since sodium has been linked to health problems and sodium is most commonly eaten as salt, measuring salt intake has been an easy way to determine how much sodium people actually consume, explains Food and Drug Administration's Ellen Anderson, Ph.D., physical chemist in the Office of Food Labeling. But recent data suggest that sodium in other forms—such as in sodium bicarbonate (baking soda)—causes no health problem, so that salt itself—as sodium and chloride—could after all be what is so undesirable in large amounts.

At odds, too, are the scientists who do not agree on salt's impact on blood pressure: Does it contribute to high blood pressure? Should salt intake be restricted?

In the spring of 1995, a report on the results of a four-year observational study in a population with high blood pressure suggested that a link exists between a low-salt diet and a higher risk of heart attack. The study, conducted by Michael Alderman, M.D., professor and chairman of the Department of Epidemiology and Social Medicine at the Albert Einstein College of Medicine of Yeshiva University in New York, was published in *Hypertension*, a journal of the American Heart Association.

While some noted his findings with interest, other experts challenged the study: Only a single urine sample was used to determine usual dietary salt consumption, similar results were not seen in women, and, most importantly, many important risk factors for heart attacks were not well measured and could have accounted for the higher risk factors.

But an even greater furor occurred a year later, when two well-respected medical journals tackled the subject of

salt and blood pressure. *The British Medical Journal* dedicated part of its May 18, 1996, issue to the topic, publishing both sides of the debate, as editorials, papers, articles, and commentaries. One article, authored by Richard Hanneman, president of the Salt Institute in Alexandria, Va., challenged evidence of a correlation between salt intake and elevated blood pressure found in two studies by the Intersalt Cooperative Research Group, an international team of investigators who collected and analyzed data on salt and high blood pressure and released their findings in 1988.

Almost immediately afterwards, the *Journal of the American Medical Association (JAMA)* published a meta-analysis (a study in which the results of available clinical studies are pooled, then analyzed) in its May 22-29 issue that suggested restricting dietary sodium intake had only a minimal effect on blood pressure. However, the authors concluded that for younger people with normal blood pressure, a diet high in salt is harmless. *JAMA's* press release failed to note that an accompanying editorial by Claude Lenfant, M.D., director of the National Institutes of Health's National Heart, Lung, and Blood Institute, took issue with the study's methods and conclusions.

The *New York Times* immediately picked up the story and, in the early-June food section article "Salt is Regaining Favor and Savor," added that many chefs are using a variety of designer salts—fancy sea salt among them—in their upscale cooking.

Almost unanimously, scientists and authorities called the *JAMA* study flawed, saying among other things, that the study was too limited; it included a subgroup of people who had normal blood pressure and were not fed consistent hospital-controlled diets, and it included trials that lasted too short a time.

## Need for Salt

The one fact no one challenges is that the human body needs salt to function.



Image provided by ©1994 PhotoDisk Inc.

*Cheese is just one of many processed foods that contribute sodium to the diet.*





Sodium is the main component of the body's extracellular fluids and it helps carry nutrients into the cells. Sodium also helps regulate other body functions, such as blood pressure and fluid volume, and sodium works on the lining of blood vessels to keep the pressure balance normal.

"You cannot exist without sodium," says Alicia Moag-Stahlberg, a research nutritionist at Northwestern University Medical School in Chicago and a spokeswoman for the American Dietetic Association. "But the amount we need is minor."

The National Research Council of the National Academy of Sciences in Washington, D.C., has determined that the recommended safe minimum daily amount is about 500 milligrams of sodium with an upper limit of 2,400 milligrams. However, the council has said that lowering sodium intake to 1,800 milligrams would probably be healthier.

Many Americans are consuming even higher amounts of salt, up to 6,000 milligrams a day, points out Moag-Stahlberg, with possible harmful effects. "Many people argue that a healthy kidney can get rid of it [the excess], but in many cases, that happens at the expense of losing calcium," she says. It's pos-

sible that the habitual high intake of salt produces physiological changes in the kidney, which increases the risk of high blood pressure. For women, as some studies now suggest, this habitual lack of calcium may eventually be linked to the bone disease of old age, osteoporosis, in which long-term calcium loss causes bones to weaken and break easily.

Our ancestors, often living in salt-poor environments, were not faced with these modern-day health problems. Jeremiah Stamler, M.D., professor emeritus of Preventive Medicine, Northwestern University Medical School, Chicago, says that humans are adapted to low-salt intake "with the kidneys and the gastrointestinal tract functioning efficiently for preserving sodium. So how come we started adding salt to our food?"

About 6,000 to 8,000 years ago, our ancestors went from gathering food and hunting to cultivating crops and raising animals. To survive, they needed to preserve and to stockpile foods for the long winter months. "You can dry vegetables and dry meats," Stamler says. "But the other way to preserve food is to salt it." However, adding salt to food did more than cut bacterial growth. It added a whole new dimension to the pleasures of

eating: Salt adds flavor and heightens existing flavors, even in sweets, and salt helps process basic raw ingredients into other food products. Of these, cheese is perhaps one of the most familiar examples, since salt is necessary in its formation.

For Americans today, eating preserved and processed foods has become a way of life. According to Regina Hildwine, technical regulatory affairs, the National Food Processors Association, Washington, D.C., it is almost impossible to prepare a meal without using some processed food. Besides, not only is salt one of the four taste categories—salty, sweet, sour, and bitter—salt offers certain technical advantages in the kitchen. Two examples: It reduces the boiling point of water, which helps heat penetrate into cooking foods, and it helps condition dough in baked products. And, adds Richard Hanneman, the biggest advantage of using salt is that it enhances other flavors.

But some scientists are concerned about the amount of salt in processed foods. "Seventy-five percent of the sodium consumed is in processed foods," says Anderson. "What the food industry includes during processing, we can't take out."



## Blood pressure normally rises with age, a fact corroborated by numerous studies, and high-salt intake contributes to that rise.

Stamler agrees. "If we reduce our salt intake [at the table]," he says, "that won't solve the problem. There's salt in bread, processed meat, cheese, canned vegetables—these are all hidden sources of salt." Fortunately, FDA's food labeling helps consumers monitor their sodium intake in processed foods. But, says Anderson, in restaurant foods, and that includes fast-food chains and Chinese restaurants, the "sodium levels can be very high."

New regulations that went into effect in May 1997 offer consumers some help with restaurant fare. The regulations apply the Nutrition Labeling and Education Act (NLEA) of 1990 to restaurant menu items that carry a claim about the food's nutritional content or health benefits. (See "Today's Special: Nutrition Information" in the May-June 1997 *FDA Consumer*.)

### Scientists Look at Salt

Scientists' suspicions about salt are not new. As Jeffrey Cutler, M.D., director of the Clinical Applications and Prevention Program, National Heart, Lung, and Blood Institute, points out, physicians in China back in 2,500 B.C. warned patients that if they used too much salt in their food, their "pulse" would harden.

"And since then," says Cutler, "scientists have refined that conclusion and there is scientific support for it. We have learned to measure blood pressure better than measuring the pulse and to quantify salt intake, and we have learned all the scientific experimental designs to study salt intake. The conclusion is still there. The higher the salt intake, the higher the prevalence of hypertension." Higher-than-normal blood pressure may lead to heart attacks, kidney disease, and strokes.

Cutler estimates that persistent high blood pressure—conventionally defined as readings of 140/90 or above—is one



of the most common health conditions, affecting nearly 50 million Americans. People at greatest risk for high blood pressure are those with a family history, the elderly, middle-aged men, and middle-aged Black women.

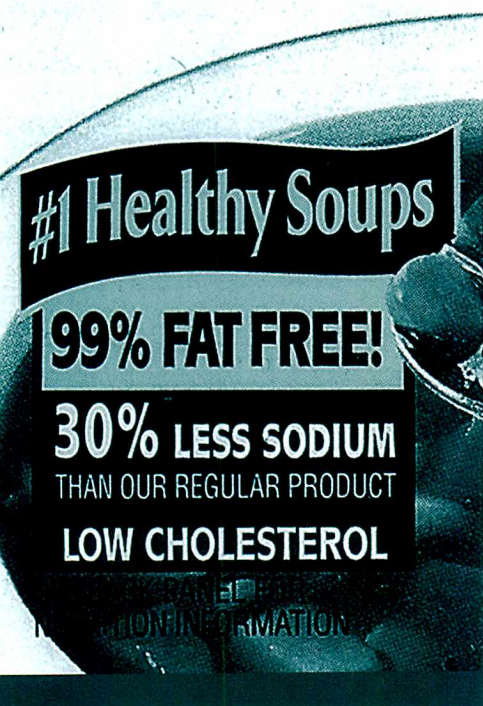
Yet everyone is vulnerable, says Stamler, because blood pressure normally rises with age, a fact corroborated by numerous studies, and high-salt intake contributes to that rise. "The fundamental conclusion is that salt relates to high blood pressure independent of other factors affecting blood pressure, like alcohol and obesity," he says. "There is such a massive body of evidence," he adds, including the 1988 Surgeon General's report on nutrition, the National Academy of Sciences' report on diet and health, and the Intersalt research group.

