FEB 19 1993

Department of Veterans Affairs
Medical Center
ATTN: Mr. William Mountcastle
Medical Center Director
700 South 19th Street
Birmingham, Alabama 35233

Gentlemen:

SUBJECT: SERIES OF ARTICLES IN THE PLAIN DEALER

Enclosed are copies of the articles recently published in The Plain Dealer, a newspaper located in Cleveland, Ohio. These are the articles we referred to during the February 16, 1993, Enforcement Conference with you.

Sincerely,

Bruce S. Mallett

Bruce S. Mallett, Deputy Director
Division of Radiation Safety and
Safeguards

Enclosure:
Plain Dealer Articles

bcc w/o encl:
S. D. Ebneter
J. P. Stohr
G. R. Jenkins
D. M. Collins

Document Control Desk

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IE07

Series on radiation stirs some fears

By TED WENDLING
and DAVE DAVIS
PLAIN DEALER REPORTERS

Recent Plain Dealer stories on sloppy radiation therapy procedures have frightened cancer patients but have not prompted many to cancel radiation treatments at Greater Cleveland hospitals, as an American College of Radiology official has alleged.

Interviews with officials at 10 area hospitals found two hospitals at which patients refused to undergo radiation therapy after reading the PD series last week. The series focused on the U.S. Nuclear Regulatory Commission's failure to investigate scores of deaths and serious injuries caused in the practice of radiation oncology in America's hospitals.

LETHAL DOSES
RADIATION THAT KILLS

A PD SERIES FOLLOW-UP

Spokesmen for the Cleveland Clinic, University Hospitals, MetroHealth St. Luke's Medical Center, St. Vincent Charity Hospital and Health Center, Mt. Sinai Medical Center, the Cleveland VA Medical Center, Geauga Hospital in Chardon and Allen Memorial Hospital in Oberlin all reported no radiation therapy cancellations as a result of the stories.

Doctors at MetroHealth Medical Center and St. Joseph Hospital in Lorain reported one cancellation each.

Last week, Dr. James D. Cox, a Houston radiotherapist and chairman of the American College of Radiology's commission on radiation oncology, accused The PD of scaring patients whose lives depended on receiving radiation therapy. He said the stories had caused patients all over the country to cancel or interrupt treatments.

SEE RADIATION/6-A

(Cleveland) The Plain Dealer 12-24-92 p. 1-A

Radiation

FROM/1-A

"If that's a product of your series, that's a serious problem," Cox said. "If your reporting is in such imbalance that patients are frightened of what has been advised them medically, then your reporting responsibility has been questionable."

Cox offered no figures to back up his assertion. While noting the vast medical benefits of radiation therapy, the stories focused on the NRC's lax regulation of hospital radiation safety and radiation therapy programs. At least 40 patients nationwide have died from acute medical overdoses of radiation.

Dr. Michael A. Samuels, a radiation oncologist at MetroHealth Medical Center, said a patient of his, a woman diagnosed with breast cancer, recently backed out of radiation therapy after reading the series. He said he was unable to allay her fears.

"The result is I come off as self-serving and you come off as independently authoritative," he said. "I feel like I don't know what to say to these people except that ... the benefits of this treatment outweigh the risks by a significant margin.

"I'm here for my patients, and that's my big concern — that some of them are just going to go home and die."

Dr. Mark E. Thompson, a radiation oncologist at St. Joseph, said one radiotherapy patient had canceled treatments, another had accused the hospital of "poisoning" her because she had a skin reaction and a third patient was refusing to pay her bill because she claimed the hospital had "burned" her.

"There's a great deal of mistrust, so no matter what I tell her, I'm covering up," Thompson said of the patient who claimed she had been poisoned. "Definitely, this is not benign therapy, but cancer's not a benign disease. You have to push the envelope sometimes. ... In our business, sometimes we have patients who have bad effects.

"I think the series was good and it brought out some excellent points, but the problem is patients just hear 'cancer,' 'radiation,' 'killing people.' That puts us on the defensive and people are refusing an excellent form of therapy for their cancer.

"The whole point is these people have cancer and if they don't do anything, they'll die."

Nearly all hospital officials who were interviewed said the stories had provoked numerous questions about dosage and side effects.

Dr. Henry F. Blair, a radiation oncologist at Mt. Sinai Medical Center, said all 40 of his patients expressed concern after reading the series.

"I had to spend a great deal of time reassuring them," he said. "Five wanted to quit, but I convinced them to keep coming.

"I would agree that if the stories improve the safety (of radiation therapy) they were worthwhile, but a lot of people definitely flew off the handle."

Bob Fleming, 69, of Cleveland Heights, who has been undergoing radiation therapy at the Cleveland Clinic for prostate cancer, said the series frightened patients who are dealing with life-and-death issues.

"I don't think it's fair to the people who are undergoing this — and there are thousands," he said. "Any time you have (any hospital procedure), you have a risk. But you have to have confidence in the people who are treating you."

Letters to the editor

'Lethal Doses': Cite radiation benefits, too

We at the Nuclear Regulatory Commission have followed with great interest "Lethal Doses," The Plain Dealer's series on radiation treatment.

Your series focused on a large number of serious medical incidents that have occurred over a period of many years. This reporting, some other recent incidents and the commission's prior concerns have all prompted us to re-examine our medical licensing and enforcement program. This re-examination is under way.

Radiation therapy is an important medicial tool for treatment of seriously ill cancer patients. The NRC does not itself regulate the dosage received; this is a decision of the physician. What the NRC does regulate is the proper delivery of the radiation therapy to the patient.

Radiation therapy treatments exceed several hundred thousand a year. Published NRC data indicate that the annual rate of these therapeutic incidents is about .03%. Nevertheless, the NRC is quite concerned. When these incidents occur, the NRC's practice is to learn as much as possible from the incident and follow up with corrective regulatory actions with the objective of preventing recurrence. We also recognize an obligation in these cases to ensure that patients and their physicians have access to radiation information. Your articles have indicated room for improvement in the way we do both jobs.

There is also a very substantial volume of diagnostic treatments per year. Diagnostics involve small doses of radiation and run into the millions of procedures annually. The medical and scientific community regard the risks from these procedures to be very small.

I would urge that if radiation therapy patients have questions about the treatment they have received or are about to undergo, they consult their physician.

IVAN SELIN
Washington, D.C.

Selin is chairman of the NRC.

ON BEHALF OF the Greater Cleveland Hospital Association and our member hospitals, I want to comment on the series "Lethal Doses":

Unsafe conditions or procedures cannot be tolerated in our hospitals. Anyone who attempts to cover up an unsafe situation by falsifying documents or lying to regulatory authorities has no business working in health care and should be held accountable. It is encouraging to note that the Nuclear Regulatory Commission intends to improve its policies and procedures due, in part, to the information reported by The Plain Dealer in its series.

The cases cited in the series are tragic, even more so in those instances where accidental exposure to radiation may have been preventable. The fact remains that those cases represent a very small fraction of the millions of patients whose health and lives have been threatened by illnesses that were successfully diagnosed and treated due to medical advancements in radiology technology.

We are concerned that patients in need of diagnostic or therapeutic procedures may be reluctant to undergo these procedures because of undue fear of radiation technology generated by the series. The quality of care and patients' safety are the principal concerns of the hospitals in our community. We also want to ensure that patients requiring radiology treatments or in need of X-rays or other diagnostic procedures are not afraid to seek those services.

All patients should be encouraged to ask whatever questions they have regarding their treatment, but patients should not be unduly alarmed by the few examples of alleged improper treatment.

If the result of the series is that the policies and procedures of the NRC are improved, then that is good. If the result is that patients who need care are reluctant to receive that care, then we have a problem that must be corrected through further education.

C. WAYNE RICE
Cleveland

Rice is president and CEO of the Greater Cleveland Hospital Association.

WHILE THE CONTENT of the series "Lethal Doses: Radiation that kills" was, for the most part, accurate, my concerns are that Ted Wendling and Dave Davis had to dredge up information that went as far back as 15 years (Columbus Riverside incident) and even to the 1930s (acne treatments) in order to provide the proper amount of sensationalism to attract readers. My greatest concern is the amount of unfounded fear that is instilled in potential patients by such a series. People desperately in need of such treatment are led to believe that these accidents occur all the time and therefore refuse treatment. Accordingly, this series has done a great disservice to the proper treatment and management of the cancer patient.

I was also disturbed by the fact that the series suggests that all uses of radiation, diagnostic or therapeutic, X-ray or nuclear medicine, have the same problems. Procedures that currently fall under the aegis of the Nuclear Regulatory Commission number approximately 10 million a year. Only about 1% of these are therapy protocols. Yet, your series does not make a clear distinction between therapy and diagnostic procedures. I am unaware of any deaths from radiation used diagnostically.

In "uncovering" accidents such as the Columbus incident and others, little effort was made to explain that as a result of such catastrophes, many changes have been instituted by the NRC and other regulatory agencies. The misadministration reporting program has provided regulatory agencies with the ability to monitor nuclear medicine and therapy programs and make changes as deemed necessary. Their recently instituted Quality Management Program by every licensee has created an environment whereby such incidents will be further minimized. It should be clear to any rational being that some of these errors are human errors. There is no way any regulatory agency can "legislate out" human errors, but every attempt is made to minimize them.

To stir up the ashes of "Radiation Hysteria of the 1950s" is tantamount to irresponsible journalism. Medicine, medical physics and regulatory agencies have worked very hard to attempt to prove that radiation is helpful and in control, human errors notwithstanding. Your reporters made no effort to present this part of the total picture. They made no attempt to provide information regarding benefit vs. risk.

. . . It is unfortunate that The Plain Dealer has put us back 40 years.

PAUL EARLY
Cleveland

Early is director of NMA Medical Physics Consultation.

(Cleveland) The Plain Dealer

12-28-92

Letters to the editor

'Lethal Doses': Cite radiation benefits, too

MY 7-YEAR-OLD daughter, Katy, had a tumor of the brain lining removed by doctors at Cleveland Clinic a year ago. We were devastated to learn that although it was removed, it was malignant. We were then told that radiation therapy could prevent a recurrence in association with chemotherapy. Without these treatments, the tumor would surely come back with serious, possibly fatal, results. Your Enquirer-type series was so upsetting to me that I felt it in the public's interest to point out my own experience with the radiation department at Cleveland Clinic.

I was very impressed with her care during the surgical portion of her treatment, and was very frightened of the radiation therapy, because I knew nothing about it. Dr. Melvin Teft, the doctor who oversaw Katy's radiation therapy, was wonderful. He took the time to explain what the therapy consisted of and what the possible side effects could be. He was meticulous in his style and warm and reassuring to my daughter. He and his staff took perfectionism to new meaning as they plotted the treatment area and dosage so that as little healthy tissue as possible was affected.

It took two weeks of tests and scans to accurately determine her treatment area to ensure a safe but effective dose. The staff was constantly rechecking data, backed up by X-rays, to make sure no errors had been made. They made a potentially anxious and unhappy ordeal a tolerable and even positive experience.

One year has passed and Katy is a happy, healthy second-grader with hopes of becoming an art teacher. Her scans to date show her to be tumor-free. She still has several months of chemotherapy left, but that is nothing compared with a lifetime ahead of her — a lifetime made possible in part by the proper administration of radiation therapy.

MARY K. DOBBS
Berea

FOUR YEARS AGO, I was diagnosed with lung cancer and underwent surgical removal of my left lung and had six weeks of radiation therapy at the Cleveland Clinic. I owe my life to the doctors and the radiology department. I was not burned and suffered no ill effects from radiation therapy. The treatment allowed me to resume a normal, productive life.

