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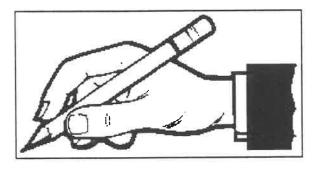


November 28, 1994 Volume 94 Number 3

WEST VIRGINIA ASSOCIATION OF SANITARIANS

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Pres-elect: Gary Epling
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Past-Pres: Stan Walls
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EDITOR'S NOTES

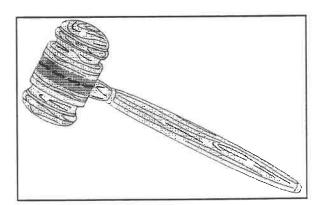
I think summers does not agree with me too well. If you were at the WVPHA conference in Parkersburg this year, you would have noticed my purple cast. First (and hopefully the last) cast I've ever worn, and it was a pain.

At the last WVAS Executive Council meeting it was decided to form a Public Relations Committee, to assist me in the preparation of this newsletter, and to also come up with some educational ideas for the

public about sanitarians, the WVAS, and for sanitarians themselves.

Serving on this committee are Jolene Zuros, Lisa Dunn, Barbara Wolman, Karol Wallingford, and Art Adams. I'll keep you posted as to our progress.

If you have any news to report, please contact the person in your in-service area, and I'm sure they'll get it to me. Seed



From The Gavel - submitted by Gary L. Hamilton

This past year, under Stan Wall's presidency, the Association has been involved and observed several changes and accomplishments. Prompt and cooperative efforts on the part of many has produces a new Memo of Understanding between the WVDA and the Health Department. The agreement appears realistic and honorable for both departments.

Health care reform presented change, has been weathered, but remains a highly controversial issue.

Many educational opportunities have opened new issues or expanded old ones for sanitarians to become familiar with: The American Disabilities Act (ADA), the Building Officials and Code Administrators Building Code (BOCA), the 1993 FDA Food Code, Hazard Analysis Critical Control Points (HACCP), to mention a few.

This coming year promises to place further demands

upon the leadership of your Association and I ask for your consideration and support for the Executive Board as decisions are made. I appeal for your thoughts and feelings that face sanitarians throughout the state, and your communicating those issues to the Board. Please remember our commonality; it strengthens resolve and facilitates accomplishment.

The 1994 WVPHA Annual Meeting - submitted by Gary L. Hamilton

Sanitarians were well represented at this year's West Virginia Public Health Association's annual meeting, held at the Parkersburg Holiday Inn. on the 21st, 22nd and 23rd of September. Approximately 70 sanitarians heard reports on diverse programs, ranging from asbestos certification to wastewater projects.

A special appreciation is herein extended to all speakers for their efforts to enrich our knowledge regarding their various programs.

Frank Schutz (WVUES), Nada Beneke, R.S. (Monongalia County H.D.), Richard Peggs, R.S. (OEHS), Karol Wallingford, R.S. (OEHS), B.J. Baker. R.S. and Joe Golebiewske, R.S. (Marshall County H.D.), Joe Shock, M.P.H., P.E. (OEHS), Ron Forren. R.S. (OEHS), Earl Burgess, Jr., R.S. (M.O.V.H.D.), Dr. Bob Anderson (WVUES), Linda Kramer and Gary Burton (HFL&C).

The Sanitarian's luncheon and business meeting had lively exchanges regarding the board's policy of not puschasing alcoholic beverages and the length of time of midvear meetings. Results of the mail-in and onsite balloting was tabulated, and Stan Mills, R.S., was elected to the office of vice-president and Dave Thorton, R.S., was elected three year board member of the Association. The first year of allowing mail in balloting was successful - out of 103 mailed to paidup members, 50 validated ballots were returned before the meeting. Another 30 ballots were cast at the meeting. The participation rate finally averaged to An important component of the business 70%! meeting honored many sanitarians for special achievements and tenure with the Association. As usual. Tom Felton's "Bubba" poem (for Llovd White) forced many a tear to be shed - in laughter.

The 1995 Sanitarian's annual meeting will be at Canaan Valley.

News From The Northern Panhandle - submitted by Jolene Zuros

The Tri-State Environmental Health Association is made up of Sanitarians from West Virginia and Ohio.