*Big, bold and eye-catching: Manufacturers make it easy to find low-sodium foods by putting the message on the label front. FDA's food labeling regulations ensure the claims are accurate.*



## Salt adds flavor and heightens existing flavors, even in sweets.

# Hearty Past



## Tips on Reducing Salt Intake

Alicia Moag-Stahlberg, a research nutritionist at Northwestern University Medical School in Chicago and spokeswoman for the American Dietetic Association, offers the following tips for those who want to reduce salt intake:

- Take stock of the sources of salt in your diet, such as restaurant meals, salt-based condiments, and convenience foods. Some of these are really loaded with salt.
- Read the labels when shopping. Look for lower sodium in cereals, crackers, pasta sauces, canned vegetables, or any foods with low-salt options.

- If you think your meals are high in sodium, balance them by adding high-potassium foods, such as fresh fruits and vegetables.
- Ask about salt added to food, especially at restaurants. Most restaurant chefs will omit salt when requested.
- If you need to salt while cooking, add the salt at the end; you will need to add much less. The longer the food cooks, the more the salty flavor is muted and at the end, the final taste is on the top layer. ■

—A.G.

We don't know exactly how salt works to elevate blood pressure, says Anderson. But the best guess is that too much salt causes the sodium channels (structures that move sodium into and out of cells) to work too hard and gradually the channels begin to fail. This process is irreversible, so that by old age, even if people cut back on salt, their kidneys can no longer flush extra amounts of salt from the body without an increase in blood pressure.

Salt may also be linked to other health problems. "One of the aspects of salt that has been neglected," says Stamler, "is the growing evidence that high-salt intake is bad news for other problems ... such as aggravating asthma, gastric cancer, kidney stones, osteoporosis ... a wide range of problems."

### Regulating Salt Intake

FDA is not advising people on how high or low their salt intake should be, says Ida Yoder, a chemist with FDA's over-the-counter drug products division. "By appropriate labeling, we are attempting to inform the public and those who want to keep their sodium intake down as to the amount of sodium they are consuming. The sodium labeling regulations for both foods and over-the-counter drugs require sodium content labeling for those products that contain a certain amount of sodium."

Following a salt-restricted diet will, for many people, be what the doctor orders. And while many people say they crave salt and use it liberally in their food, restricting salt intake is only really a matter of making some adjustments, says Anderson. "If people make a con-

certed effort to reduce salt intake," she says, "initially they notice that things don't taste salty enough. But if they go through a transition period and then go back to foods they used to like, they find them too salty."

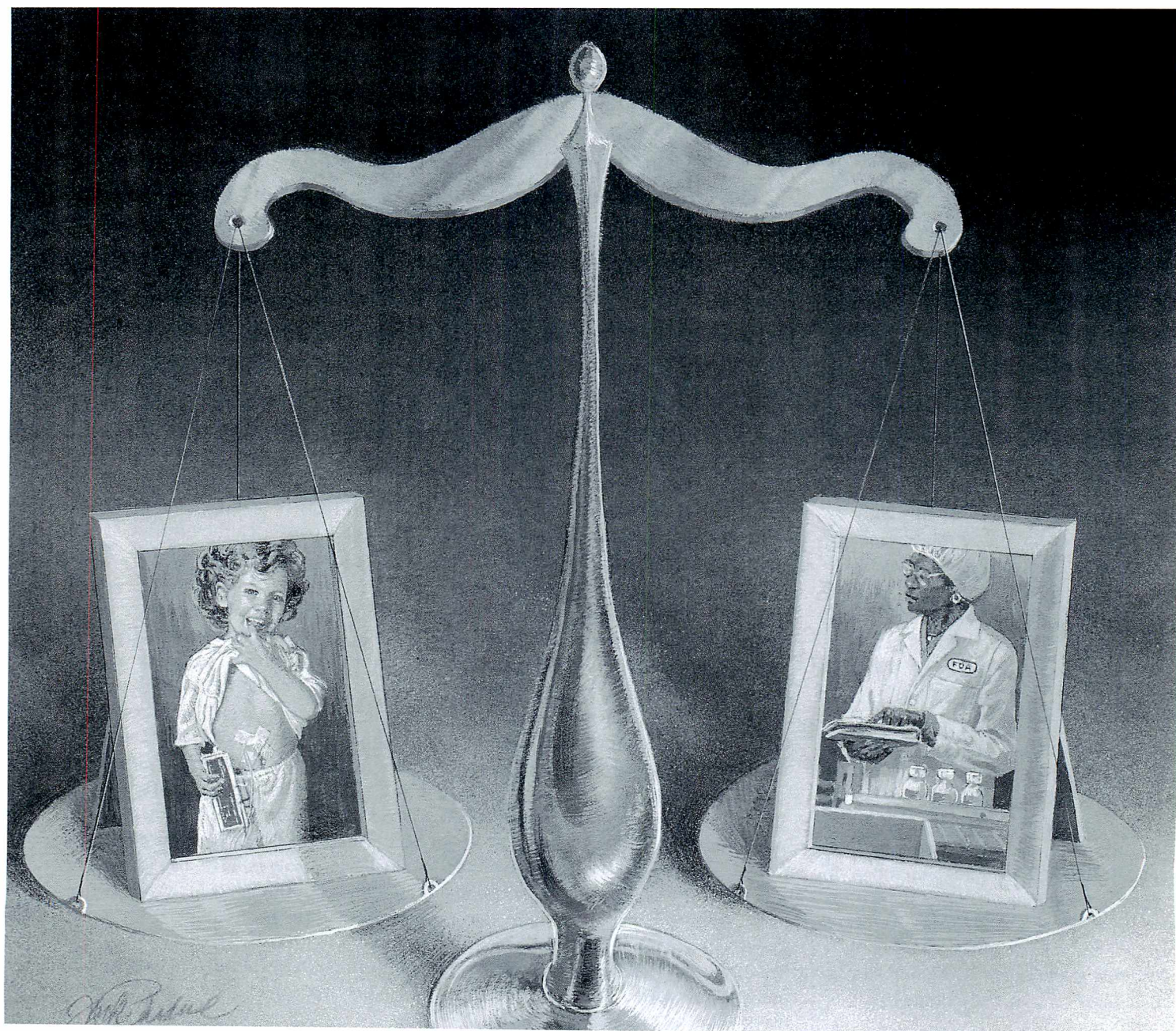
In the end, wise consumers will choose diets of moderation in all things. The *Dietary Guidelines*, developed jointly by the U.S. Department of Health and Human Services and Department of Agriculture, stresses just that when discussing daily needs for salt, pointing out that eating less salt is not harmful and can be recommended for the healthy normal adult. ■

*Alexandra Greeley is a writer in Reston, Va.*



## When a *Drug* Is in *Short Supply*

by Tamar Nordenberg





***Severe drug shortages are infrequent, but a minor supply problem creating a potential shortage usually arises about once or twice a month.***

***Which risk is greater for a little girl with Cooley's anemia: going without her medication or taking a drug produced under less than ideal conditions? Sometimes, as with Desferal to treat Cooley's anemia, FDA finds that the need for a critical drug outweighs the risk from manufacturing violations.***

Infantile spasms, or West's syndrome, is a sometimes crippling and even life-threatening seizure disorder that affects about 3,000 babies a year in the United States. The only drug that helps prevent the spasms is Acthar gel (ACTH), and the drug's only manufacturer is Rhône-Poulenc Rorer Pharmaceuticals Inc.

For several months in 1996, Rhône-Poulenc stopped making Acthar because of manufacturing difficulties. A crisis resulted, with insufficient supplies to treat patients with West's syndrome and other diseases.

While the company worked with the Food and Drug Administration to fix problems in its plant, the nonprofit National Organization for Rare Disorders helped dole out the very limited supplies for emergency cases of infantile spasms and other conditions. "During the shortage, even some people with severe pain from rheumatoid arthritis couldn't get the drug in favor of babies with life-threatening West's syndrome," says NORD president Abbey Meyers.

Severe drug shortages like this one are infrequent, but a minor supply problem creating a *potential* shortage usually arises about once or twice a month, says FDA's drug shortage coordinator, Mark Goldberger.

### **Medical Necessity**

Potential drug shortages are a top agency priority, according to Mark Lynch, a branch chief in FDA's division of drug manufacturing and product quality. "Shortages call for rapid communication among the key people within FDA," he says. "Those involved have to drop what they're doing and react rapidly to the crisis."

But a reduction in the drug supply doesn't always warrant this emergency status. To be defined as a high-priority drug shortage, the drug must be found to be "medically necessary." The FDA division responsible for the drug leads the determination of medical necessity. The division considers several factors, including:

- the opinion of health professionals about the drug's usefulness
- the seriousness of the medical condition
- the availability of acceptable brand-

name or generic alternatives.