If I had read your articles while undergoing radiation therapy, I would have been a basket case. It's hard enough, at age 54, to handle the diagnosis of lung cancer, the pain of chest surgery and six weeks of daily treatment. Adding to this stress concerns about radiation burns and staff incompetence would have destroyed the one thing I had going for me — respect for and faith in the Cleveland Clinic, a world-class medical facility. I traveled every day from Akron to Cleveland Clinic because of my trust and respect for the expertise there.

In every medical procedure there are risks, and human errors occur. However, as responsible journalists, you need to accept recent reliable statistics on the number of people undergoing radiation therapy and the statistical probability of overdoses, human errors and problems.

It would be a terrible burden for your newspaper and reporters to endure if a cancer patient refused life-saving radiation therapy based on your one-sided articles.

FAYE DAMBROT
Akron

AS A PROFESSIONAL person, I resent that you did not dicuss the new, updated treatments and the increasing number of cancer survivors.

It has been my pleasure to represent the American Cancer Society as its board president and the Lake County Nurse of Hope for the past five years, as well as an Ohio Nurse of Hope. In this capacity, I have worked with cancer patients and families by facilitating "I Can Cope" programs, leading a monthly Caring and Sharing group for patients and their families and teaching prevention of disease and early detection. Modern medicine has given us new horizons in health care. I am undergoing radiation treatments at East Side Radiology and Imaging Center. I have full confidence in my primary physician and my surgeon for their referrals to this facility.

At the center I am treated by qualified doctors, nurses and technicians. Their expertise is paramount. Treatments are carefully planned and monitored at all times. Because of my treatments, I have a future that will enable me to fulfill goals, enjoy my family and live life to its fullest. My hope is that newly diagnosed patients will be able to make prudent decisions regarding treatment, based on their doctor's recommendations, and not be influenced by your articles alone. A decision to do nothing could result in premature death.

To all cancer patients and future patients: Our future is in modern technology and professionally trained doctors, nurses and technicians.

SUZANNE JACKSON, R.N.
Painesville

(Cleveland) The Plain Dealer

12-28-92

Cavs beat Rockets, 124-97 1-E / Gifts for foodies 1-F

THE PLAIN DEALER

NEWSPAPER Cleveland, Wednesday, Dec. 16, 1992 LAKE/GEAUGA 25

Cover Story

Behind the agony – serious blunders and slap-on-the-wrist penalties

By DAVE DAVIS and TED WENDLING
PLAIN DEALER REPORTERS

Jean Matalik was alone in her Burgettstown, Pa., home when the temperature peaked at 86 degrees. It was Aug. 30, 1989, one of those hot days she hated.

Matalik packed towels against the spot where a doctor at nearby Ohio Valley Hospital in Steubenville, O., had burned a hole in her chest during breast cancer treatments. The radiation wound oozed and bled, creating a foul odor that made her embarrassed to be around her husband and

Cover Story
1 of 2
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PLAIN DEALER REPORTERS

PART 4 OF A SERIES

LETHAL DOSES
RADIATION THAT KILLS

Behind her smile – pain, courage and countless tears

Jean Matalik was alone in her Burgettstown, Pa., home when the temperature peaked at 86 degrees. It was Aug. 30, 1989, one of those hot days she hated.

[illegible] Valley Hospital in Steubenville, O., had burned a hole in her chest during breast cancer treatments. The radiation wound oozed and bled, creating a foul odor that made her embarrassed to be around her husband and daughter.

She carefully penned a note to her family:

"I just can't take any more. I'm sorry I was such a terrible person."

Then she swallowed three bottles of painkillers and sleeping pills and lay on the couch. Her husband found her dead later that evening.

Al Johnson didn't know Jean Matalik, but he knows her family's pain. Johnson lives in Palm Beach Shores, Fla., a thousand miles from the foothills of Appalachia.

His wife, Stella, died in 1986 after she was burned during breast cancer treatments because a doctor used an antiquated X-ray machine to treat her.

"They burned her lungs so bad she couldn't breathe," Johnson said. "I lost a very lovely lady."

Connie Norris wasn't killed, but after her doctor in New Jersey failed to shield her spinal cord during radiation treatments for Hodgkin's disease, she lost something almost as precious as her life: her twin sons.

The overexposure in 1984 left Norris quadriplegic and unable to care for her boys, who are now being raised by her sister.

All three women are among the hundreds of people who are injured or significantly overdosed with radiation each year in a wide array of blunders and sloppy radiological procedures in our nation's hospitals, a Plain Dealer investigation has found.

At least 40 people have died.

While some of the mistakes are made in hospitals with adequate — even excellent — radiation safety programs, many more occur in hospitals where radiation safety is neglected. In some hospitals, radiation safety is considered a waste of time and money.

When problems are discovered, they usually lead to minor fines. In most cases, The PD found that state or federal regulatory officials took no enforcement action. And at some hospitals, the same problems recur year after year.

Often, radiation victims are left to fend for themselves because the U.S. Nuclear Regulatory Commission, which was created by Congress to protect the public from radiation mishaps, knows nothing about many of the accidents.

The NRC is unaware of them because it only regulates the medical use of certain radioactive isotopes, such as the cobalt-60 that injured Matalik. The agency repeatedly has declined to regulate electrically generated radiation, such as that delivered by the X-ray unit that killed Stella Johnson and the linear accelerator that injured Norris.

The NRC maintains this limited regulatory authority even though all three devices produce ionizing radiation.

"X-rays just haven't been given the rigorous regulation that isotopes have gotten," said Michael Odlaug, supervisor of the state of Washington's X-ray control program. "There's been a lot of public furor over isotopes because of concerns over radioactive waste being dumped, yet people will go to the dentist and get blasted with X-rays and think nothing of it."

The NRC also doesn't require hospitals to report overdoses that occur when doctors prescribe too much radiation, even in cases where the prescribed dose exceeds all recognized medical standards of care. Hospitals are only required to report incidents when the dose delivered to the patient differs from what the physician prescribed.

SEE TRUST/12-A

PD BRYNNE SHAW

Connie Norris was rendered a quadriplegic after receiving a radiation overdose to her spinal cord and had to give up custody of her twin sons, John and Aaron. Her story is on Page 13-A.

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Errors are frequent and widespread

e Plain Dealer reviewed nearly
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ials to state and federal officials
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second round of radiation
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Hartnett's arm and three ribs
e removed because doctors
not stop the radiation wound
bleeding.

AL DAVIS

Al Johnson holds a portrait of himself and his late wife, Stella. Stella Johnson died in 1986 when her doctor used an antiquated X-ray machine to treat her breast cancer.

To the NRC, it's a matter of trust

FROM/1-A

Much of NRC's regulatory authority has been turned over to state officials. But some of the 29 state-run programs are poorly funded, less stringent and have incompatible regulations.

The NRC also continues to trust some hospitals and doctors to report radiation mistakes despite previous investigations that show they falsified records, lied to regulators and tried to cover up radiation misdeeds.

NRC officials say they have no idea how many radiation errors go unreported.

"We haven't found that many cases of misadministrations [or] be-

cials concluded that the hospital's radiation therapy program was generally good. But they voiced concern that the hospital staff was not growing as quickly as its cancer-treatment business, a problem common at hospitals across the country.

The number of patients treated with radiation at St. Luke's had nearly doubled since 1985. NRC officials said.

During the NRC inspection, several members of the hospital staff

"We assume that most of the licensees are honest people."

But as is often the case with serious injuries and deaths that occur around the country, the office responsible for investigating the tragedy was never told about it.

Parsett's office knew nothing about Johnson's death even though a sister state agency did. But officials in that agency, the Department of Professional Regulation, which licenses Florida doctors to practice medicine, apparently didn't pass the information along.

The latter agency began an investigation of Dr. Malcolm B. Van de Water, the doctor who overexposed Johnson, after the doctor's insurance company filed a complaint against him.

The complaint, filed by St. Paul Fire & Insurance Co., was one [illegible] tomy on Johnson before her radiation treatments.

Al Johnson, Stella's husband of 22 years, remains bitter.

"She should be here today, really. It was just damn carelessness," he said.

Johnson remembers taking his wife to the hospital five days a week for five weeks. He remembers the long line of patients that snaked through the hallway, and how Stella had to lie in bed when she got home. When she tried to get up to go to the bathroom, she had to stop every few feet to catch her breath. He'd bring her a chair to rest on.

Lawyers and medical specialists say that what is most frightening about the case is that Van de Water

The NRC fined the hospital $4,375.

■ St. Mary's Medical Center, Gary and Hobart, Ind., and Porter Memorial Hospital, Valparaiso, Ind. — In 1990, the NRC suspended the two St. Mary's hospitals from providing so-called brachytherapy treatments involving surgical implants of radioactive sources — after discovering that patient treatment plans were not being used.

In 68 patient files reviewed by the NRC, no radiation prescription could be found for 57 of the patients. That meant it was impossible to determine whether patients had received underdoses, overdoses or the proper amount of radiation.

Some of the treatments were performed without prescriptions by radiation oncologist Dr. Kodpotu Sarma, who is still director of radiation oncology at St. Mary's and practices at Porter.

No fine was issued. The NRC gave both hospitals permission earlier this year to begin doing the procedure again after they revamped their programs.

■ Desert Samaritan Hospital and Health Center, Mesa, Ariz. — In November 1989, homemaker Deborah Lane mistakenly received 100 millicuries, instead of 100 microcuries, of radioactive iodine-131 for a thyroid scan. The overdose, equal to 1,000 times more radiation than her doctor had prescribed, was caused by a series of mistakes at the hospital.

It was enough to contaminate Lane's car, home and family.

Lane had to be placed in a special isolation area while the radiation wore off. She also was asked by hospital officials to supply a list of everyone she had contact with, including those she had kissed.

When Lane finished the list, the hospital's chief nuclear medicine technologist responded, "Boy, you're a kissy person, aren't you?"

The Arizona Radiation Regulatory Agency fined the hospital $12,000.

■ Rainbow Babies and Children's Hospital, Cleveland — In October 1987, 17 trick-or-treaters were given candy from a laboratory contaminated with radioactive sodium and carbon-14. Some of the children, for whom were patients, were allowed to enter the lab.

Subsequent tests found that [illegible] children had not been contaminated, but an NRC inspection found 20 violations of federal regulations, prompting the agency to temporarily close all 30[illegible] labs in Greater Cleveland, which were under the control of Case Western Reserve [illegible]. The labs were permitted to reopen about a month later.

Errors are frequent

THE PLAIN DEALER, WEDNESDAY, DECEMBER 16, 1992

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(4)

and widespread

The Plain Dealer reviewed nearly 4,000 radiation mistakes reported by hospitals to state and federal officials in the last eight years. The newspaper examined 200 cases in detail, including:

■ **University of Wisconsin Hospital and Clinics, Madison** — In 1986, Lois Nelson's digestive tract was severely burned during radiation treatments for bladder cancer. The trauma was too much for her husband, Robert, who committed suicide. Nelson died in December 1991.

In March 1990, another patient was overdosed with radiation when a technologist started a treatment and then left for 10 to 15 minutes to attend a going-away party for a departing staffer.

In a separate incident, an unqualified technologist was left alone with a patient who was undergoing cancer treatment when the machine began to beep. The technologist didn't know whether the beeping indicated a malfunction or the end of the treatment. It turned out that the beeping meant the treatment was over.

And in yet another incident, a patient being treated for nasal cancer received a radiation overdose when a technologist picked up the treatment chart for another patient and entered the information into the cancer-treatment machine's computer.

In a 1990 investigation, the NRC found numerous violations of federal regulations, including a failure to double-check treatment times for 35 patients and instances where patients undergoing radiation therapy were left alone without trained operators present. The NRC fined the hospital $7,500.

■ **Lawnwood Medical Center, Fort Pierce, Fla.** — Dr. Charles Harry Kent, a radiation oncologist, has severely injured at least five women since 1983 during radiation treatments. One woman lost the use of a lung, another lost an arm, and the other three suffered severe burns and damage to internal organs.