Each local Health Department hosts a monthly educational meeting during the year.

Spring programs included: West Virginia & Ohio lead assessment procedures; asbestos and lead paint removal by SAK Environmental, Inc. (a local contracting firm); a program on food service related products; a demonstration of HACH Lead Track water testing Equipment; and a tour of the new Regional Jail in Moundsville.

The Tri-State members took advantage of the FDA/USDA, HACCP Teleconferences and used them for programs as their May and September meetings.

The October Meeting again emphasized Indoor Air Pollution investigation procedures by the State of Ohio and an in depth explanation of Ohio's new food service law.

Pat Murphy, from Tyler/Wetzel County is Presidentelect. The organization meets the third Wednesday of each month. Anyone wanting further information may contact Anthony LaPosta, Secretary, Hancock County Health Department, P.O. Box 578, New Cumberland, WV 26047 or phone him

at 564-3343.

What's this? No kegs for the sanitarians anymore? an editorial submitted by Fred R. Barley

During the past year

During the past year the WVAS Executive Council dealt with the issue of alcohol at sanitarian functions. At first, it was a question of professionalism. Then morals were mentioned, along

with the fact we are a health organization. Finally, the issue of liability was investigated.

In my opinion, that one keg wasn't going to make us or break us as far as professionalism goes. Morals? Well, your tax dollars goes to buy alcohol at the White House, so I guess what's best for the masses is what you'll have to accept. You might not want your dues going to buy a keg, but I'm sure your tax dollars aren't necessary going where you want them either.

The issue of liability was not taken lightly. At the annual conference, several questions were brought forth, and hopefully answered, but if they weren't, let

me assure you the Executive Council researched and discussed this issue at great length.

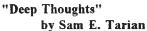
We investigated all resources we could, sought the opinions of legal experts, and talked at length. I would hope that as elected and appointed officers, we did what we felt was in the best interest of the WVAS.

When this question was presented to the body during the midyear training session, it was decided to allow the Executive Council to develop a policy. During the time from May until the annual conference, I as editor of this newsletter never received one letter pro or con on the issue. No member of the Council received a letter concerning the issue either.

If you want to give input into decisions made, then give input in a written form, not just talk outside your dorm room. One individual likened the alcohol issue to abortion. Didn't quite understand the reasoning, but everyone has a right to put forth their concerns. However, while I am holding a beer listening, well, it is not the proper way to go about it.

This is not to say I don't enjoy having conversations about common problems we may share, but I am just encouraging you to contact either someone on the newly formed Public Relations Committee, or better yet, send your thoughts to the president of our association.

The Executive Council is here to serve the best interests of all WVAS members, and if you have concerns, then don't blame anyone but yourself if we don't hear them.





I don't know about you, but I
hate doing monthly reports. Really, any type of
paperwork is not my
bag.... I think paperwork
is a lot like a prostrate
exam... unpleasant. but
necessary.

Do you know that right now. at this second, hun-

dreds of follicle mites are living beneath the hair of your eyelashes? They're a little like fleas, only they're microscopic and they don't jump as high. Aren't you glad you know now? There's nothing you can do about it, either.

Insects can be a lot of fun. There's so much that people don't know! For instance, did you know that common houseflies have taste buds in their feet? If they land on something that has a high sugar content, they simply extend their mouth parts and regurgitate to liquefy the food so it can be absorbed. Isn't that great? Did you ever think of that while you were shooing a fly off your hot dog roll?

There are all kinds of things people would probably rather not know. Take that hot dog. If it's like most hot dogs, it contains residues of more than 100 pesticides--many of them carcinogens and mutagens and neurotoxins and agents of liver failure. Based on a standard government formula for assessing risks, it is estimated that 1032 of the 43 million Americans who regularly eat hot dogs will develop cancer from the pesticides in this food alone.

We have a way of overlooking certain facts that don't conform to our idealized images. After all, if the all-American hot dog is actually bad for us, what other foundation stones might be loose? Truth is, the truth can be hard to take sometimes. Perhaps we can let discrepancies among a few of our historical and cultural icons slide. So what if the Pilgrims didn't really land at Plymouth Rock; and who cares if George Washington never threw a dollar across the Potomac? But when it comes to the natural world we live in, it's hard to face the facts. For instance: For 100 days each year, you can't even see across the venerable Grand Canyon because the air above it is so polluted.