For example, a dangerous drug shortage occurred a few years ago when the supply of the anemia drug Desferal (deferoxamine mesylate) suddenly dropped. Desferal is the standard treatment for a fatal blood disease called Cooley's anemia. In 1995, an FDA inspection uncovered some manufacturing problems at the Swiss facility of the former Ciba-Geigy Corp., the only plant where Desferal was made, leading to a plant shutdown.

"We were fearful about the potential danger to patients based on the fact that there was no alternative source for Desferal," says Gina Cioffi, national executive director of the Cooley's Anemia Foundation. "Our patients must use this drug every day or they're taking time off their life as iron builds up in their blood."

In a drug shortage situation like the one involving Desferal, FDA takes steps to find alternative sources of the drug or control the distribution to make sure the most needy patients have access to it.

"These are acute problems that need to be addressed swiftly, with either a resolution or a short-term fix," Goldberger says. "If you've got a drug like Acthar that you need to prevent mental retardation or a drug like Desferal that you need to prevent iron overload, you can't take years. You either have to make it available quickly or figure out a substitute drug."

### **Increasing the Supply**

The review division and office of compliance in FDA's Center for Drug Evaluation and Research work with manufacturers and third parties to find ways to keep a drug available despite various obstacles. "It's a problem-solving exercise," Lynch says. "Each situation is different, each drug is different, and the people are different each time."

The Acthar gel shortage was "different" because the drug is made from animal pituitary glands. "Because it is not synthetic, it is a difficult drug to manufacture," Goldberger says. "We worked with Rhône-Poulenc to bring the product to market while not placing an unrealistic burden on the company."



# No Shortage Of Incentives

The Orphan Drug Act, a 1983 addition to the Federal Food, Drug, and Cosmetic Act, offers financial incentives to the developer of a drug for a rare disease, including tax credits for clinical research and a seven-year period of exclusive marketing. FDA's Office of Orphan Products Development identifies orphan products and aids their development with guidance and grants.

A rare disease is one that affects fewer than 200,000 Americans or a population so small that U.S. sales would not cover the cost of developing the drug. There are 5,000 such diseases, which affect a total of 20 million Americans, according to Abbey Meyers, president of the National Organization for Rare Disorders.

"The act has been very successful in attracting companies," Meyers says. Since its passage in 1983, FDA has approved more than 140 drugs for rare conditions, compared to only 10 such approvals in the decade before 1983.

(See "Orphan Products" in the June 1994 issue of *FDA Consumer* magazine.) ■

—T.N.

Sometimes FDA must take steps to avoid a drug shortage when the agency takes regulatory action, such as seizure or injunction, against a company. If shutting down a plant while the manufacturer corrects problems could lead to a shortage of a medically necessary drug, the agency may exempt that drug from the ban to keep it available.

To decide whether to make an exception for a certain drug, FDA must balance two risks: the risk from the noncompliance—for example, a manufacturing violation could result in a slightly less potent medication—and the risk of not having the product available at all.

For example, in spite of manufacturing problems, FDA allowed Ciba-Geigy's Desferal (as well as two other medically necessary drugs) into the United States from the firm's Swiss facility. FDA compliance officer Richard Friedman checked the quality of each lot of Desferal entering the country by analyzing extra data submitted by the company. "We worked closely with the firm to assure that products made it to pharmacies without delay and with no sacrifice in quality," Friedman says.

In other cases, a manufacturer may decide to stop making a drug simply because it is not a money-maker. In these cases, FDA or the National Organization for Rare Disorders may speak with other companies about making up the void. "To a big company, a market of \$10 million or \$20 million usually isn't enough," says NORD president Meyers, "but to a small company, that market might be attractive." (See accompanying article.)

Other times, because of poor planning or an unforeseeable event such as a plant explosion or fire, a company may not have the usual amount of time required to get agency approval of a manufacturing change, such as a move to a new plant. If an interruption in manufacturing may lead to a dangerous drug shortage, FDA can expedite its inspection of the new plant or its review of required applications.

In cases where a company is experiencing a temporary delay in production, FDA may talk to other companies who have the facilities to make the product short-term, or the agency may see if the

manufacturer has some extra stock in its plant or warehouse that can help bridge the gap.

## Managing the Demand

When a product is in dangerously short supply, the manufacturer or another party may set up an allocation program. That way, the drug is shipped directly to those who need it, rather than being shipped in large quantities to sit in a warehouse.

"Without a controlled allocation program," Goldberger says, "it's kind of like a gasoline shortage. Everyone rushes out and keeps their tanks full, and by keeping their tanks full, there's less gasoline to go around for those who really need it. If people just filled up when they needed to, you might not have a shortage."

To make sure anemic patients possessed only the amount of Desferal they really needed, Ciba-Geigy set up a distribution schedule to ensure that pharmacies only gave out a two-week supply at a time. "The company responded quickly by coming up with a distribution plan to make sure there was no gap in getting patients their drug," says Cioffi.

## Shared Responsibility

Usually, dire shortages that require rationing can be avoided. Communication with the company and with specialized organizations such as NORD is the key, according to Goldberger.

The earlier FDA becomes aware of a possible shortage of a critical drug, the more effectively the agency can deal with it. "Part of the responsibility lies with the companies," Friedman says. "They should inform us as soon as possible if they anticipate a shortage of a medically necessary product."

FDA can sometimes help to avert a crisis or minimize the harm to patients if a shortage does occur. But, Goldberger says, "There are certain steps you have to go through to manufacture a product and get a product out on the market. FDA can speed up the process—find bridges—but we can't abolish it altogether or we couldn't be sure of the drug's quality." ■

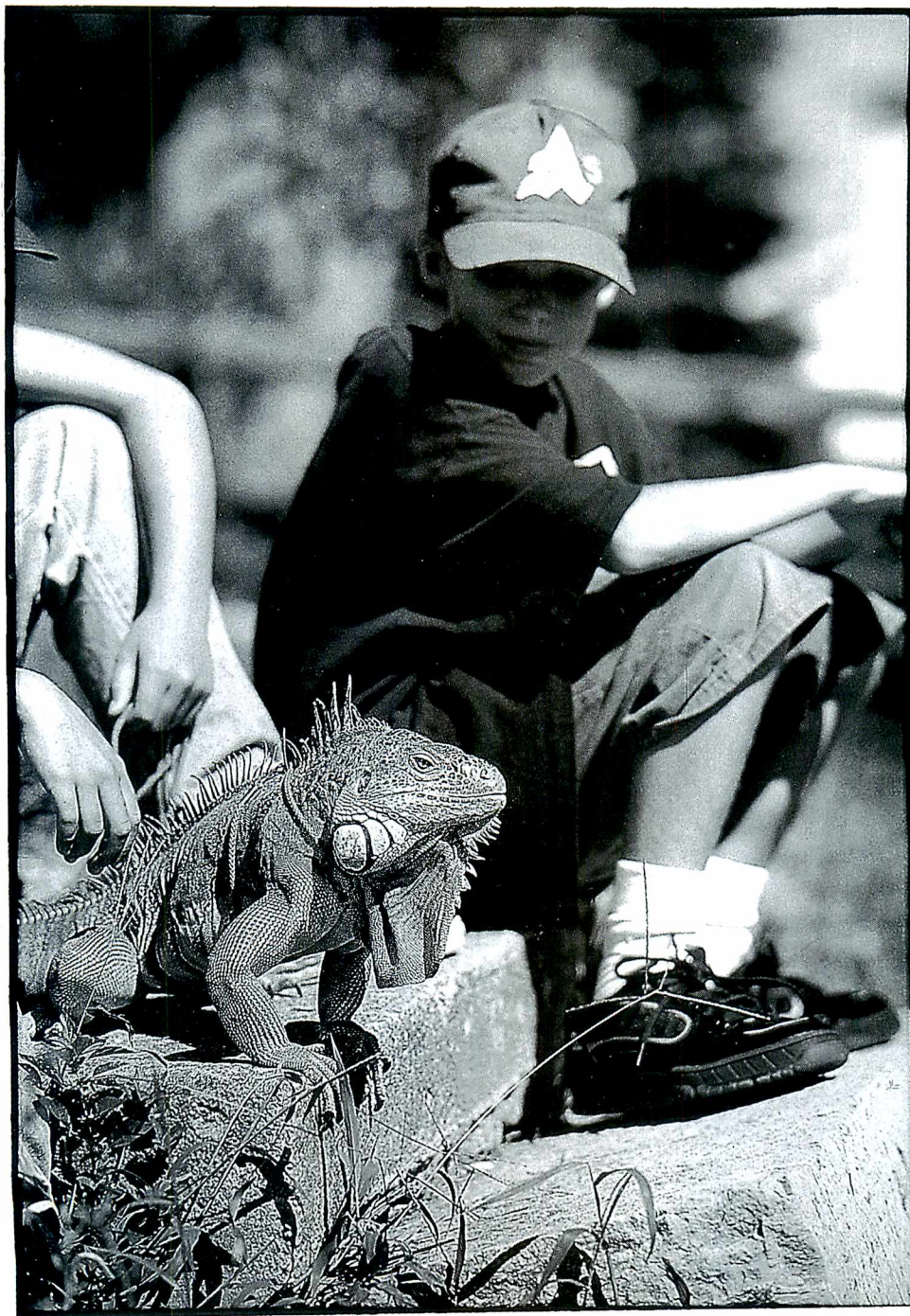
*Tamar Nordenberg is a staff writer for FDA Consumer.*



# The **Fright** of The *Iguana*

by Carol Lewis

## **Pet Reptiles Pose Risk of Salmonella Infection for Their Owners**



**A** 6-week-old boy in Ohio was hospitalized with diarrhea, stiff neck, and fever. He was treated and released from the hospital after 56 days.