In 1985, Kent administered a large dose of radiation to Veronica Harriott, a 32-year-old mother of three, even though he had not done any tests to determine whether the breast cancer he had treated her for three years earlier had recurred. In a subsequent lawsuit, Harriott's lawyers claimed it had not.

The second round of radiation treatments caused Harriott's left arm to swell and become unusable. In 1989, Harriott's arm and three ribs had to be removed because doctors could not stop the radiation wound from bleeding.

Kent and the hospital paid $2.5 million to settle lawsuits filed by Harriott and two other women. The state has taken no action against either Kent or the hospital.

■ **East Texas Cancer Center, Tyler, Texas** — In the summer of 1986, Voyne Ray Cox, 33, and Vernon Kidd, 66, died in separate incidents shortly after receiving lethal overdoses of radiation due to a computer malfunction in the center's Therac 25 linear accelerator. In April 1987, another man, Glen A. Dodd, died at Yakima Valley Memorial Hospital in Yakima, Wash., after that hospital's Therac 25 experienced a similar computer malfunction. Previously, in December 1985, the machine had injured another Yakima Valley patient, Dora Moss, during treatments to treat a cancer in her hip.

In yet another case in June 1985, Katy Yarbrough received a huge overdose from a Therac 25 at the Kennestone Regional Oncology Center in Marietta, Ga. Yarbrough survived but lost the use of her left arm and had to have a mastectomy of the left breast. She died in a car accident in 1990 at age 67.

In March, the House subcommittee on oversight and investigations criticized the U.S. Food and Drug Administration's Center for Devices and Radiological Health, which regulates the manufacturers of radiation-emitting devices such as linear accelerators, for its tardy response to the tragedies. Records show the FDA waited until July 1987 to require the manufacturer of the Therac 25, Theratronics International, a division of the Canadian government, to warn hospitals of the malfunctions and advise them not to use the machines until the problem was solved.

Page 12-A (5)
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■ **Tripler Army Medical Center, Honolulu** — In June 1990, a technologist gave radioactive iodine-131 to a lactating woman without asking if she was breastfeeding. The woman's infant daughter then ingested radioactive milk, destroying the baby's growth-regulating thyroid gland.

"It's been very sad for our family," the baby's mother, Rensely Phillip, said in an interview.

Her lawyer, Charles Khim, said the Army didn't tell Phillip about the mistake. She first learned about it in the Guam newspaper.

"The Army just said, 'There's been slight accident, give your kid this medicine once a day and everything will be fine,' " Khim said.

The NRC proposed a $5,000 fine, but cut it in half because the hospital argued that it responded quickly to the mistake.

■ **West Houston Medical Center, Houston** — Shi-Jen Wen received 1,000 times more radioactive iodine-131 than she should have in May 1988 because substitute technologist Shirley DeFoe didn't know the difference between microcuries and millicuries, a difference of 1,000. As a result, Wen's thyroid gland was destroyed.

"I cannot undo what harm has been done," DeFoe wrote in an anguished account of the accident. "... I thank God that the patient is still alive."

The state investigated the mistake, but issued no fine.

■ **West Shore Hospital, Manistee, Mich.** — An 84-year-old female cancer patient received a radiation overdose during an imaging scan of her gallbladder in September 1990. The radioactive drug was administered by a part-time technician who was on weekend call and who was not properly trained or supervised. She "either misread or misunderstood instructions and in some cases used guesswork in carrying out the procedure," NRC records show.

The NRC fined the hospital $4,375.

■ **St. Mary's Medical Center, Gary and Hobart, Ind., and Porter Memorial Hospital, Valparaiso, Ind.** – In 1990, the NRC suspended the two St. Mary's hospitals from providing so-called brachytherapy treatments — involving surgical implants of radioactive sources — after discovering that patient treatment plans were not being used.

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■ **Rainbow Babies and Childrens Hospital, Cleveland** — In October 1987, 17 trick-or-treaters were given candy from a laboratory contaminated with radioactive tritium and carbon-14. Some of the children, all of whom were patients, were allowed to enter the lab.

Subsequent tests found that the children had not been contaminated, but an NRC inspection found 20 violations of federal regulations, prompting the agency to temporarily close all 300 labs in Greater Cleveland, which were under the direction of Case Western Reserve University. The labs were permitted to reopen about a month later.

The violations indicated "a significant breakdown in (CWRU's) radiation safety programs for its research laboratories," the NRC said. Inspectors were particularly concerned about inadequate training for technicians working with radioactive materials and instances where they ate and drank in areas where radioactive materials were used.

The NRC fined CWRU $10,000 in 1988.

■ **Davis Memorial Hospital, Elkins, W.Va.** — In 1990, NRC investigators found that Susan S. Barb, the chief nuclear medicine technologist, had given dozens of patients diagnostic doses of radioactive drugs that were fivefold below the prescribed amount because she never measured the doses. So poor was the technologists' training that one of them told NRC investigators she drew up doses of drugs in syringes based on "feel and experience only."

The investigation also found that Dr. Fouad H. Abdalla, the radiation safety officer, had "abandoned" his duties. As a result, the hospital ceased all nuclear medicine procedures. Abdalla remains a staff radiologist at Davis Memorial.

The NRC found that 47 Davis Memorial patients were victims of diagnostic or therapeutic errors — the most of any hospital regulated by the NRC in the last eight years. The agency fined the hospital $10,000 in 1990.

■ **St. Joseph's Hospital and Medical Center, Paterson, N.J.** — Dr. Thomas M. Herskovic, the radiation safety officer, acted with "careless disregard" for safety by allowing employees in December 1990 to move a cancer-treatment machine in violation of federal regulations, NRC officials said. During a subsequent investigation, Herskovic provided "incomplete and inaccurate" information about the incident, according to NRC records.

Herskovic, who is still director of radiation oncology at the hospital, was replaced as radiation safety officer. The NRC also ordered that he be removed from St. Joseph's radiation safety committee for three years.

The NRC fined the hospital $10,250 in 1991. The case also was referred to the Justice Department, which declined to prosecute.

In another incident, a 52-year-old man who was to undergo radiation treatments to his head and neck in November 1991 mistakenly received a large dose to his eye.

The accident occurred because the patient didn't speak English, so the doctor had the man simply point to the area of his body that was to be treated.

To the NRC, it's a matter of trust

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luch of NRC's regulatory au- rity has been turned over to e officials. But some of the 29 c-run programs are poorly ced, less stringent and have in- npatible regulations.

he NRC also continues to trust e hospitals and doctors to re- radiation mistakes despite pre- us investigations that show they sified records, lied to regulators tried to cover up radiation mis- s.

NRC officials say they have no a how many radiation errors go reported.

We haven't found that many es of misadministrations not be- reported," said James Lieber- n, director of the agency's Office Enforcement. But, he added, "If y destroyed all the records, obvi- ly we'll never know."

NRC Chairman Ivan Selin said NRC needs to encourage hon- y by raising its civil fines, which ncy officials say are embarrass- ly low.

"The penalties should be such t the risk of telling a falsehood uld be greater than the risk of ing the truth," Selin said. "We ume that most of the licensees honest people. We assume that ones who aren't honest are ra- nal people, and we don't really e procedures to guard against ssive collusion and fraud."

While NRC officials maintain t most hospitals are honest ut reporting radiation mistakes, agency's records show that st do not do so on time.

NRC regulations require errors be reported within 24 hours. A review of nearly 4,000 incident orts filed with the NRC over the eight years found that hospitals wed an average of 29 days to s before notifying federal offi- s.

Some wait much longer.

St. Luke's Hospital in Cleveland ted a year before reporting that reast cancer patient had mistak- y received a 37% overdose of ra- tion. For that, the NRC fined St. ke's $1,250 in 1987.

Three years later, the hospital s fined another $1,875 because ee days passed while officials ated whether a radiation over- e was reportable.

n that case, a 57-year-old woman ng treated for chest cancer mis- enly received a radiation treat- nt to her brain, then asked ether her chest would be treated t. The woman stopped the tech- ogist as he was positioning the chine on the other side of her d for another treatment.

St. Luke's officials attributed the take to "understaffing, over- k and related stresses."

"The misadministration occurred about 5:30 p.m. on Friday, at the d of a busy treatment week," s told the NRC.

Additionally, one of the hospi- s therapy technologists had quit week before. No one had been ed to replace her.

Following a special inspection at Luke's in June 1990, NRC offi- cials concluded that the hospital's radiation therapy program was "generally good." But they voiced concern that the hospital staff was not growing as quickly as its can- cer-treatment business, a problem common at hospitals across the country.

The number of patients treated with radiation at St. Luke's had nearly doubled since 1985, NRC of- ficials said.

During the NRC inspection, sev- eral members of the hospital staff

> *'We assume that most of the licensees are honest people. We assume that the ones who aren't honest are rational people, and we don't really have procedures to guard against massive collusion and fraud.'*
>
> — Ivan Selin, NRC chairman

"expressed concern that the cur- rent . . . staff level continues to be insufficient for the size/scope of the treatment program and that over- work and stress-related errors are more likely to occur," NRC officials said.

"We don't dispute either of these cases," said Jim Gosky, a vice pres- ident for the MetroHealth System, of which St. Luke's is now a part. "It was sloppy. It shouldn't have happened."

But St. Luke's, unlike some hos- pitals, resolved to remedy the shortcomings identified by the NRC. The technologists involved in the overexposures were disciplined for not reporting them immedi- ately, and hospital officials hired an additional technologist to strengthen their radiation safety program.

Today, the NRC says St. Luke's is a model for others.

While the majority of radiation mistakes are reported late to au- thorities, others aren't reported at all, The PD found.

Officials in the Florida Office of Radiation Control don't know any- thing about Stella Johnson, the Palm Beach Shores housewife who died in 1986 from a radiation over- dose at St. Mary's Hospital in West Palm Beach.

When asked if anyone in Florida had ever died from a medical over- dose of radiation, Bill Passetti, a public health physicist with the state, said, "Not that I know of.

"There have been some in Third World countries," he added.

Passetti is supposed to investi- gate radiation mistakes such as the one that killed Johnson. Florida is one of 29 so-called NRC "agreement states," meaning it has taken over the NRC's responsibility for protecting the public against ra- diation mistakes.

But as is often the case with seri- ous injuries and deaths that occur around the country, the office re- sponsible for investigating the tra- gedy was never told about it.

Passetti's office knew nothing about Johnson's death even though a sister state agency did. But offi- cials in that agency, the Depart- ment of Professional Regulation, which licenses Florida doctors to practice medicine, apparently didn't pass the information along.

The latter agency began an in- vestigation of Dr. Malcolm S. Van de Water, the doctor who overex- posed Johnson, after the doctor's insurance company filed a com- plaint against him.

The complaint, filed by St. Paul Fire & Insurance Co., said that Van de Water used "excessive irradia- tion in the treatment of (Stella Johnson) for bilateral breast cancer resulting in death of patient."

When confronted with the com- plaint, Van de Water surrendered his license, prompting the licensing board to drop its investigation. Now retired, he lives on a quiet, palm tree-lined street a few blocks from the Palm Beach Country Club, an exclusive neighborhood reserved for people like Estee Lauder and the Kennedys.

In an interview at his home, Van de Water denied injuring Johnson. When asked why his insurance company paid a $120,000 set- tlement before a lawsuit was even filed, he said the company was wor- ried that a jury might sympathize with the dead woman.

Although they are casual friends and colleagues, Dr. Joseph R. Dolce disputes Van de Water's claim that he didn't hurt Johnson.

"The radiation therapy killed her, no question about it," said Dolce, who performed a mastec- tomy on Johnson before her radia- tion treatments.