When it comes to water pollution, Toronto photography student Jeremy Lynch tries to make the best of things. He has successfully developed photographic film in the chemical-laden waters of Lake Ontario, the Hudson River and Love Canal. (Surprised?) You shouldn't be. After all, a single gallon of spilled gasoline can contaminate up to 750,000 gallons of groundwater.

And then, there's solid waste disposal. On an average day, the U.S. egg industry discards 550,000 live male chicks. (What do they do with them?)

In 1990, one out of every \$11 spend on food in the United States is paid for packaging; more than the net income of the farmers who produced the food! Think about the volume of orange-juice containers used up

in New York City every morning. It would save several tons of packaging if all those people squeezed their own juice from fresh oranges--but then again, the peels--in just one day would weigh about 107,000 tons! And what would they do with that?

Humans have a strange fascination for other animals. (Perhaps because we differ from apes in one of only one percent of out genetic makeup.) It's such a fine line that the Environmental Protection Agency has determined certain acceptable levels of insect parts and animal waste in our food an average of two maggots per 17.5 ounce can of tomatoes, say, or 35 fruit fly eggs per ounce of golden raisins. You can have one live insect in each of two containers of green coffee beans or two dead bugs in five containers. Or one rodent hair in 100 grams of chocolate. You know what the best part is? You've already eaten it!

To be fair, insects actually add protein and other nutritional value to the food in which they happen to appear. The same insects that make Americans blanch are crunchy delicacies in other countries. Some entomologists have pointed out that if the EPA would just relax and double the limits, farmers could drastically reduce their use of pesticides.

Finally, we come nearly full circle, back to mites. Not follicle mites, but dust mites. Millions of them, microscopic and right in your own home.

Think about it when you go to bed. Close your eyes, and know that as many as 250,000 of them can fly around in one gram of house dust, filling the air with their tiny, dust-mite fecal pellets.

Twila Stowers Carr, battles Feds over inspection rights - submitted by Lisa Dunn

A battle to inspect the Martinsburg Veterns Administration Center's food service facilities was partially won on October 18.

1994. when permission to educate the VA Center dietary and

food service personnel was granted.

The battle between Twila Stowers Carr, and the Martinsburg Veterans Administration began in May of

1994 when Sam Thacker, USDA Compliance Officer, asked Twila to do a joint food service complaint investigation at the Veterans Administration. During the inspection, several four (4) and five (5) point violations were noted, and a letter ensued from the Berkeley County Health Department requesting permission to inspect the facility on a regular basis.

The letter was answered with a firm denial and response that all Veterans Administration facilities have federal sovereignty and are inspected by their own personnel and the Joint Commission on Accreditation of Hospitals. Further research showed that FDA and USDA do not inspect VA facilities except upon receiving a complaint, and the Joint Commission on Accreditation of Hospitals gives prior announcement of their inspections.

Little did they know, but Twila likes a battle and is very persistant. Numerous telephone conversations and letters to Washington DC government officials and to VA administrators followed. Twila still is not allowed to inspect the facility, but at least the Veterans Administration food service workers will be educated in food service sanitation.



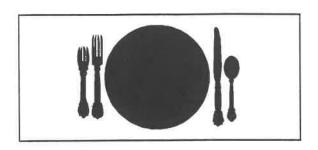
The Disposable
Thermometer
submitted by Lisa Dunn
The hottest new food safety device to hit the mar-

ket this summer is the T-Stick, a disposable thermome-

ter for hamburgers. Invented by Trans World Services, a food packaging company, the thermometer has a built-in indicator that tells you when the temperature has reached 160°F, a point at which desease-causing organisms like E. coli 0157:h7 are destroyed.

The T-Stick is a tapered, plastic-coated paper stick that looks like an oversized paper match. The tip of the stick has been treated with a chemical that turns black when it reaches 160°F, the temperature USDA recommends consumers cook chopped meat to render it safe. FDA's Food Code calls for a minimum of 155°F. They have been marketing the product to school foodservice directors, but sees an application for food inspectors who may not have a thermocouple thermometer available to them.