Vomiting, bloody diarrhea, and fever put a 3-week-old Pennsylvania girl in the hospital. She was treated with penicillin and discharged 11 days later.

A 5-month-old girl in New Jersey was hospitalized because of vomiting, lethargy and fever. She was treated and allowed to return home after 10 days.

Besides some of their symptoms, what did all three infants have in common? Each tested positive for salmonella bacteria, and all had exposure to a reptile.

Approximately 3 percent of American households own an estimated 7.3 million reptiles, according to the Pet Industry Joint Advisory Council. Because the most popular species will not breed if closely confined, most reptiles are captured in the wild or hatched at reptile ranches and imported. The number of reptiles imported into the United States has increased dramatically from 27,806 in 1986 to 798,405 in 1993, as reported by the U.S. Fish and Wildlife Service, and the majority are iguanas.

But what many animal lovers don't know is that with these imported pets come exotic forms of



salmonella bacteria that can cause life-threatening illness in humans.

"Many parents do not know that owning an iguana puts their children at risk for salmonella infection," say researchers from the national Centers for Disease Control and Prevention in Atlanta. Even in homes where young children and infants are not permitted to touch or come in contact with the animals, they may still become infected, according to a study published in the March 1997 issue of the *Journal of Pediatrics*.

### What Is Salmonella?

Salmonella is the genus name of a number of bacteria commonly associated with food poisoning from contaminated or undercooked foods, and salmonellosis is the disease the bacteria can cause. In food-related cases, most people suffer from gastroenteritis, often experiencing vomiting, fever, diarrhea, and cramps. For high-risk individuals, such as those with weakened immune systems, those taking antibiotics, pregnant women, the elderly, and children under 5, salmonellosis may be even more devastating, leading to blood infec-

tions, meningitis, abortion, and death.

In a case reported by the New York Health Department in 1995, a pregnant woman with fever and diarrhea went into preterm labor and delivered a baby who died 12 hours later. Follow-up blood samples of mother and child, in conjunction with samples from the family's pet iguana, tested positive for the salmonella strain associated with reptiles.

"Like most other reptiles, iguanas carry salmonella in their intestinal tracts," says Patrick L. McDonough, Ph.D., assistant director of bacteriology at Cornell University's College of Veterinary Medicine in New York. "The bacteria are 'shed' periodically in the animals' feces, and that's how the bacteria gets on the animals' skin, their cages, and other materials they touch."

An influx of cases at Cornell University since 1993 has prompted officials to warn owners that good hygiene is essential to prevent the spread of salmonella.

"Wash your hands with warm, soapy water immediately after handling iguanas or their cage litter, and before touching food or anyone else," McDonough

says. He adds that while researchers once believed salmonellosis was transmitted primarily through direct contact with reptiles, it is now known that the bacteria need only be present on surfaces or on the hands of others to infect individuals indirectly.

In one such case, 20 patients were diagnosed with the disease within eight days of visiting a Komodo dragon exhibit at a Colorado zoo. According to Joseph Madden, Ph.D., strategic manager for microbiology at FDA's Center for Food Safety and Applied Nutrition, zoo officials believe that the dragons had, while being moved to their cages, licked several handrails at the zoo, and those areas were then touched by zoo visitors who subsequently ate lunch without washing their hands.

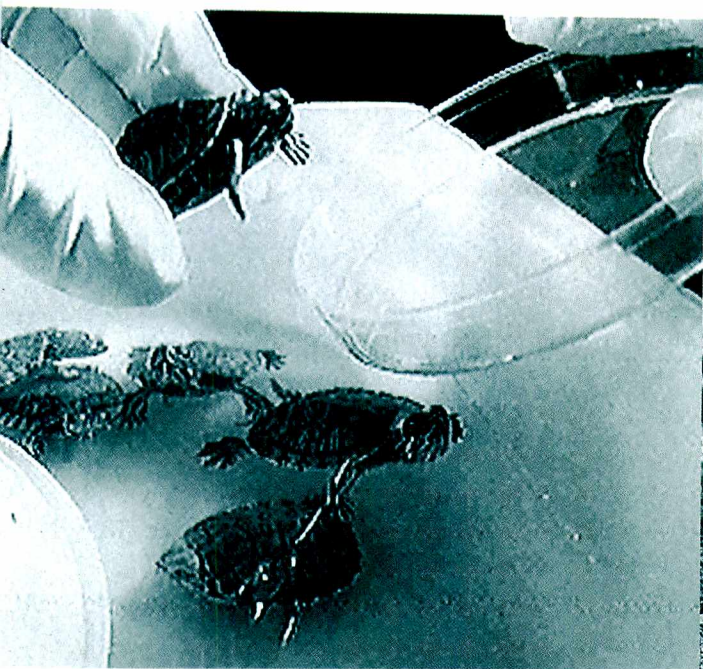
### An Outbreak Revisited

In the early 1970s, FDA banned the distribution and sale of baby turtles with shells 4 inches in length or less after a quarter million infants and small children were diagnosed with having turtle-associated salmonellosis. The agency believed that turtles larger than 4 inches



*Lisa Wenner (above), who runs an iguana rescue mission out of her Frederick, Md., home, cleans the iguanas' cages every day. At left, she gives one of the reptiles a 'shower.'*





Photograph by Jose Azel

did not pose the same threat since youngsters would not likely try to fit them into their mouths. CDC estimated that in 1973, pet turtles accounted for 14 percent of the salmonella-caused illnesses in the United States.

But the FDA-imposed ban allows for some exceptions. Turtles still can be exported to other countries and sold to experts for bona fide scientific, educational and exhibition purposes. Selling turtles to pet stores is not considered a bona fide purpose.

Janet McDonald, a public affairs specialist with FDA's San Francisco district office, believes that since the turtle issue is so old, people have forgotten that they are still illegal in the United States.

"We're still seeing sales of baby turtles and iguanas at flea markets and street fairs, and owners need to be aware that these pets can transmit disease, particularly to very young children because of their hand-to-mouth activity," she said. "The sale of reptiles is definitely on the rise."

***FDA's San Francisco lab tested the baby turtles (above left) and found they were contaminated with salmonella bacteria. The sale of baby turtles to consumers is illegal in the United States. The Komodo dragon (above) is one of many reptiles that periodically 'shed' salmonella bacteria in their feces and consequently contaminate their surroundings.***

Darrell Lee, an FDA computer expert who works with McDonald, saw firsthand that the sale of baby turtles is "a very brisk business" on a recent visit to Oakland's Chinatown. According to Lee, youngsters were peddling turtles and their cages at a rate of five every 15 minutes.

"It was like a street corner sale generating a huge profit," Lee recalled. "Here they were, young children selling them to other kids with no adults around."

But some public officials and responsible members of the scientific profession now believe that educating people rather than regulating reptiles would be more effective in controlling the spread of salmonella infection. According to several state health departments, there has been considerable effort to educate pediatricians, hospitals, clinics, and pet shop owners.

Robert and Lisa Wenner of Brunswick, Md., couldn't agree more about educating the public. The couple, with the help of their two young sons, operate an iguana rescue mission from

## Reptile Rules

Public health officials, veterinarians, and pet store owners offer the following guidelines to those considering reptiles as pets:

- Never eat or put anything in your mouth during or after handling your animals.
- Never clean cages in the kitchen or anywhere you prepare food for human consumption.
- Always wash your hands with a disinfectant soap after handling your animals. Washing with water alone is not effective in eliminating salmonella.
- Do not permit unsupervised han-

dling of reptiles by children under 12.

- Do not handle reptiles with open cuts or sores unless they are well covered with dressings. Rubber gloves are strongly recommended.
- Do not use kitchen sinks, bathtubs, or shower stalls for cleaning reptiles or their cages unless you thoroughly disinfect afterwards with a bleach-containing product.
- Reptiles are not a good choice for day-care centers.
- Seek the care of a reputable exotics veterinarian to obtain regular fecal examinations and diet recommendations. ■

—C.L.





*Adam Frye (right) along with friends Lea Shankle (left) and Jenny Ahalt treat Frye's iguana to some fresh air and sunshine.*

their home and won't even consider adopting out these animals until they are convinced that prospective pet owners know and understand the risks associated with owning one.