PD/DAVE DAVIS

Dr. Malcolm S. Van de Water, who surrendered his license to practice medicine in Florida after an insurer accused him of causing the death of a patient by overradiating her, waves off a Plain Dealer reporter at his home in Palm Beach, Fla.

Al Johnson, Stella's husband of 22 years, remains bitter.

"She should be here today, really. It was just damn careless- ness," he said.

Johnson remembers taking his wife to the hospital five days a week for five weeks. He remembers the long line of patients that snaked through the hallway, and how Stella had to lie in bed when she got home. When she tried to get up to go to the bathroom, she had to stop every few feet to catch her breath. He'd bring her a chair to lean on.

Lawyers and medical specialists say that what is most frightening about the case is that Van de Water used the wrong type of machine on Johnson. He treated her with an outdated orthovoltage machine, an X-ray unit that should not have been used except on surface can- cers.

For breast cancer treatments, Van de Water should have used a more sophisticated linear accelera- tor, which can deliver a well-de- fined beam of radiation to subsur- face tissue, medical experts say.

But St. Mary's didn't have a lin- ear accelerator. Good Samaritan Hospital, two miles away, did.

"Literally, it's like using a dou- ble-barreled shotgun to shoot a mosquito on the wall," said Law- rence J. Block Jr., a lawyer who represented another woman whom Van de Water injured with the or- thovoltage machine.

Block's client, 69-year-old Marga- ret Pellegrini, also had breast can- cer. After an operation in 1986 to re- move a small lump, Pellegrini was given near-perfect odds for recov- ery, Block said. Doctors had only recommended radiation treatment as a precautionary measure.

In a deposition, Van de Water ad- mitted he knew of no other physi- cian in the world who had used an orthovoltage machine for such treatments.

Pellegrini received a $1.2 million settlement. Because her right lung is destroyed, her life now revolves around an oxygen tank.

"This case really exemplifies ev- erything that's wrong with modern- day medicine," Block said. "Be- cause I really think the underlying motive here was corporate greed. They didn't consider what was in the best interest of the patient.

"I'm not saying all doctors are like that. But it's become more and more part of our society. This is big, big business. And everyone wants this equipment because they know they can make big, big bucks charging people for it."

Don Chester, a St. Mary's vice president, said he didn't know whether Van de Water should have treated Johnson and Pellegrini with an orthovoltage machine. But he added that the hospital was not re- sponsible for what happened to the women.

"Hospitals don't refer people, don't admit people, don't order tests. Doctors make these deci- sions," Chester said. "I don't know why he (Van de Water) did what he did."

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Radiation mistake robs mom of twin sons

...nie enjoys a family lunch with her sister, Joy, and sons.

...oman paralyzed by damage spinal cord gave up boys

...AVE DAVIS
...DEALER REPORTER

NAPLES, Fla.

...doctor told her not to worry. ...onnie Nurris knew something ...rong. Every time she lowered ...hin to her chest, electrical ...s shot through her arms and

...hin weeks, she couldn't run. ... when she tried to walk, she ... stumble. In the shower, she ...n't tell whether the water was ...old.

...June 1985, Connie was par... from the neck down. The doc... had gone to for treatment of ...in's disease had given her too ...radiation too quickly. He also ...iled to protect her spinal cord.

...radiation overdose had left ...at on her back in a Tampa rehabi...tion center, and her ...nth-old twins, John and Aaron, ...me to visit.

...was about to make a decision ...ent should have to face.

...ad two healthy, happy, well-...ed little boys when I gave them ...the foster home," Connie re...

..."When the foster parents ...nt them up about three months ...o see me. I saw two confused, ...little children. All they did was ...the floor and scream and kick. ...hat made up my mind. They ...o be somewhere permanent, ...where with family."

...It when Connie asked her ...sister Joy to raise her boys, a ... prompted when her fiance, ...his father, broke off their en...ent.

...y, the 8-year-olds live in New ...,100 miles away. They affec...ely call Connie "Other Mom" ...he phone and during their oc...

going to be at age 13. I don't know if that will be at age 18. But I want them to know."

She stopped, for a moment unable to speak.

"I'm sorry, there's two things in this world that make me cry, and that's living here in this nursing home and thinking about missing my children."

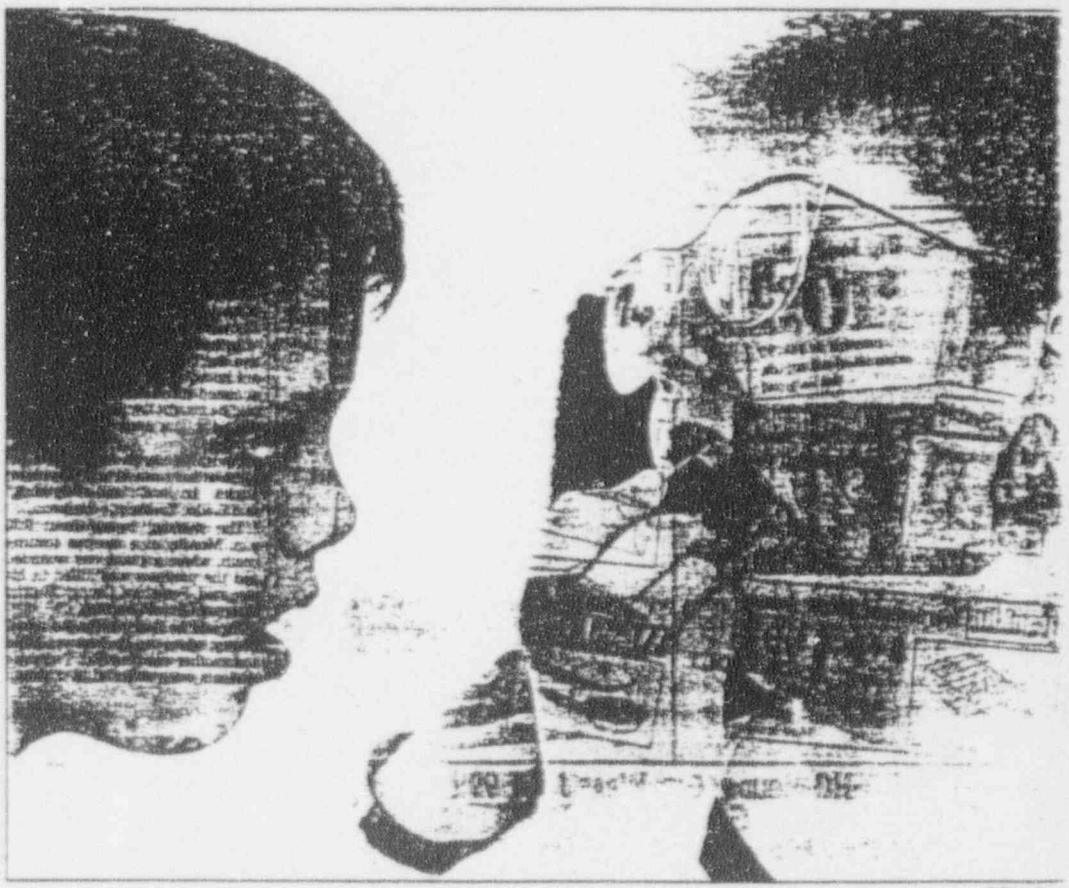
For seven years, Connie lived in the nursing home, penniless and doubled up with an elderly roommate as a ward of the state. She was 34 years old when she arrived. Everyone else had come there to die. A few times a day, someone would flip her over. She would get medicine and occasionally a bath.

From time to time, the insurance company representing the New Jersey doctor who injured her would offer a settlement. She turned them all down. She knew the money would have to be enough to keep her for the rest of her life. It also would have to be enough for the boys.

To pass time, Connie took up painting. Holding the brush in her mouth, she would create warm landscapes of beaches, ...ys and seagulls. She would rarely leave her 15-by-15-foot room, except to go to church.

In September 1990, a jury deliberated only an hour before awarding her $8.7 million. She eventually accepted slightly less because the insurance company threatened an appeal. Even though expert testimony convinced jurors that her doctor failed to protect her spinal cord from being over-radiated, no enforcement action was taken by the U.S. Nuclear Regulatory Commission or the state of New Jersey.

An official at Overlook Hospital in ...

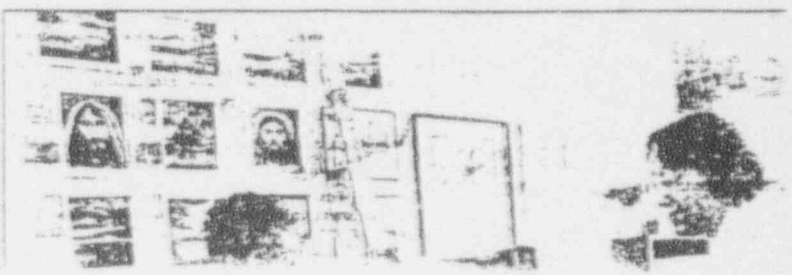


Aaron puts lipstick on his "other mom," Connie. "I just melt when you do this," Connie says. "I feel like ice cream in the sunshine."

them, said recently they knew nothing of the incident.

Although Congress created the NRC to protect the public in matters of radiation safety, agency officials say they can't get involved in incidents like this because the doctor injured Connie with a linear accelerator, a supervoltage machine that does not fall under NRC jurisdiction. The agency has repeatedly turned down proposals to extend its authority to cover electronically generated radiation sources.

But Connie isn't the only one who needs to ... radiation ... at



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An official at Overlook Hospital in Summit, N.J., the hospital where Connie was injured, said Connie was properly treated by the hospital oncologist, Susan DeBard. Overlook's administrative director of radiology, also said there was "no medical possibility" that Connie developed quadriplegia from the radiation treatments.

"The jury clearly was swayed to compensate the patient based on sympathy for her personal situation, which was tragic due to the many obvious health problems she had at that time," DeBard said in a prepared statement.

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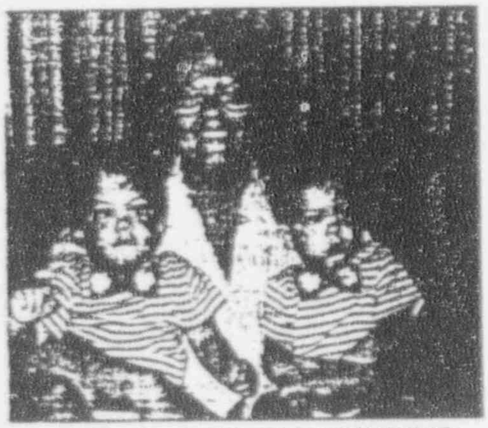

...y portrait shows Connie with twins John and Aaron shortly ...she relinquished custody of them to her sister in 1985.

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But Connie isn't the only one who received a radiation overdose at Overlook Hospital. Since her accident, 14 other people have been overdosed during diagnostic tests that, unlike the incident in which Connie was injured, did fall under NRC jurisdiction.

For example, in October 1991, a physician mistakenly injected a 27-year-old woman with too much of the wrong radioisotope. The mistake damaged the woman's growth-regulating thyroid gland, for which the NRC fined the hospital $3,125.

In her statement, DeBard said Overlook works hard to avoid such errors. "We'd like a perfect record," she said, "but whenever human beings are involved, there is a potential for human error."

Connie says her experience has taught her that patients must look out for themselves.

"I went to the hospital every day for four weeks. And every day I would lay on the linear accelerator," Connie said. "They made lead blocks for my lungs. They blocked my heart also. And twice, I was laying on the table and they were radiating me, and I remember thinking, 'What about my spinal cord?'

"But I just dismissed that thought, that question. I said to myself, 'Well, he knows what he's doing.' I trusted that he knew his job.

"Now, a lot of doctors don't like me. I had one doctor say I was accusatory because I ask direct questions and I insist on answers. And I ask questions that the average person doesn't think to ask. I've learned my lesson. I really don't trust doctors anymore."