A T-Stick sampler will be sent free of charge upon request to Environmental News Digest readers. Write: Ira Siegal, TWS Inc., 72 Stone Place. Melrose. Mass. 02176 TEL: 1-800-882-2105.



Protect from Communicable ...what.? Submitted by Gary Hamilton

Student "scroungers" line up for the privilege of eating a stranger's half finished meal at Reed College, in Portland, Oregon. "I eat more healthily this way," says junior Tim Soloman, "because I get four or five different entrees." Soloman claims that "it's sort of a social scene." Last spring, in exchange for choice leftovers, scroungers started passing out collectible trading cards with their photo, secret scrounger's name, height, weight, zodiac sign and "super scrounger power." So far no one has tried to crack down on the practice.

ROLLING STONE, NOVEMBER 3, 1994, P. 17.

Randi Neurman Passes PES Exam - submitted by Karol Wallingford

Randi Neurman, Kanawha-Charleston Health Department, well known amongst her fellow sanitarians for the phrase "I only do food!", has finally conquered that one professional stumbling block that haunted her for several years. Yes, Randi can finally get rid of the SIT after her name and replace it with the long elusive RS. Those of us who know Randi knew she could and would have success sooner or later. Randi has spent much time and money preparing for and taking the PES exam and even completed a Master's Degree in Community Health from WVU during this time.

Randi's successful attempt at the PES took place on February 14, 1994, however, due to an oversight by Ron Forren (SHAME, SHAME!), the announcement had not been made. One point of redemption for Ron is that he did arrange for a surprise congratulations party for Randi when he received the results.

CONGRATULATIONS to Randi and good luck to all those who have not yet taken and/or passed the PES. By the way Randi, have you and Donn enjoyed the bubbly yet?

CONGRATULATIONS!

One more oversight on Ron Forren's part (maybe it's time for a vacation Ron?). Sue Gadille, Cabell-Huntington Health Department, also had success with the PES exam recently. We would like to apologize to Sue for this mistake and beg her forgiveness. We know Sue is doing a great job in Cabell county and wish her all the best.

(Editor's Note: Ron, did you ask Karol why she distributed the new sanitarian's list, a.k.a., "A-6", with Sue's title wrong? Perhaps the wrong person is going on vacation!)



Welcome Aboard - submitted by Karol Wallingford

A warm welcome to the four new county sanitarians across the state. The new sanitarians and their counties are: Julia Lovisa - Cabell-Huntington: Linda Smithson - Mercer; James Meade - Mingo: and Todd Powroznik - Monongalia. We hope you are enjoying your new positions and are learning a lot of interesting things. See you in Charleston in March!

Public Health Advisory Group - submitted by Stan Mills

Over the past few months, four groups have been meeting to redefine the role of public health in West Virginia. The advisory groups have looked at the financing of public health, training public health employees, regional networks, and roles of local, regional, and state health departments.

In early December there will be a teleconference to discuss the findings of these committees and how the West Virginia Bureau of Public Health plans to implement these changes through the legislature. Some of the ideas are good, some are poor. Make time in your schedule to attend the teleconference and listen to the findings, and the proposals. You may like what you hear or you may be amazed or disgusted. Please plan to attend and become active in the process.

Another One Bites The Dust! - submitted by Karol Wallingford

A quick note of congratulations to Greg Cantley of Kanawha-Charleston Health Department on his recent marriage. Greg was, we all thought, the ultimate in confirmed bachelors, but this past summer he finally met the woman who changed his mind about marriage. It was a short but intense courtship and the wedding took place on September 28, just 2 days before Greg's 38th birthday. What a birthday present! We wish Greg and Debbie all the best for a long and happy life together.

LAN Installation for State Offices - submitted by Joe Wyatt

The Office of Environmental Health Services is currently installing a LAN (Local Area Network) using IBM's OS/2

software package. The work in the hardware is expected to be completed within the next few weeks. Thereafter, it will be back to school for a quick lesson on using the graphical user interface (GUI pronounced "gooey") employed by OS/2. The first wave of the project, which includes the majority of the central office staff and most of the district offices, should be completed before Christmas. A second wave to bring the remaining central office staff and the remaining district personnel into the system will follow when financing permits.