"I recommend people buy a book about iguanas which tells all about the risk from exposure to salmonella," Robert says. And that's after he subjects them to a rigorous question-and-answer session to determine if indeed they do have a thorough understanding of the hazards involved. In the two years since the Wenners have owned their seven iguanas as personal pets, they say they have experienced no disease-related problems, which they attribute to the meticulous hygiene they insist their family members practice.

"We bathe our iguanas every day and disinfect our tub afterward each and every time," Robert says. And a trip to the sink to wash up with an antibacterial soap by all family members after each handling goes without saying. As to the three 4-foot-tall cages that house their pets, Lisa adds, "You have to commit yourself to cleaning them every single day."

But not all experts agree that bathing iguanas everyday is good practice. Victoria Hampshire, V.M.D., a veterinar-

ian in the carnivore and ungulate unit at the National Institutes of Health, cautions against daily, harsh scrubbing of the animals because of the likelihood of dry skin and fungal infections. She believes that washing the iguana everyday should not be necessary if the animal has clean water and an adequate UV light source. A safe compromise, she says, would be to squirt down or mist the iguana daily.

A kennel technician for the Frederick County Animal Control, Lisa Wenner is all too aware of the hazards associated with animals and contracted diseases in general. However, not one case of reptile-associated salmonellosis has been reported since she began working there over six years ago. Wenner believes that the staunch efforts made by local veterinarians and health department officials to inform the public through literature and public forums are key to preventing the spread of the disease.

"What we've learned from the vets is that as long as you keep the reptiles clean and you clean up yourself and your surroundings after handling, you will minimize the risk of infection with salmonella," she says. Additionally, in the one and a half years since the

Wenners have adopted out 15 iguanas through their rescue mission, no cases of the infection have been reported.

### **Be Sensible**

Salmonellosis, from any source, is not a disease to be taken lightly. The bottom line in deciding whether an iguana or other reptile is right for your family, suggests veterinarian Douglas R. Mader of Long Beach, Calif., in his 1993 report on reptile medicine, is first to consider the ages and overall health of your loved ones. Then, if you decide to go ahead, consistently practice meticulous hygiene. Because young children are at increased risk for reptile-associated salmonellosis and severe complications, reptiles may not be appropriate pets in households where family members are younger than 5 years, or are at increased risk for infection.

To put the problem of salmonella infection in perspective, Mader says that if good hygiene is practiced, veterinarians, veterinary staff, and reptile owners are at a greater risk of contracting salmonellosis from uncooked chicken than they are from handling reptiles. ■

*Carol Lewis is a writer with FDA's Office of Consumer Affairs.*

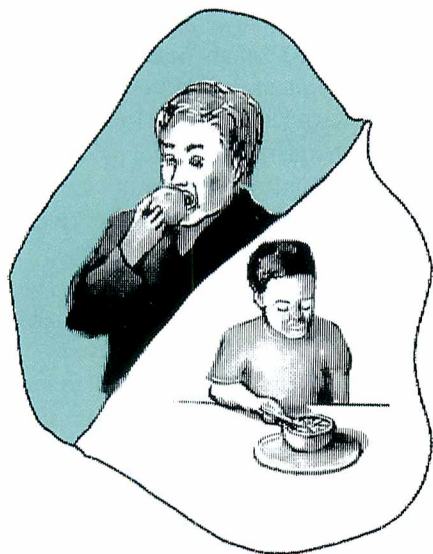




*The Notebook: a potpourri of items of interest gathered from FDA news releases, other news sources, and the Federal Register (designated FR, with date of publication). The Federal Register is available in many public libraries.*

■ **Sale of phenolphthalein**, an ingredient widely used in laxatives, would be banned under an FDA rule proposed in August. Products with the ingredient would be either reformulated or withdrawn from the market. Animal studies indicate a potential cancer risk for people who use phenolphthalein-containing products at higher than recommended doses or for an extended time. (FR Aug. 29)

■ **Children who eat fresh fruit** regularly will likely have better lung function than those who don't, according to research at St. George's and the Royal Free Medical Schools in London. Eating green vegetables and salads also was linked to improved lung function, though not to the extent provided by fresh fruit. (*The Lancet*, July 12)



■ A panel of nutrition experts advises a **new daily allowance of calcium** that boosts recommended intake of foods rich in the mineral by about one serving. Sponsored by the National Academy of Sciences, the panel says most adults should get a daily calcium dose of 1,000 milligrams (mg), up from the 800 mg previously recommended. Other adults, such as those over 50 with bone loss, should get 1,200 mg daily.

■ **A test to detect potentially dangerous *E. coli* bacteria** in meat, produce, and other food products is now available to the wholesale food industry. Developed by the U.S. Department of Agriculture, the \$10 test works within 10 minutes. Meridian Diagnostics Inc., which markets the test, plans to seek FDA approval for a similar test that consumers could use.

■ A device for indicating **buildup of middle-ear fluid** in children, which could signal an ear infection, received FDA approval Aug. 18. The EarCheck Middle Ear Monitor, made by MDI Instruments Inc., is not intended to diagnose ear infections, but it can indicate whether a child should visit a doctor.

■ The **more menstrual cycles** a woman has over her lifetime, the greater is her ovarian cancer risk, according to a study at Duke University Medical Center. Women with the most lifetime ovulations—more than 376—had a sevenfold increased risk for mutation of a tumor-suppressing gene called p53. The researchers found that childbearing and oral contraceptives can offer protection by reducing a woman's lifetime number of monthly periods. (*Journal of the National Cancer Institute*, July 2)

■ A brochure to help kids ages 9 to 15 understand the importance of **combining nutrition and physical activity** is available from the International Food Information Council (IFIC) Foundation. To order "10 Tips to Healthy Eating and Physical Activity for You," send a self-addressed, stamped business-size envelope to: 10 Tips for You/IFIC Foundation, P.O. Box 65708, Washington, DC 20035. Or visit IFIC's Internet site at <http://ificinfo.health.org/>

■ Combining two common **prostate cancer** therapies can improve the chances of survival, say scientists at the University of Toronto. In a study of 800 prostate cancer patients ages 51 to 80, the researchers found a 17 percent higher five-year survival rate for men treated with both radiation and a hormone that inhibits testosterone production. (*New England Journal of Medicine*, July 31)

■ **Aspartame consumption** is not related to occurrence of brain cancer in children, according to a study at five U.S. medical research centers across the country. The study counters an earlier report that raised the possibility of such a link. The new research also concluded that aspartame consumption during pregnancy appeared to have no effect on brain cancer risk to the child. (*Journal of the National Cancer Institute*, July 16)

■ **Illinois and Texas** have joined Florida and Washington as state partners with FDA in enforcing the agency's rule prohibiting sales of cigarettes and smokeless tobacco to children under 18. The states will conduct 250 to 300 unannounced compliance checks monthly for eight months.





# Record Fine Imposed On Generic Drug Maker

by John Henkel

Massachusetts-based Copley Pharmaceutical Inc. was ordered to pay \$10.65 million—the largest fine ever imposed on a drug company—for defrauding FDA by manufacturing four generic drugs using false abbreviated new drug applications.

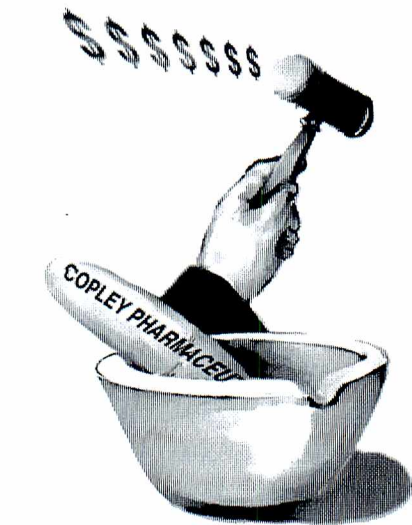
The drugs were potassium chloride, a prescription time-release tablet used to treat potassium deficiency; procainamide, a prescription drug for treating irregular heartbeat; brompheril, an over-the-counter time-release antihistamine and nasal decongestant tablet; and hydrocortisone acetate and pramoxine hydrochloride, a prescription foam used to relieve rectal inflammation.

Copley, which is majority-owned by the large German chemical firm Hoechst AG, was sentenced June 19 in the U.S. District Court for the District of Massachusetts. The company pleaded guilty to a one-count criminal information, which charged that the company:

- changed manufacturing methods from those approved by FDA
- falsified records to cover up deviations from approved manufacturing processes
- submitted to FDA false annual reports for approved drugs (which did not disclose manufacturing changes)
- failed to seek FDA approval for manufacturing changes.

Prosecutors stated at the sentencing that Copley's wrongdoing "was no paperwork error" and that the company intentionally deceived FDA.

An investigation continued at press time, and though the company was fined, individuals within Copley still could be charged with criminal viola-



tions, according to FDA officials. The company also agreed to take corrective actions, including hiring independent auditors approved by FDA to audit 20 Copley drug applications.