Today, two books play an important role in Connie Norris' life. One is the Bible. The other is her photo album.

The Bible gives Connie a warm feeling inside, a sense that there are things more important than herself.

So does her photo album.

When she flips through its pages, she sees two little parts of herself and knows that they are out there, growing, thriving, making their way in the world.

When the boys come for their annual visit, as they did recently, they always get out the photo album. It is a testament to the life that Connie and the boys once had together, to two sisters' love for each other and for their children. It shows the twins that Connie was not always paralyzed.

One photo shows a naked "Aaron at 6 months." On the next page, beneath a snapshot of the boys together, Connie has written, "My brother and me."

In another picture, she smiles as she gives the babies a bath.

"See, that's before I was paralyzed," Connie told the boys during their last visit. "I was standing up giving you a bath."

"I look at these photos and I miss these times," said Joy, as she and the boys huddled around Connie's bed.

"I do, too," Connie responded.

On another page, there's a Christmas tree, presents and the boys. "Christmas 1984," reads the caption.

"You were 6 months old then," Connie said.

"When is this going to end?" Aaron asked. He was anxious to go shopping because this year, as in years past, Connie had promised to let the boys pick out the toy of their choice. She wisely placed a $20 limit on their imaginations.

As his brother fidgeted, John leaned in for a closer look.

He was examining a picture of a wooden footstool and the twins at 14 months.

"I made that stool while I was in the Naples Community Hospital, as part of my therapy," Connie explained. "I had just enough strength left."

A page later, Connie is paralyzed. The boys are 18 months old. It is 1985.

Though she was less than halfway through the album, Connie declared matter-of-factly, "This is where my memories end."

"From the beginning of the book to here — these are my memories, the days of me having the kids. The rest of the photos Joy's sent me over the years from the time she's had them."

Connie asked her sister to close the book. "All right, let's go to K mart."

PC BETHANE SNOW

Connie is hoisted out of bed and into her wheelchair. She says she fears that it will one day drop her.

ideotape preserves woman's tale of ordeal

...E DAVIS
...ALER REPORTER

STEUBENVILLE, O. — ...Matalik knew she might die. ...wanted people to know what ...ppened to her at Ohio Valley ...l here.

...April 1989, the Burgettstown ...ocal secretary videotaped her ...

...ik was about to undergo dan... surgery to repair the damage ...e radiation wound that ate ...her chest. Doctors in Pitts... were going to remove dam...uscle, ribs and tissue. They ...re going to graft skin and ...essels in the area in an at...o stop the radiation ulcer ...owing.

...ik knew the tape might be ...chance to speak to a jury.

..."I think I can live every day ...e with this pain," she said, crying, as the camera taped her.

She talked about her left-breast mastectomy in 1984, and about how the cancer reappeared in her right breast in 1987. Then she talked about the five weeks of cobalt-60 radiation treatments at Ohio Valley.

By the time they ended in March 1988, her skin had broken into a three-inch gash. Later, all of the skin peeled off.

"It just looked like raw meat," she said.

"At home, I had to sit with towels packed around my stomach area because the blood would run. I couldn't even sit to watch TV or anything. Any time I raised my arm or coughed or moved, the skin would just peel off and the blood would pour out."

Matalik underwent the radiation treatments at Ohio Valley even though her doctor, Joseph Concannon, now says she should have gone elsewhere.

'At home, I had to sit with towels packed around my stomach area because the blood would run. I couldn't even sit to watch TV or anything.'

— Jean Matalik

Concannon says Ohio Valley didn't have the proper equipment to treat Matalik. Because of this, she received too much radiation.

Concannon says he told Matalik to go to Pittsburgh, where she could be treated with a linear accelerator, a safer and more powerful machine than the cobalt-60 unit at Ohio Valley. He says she refused because of the long drive.

"So I was stuck with a high-risk patient," Concannon said. "I took the chance of treating them, even though I knew it would require a large dose of radiation. But I thought it was within (her) tolerance."

In her videotaped statement, Matalik said her doctor recommended the cobalt treatments. In depositions, her husband and daughter say they were assured that Ohio Valley could treat her properly.

On Aug. 30, 1989, Matalik took her life. Concannon's insurance company eventually paid her family a $300,000 settlement.

Keith Murdock, an Ohio Valley spokesman, called the incident "unfortunate," but said the hospital was in no way responsible.

"The hospital knew very little about what was going on at that time," Murdock said. "It was really between (Matalik) and her doctor."

Officials at the U.S. Nuclear Regulatory Commission say they were unaware of the radiation overdose that Matalik received. When told about it, they said it was not a "reportable event," even though Concannon, who has retired and lives in Alexandria, Va., now believes it probably was.

Concannon said that because Matalik was a large woman, he was forced to overexpose some sections of tissue in order to get the proper amount of radiation into the diseased area.

He said he didn't report the incident to the NRC because he "never saw the woman again. Had he seen her — and seen the damage done — he would have notified the agency," he said.

'He was very short and to the point. . . . He looked at the burn and said it would be healed in two weeks.'

— Jean Matalik

But Matalik claimed in her videotaped statement that she saw Concannon after the treatments ended. The last time was April 27, 1988, a few days after her daughter rushed her to the hospital emergency room because they couldn't stop the wound from bleeding.

"He was very short and to the point. . . ." Matalik said. "He looked at the burn and said it would be healed in two weeks."

(7)

Woman paralyzed by damage to spinal cord gave up boys

By DAVE DAVIS
PLAIN DEALER REPORTER

NAPLES, Fla.

The doctor told her not to worry, but Connie Norris knew something was wrong. Every time she lowered her chin to her chest, electrical shocks shot through her arms and legs.

Within weeks, she couldn't run. Later, when she tried to walk, she would stumble. In the shower, she couldn't tell whether the water was hot or cold.

By June 1985, Connie was paralyzed from the neck down. The doctor she had gone to for treatment of Hodgkin's disease had given her too much radiation too quickly. He also had failed to protect her spinal cord.

The radiation overdose had left her flat on her back in a Tampa rehabilitation center, and her 16-month-old twins, John and Aaron, had come to visit.

She was about to make a decision no parent should have to face.

"I had two healthy, happy, well-rounded little boys when I gave them up to the foster home," Connie recalled. "When the foster parents brought them up about three months later to see me, I saw two confused, angry little children. All they did was lay on the floor and scream and kick. And that made up my mind: They had to be somewhere permanent, somewhere with family."

That's when Connie asked her older sister Joy to raise her boys, a choice prompted when her fiance, the twins' father, broke off their engagement.

Today, the 8-year-olds live in New Jersey, 1,100 miles away. They affectionately call Connie "Other Mom" over the phone and during their annual two-week visits to the Naples nursing home in which she lives. Despite the loss and pain, Connie says letting her sister adopt the boys was the best thing she ever did.

"I am so lucky to have my sister and her husband raising my boys. I just love her," Connie said. "I love the boys, too."

Connie says that as time passes, the bond between her and the boys grows stronger. As they mature, they are better able to understand what happened.

"I dream of the day when I can sit down, one-on-one, with each of them separately, and tell the whole story of why I didn't get to raise them," Connie said. "And I don't know if that's going to be at age 13. I don't know if that will be at age 18. But I want them to know..."

She stopped, for a moment unable to speak.

"I'm sorry, there's two things in this world that make me cry, and that's living here in this nursing home and thinking about missing my children."

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So does her photo album.

When she flips through its pages, she sees two little parts of herself and knows that they are out there, growing, thriving, making their way in the world.

When the boys come for their annual visit, as they did recently, they always get out the photo album. It is a testament to the life that Connie and the boys once had together, to two sisters' love for each other and for their children. It shows the twins that Connie was not always paralyzed.

One photo shows a naked "Aaron at 6 months." On the next page, beneath a snapshot of the boys together, Connie has written, "My brother and me."

In another picture, she smiles as she gives the babies a bath.

"See, that's before I was paralyzed," Connie told the boys during their last visit. "I was standing up giving you a bath."

"I look at these photos and I miss these times," said Joy, as she and the boys huddled around Connie's bed.

"I do, too," Connie responded.

On another page, there's a Christmas tree, presents and the boys. "Christmas 1984," reads the caption.

"You were 6 months old then," Connie said.

"When is this going to end?" Aaron asked. He was anxious to go shopping because this year, as in years past, Connie had promised to let the boys pick out the toy of their choice. She wisely placed a $20 limit on their imaginations.

As his brother fidgeted, John leaned in for a closer look.

He was examining a picture of a wooden footstool and the twins at 14 months.

"I made that stool while I was in the Naples Community Hospital, as part of my therapy," Connie explained. "I had just enough strength left."

A page later, Connie is paralyzed. The boys are 18 months old. It is 1985.

Though she was less than halfway through the album, Connie declared matter-of-factly, "This is where my memories end."

"From the beginning of the book to here — these are my memories, the days of me having the kids. The rest of the photos Joy's sent me over the years from the time she's had them."

Connie asked her sister to close the book. "All right, let's go to K mart."

TOMORROW / LAST OF THE SERIES

Lies, deceit, criminal convictions – and nobody's in jail

Videotape preserves woman's tale of ordeal

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pg 5 of 5
(11)

By DAVE DAVIS
PLAIN DEALER REPORTER

STEUBENVILLE, O.

Jean Matalik knew she might die, but she wanted people to know what had happened to her at Ohio Valley Hospital here.

So in April 1989, the Burgettstown, Pa., medical secretary videotaped her story.

Matalik was about to undergo dangerous surgery to repair the damage from the radiation wound that ate away at her chest. Doctors in Pittsburgh were going to remove damaged muscle, ribs and tissue. They also were going to graft skin and blood vessels in the area in an attempt to stop the radiation ulcer from growing.

Matalik knew the tape might be her only chance to speak to a jury.

"I don't think I can live every day of my life with this pain," she said, crying, as the camera taped her.

She talked about her left-breast mastectomy in 1984, and about how the cancer reappeared in her right breast in 1987. Then she talked about the five weeks of cobalt-60 radiation treatments at Ohio Valley.

By the time they ended in March 1988, her skin had broken into a three-inch gash. Later, all of the skin peeled off.

"It just looked like raw meat," she said.

"At home, I had to sit with towels packed around my stomach area because the blood would run. I couldn't even sit to watch TV or anything. Any time I raised my arm or coughed or moved, the skin would just peel off and the blood would pour out."

Matalik underwent the radiation treatments at Ohio Valley even though her doctor, Joseph Concannon, now says she should have gone elsewhere.

'At home, I had to sit with towels packed around my stomach area because the blood would run. I couldn't even sit to watch TV or anything.'
— Jean Matalik

Concannon says Ohio Valley didn't have the proper equipment to treat Matalik. Because of this, she received too much radiation.

Concannon says he told Matalik to go to Pittsburgh, where she could be treated with a linear accelerator, a safer and more powerful machine than the cobalt-60 unit at Ohio Valley. He says she refused because of the long drive.

"So I was stuck with a high-risk patient," Concannon said. "I took the chance of treating (her), even though I knew it would require a large dose of radiation. But I thought it was within (her) tolerance."

In her videotaped statement, Matalik said her doctor recommended the cobalt treatments. In depositions, her husband and daughter say they were assured that Ohio Valley could treat her properly.

On Aug. 30, 1989, Matalik took her life. Concannon's insurance company eventually paid her family a $500,000 settlement.

Keith Murdock, an Ohio Valley spokesman, called the incident "unfortunate," but said the hospital was in no way responsible.

"The hospital knew very little about what was going on at that time," Murdock said. "It was really between (Matalik) and her doctor."

Officials at the U.S. Nuclear Regulatory Commission say they were unaware of the radiation overdose that Matalik received. When told about it, they said it was not a "reportable event," even though Concannon, who has retired and lives in Alexandria, Va., now believes it probably was.