It's A Girl! - submitted by Karol Wallingford

Congratulations to Karen Hall-Dundas and her husband. Charlie, on the arrival of their new daughter. Fiona Scott. The red-haired bundle of joy was delivered by caesarian section at 10:19 PM, Wednesday, November 2, 1994, and weighed in at 8 pounds, 2 ounces. We wish the Dundas family lots of luck and only a few sleepless nights.

Calvin Knott and his wife, Magda, recently welcomed into the world their second child. Kelsey Michelle, on November 11, 1994. She weighed in at 7 pounds, 10 ounces, and is keeping her daddy busy, ensuring he knows that she is there and ready for some attention.

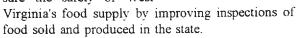
Liaison Committee Update - submitted by Art Adams

The Liaison Committee assigned a subcommittee the task of establishing the level of sanitarian manpower needed to complete all of the environmental health programs in the State. The Liaison Committee felt that this information is critical for taking a proactive position to support the need for environmental health services during the health care reform movement. How many Sanitarians does it take to complete all of the environmental health programs statewide? The committee felt that the program plans submitted each year, from each county, would quickly provide the answer. The program plans were compiled and a printout completed.

While compiling the information however, it became obvious that different counties reported information differently. The printouts were mailed back to the counties with a request for updating the information. The Committee is certain that work is being under-reported but must use the information provided. Please take the time to complete the program plan request as accurately as possible to give our State Representatives ammunition to fight for our services during upcoming legislative sessions. Once all of the information has been updated, a final printout will be shared with each county. The program plan itself may be restructured to better reflect sanitarian responsibilities and workload as the result of this effort.

Agriculture and Health Collaborate On Food Safety - submitted by Karol Wallingford

Two State Agencies are working together to ensure the safety of West



The signing November 14, 1994, of a memorandum of understanding between the Department of Agriculture and the Department of Health and Human Resources more clearly defines each agency's role and accountability in guaranteeing the safety of the state's food supply, from farm to market to retail establishments.

The agreement also improves inspection of the growing cottage industries, which include in-home-produced specialty foods such as salsas, jams and jellies, sauces and other West Virginia items. "We've worked hard to find the best use of resources in our two agencies," said Commissioner of Agriculture Gus R. Douglas. "You'll see a lot of sharing of information, talent and expertise between agriculture and health and human resources. My first and foremost concern has always been the safety of our food supply, and this agreement provides the best possible service to West Virginians."

The memorandum of understanding, which goes into effect immediately, guides the two agencies in the regulation of eggs, food labeling, non-traditional agriculture, dairy products, frozen desserts and imitation frozen desserts, retail food stores, dairy plants and farms, and cottage industries. It also lays the groundwork for quarterly meetings, joint training and strong communication between agriculture and health.

"So many people take for granted that the food they eat in restaurants and purchase in retail establishments is safe," said Dr. William T. Wallace, Jr., Commissioner of the DHHR's Bureau of Public Health. "We do feel fortunate to have in place an inspection process that allows the consumer confidence, but this agreement is just one example of how we continually look at ways to ensure and improve the health and safety of people throughout West Virginia." NEWS RELEASE FROM THE WV DEPARTMENT OF AGRICULTURE - NOVEMBER 14, 1994



A Day In The Life of a Sanitarian - submitted by Gail Harris

The sanitarian thought she was about to breath easier. At least that is what is supposed to happen after the Black Walnut Festival, and the weather turns cooler. Surprise, trick or treat started early and never stopped.

On the first day of the BWF, we were notified that only one inspector from Wood County would be available to help with the 33 food booths. Ok, that sounds simple enough. Ruth and Betty had already arranged their schedule to help with the clerical work. Then, we heard about the Salmonella in the Schwans Ice Cream. No problem, voluntary recall.

Then we get a call from Roane General Hospital, who had a positive case of Rabies. What, the man is from Wirt County. "Call Pat", the sanitarian, Gail Harris said to Betty.

Ah, at last, Sunday rolls around, and the food booths are leaving town. But, wait, on Monday morning we are deluged with calls, concerning the Rabies case. Public Health Nursing and the Sanitarian are in full swing.