"The public needs to have confidence when using generic drugs that [companies] are following the correct, approved manufacturing procedures," says U.S. attorney Donald Stern, whose Boston office prosecuted the fraud case.

The agency had previously uncovered regulatory troubles at the company. In December 1993, Copley, at FDA's urging, recalled nearly 4 million bottles of the asthma drug albuterol sulfate solution for inhalation, the company's best seller, because it was contaminated with *Pseudomonas* bacteria. A number of albuterol-related lawsuits were instituted in 1995 on behalf of patients harmed as a result of Copley's product. One such class-action suit resulted in a settlement in which the company agreed to pay plaintiffs up to a total of \$150 million.

In early 1994, FDA became concerned about information Copley was submitting to satisfy legal requirements for its

drug products. "We had suspicions about what they were putting in their applications. The data seemed unrealistic," recalls Sharon Norris, investigator for FDA's special prosecution staff, a group of experts that investigates complex, document-intensive criminal cases of application, reporting and manufacturing fraud involving FDA-regulated products. "Things just didn't add up," she says.

As the investigation continued, Norris says, "we uncovered potentially incriminating evidence about the company's reporting procedures."

In June 1994, two brothers who worked for Copley, Mark and Mike Riley, went to the U.S. Attorney's Office in Boston in June 1994 to report how the company had varied production processes for the antihistamine and nasal decongestant brompheril and falsified the drug's manufacturing records. Jacques Marivic, an FDA special agent based in New York, then interviewed several other Copley employees, who backed up the brothers' accusations.

"The informants gave us crucial information," says Kim Rice, assistant special agent in charge of the special prosecution staff. "Though we already were investigating Copley, [the brothers] saved us a lot of time and pointed us in the right direction."

In September 1994, Copley, prompted largely by the informants' disclosure, and at FDA's urging, recalled 55 million brompheril tablets. Variations in approved production processes had created quality control problems. These included deviations from the required number of pill coatings, which determine how fast and effectively a drug is absorbed by the body. After the recall, the company



stopped making brompheril.

In 1995, FDA's investigation merged with the U.S. attorney's. "As other applications were investigated, we documented a pattern of fraud," says Jack Goodson, an FDA national expert in drug and biological investigations.

Generic drug companies, Goodson explains, are supposed to develop manufacturing processes that consistently produce medicines that act like the brand-name products. Most of this work should mainly take place during the early phases of research and development, he says. After FDA approves the generic drug, any process changes must be reported to FDA.

"Copley was unable to manufacture various drugs [to approved specifications], and it changed processes without

telling FDA," Goodson says. "Then the company falsified its batch records to not show the real manufacturing steps."

Finally, in May 1997, the company admitted its guilt, entering into a plea agreement to a one-count conspiracy charge and agreeing to pay the \$10.65 million fine. The fine amount resulted from stricter federal sentencing guidelines for corporations enacted in 1991 that take into account factors such as profits made during the time of noncompliance.

Under the plea agreement, the company will pay the fine in three installments over two years.

Copley's actions, says U.S. attorney Stern, were "particularly egregious" because they came after prosecutions in the late 1980s and early 1990s involving

submissions of false data and bribes of federal officials by other generic drug companies. On notice after those cases and knowing that some of its own processes were not in federal compliance, Copley "continued to violate the law," Stern says.

Steve Johnson, FDA associate chief counsel who assisted the U.S. attorney in the case, says, "The significant impact of this case is twofold in that the company was forced to pay for its misdeeds with the largest fine ever imposed against a drug manufacturer, and at the same time, it agreed, at FDA's urging, to conduct an intensive audit of 20 of its approved drug applications."

*John Henkel is a staff writer for FDA Consumer.*

## Ads for Illegal Kits Kicked Off-Line

Beware of illegal home abortion and female self-sterilization kits promoted on the Internet and sold without a doctor's prescription, FDA cautioned consumers in June. These products and similar unapproved products could cause users permanent injury or even death.

The warning arose from an FDA investigation into advertisements for two products marketed by a Bogota, Colombia, company, the Resolve Easy abortion kit and the Femastra female self-sterilization kit. The ads have since been removed from the Internet.

An on-line ad for the abortion kit described the product as a "complete kit for early pregnancy termination without surgery ... scientifically proved safe and unriskey." The ad for the self-sterilization kit said, "This method is similar to the insertion of an IUD, and has a much

lower risk than that associated with surgical sterilization."

But FDA found that the kits contained unapproved drugs whose safety and effectiveness for these uses had never been established.

A women's health-care provider called FDA in July 1996 to alert the agency to the abortion kit ad, which she believed contained unfounded statements. She became concerned after several clients directed her to the web site, says Dwight Rawls, a special agent and operations manager in FDA's Office of Criminal Investigations (OCI).

To determine whether the Resolve Easy Kit presented a serious public health risk, FDA's medical experts in the division of reproductive and urologic drug products reviewed the ads in August 1996. According to their report, the kit's components presented a serious health risk to women when used without a doctor's supervision because of the possibility of heavy vaginal bleeding and death.

The ad said the kit contained the drugs methotrexate for injection and misoprostol for intra-vaginal administration. Neither is approved for abortion nor for any use without a doctor's prescription.

Also, the kit's labeling did not disclose the true source of the drugs, raising questions about their quality. Using computer technology and the help of computer security companies, OCI traced the advertisement to Easy Life Labs in Colombia.

FDA's authority over foreign products reaches only those drugs imported into the United States. The agency alerted U.S. Customs Service and U.S. Postal Service officials to be on the lookout for incoming packages with the company's return address. FDA received no reports of any such packages.

To see whether the company was actually shipping drugs into this country, in January 1997, OCI special agents



placed an anonymous order over the Internet for the Resolve Easy Kit. The company did not respond.

When OCI agents placed a second order in February 1997, they received a kit containing suppositories and vials of what laboratory analysis showed to be the two drugs described in the ad, methotrexate and misoprostol.

Around March 1997, OCI investigators noticed that the Easy Life Labs web site had been taken off-line for an unknown reason. But in April, the woman who had initially alerted the agency to the advertisement called again, saying the company was running the same ad for the Resolve Easy Kit but under a different company name, Contraceptive Technologies Inc.

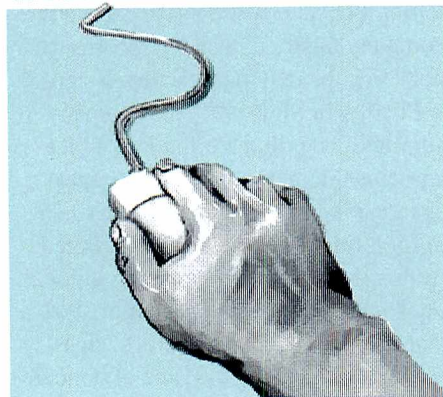
This time, the company also was advertising the Femastra Kit for female self-sterilization. The ad stated that the kit contained pellets of a substance called quinacrine hydrochloride. Quinacrine is a drug that has never been approved in the United States.

The pellets were supposed to be injected into the user's uterus, according to the ad, which compared the kit to an IUD. But unlike the IUD, a birth control device that is inserted into the uterus by a health-care professional, the Femastra kit was being offered to Internet users without a prescription and could be used without a health-care professional's supervision.

In evaluating the kit, the division of reproductive and urologic drug products concluded that Femastra posed a serious health hazard because its effectiveness and safety were unproven. "Even if this product, or others like it, were approved as a simple system for female sterilization ..., we cannot envision that it could be safely used without appropriate health-care provider supervision," the division concluded.

In May 1997, FDA informed Contraceptive Technologies' Internet service provider, Rapid Sites Inc. of Boca Raton, Fla., of the agency's public health concerns. Rapid Sites' attorneys deter-

## www.caution.com



mined that Contraceptive Technologies was required under its Internet contract to comply with all U.S. laws and that the company violated the contract when it distributed unapproved drugs through its web site.

The same month, the Internet company voluntarily removed the ads. "Because of Rapid Sites' cooperation and quick response in this case, the ad was pulled from the Internet very soon after we assessed the danger," Rawls says.

Also in May 1997, FDA's Office of International Affairs wrote to Colombian regulators so authorities there could ensure that the products weren't being sold in violation of Colombian law. At press time, FDA had not communicated further with Colombian authorities.

No injuries have been reported to FDA from the Resolve Easy or Femastra kits.

Although these products' ads apparently have been removed from the Internet, "the on-line advertisement of dangerous and unapproved drugs and devices is an ongoing problem," says OCI's Rawls.

Roma Egli, a consumer safety officer in FDA's division of nontraditional drug product compliance, offers this caveat for Internet users: "Know that things on the Internet aren't necessarily true or safe. Your destiny is in your hands, so you have to take responsibility for what you do with the information presented to you on the Internet."

—Tamar Nordenberg

## Scallop Scheme Scuttled

A scheme to pass off water-soaked and chemically treated scallops as fresh, untainted products has landed a family-owned seafood company some hefty fines.