Concannon said that because Matalik was a large woman, he was forced to overexpose some sections of tissue in order to get the proper amount of radiation into the diseased area.

He said he didn't report the incident to the NRC because he "never saw the woman again." Had he seen her — and seen the damage done — he would have notified the agency, he said.

'He was very short and to the point. . . . He looked at the burn and said it would be healed in two weeks.'
— Jean Matalik

But Matalik claimed in her videotaped statement that she saw Concannon after the treatments ended. The last time was April 27, 1988, a few days after her daughter rushed her to the hospital emergency room because they couldn't stop the wound from bleeding.

"He was very short and to the point. . . ." Matalik said. "He looked at the burn and said it would be healed in two weeks."

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FRONT PAGE

THE PLAIN DEALER

OHIO'S LARGEST NEWSPAPER — CLEVELAND, SUNDAY, DECEMBER 13, 1992

FIRST OF A SERIES **LETHAL DOSES** RADIATION THAT KILLS

Dangerous medicine, deadly mistakes

bara Golstein shows how skin peeled from the face of her 9-year-old son, Dwight.

At age 9, Dwight's skin peeled, his tongu bloated and fluid leaked from his ear.

"I made sure to hug and kiss him," says his mother. "He really looked grotesque and he knew it, but I wanted him to know we loved him."

Like little Dwight, scores of Americans have met horrible deaths due to medical blunders and overdoses of radiation. This Plain Dealer series tells their stories and unveils shocking facts about hospital cover-ups and government laxity.

X-ray victim cringes at idea of 'safe' dose

by TED WENDLING
PLAIN DEALER REPORTER

When John Hughes was growing up on Cleveland's East Side in the 1930s, the X-ray was in its heyday.

In shoe stores, curious shop-

By TED WENDLING and DAVE DAVIS
PLAIN DEALER REPORTERS

His doctor said it was as though 9-year-old Dwight Golstein had been in an atomic bomb blast. Only the "bomb" was a cancer-treatment machine that had beamed lethal doses of cobalt radiation into a tumor in his sinus cavity.

The radiation was a slow killer. After a few months, Dwight's dark skin turned jet black and began to peel, spinal fluid drained from his right ear and his swollen tongue forced its way out of his mouth.

"It was the worst case of radiation injury I've ever seen in my career," said Dr. William M. Wara, a San Francisco oncologist who examined Dwight before he died. "I can only describe it as horrible. . . . You can . . . describe him as someone who had a nuclear reactor accident or an atomic bomb exposure."

Dwight's mother, Barbara, watched her son die. "I

Wendling Davis Shaw

An extensive effort

Plain Dealer reporters Dave Davis and Ted Wendling traveled from San Francisco to Bu

FRONT PAGE (2)

By TED WENDLING and DAVE DAVIS
PLAIN DEALER REPORTERS

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Dwight's mother, Barbara, watched her son die. "I made sure to hug him and kiss him," she said. "Dwight's face was disfigured and his tongue was so fat he looked like a little monster. He really looked grotesque and he knew it, but I wanted him to know that we loved him."

Dwight died of radiation-induced respiratory failure on Aug. 21, 1988. By then, he bore little resemblance to his twin brother, Dwayne. Three weeks of accidental double doses of cobalt-60 radiation at Alta Bates Medical Center in Berkeley, Calif., had burned him beyond recognition.

The U.S. Nuclear Regulatory Commission and its state counterpart, the California Radiologic Health Branch, never knew Dwight Golstein existed, although his death should memorialize him as the only person in California known to have died from a medical overdose of radiation.

Until recently, the NRC also was unaware of the over-radiation of Jean Matalik, a medical secretary who committed suicide in 1989 after a doctor at Ohio Valley Hospital in Steubenville burned a hole in her chest while treating her for breast cancer. Nor did the agency know that Florida resident Connie Norris was forced to give up her twin sons for adoption after radiation treatments in 1984 left her quadriplegic.

Although the NRC was created Oct. 11, 1974, "to protect the public health and safety" by regulating the civilian uses of nuclear materials, it has no record of scores of deaths and serious injuries caused by radiation oncology in the United States.

That is partly because the NRC's 3,335 employees spend well over 80% of their time, energy and $512 million budget regulating nuclear power plants, the failures of which have potentially catastrophic health repercussions.


Wendling


Davis


Shaw

An extensive effort

Plain Dealer reporters Dave Davis and Ted Wendling traveled from San Francisco to Burgettstown, Pa., and from Washington, D.C., to West Palm Beach, Fla., to gather records and conduct interviews for this series. They interviewed more than 150 people, including doctors, lawyers, government officials and radiation victims. Brynne Shaw photographed the victims and their families.

The reporters gathered more than 10,000 pages of court records, inspection reports and investigative files kept by the U.S. Nuclear Regulatory Commission and numerous state agencies.

They filed more than 100 requests under the federal Freedom of Information Act and state public records laws, including numerous appeals when documents were denied. One of the appeals prompted the NRC to reverse its policy of withholding the names of people who have died.

The reporters also used a computer to analyze and search more than 1.5 million NRC records. Olivia Wallace provided research and library assistance. This series was directed by City Editor John Griffith.

But even at the nation's most serious reactor accident — the March 1979 meltdown at Three Mile Island in Middletown, Pa. — no deaths or serious injuries have been proven. Critics say that raises questions about the NRC's allocation of resources because less than 5% go toward the regulation of medical institutions.

SEE ERRORS/15-A

FRONT PAGE

(3)

X-ray victim cringes at idea of 'safe' dose

By TED WENDLING
PLAIN DEALER REPORTER

When John Hughes was growing up on Cleveland's West Side in the 1930s, the X-ray was in its heyday.

In shoe stores, curious shoppers exposed themselves to X-rays so they could marvel at the bones in their feet. Doctors X-rayed pregnant women to give parents a glimpse of their unborn children. And the mass media flooded society with stories and programs touting the wonders and potential horrors of life in a fast-approaching atomic age.

It was against this backdrop that Hughes' doctor said he could clear up the 17-year-old's acne with X-rays.

"I remember distinctly the first time my mother and I went to see him," Hughes said. " 'I'll cure it' was the first thing he said. In those days, when a doctor said something, that was the Word — with a capital W."

Once a week for about six months, Hughes dutifully traveled to his doctor's office behind Terminal Tower. While his mother waited outside, the doctor focused the X-ray beam on different parts of the boy's pockmarked face.

Hughes never felt a thing — at least not for the first decade.

SEE DOSE/14-A

This is how Dwight Golstein looked a few weeks before he died of a radiation overdose. Holding his hand is his mother, Barbara.

PD/BRYNNE SHAW

Dwight Golstein's twin brother, Dwayne, 13, listens as his mother describes Dwight's last days.

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Maryland hushed up 20 patients' deaths

By TED WENDLING
PLAIN DEALER REPORTER

If Maryland had been one of the 21 states — including Ohio — regulated by the NRC, most of the records pertaining to the 20 deaths at Sacred Heart would be available under the federal Freedom of Information Act. Medical consumers then could decide whether Sacred Heart and the state acted responsibly.

In October 1988, officials at a Maryland hospital informed the state that 20 patients had died after accidentally receiving overdoses of cobalt radiation.

Another 15 patients who underwent radiation therapy for brain cancer also had received doses that exceeded their prescriptions by 75%, officials at Sacred Heart Hospital in Cumberland told the Maryland Department of the Environment.

Because Maryland has a so-called "agreement state" relationship with the U.S. Nuclear Regulatory Commission — meaning the state fills the NRC's role in the licensing and inspection of nuclear materials other than power plants — the state's Radiological Health Program began an investigation.

What did it find? Maryland citizens will never know.

In what a spokesman for the Environment Department called "the weirdest thing I've seen since I've been here," the Maryland attorney general's office signed an agreement with Sacred Heart in 1989 pledging that all records of the investigation would be withheld from anyone who was not a "subject" of it.

The state further promised not to publicize the agreement or a $9,500 fine of the hospital for failing to promptly report the overdoses.

The agreement also required that in the event a request under the state's Public Information Act forced disclosure of the mere existence of the agreement, the state would notify Sacred Heart to allow the hospital to take "whatever action it deems appropriate to protect its interest."

The result has been a news blackout of what appears to be the most serious radiation incident in the state's history. Sacred Heart officials would not discuss the overdoses, and Neil F. Quinter, the assistant Maryland attorney general who signed the agreement, said the state was "satisfied with the outcome of the corrective action."

Quinter would not discuss that "action," but said the state never determined whether, or how many, deaths were caused by the hospital's error.

"It's questionable whether they contributed to the deaths of 20 people," he said. "That's one of the ambiguities of this case."

Although the National Governors' Association has called the NRC's agreement-state program "one of the most successful state/federal partnerships yet established," the Sacred Heart saga points up what critics say is just one of the program's many problems.

If Maryland had been one of the 21 states — including Ohio — regulated by the NRC, most of the records pertaining to the 20 deaths at Sacred Heart would be available under the federal Freedom of Information Act. Medical consumers then could decide whether Sacred Heart and the state acted responsibly.

Patients also are deprived of important consumer information because of a wide variance in regulations from state to state, and between agreement states and NRC-regulated states. Also, states and the NRC often don't share information.

For instance, patients at the Diagnostic Clinic of Houston might want to know that the clinic's radiation safety officer, Dr. Maynard L. Freeman, was convicted in 1968 on felony counts relating to concealing evidence and failing to report radiation overdoses at the Veterans Administration Medical Center in Hines, Ill.

But they don't, and neither does the Texas Bureau of Radiation Control, which relicensed Freeman.

After being fired by the VA, Freeman moved from Illinois, an NRC-regulated state, to Texas, an agreement state that has what the NRC considers one of the top radiological health programs in the country. The Bureau of Radiation Control checked Freeman's academic qualifications, found them in order and issued him a radioactive materials license.

"Unless somebody informs us officially that somebody is a bad actor, we don't dig into their background," said David Wood, a radiation licensing reviewer in Texas.

Not only does the bureau not dig into applicants' backgrounds, applicants aren't even asked whether they have a criminal record, Wood said. And the NRC has no mechanism to disseminate that information to state programs or hospitals, concedes Carlton C. Kammerer, director of the NRC's Office of State Programs.

"It certainly sounds to me like we'd be delighted to share that kind of information," said Kammerer, a former defensive end for the Washington Redskins. "There may be a gap there that needs to be filled."

Another gap exists in the NRC's enforcement of its so-called misadministration reporting rule.

The rule sets strict standards under which medical institutions must report misadministrations — overdoses, underdoses and other radiation errors. The NRC gives state-run programs three years to pass compatible standards.

But states don't always do it.

California, for instance, waited 10 years, until October 1989, to pass a reporting rule. Consequently, the state's Radiologic Health Branch doesn't know that 9-year-old Dwight Goldstein died from a huge radiation overdose at Alta Bates Medical Center in Berkeley in 1988.

Radiologic health officials said they were unaware of the death but had no responsibility to investigate it because California's reporting rule wasn't in effect then. They said their records showed that no one in California had ever died of an acute medical overdose of radiation.

"There's never been a death that I know of, and I've been in the program since 1968," said Donald Bunn, a senior health physicist.

"It's a cop-out," Dr. Sidney M. Wolfe, director of Public Citizen Health Research Group, said of the agreement-state program. "The NRC, for budget reasons, is up for turning this over to states. And the record of how the states do is pretty clear: Some do well and some do terribly. And that should not be tolerated."

In recent years, the NRC has been at loggerheads with agreement-state program directors, many of whom believe the agency is a dictatorial Big Brother. Although NRC audits have criticized states for not passing compatible regulations, the NRC has never decertified a program against a state's will.