Then, we have someone at the window, with an iced container of Yoder's potato salad and a newspaper article from the Parkersburg Newspaper. "What is going on?", the sanitarian is asking Wood County and the State Health Department. This office had not heard of the voluntary recall which was initiated the week before. Oh, and don't forget the two deer ticks to be sent to WVU. One dog's head to be sent to the state lab, lead kin the drinking water in Gandeeville, and the flu vaccine has arrived. Somewhere in the month, Gail took milk samples, inspected septic systems, performed loan evaluations, issued and inspected water wells (including pre-construction inspections on two new restaurants, Blimpies and Wendy's).

And if anyone asks about the Sanitarian's personal life, it was a rough month to turn 40.

News From Southern West Virginia - submitted by Barbara Wolman

The fall season seems to have added to the work loads. Raleigh County appears to be in a building boom from the number of new sewage disposal system permits being issued. Sam Harmon, Mingo County, reports that he has a new Sanitarian in the office. Jim Meada, who formerly worked for the railroad, came on board in October. Stan Walls, Mercer County, also has a new sanitarian, Linda Smithson. Susan Kadar has moved from Sanitarian in Mercer to Engineering Technician at the Beckley District Office. The Mercer County Tobacco Control Coalition conducted its second undercover buying operation on Election Day. Twenty-five of seventy-five stores sold tobacco products even though there

were two newspaper articles during the week before the undercover buying operation stating what the law is and that we were going to do this.

In Raleigh County a public hearing was held by the Board of Health on November 16, 1994 to hear comments regarding a Clean Indoor Air Ordinance that has been proposed by the Raleigh County Tobacco Control Coalition. Approximately 100 people attended the hearing. A second hearing has been scheduled to hear the public's comments.

The Raleigh County Tobacco Control Coalition will be conducting an undercover buying operation within the next several weeks.

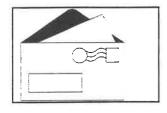
Thawing Times For Turkey - submitted by Fred Barley

During this time of year, cooking turkey is very popular. According to a recent poll by CNN and Pre-

vention Magazine, shows that 93% of all people will eat turkey for a holiday meal. Here at the Mid-Ohio Valley Health Department, we teach four approved methods of thawing food. Often, we are asked how long to thaw a turkey in the refrigerator, and my usual answer was, "Oh, several days for a large one." Not too scientific on my part. I ran across some information from Butterball Turkeys, that gives a better guideline, and also includes a cold water method.

Note their recommendation calls for submerged in cold water, with the water changed every thirty minutes, while our regulations call for continuous cold water.

	refrigerator	cold-water
Whole Turkey		
9 to 12 lbs	1 1/2 to 2 days	4 to 6 hours
12 to 16 lbs	2 to 3 days	6 to 9 hours
16 to 20 lbs	3 to 4 days	9 to 11 hours
20 to 24 lbs	4 to 5 days	11 to 12 hours
Breast of turkey	1 to 2 days	4 to 8 hours
Boneless breast	I 1/2 to 2 days	3 to 5 hours 🥓

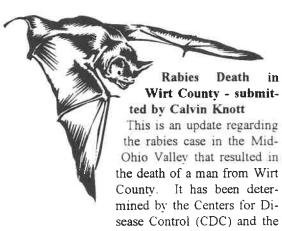


Report on Mail-In Ballots - submitted by Lee Thompson

115 ballots were distributed 103 were mailed 12 issued at Annual Conference 54 ballots returned by mail (4 could not be validated) 18 hand carried to Conference 12 issued/returned at Conference 80 valid ballots = 70% response

News From the Mid-Ohio Valley - submitted by Fred Barley

Mike Wells, Pleasants County, has resigned and is now teaching in Tyler County with his wife. Doug Powers recently turned the big 5-0 (and states he is proud of it!), and Gary Hamilton has been busy working a concession stand for his daughter's high school band boosters at the WVU home football games. Gary Epling, Jackson County, is busy preparing for the upcoming Mid-Year Training Session, and is asking anyone with ideas for speakers or programs, to please contact him.



State Director of Epidemiology that the rabies was most likely transmitted by a bat the victim killed and handled without protective equipment in late June or early July. Clinical signs of rabies appeared in approximately 100 days, and the patient died on October 15, 1994, in Morgantown after initial treatment at Roane General Hospital and St. Joseph's Hospital in Parkersburg.