International Seafood Distributors Inc., of Gloucester County, Va., its president, Thomas Fass, and vice president, Irving Luie Fass—Thomas' father—were ordered in June in the U.S. District Court for the Eastern District of Virginia to pay fines and forfeitures totaling \$120,000 for selling illegal scallops.

The company and the Fasses entered into a plea agreement March 7, 1997, each admitting guilt to a one-count criminal information. The company pleaded guilty to falsifying facts and trying to import products with false statements. Each of the Fasses pleaded guilty to selling misbranded seafood.

An investigation by FDA's Office of Criminal Investigations (OCI) and Baltimore district office and the U.S. Customs Service uncovered evidence that for more than a year the company puffed up scallops it sold with excess water to increase net weight—and thus net profit since scallops are priced according to weight.

Also to increase profits, the company treated decomposing scallops before sale with a chemical to cover up rotting odors and discoloration.

The health risk from eating the fraudulent scallops could not be determined, according to OCI special agent Dwight Rawls. But the company's practices constitute economic fraud. An informant told Rawls that the company carried out the scheme because "everybody was doing it, and [the company] had to do it, too, to stay in business," Rawls recalled.

The Fass family has been involved in the seafood trade for several generations, and its International Seafood company is the largest employer in Gloucester County, according to Rawls.



Until recently, International Seafood sold seafood mainly to overseas customers, although its clients also included other U.S. seafood companies, discount warehouses, and supermarket chains. The company has since voluntarily gotten out of the scallop business, according to Rawls, and now only exports a marine fish called bonefish.

FDA began its criminal investigation of International Seafood in May 1994, after Charlotte Wilkins, an investigator with FDA's Norfolk (Va.) resident post, notified OCI about two shipments of International Seafood's scallops that had been rejected by foreign governments because of excessive moisture content. FDA had detained the scallops upon their return because they weren't properly labeled but allowed International Seafood to keep the shipments at their plant so that they could relabel them. When Sylvia Dooling, another investigator with FDA's Norfolk resident post, tried to inspect the detained scallops in September 1993, International Seafood told her that the shipments had been sent to another state for storage.

In a series of interviews with current and former employees and business associates of the company, OCI and customs agents developed a list of several "cooperating individuals," Rawls said. At about the same time, two informants came forward. One said he wanted to report the company's practices because he felt guilty about carrying them out while an International Seafood employee. The other indicated that he wanted to exact revenge for the way he was treated at work, Rawls recalled.

Though their reports to customs and FDA were independent of each other, the informants verified parts of each others' stories. They explained how the company oversoaked scallops in water treated with sodium tripolyphosphate, or STP, a chemical that causes seafood to absorb water.

While FDA allows seafood processors to use STP, the water content of scallops treated with the chemical can't exceed

84 percent of the total weight. The water in International Seafood's scallops was above the legal limit, according to the informants.

Whenever STP is used, it must be listed on the product's label under ingredients. If the added water is 80 percent to 84 percent of the scallops' weight, the label must say "water-added scallop product," and the weight of the water must be specified.

One of the informants said the company didn't always disclose STP in the ingredient list when it had been added to a product, nor did it label the product as "water-added" when it should have been.

Informants also reported that the company treated decaying, darkening scallops with Anthium 200 (chlorine dioxide), an industrial metal cleaner, to lighten the color of the shellfish and give it a more appealing odor. Though small amounts of Anthium are approved for use on poultry, FDA has not approved it for use on seafood.

They also reported the company's practice of removing scallops inspected by the U.S. Commerce Department from boxes the on-site commerce inspector had marked as "approved" and returning the scallops to a pile awaiting inspection. One informant said this was to increase the chances of the uninspected scallops getting approved, too. Employees then filled the emptied boxes marked "approved" with scallops that the commerce inspector had rejected or not yet inspected. The uninspected or bad scallops were then shipped to customers.

In other information revealed by one or more informants, FDA learned that:

- The company hid containers of Anthium in a trailer and a refrigerated truck on adjacent property so that FDA inspectors would not come across it during inspections.
- Supervisors were told not to talk about the use of Anthium when FDA inspectors were in the plant.
- The company asked some employees to work early or come in on weekends

when there weren't many other employees around so that they could exchange approved, boxed products with rejected or uninspected products.

- The company had employees stack packages of scallops in such a way that bad products were buried under good and thus less likely to be sampled by government inspectors.

OCI investigators interviewed other former employees of International Seafood and examined customs' records, trucking company records, and other documents. The interviewees backed up many of the informants' claims, and a review of the records revealed that the Fasses had violated federal law in other ways, including falsifying customs entry forms in 1993 to get back \$18,000 worth of scallops shipped to France. The shipment was rejected by French authorities because of excess water content. But Thomas Fass told customs that the company wanted the shipment back because it could now get a better price for the scallops in the United States.

In February 1995, OCI special agents carried out a search warrant, seizing boxes of various shipping records and computerized files at International Seafood's plant in Bena, Va. They also identified the hiding places for the Anthium, Rawls said.

The company was ordered to pay \$15,000 towards community service programs and \$200 as a special assessment and to forfeit \$54,272 in assets. It also was sentenced to two years' probation.

Each of the Fasses was fined \$25,000, assessed a \$25 fee, and sentenced to 150 hours of community service and two years' probation.

Although FDA agents were not able to determine exactly how much money the Fasses earned from their scheme, they calculated that the company netted \$54,272.40 in the two shipments identified in the plea agreement.

As part of their plea agreement, the Fasses said they would cooperate with FDA and other government agencies.



OCI is continuing to investigate economic fraud in the seafood industry.

—Paula Kurtzweil

## GHB Sales Lead to Sentences For Two Oklahoma Men

When a former employee of Tanique tanning salon and weight-lifting gym in Oklahoma City told customers, "Meet me out back," he wasn't trying to promote natural tanning or outdoor exercise. He was planning to sell GHB.

Illegally promoted for bodybuilding and as a "recreational" drug to produce sensations of euphoria and drunkenness, gamma hydroxybutyric acid, or GHB, is a potentially dangerous drug that can cause vomiting, dizziness, tremors, and seizures. Several deaths have been linked to its use.

Oklahoma City resident Chadrin Gibson, 23, told customers to meet him behind his place of employment, the Tanique facility, where for \$240, they could get a 480-milliliter (16-ounce) supply of GHB. Sometimes, according to FDA special agent Wendell Espeland, Gibson also sold GHB in the towel room, where he hid the drug under towels.

His scheme unraveled when he inadvertently sold GHB to an informant for FDA's Office of Criminal Investigations (OCI). Those sales, along with other evidence collected by OCI, led in March to a grand jury indictment against him and his accomplice, Brian Brown, also 23 and of Oklahoma City. Their sentences, handed down in May, included a two-month prison term for Gibson and participation in a drug rehabilitation program for both men.

In late January 1996, the Oklahoma Poison Control Center informed FDA that 10 to 15 GHB overdose cases in Oklahoma City had been reported to the center during the preceding two months. There were no related deaths, but many



of the people who overdosed were hospitalized. A 19-year-old woman later told Espeland that she went into cardiac arrest 15 minutes after ingesting GHB and had to be resuscitated.

In February, OCI's informant tracked down Brown and Gibson as the suspected dealers. The informant bought GHB from Gibson, who, in one transaction, was assisted by Brown. The informant then turned his purchases over to OCI.

Throughout spring 1996, Espeland interviewed Brown and Gibson's friends and acquaintances, including some who had overdosed. Espeland also monitored telephone calls between Gibson and a consenting informant, and later an undercover Oklahoma state narcotics officer.

He learned that Gibson was not only selling GHB at Tanique but steroids and cocaine, as well. OCI forwarded this information to the federal Drug Enforcement Administration, which oversees laws pertaining to illegal steroids and narcotics.

OCI agents arrested Gibson and Brown Nov. 27, 1996, after a grand jury for the U.S. District Court for the Western District of Oklahoma handed down a 10-count indictment charging them

with misbranding GHB.

Brown pleaded guilty March 10, 1997, to a one-count information for selling misbranded GHB received in interstate commerce. It was misbranded because the label provided no directions for use or warnings.

Gibson pleaded guilty to one felony count of selling misbranded GHB received in interstate commerce with intent to defraud and mislead consumers. Remaining charges for both men were dropped.

Judge Ralph Thompson sentenced Brown May 7 to two years' probation, and on May 9, he immediately ordered Gibson to prison for two months, telling him it was "to shock you into reality."

Thompson sentenced Gibson to one year of supervised release and Brown to two years of probation and both men to 200 hours of community service and participation in an after-care drug program. According to Espeland, the two men had a history of drug abuse.

Though the men no longer work at Tanique, the business remains open. Its owner was never implicated in the sale of illegal drugs, Espeland said.

Agents in OCI's Kansas City, Kan., field office, continue to investigate the illegal sale of GHB, particularly in the Midwest, according to OCI special agent in charge Larry Sperrl, because the agency receives a large number of injury reports from there. "It's a pretty widespread problem," he said.