"Reporting misadministrations is just one of the things states have heartburn over," said Greta Dicus, director of Arkansas' Division of Radiation Control. "But the problem is much broader than that. The agreement states regulate more radioactive material than the NRC does and ... in some cases, we believe we have more expertise than the NRC does."

That may be, but medical consumers in Arkansas have cause to question the state's commitment to enforcing radiation safety rules: Arkansas, which has been an agreement state since 1963, has never fined a hospital for radiation violations.

Similarly, Illinois, which has one of the larger agreement-state programs and licenses about 400 medical institutions, has fined just one medical institution for a radiation violation since becoming an agreement state in June 1987.

Dicus simply boasts that radiation programs at Arkansas hospitals are better than elsewhere.

"When we have had an incident at a hospital, they mind it as much as we do," she said. "A fine is another penalty on top of what has occurred. We're lucky. We know the NRC fines a lot, as do other states, but we haven't had to."

Representatives of the nuclear medicine community, most of whom resent any intrusion by government, are split over whether the NRC or the states do a better regulatory job.

"Agreement states can be a boon or a bust," said Dr. Barry A. Siegel, a St. Louis radiologist and chairman of the NRC's Advisory Committee on the Medical Uses of Isotopes. "If you end up with enlightened regulators, who are willing to talk with the medical folks and really understand their problems and try to have an appropriate regulatory balance, then ... you can achieve a comfortable status.

"The bust part would be if your state's got a limited budget and hires people who aren't very qualified, you end up with a hopeless program. It's not very good and it doesn't do a good job of protecting the public. Or, worse yet, you get people whose only approach is, 'I don't know really going on here, but let late the hell out of them.' T come irrational."

NRC officials eventually like to see every state becor regulated, but realize some simply can't afford to operate programs.

"What we say is, 'This is able,'" Kammerer said. "It is tion ... but we're not out beat bushes to tell everybody to an agreement state."

Radiation and you

Radiation is part of the environment around us. It bombar throughout our lives at levels ranging from harmless to dan to lethal.

Scientists measure X-ray or gamma radiation in units calle roentgens. The unit used to express the quantity of radiatio receive is the rem (roentgen equivalent man). The annual permissible occupational dose of whole-body radiation is 5 r

	Whole-body Dosage in rems	Effects & exposures
	<.001	Gamma ray exposure from TV p year.
	.002-.003	Gamma ray exposure at Perry p site boundary per year.
	.08	Dental X-ray.
	25	Lifetime dose from natural backg radiation, including radon exposu
	50	Possible radiation sickness: head dizziness, malaise, nausea, vom diarrhea, decrease in blood pres irritability and insomnia.
	250	Acute radiation sickness, few or deaths and significant life shorter Radiation sickness includes vom diarrhea, loss of hair, nausea, hemorrhaging, fever, loss of appe and general malaise. Recovery (complications) in about three mo
	1,000	Death within 30 days.

SOURCE: National Council on Radiation Protection and Measurements, National Academy of Sciences

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PAGE 14 A BOTTOM

No such thing as safe dose, maintains victim of cancer

FROM/1-A

He went to China, Burma and India, where he served in Army Air Forces intelligence during World War II. Then, in the 40s, after returning to Cleveland, a doctor discovered skin cancer eating away at his nose.

Today, more than 100 surgeries later, Hughes, 76, carries scars caused by the cancer that eventually claimed his nose and disfigured his face. He was overdosed with so much radiation as a young man that any amount now — even from natural sources — is potentially dangerous.

"When I hear the term 'safe exposure,' I wince," he said. "I maintain there's no safe exposure to radiation. That's because it's cumulative."

Although no other carcinogen has been studied as intensively as radiation, scientists disagree on that point, particularly as it relates to low levels of radiation. While some believe low doses pose no risk whatsoever, others are convinced — as is true of lead — that there is a linear progression in which the body's toxic burden increases with each dose.

"Doctors have all sorts of reasons for giving X-rays, but there's no economy of thought going into this process: 'Am I doing this patient any good?'" said Dr. Alice Stewart, an epidemiologist at the University of Burmingham in England. Stewart's landmark research in the 1950s found that even one X-ray to a fetus doubled the risk of contracting leukemia.

"Doctors would argue that it's worth the risk . . . and right now the American doctor is under intense pressure to over-X-ray the patient because of (the fear of) malpractice," said Stewart. "And since it's almost certain that the cancers are not going to surface for many years, the doctors are never going to see the cancers they cause."

Most doctors, however, say the benefits of radiology far outweigh the risks and that the incidence of radiation-induced cancer is small.

"We're always dealing with risk/benefit. The rule I use is if it's a diagnostic test that's indicated, it should be done with the lowest achievable dose, but it should be done," said Dr. Philip N. Cascade, a Michigan radiologist and chairman of the American College of Radiology's quality assurance committee. "There's no authority in the world that can say with certainty how many cancers are going to be induced in women over 40 by exposing them to periodic mammography. But in our best knowledge, we think the benefits outweigh the risks."

Few people argue the point that since the amazing discovery of "X-light" by the German physicist Wilhelm Roentgen in 1895, radiation has revolutionized the healing arts, saving and prolonging countless lives.

Doctors use radiopharmaceutical drugs to detect early cancers and blood clots. Radioactive iodine has almost replaced thyroid surgery. X-ray therapy using megavoltage linear accelerators destroys tumors that once resulted in death or amputation.

"The discovery of X-rays was probably the thing that had the single greatest impact on medicine," said Joel E. Gray, a medical physicist at the Mayo Clinic in Rochester, Minn. "It's the only way you have of looking inside the body without cutting it open."

But since Enrico Fermi's creation of the first sustained nuclear reaction at the University of Chicago 50 years ago this month, modern-day medical advances have been accompanied by more frightening uses of radiation in the nuclear weapons and nuclear power industries. The realization that doses of radiation once thought to be harmless will cause cancer also has given rise to new fears based in part on pulp science fiction and the powerful mythology that surrounds radiation.

The benevolent genie-in-the-bottle departed in Walt Disney's 1957 film "Our Friend the Atom" has been offset by visions of the potential extinction of human life in a so-called nuclear winter. Images of a gleaming, white atomic utopia have been displaced by not-in-my-backyard fears that nuclear waste dumps and incinerators will leave a devastating legacy of cancer and genetic mutations.

"I think many of the problems we're having with radiation issues, particularly disposal problems, is that we haven't adequately informed the public of the issues," said Greta Dicus, director of the Arkansas Division of Radiation Control and past chairwoman of an organization of state radiation programs. "The problem is, when the public's faced with nuclear issues, they overreact. I think it has to do with those of us in the field not doing a good job of talking about the facts.

"When we started using radiation for good things, we didn't make that clear."

Unlike the nuclear power industry, medicine has benefited from the extraordinary trust people place in their doctors.

In researching this series, The Plain Dealer found numerous instances in which patients suspected that doctors or technicians were administering doses of radiation to the wrong areas of their bodies, but allowed it because they assumed the professionals knew what they were doing.

In other cases, identity mix-ups by hospital personnel led to patients being treated with radioactive drugs when they were scheduled for an entirely different medical procedure. Again, some of those patients never questioned the errors beforehand.

"With patients, you get into a situation where it's almost a rat mentality," said James A. Johnson, a lawyer in Rhinelander, Wis., who has represented many people in malpractice lawsuits involving radiological errors. "Where do I go? Do you want me to lie down on this table?"

"There's a lot of trust that you put in those doctors."

Radiation mistakes

Hospitals that reported the most radiation errors on patients between 1983 and 1991.

	Hospital	Number of patients involved
1	Davis Memorial Hospital, *Elkins, W. Va.*	47
2	William Beaumont Army Medical Center, *El Paso, Texas*	29
3	Milwaukee County Medical Complex, *Milwaukee*	23
4	William Beaumont Hospital, *Royal Oak, Mich.*	20
	Mayo Clinic Foundation, *Rochester, Minn.*	20
6	Washington University Medical Center, *St. Louis*	19
	Thomas Jefferson University Hospital, *Philadelphia*	19
8	Washington Hospital Center, *Washington, D.C.*	18
	Graduate Hospital, *Philadelphia*	18
	Fox Chase Cancer Center, *Philadelphia*	18
	Yale-New Haven Hospital, *New Haven, Conn.*	18
	Marshfield Clinic, *Marshfield, Wis.*	18
	Ohio hospitals	
13	Ohio State University Hospital, *Columbus*	17
20	Cleveland Clinic, *Cleveland*	15
27	St. Francis-St. George Hospital, *Cincinnati*	13
	Toledo Hospital, *Toledo*	13
	University of Cincinnati Medical Center, *Cincinnati*	13

NOTE: Figures are for 2,200 hospitals that practice nuclear medicine and radiation therapy in 21 states requested by the NRC.
SOURCE: U.S. Nuclear Regulatory Commission

PD

NRC acknowledges death caused by radioactive iridium-192

When The Plain Dealer filed a Freedom of Information Act request asking for all records of patient deaths resulting from radiation overexposures at U.S. hospitals, the Nuclear Regulatory Commission responded June 8 that it was "not in possession of documents subject to your FOIA request."

Although PD reporters insisted that the agency must be mistaken, NRC spokesman Dick Lavins said there was no need to reconsider the agency's response because he had been assured the NRC had no records of any deaths. "The only thing I can tell you is that's what the staff responded with," he said.

On Dec. 4, as The PD was preparing to publish this five-day series on deaths caused by medical overdoses of radiation, the NRC called a news conference in Indiana, Pa., to announce that a preliminary investigation had determined that an 82-year-old cancer patient had died when a piece of radioactive iridium-192 was accidentally left inside her body for four days.

The woman, identified as Mildred Colgan of Cherry Tree, Pa., died Nov. 21 of "acute radiation syndrome," according to NRC spokesman Karl Abraham.

Both the NRC and the Food and Drug Administration's Center for Devices and Radiological Health are investigating the apparent failure of a machine that was used to surgically implant the iridium into Colgan's rectum.

The agencies also are investigating a separate incident involving an apparently identical machine failure Monday in which a piece of iridium broke off inside a patient during a surgical procedure at the Greater Pittsburgh Cancer Center. In that case, Abraham said the iridium was immediately removed and the patient was not expected to suffer any adverse effects.

COMING UP

Tragedies across Ohio and the U.S

TOMORROW: A series blunders at the Cleveland Clinic in May 1991 led to record third fine by the NRC and prompted a clinic official to call the institution's radiation saf program an embarra ment. So the clinic fixed problem: It fired the rac tion safety officer, who been complaining about olations for years.

TUESDAY: The natio worst radiation ther disaster occurred at Riv side Methodist Hospitals Columbus in 1975-76, though more than 400 p ple received radiation ov doses and at least 28 d the NRC's medical cons tant shut down his inqu because he didn't want expose the hospital to n practice lawsuits.

WEDNESDAY: Ja Matalik doesn't show up NRC records as a radiat therapy casualty beca she took her own life a her doctor burned a hol her chest. Neither d Stella Johnson, e though a radiation ov dose killed her. They among hundreds of peo who are overdosed in nation's hospitals e year.

THURSDAY: NRC inv tigators have caught o ens of hospital officials ing, falsifying records covering up radiation ov doses. Yet only three p ple have been convicted crimes and no one has e gone to jail. Some work at the same hospit

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TOP RIGHT

gram since 1968," said Donald Bunn, a senior health physicist.

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"When we have had an incident at a hospital, they mind it as much as we do," she said. "A fine is another penalty on top of what has occurred. We're lucky. We know the NRC fines a lot, as do other states, but we haven't had to."

Representatives of the nuclear medicine community, most of whom resent any intrusion by government, are split over whether the NRC or the states do a better regulatory job.

"Agreement states can be a boon or a bust," said Dr. Barry A. Siegel, a St. Louis radiologist and chairman of the NRC's Advisory Committee on the Medical Uses of Isotopes. "If you end up with enlightened regulators, who are willing to talk with the medical folks and really understand their problems and try to have an appropriate regulatory balance, then ... you can achieve a comfortable status.