T h i r t y staff members at St. Joseph's who had physical contact with the patient have elected to undergo post-exposure prophylaxis. There are three types of vaccines Human Diploid Cell Vaccine (HDCV), and Rabies Vaccine Absorbed (RVA). These two stimulate antibodies to develop in 7-10 days and last about two years. The third is Rabies Immune Globulin (RIG) which provides rapid passive protection that lasts a few weeks.

The staff is being given HDVC in a series of 5 injections on the following schedule:

- 1) First dose as soon as possible after exposure, given IM in the deltoid.
- 2) Day 3 IM in the deltoid.
- 3) Day 7 IM in the deltoid.
- 4) Day 14 IM in the deltoid.
- 5) Day 28 IM in the deltoid.

With the first dose, HRIG is also administered. The cost of the series is approximately \$100.00 per injection.

As in most cases, the best course of action is prevention by the proper handling of potentially infectious animals.

Fooling E. coli - submitted by Gary Hamilton

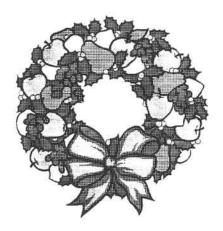
E. coli are our friends. Living in our intestines, they help digest our food and supply us with vitamin K. But there is an ugly strain of E. coli, labeled 0157:H7, that kills more than 200 people each year in the United States. These bacteria normally reside in the intestines of cattle; they reach humans through contaminated beef - as in the case of the outbreak that killed four people in Seattle in January 1993.

The bacteria secrete a powerful toxin that damages the cells ling the gut wall, causing cramps and diarrhea. Eventually the toxin seeps through the damaged lining into the bloodstream. Kidney failure occurs within four to five days. Antibodies are ineffective: they work by rupturing the bacteria, which only accelerates the spread of toxin.

Glen Armstrong and his colleagues at the University of Alberta may have devised a way to stop the toxin in its tracks. They have created a molecule that attracts and binds the toxin before it has a chance to enter a cell in the gut wall. The decoy holds off the toxin until the body can build up antibodies to the bacteria, which takes about a week.

Ordinarily the toxin gains entry to a human cell by attaching to a receptor on the cell surface. Armstrong's decoys are made of sugar molecules that mimic the structure of the receptor. Each decoy is joined to a bit of diatomaceous sand - a porous sand that consists of the tiny skeletons of diatoms, which are a type of plankton. When the patient drinks the gritty fluid containing the decoys, the toxin molecules bind to the decoys and are then excreted along with the indigestible sand particles. "The particles are like lobster traps," Armstrong explains. "We're putting a bait - that's the sugar molecule that traps the toxin - into the piece of porous sand. So the toxin goes into these little channels and pores in the sand, sticks very tightly, and doesn't come out again."

The decoy has already been tested on healthy volunteers with no ill effects. In clinical trials now under way in Canada, it is being used to treat children infected with toxic E. coli. (Children are particularly vulnerable to the toxin, apparently because their kidney cells carry more receptors for it than do the kidney cells of adults.) The treatment has to be given promptly, says Armstrong. "Once inside a cell, the toxin cripples the cell's protein-synthesizing machinery, and soon the cell is pushing up daisies," he explains. "But we believe there is a window of opportunity in which the decoy will work - during the time the toxin is damaging the intestines but before the more serious kidney damage occurs." DISCOVER, NOVEMBER 1994, P. 22



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2 Year Board Member
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Mike Eltzroth, R.S. (645-1539) Greenbrier County Health Department P. O. Box 890 Fairlea, WV 24902 1 Year Board Member

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Charles R. Saber, R.S. (348-8050) Kanawha-Charleston Health Department P. O. Box 927 Charleston, WV 25323 Legislative Fax - 348-6821

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Fax - 558-0691

Norman Moore, R.S. (788-1321) Mineral County Health Department P. O. Box 935 Keyser, WV 26726 Hall of Fame (WVPHA) Fax - 788-0481

Max Fisher, R.S. (725-0348)
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Nominating (WVPHA)
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Tom Felton, R.S. (478-3572)
Tucker County Health Department
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Parsons, WV 26287
Local Arrangements (WVAS & WVPHA)