FDA warned consumers about GHB in February 1997, following a resurgence of media and public interest in its use. The agency also reported that GHB abuse, accompanied by reports of GHB-related injuries—including death—were increasing, even though FDA in the early 1990s, had issued a similar public health warning and taken enforcement action against several companies and individuals.

—Paula Kurtzweil



# SUMMARIES OF COURT ACTIONS



Summaries of Court Actions are given pursuant to section 705 of the Federal Food, Drug, and Cosmetic Act. Summaries of Court Actions report cases involving seizure proceedings, criminal proceedings, and injunction proceedings. Seizure proceedings are civil actions taken against *goods* alleged to be in violation, and criminal and injunction proceedings are against *firms* or *individuals* charged to be responsible for violations. The cases generally involve foods, drugs, devices, or cosmetics alleged to be adulterated or misbranded or otherwise violative of the law when introduced into and while in interstate commerce or while held for sale after shipment in interstate commerce.

Summaries of Court Actions are prepared by Food and Drug Division, Office of the General Counsel, HHS.

Published by direction of the Secretary of Health and Human Services.

## SEIZURE ACTIONS

### *Food/Contamination, Spoilage, Insanitary Handling*

PRODUCT: **Bean Sprouts**, at Bridgeview, Ill. (N.D. Ill.); Civil Action No. 96 C 0708.

CHARGED 9-19-94: While held for sale after shipment in interstate commerce at Chicagoland Quad Cities Express in Bridgeview, Ill., the articles were adulterated in that they were held under insanitary conditions whereby they might have been rendered injurious to health—402(a)(4).

DISPOSITION: The articles were destroyed. (F.D.C. No. 67125; S. No. 95-760-912; S.J. No. 1)

PRODUCT: **Bean Sprouts**, at Chicago, Ill. (N.D. Ill.); Civil Action No. 96 C 0415.

CHARGED 1-22-96: While held for sale after shipment in interstate commerce at Worldwide Trading Company, in Chicago, Ill., the articles were adulterated in that they were held under insanitary conditions whereby they might have been rendered injurious to health—402(a)(4).

DISPOSITION: The articles were destroyed. (F.D.C. No. 67070; S. No. 95-710-583; S.J. No. 2)

PRODUCT: **Cocoa Beans**, at Brooklyn, New York (E.D. N.Y.); Civil Action No. CV-96-3907.

CHARGED 8-7-96: While held for sale after shipment in interstate commerce at Brooklyn Marine Terminal, in Brooklyn, N.Y., the articles were adulterated in that they had been shipped and held under insanitary conditions whereby they might have been contaminated with filth—402(a)(4).

DISPOSITION: The articles were destroyed. (F.D.C. No. 67148; S. No. 1-97-8809; S.J. No. 3)

PRODUCT: **Crab Meat, frozen**, at Jacksonville, Fla. (M.D. Fla.); Civil Action No. 94-662-Civ.-J-20.

CHARGED 7-11-94: While held for sale after shipment in interstate commerce at South Atlantic Cold Storage, in Jacksonville, Fla., the article was adulterated in that it consisted in part of a decomposed substance by reason of the presence therein of decomposed crab meat—402(a)(3).

DISPOSITION: The article was exported to the original foreign shipper. (F.D.C. No. 66996; S. No. 94-557-175; S.J. No. 4)

PRODUCT: **Farm Cream**, at Chicago, Ill. (N.D. Ill.); Civil Action No. 1-94CV5695.

CHARGED 9-19-94: While held for sale after shipment in interstate commerce at Danish Maid Butter Company, in Chicago, Ill., the articles were adulterated in that a valuable constituent, milk fat, had been, in whole or in part, omitted or abstracted therefrom—402(b)(1); and in that a substance, soybean oil, had been substituted wholly or in part for milk fat.

Also, while held for sale in interstate commerce, the articles were misbranded, in that their labeling was false and misleading since it represented and suggested that the foods contained only “cream” or “milk fat,” whereas they contained, in whole or in part, soybean oil—403(a)(1).

DISPOSITION: The articles were reconditioned with corrective labeling. (F.D.C. No. 67015; S. No. 94-710-925; S.J. No. 5)

PRODUCT: **Mixed Vegetables**, at Norfolk, Va. (E.D. Va.); Civil Action No. 2:96CV219.

CHARGED 2-27-96: While held for sale after shipment in in-



terstate commerce at Richter Distribution Company, in Norfolk, Va., the articles were adulterated in that they were held under insanitary conditions whereby they might have been injurious to health—402(a)(4).

DISPOSITION: The articles were destroyed. (F.D.C. No. 67126; S. No. 96-703-775; S.J. No. 6)

## *Drugs/Human Use*

PRODUCT: **Various articles of drugs**, at Rio Piedras, Puerto Rico (D.P.R.); Civil Action No. CV 96-2421(CC).

CHARGED 11-20-96: While held for sale after shipment of one or more of their components in interstate commerce at Creative Medical Corp., and at C.O.D. Drugs, Inc., in Rio Piedras, Puerto Rico, the articles were adulterated in that the methods used in, and the facilities and controls used for, their manufacture, processing, packing, and holding did not conform to and were not operated and administered in conformity with current good manufacturing practice requirements of the Act—501(a)(2)(B).

DISPOSITION: The articles were destroyed. (F.D.C. No. 67155; S. No. 96-746-415; S.J. No. 7)

PRODUCT: **Various articles of drugs**, at St. Louis, Mo. (E.D. Mo.); Civil Action No. 4:93CV00918.

CHARGED 4-9-96: While held for sale after shipment in interstate commerce at Highland Packaging Company, St. Louis, Mo., the articles were adulterated in that the methods used in, and the facilities and controls used for, their manufacture, processing, packing, and holding did not conform to and were not operated and administered in conformity with current good manufacturing practice requirements of the Act—501(a)(2)(B).

DISPOSITION: All articles were either destroyed or reconditioned. (F.D.C. No. 66706; S. No. 93-606-588; S.J. No. 8)

## *Medical Devices*

PRODUCT: **Kits, saliva and urine**, at Lenexa, Kan. (D. Kan.); Civil Action No. 91-2412.

CHARGED 10-29-91: While held for sale after shipment in interstate commerce at Clinical Reference Laboratory, Inc., in Lenexa, Kan., the articles were adulterated in that they were a

class III device without an application for premarket approval—501(f)(1)(B).

DISPOSITION: The articles were destroyed. (F.D.C. No. 66261; S. No. 95-739-449; S.J. No. 9)

## INJUNCTION ACTIONS

DEFENDANT: **Finest Foods, Inc., d/b/a Mrs. Drakes Sandwiches**, and **James W. Ganus Jr.**, and **Timothy B. Ganus**, at New Orleans, La. (E.D. La.); Civil No. 93-0746.

CHARGED 1-22-93: While held for sale after shipment in interstate commerce at Finest Foods, Inc., in New Orleans, La., the articles were adulterated in that they contained *Listeria monocytogenes*—402(a)(1); and had been shipped and held under insanitary conditions whereby they might have been contaminated with filth—402(a)(4).

DISPOSITION: A consent decree of permanent injunction was filed. Finest Foods, Inc., was ordered to pay a fine. However, the motion as to James W. Ganus Jr. and Timothy B. Ganus was dismissed. (Inj. No. 1317; S. No. 93-689-981; S.J. No. 10)

DEFENDANTS: **Inhalation Plastics, Inc., d/b/a IPI Medical Products**, **Walter Levin**, and **James D. Lekkas**, at Chicago, Ill., (N.D. Ill.); Civil Action No. 95 C 1965.

CHARGED 1-2-95: While held for sale after shipment in interstate commerce at Inhalation Plastics, Inc., in Chicago, Ill., the articles of devices were adulterated in that the methods used in, and the facilities and controls used for, their manufacture, preproduction design validation, packing, and storage did not conform to good manufacturing practice requirements—501(h). The articles of devices were also misbranded in that the defendants failed to file MDR reports as required—519i(a). While held for sale after shipment in interstate commerce, the articles of drugs were adulterated as well, in that the methods used in, and the facilities and controls used for, their manufacture, packing and holding did not conform to and are not operated and administered in conformity with current good manufacturing practice requirements for drugs—501(a)(2)(B).

DISPOSITION: A consent decree was filed with two separate modifications filed thereafter. (Inj. No. 1371; S. No. 94-661-701; S.J. No. 11)



# Think Folate



If You  
Think You  
Might Have  
a Baby  
Some Day.

Folate, or folic acid, is a B vitamin that can help reduce the risk of some common birth defects. These birth defects can occur in the first weeks of pregnancy, before a woman may realize she's pregnant. For that reason, all women of childbearing age (15 to 45) should eat a diet that provides plenty of folate.

Good sources of folate are enriched breads, pasta, and grains (such as rice); fortified cereals and dark-green leafy vegetables; citrus fruits and juices; and dietary supplements.



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