"The bust part would be if your state's got a limited budget and hires people who aren't very qualified, you end up with a hopeless program. It's not very good and it doesn't do a good job of protecting the public. Or, worse yet, you get people whose only approach is, 'I don't know what's really going on here, but let's regulate the hell out of them.' They become irrational."

NRC officials eventually would like to see every state become self-regulated, but realize some states simply can't afford to operate strong programs.

"[illegible] able," Kammerer said. "It is an option ... but we're not out beating the bushes to tell everybody to become an agreement state."

Radiation and you

Radiation is part of the environment around us. It bombards us throughout our lives at levels ranging from harmless to dangerous to lethal.

Scientists measure X-ray or gamma radiation in units called roentgens. The unit used to express the quantity of radiation you receive is the rem (roentgen equivalent man). The annual permissible occupational dose of whole-body radiation is 5 rem.

	Whole-body Dosage in rems	Effects & exposures
	<.001	Gamma ray exposure from TV per year.
	.002-.003	Gamma ray exposure at Perry plant site boundary per year.
	.08	Dental X-ray.
	25	Lifetime dose from natural background radiation, including radon exposure.
	50	Possible radiation sickness; headache, dizziness, malaise, nausea, vomiting, diarrhea, decrease in blood pressure, irritability and insomnia.
	250	Acute radiation sickness, few or no deaths and significant life shortening. Radiation sickness includes vomiting, diarrhea, loss of hair, nausea, hemorrhaging, fever, loss of appetite and general malaise. Recovery (if no complications) in about three months.
	1,000	Death within 30 days.

SOURCE: National Council on Radiation Protection and Measurements, National Academy of Sciences PD

Maryland hushed up 20 patients' deaths

By TED WENDLING
PLAIN DEALER REPORTER

If Maryland had been one of the 21 states — including Ohio — regulated by the NRC, most of the records pertaining to the 20 deaths at Sacred Heart would be available under the federal Freedom of Information Act. Medical consumers then could decide whether Sacred Heart and the state acted responsibly.

In October 1988, officials at a Maryland hospital informed the state that 20 patients had died after accidentally receiving overdoses of cobalt radiation.

Another 15 patients who underwent radiation therapy for brain cancer also had received doses that exceeded their prescriptions by 75%, officials at Sacred Heart Hospital in Cumberland told the Maryland Department of the Environment.

Because Maryland has a so-called "agreement state" relationship with the U.S. Nuclear Regulatory Commission — meaning the state fills the NRC's role in the licensing and inspection of nuclear materials other than power plants — the state's Radiological Health Program began an investigation.

What did it find? Maryland citizens will never know.

In what a spokesman for the Environment Department called "the weirdest thing I've seen since I've been here," the Maryland attorney general's office signed an agreement with Sacred Heart in 1989 pledging that all records of the investigation would be withheld from anyone who was not a "subject" of it.

The state further promised not to publicize the agreement or a $9,500 fine of the hospital for failing to promptly report the overdoses.

The agreement also required that in the event a request under the state's Public Information Act forced disclosure of the mere existence of the agreement, the state would notify Sacred Heart to allow the hospital to take "whatever action it deems appropriate to protect its interest."

The result has been a news blackout of what appears to be the most serious radiation incident in the state's history. Sacred Heart officials would not discuss the overdoses, and Neil F. Quinter, the assistant Maryland attorney general who signed the agreement, said the state was "satisfied with the outcome of its corrective action."

Quinter would not discuss that "action," but said the state never determined whether, or how many, deaths were caused by the hospital's

"It's questionable whether they contributed to the deaths of 20 people," he said. "That's one of the ambiguities of this case."

Although the National Governors' Association has called the NRC's agreement-state program "one of the most successful state/federal partnerships yet established," the Sacred Heart saga points up what critics say is just one of the program's many problems.

If Maryland had been one of the 21 states — including Ohio — regulated by the NRC, most of the records pertaining to the 20 deaths at Sacred Heart would be available under the federal Freedom of Information Act. Medical consumers then could decide whether Sacred Heart and the state acted responsibly.

Patients also are deprived of important consumer information because of a wide variance in regulations from state to state, and between agreement states and NRC-regulated states. Also, states and the NRC often don't share information.

For instance, patients at the Diagnostic Clinic of Houston might want to know that the clinic's radiation safety officer, Dr. Maynard L. Freeman, was convicted in 1988 on felony counts relating to concealing evidence and failing to report radiation overdoses at the Veterans Administration Medical Center in Hines, Ill.

But they don't, and neither does the Texas Bureau of Radiation Control, which relicensed Freeman.

After being fired by the VA, Freeman moved from Illinois, an NRC-regulated state, to Texas, an agreement state that has what the NRC considers one of the top radiological health programs in the country. The Bureau of Radiation Control checked Freeman's academic qualifications, found them in order and issued him a radioactive materials license.

ficially that somebody is a bad actor, we don't dig into their background," said David Wood, a radiation licensing reviewer in Texas.

Not only does the bureau not dig into applicants' backgrounds, applicants aren't even asked whether they have a criminal record, Wood said. And the NRC has no mechanism to disseminate that information to state programs or hospitals, concedes Carlton C. Kammerer, director of the NRC's Office of State Programs.

"It certainly sounds to me like we'd be delighted to share that kind of information," said Kammerer, a former defensive end for the Washington Redskins. "There may be a gap there that needs to be filled."

Another gap exists in the NRC's enforcement of its so-called misadministration reporting rule.

The rule sets strict standards under which medical institutions must report misadministrations — overdoses, underdoses and other radiation errors. The NRC gives state-run programs three years to pass compatible standards.

But states don't always do it.

California, for instance, waited 10 years, until October 1989, to pass a reporting rule. Consequently, the state's Radiologic Health Branch doesn't know that 9-year-old Dwight Golstein died from a huge radiation overdose at Alta Bates Medical Center in Berkeley in 1988.

Radiologic health officials said they were unaware of the death but had no responsibility to investigate it because California's reporting rule wasn't in effect then. They said their records showed that no one in California had ever died of an acute medical overdose of radiation.

"There's never been a death that I

(E

No such thing as safe dose, maintains victim of cancer

FROM/1-A

He went to China, Burma and India, where he served in Army Air Forces intelligence during World War II. Then, in the '40s, after returning to Cleveland, a doctor discovered skin cancer eating away at his nose.

Today, more than 100 surgeries later, Hughes, 76, carries scars caused by the cancer that eventually claimed his nose and disfigured his face. He was overdosed with so much radiation as a young man that any amount now — even from natural sources — is potentially dangerous.

"When I hear the term 'safe exposure,' I wince," he said. "I maintain there's no safe exposure to radiation. That's because it's cumulative."

Although no other carcinogen has been studied as intensively as radiation, scientists disagree on that point, particularly as it relates to low levels of radiation. While some believe low doses pose no risk whatsoever, others are convinced — as is true of lead — that there is a linear progression in which the body's toxic burden increases with each dose.

"Doctors have all sorts of reasons for giving X-rays, but there's no economy of thought going into this process: 'Am I doing this patient any good?' " said Dr. Alice Stewart, an epidemiologist at the University of Birmingham in England. Stewart's landmark research in the 1950s found that even one X-ray to a fetus doubled the risk of contracting leukemia.

"Doctors would argue that it's worth the risk . . . and right now the American doctor is under intense pressure to over-X-ray the patient because of (the fear of) malpractice," said Stewart. "And since it's almost certain that the cancers are not going to surface for many years, the doctors are never going to see the cancers they cause."

Most doctors, however, say the benefits of radiology far outweigh the risks and that the incidence of radiation-induced cancer is small.

"We're always dealing with risk/benefit. The rule I use is if it's a diagnostic test that's indicated, it should be done with the lowest achievable dose, but it should be done," said Dr. Philip N. Cascade, a Michigan radiologist and chairman of the American College of Radiology's quality assurance committee. "There's no authority in the world that can say with certainty how many cancers are going to be induced in women over 40 by exposing them to periodic mammography. But in our best knowledge, we think the benefits outweigh the risks."

Few people argue the point that since the amazing discovery of "X-light" by the German physicist Wilhelm Roentgen in 1895, radiation has revolutionized the healing arts, saving and prolonging countless lives.

Doctors use radiopharmaceutical drugs to detect early cancers and blood clots. Radioactive iodine has almost replaced thyroid surgery. X-ray therapy using megavoltage linear accelerators destroys tumors that once resulted in death or amputation.

"The discovery of X-rays was probably the thing that had the single greatest impact on medicine," said Joel E. Gray, a medical physicist at the Mayo Clinic in Rochester, Minn. "It's the only way you have of looking inside the body without cutting it open."

But since Enrico Fermi's creation of the first sustained nuclear reaction at the University of Chicago 50 years ago this month, modern-day medical advances have been accompanied by more frightening uses of radiation in the nuclear weapons and nuclear power industries. The realization that doses of radiation once thought to be harmless will cause cancer also has given rise to new fears based in part on pulp science fiction and the powerful mythology that surrounds radiation.

The benevolent genie-in-the-bottle depicted in Walt Disney's 1957 film "Our Friend the Atom" has been offset by visions of the potential extinction of human life in a so-called nuclear winter. Images of a gleaming, white atomic utopia have been displaced by not-in-my-backyard fears that nuclear waste dumps and incinerators will leave a devastating legacy of cancer and genetic mutations.

"I think many of the problems we're having with radiation issues, particularly disposal problems, is that we haven't adequately informed the public of the issues," said Greta Dicus, director of the Arkansas Division of Radiation Control and past chairwoman of an organizati state radiation programs. "The lem is, when the public's face nuclear issues, they overre think it has to do with those o the field not doing a good job o ing about the facts.

"When we started using rad for good things, we didn't mak clear."

Unlike the nuclear power ind

NRC acknowledges death caused by radioactive iridium-192

When The Plain Dealer filed a Freedom of Information Act request asking for all records of patient deaths resulting from radiation overexposures at U.S. hospitals, the Nuclear Regulatory Commission responded June 8 that it was "not in possession of documents subject to your FOIA request."

Although PD reporters insisted that the agency must be mistaken, NRC spokesman Dick Lavins said there was no need to reconsider the agency's response because he had been assured the NRC had no records of any deaths. "The only thing I can tell you is that's what the staff responded with," he said.

On Dec. 4, as The PD was preparing to publish this five-day series on deaths caused by medical overdoses of radiation, the NRC called a news conference in Indiana, Pa., to announce that a preliminary investigation had determined that an 82-year-old cancer patient had died when a piece of radioactive iridium-192 was accidentally left inside her body for four days.

The woman, identified as Mildred Colgan of Cherry Tree, Pa., died Nov. 21 of "acute radiation syndrome," according to NRC spokesman Karl Abraham.

Both the NRC and the Food and Drug Administration's Center for Devices and Radiological Health are investigating the apparent failure of a machine that was used surgically implant the iridium ir Colgan's rectum.

The agencies also are investig ing a separate incident involving apparently identical machine fa ure Monday in which a piece of i dium broke off inside a patient du ing a surgical procedure at t Greater Pittsburgh Cancer Cente In that case, Abraham said the i dium was immediately remov and the patient was not expected suffer any adverse effects.

PAGE 14A BOTTOM LEFT

Radiation mistakes

Hospitals that reported the most radiation errors on patients between 1983 and 1991.

	Hospital	Number of patients involved
1	Davis Memorial Hospital, *Elkins, W. Va.*	47
2	William Beaumont Army Medical Center, *El Paso, Texas*	29
3	Milwaukee County Medical Complex, *Milwaukee*	23
4	William Beaumont Hospital, *Royal Oak, Mich.*	20
	Mayo Clinic Foundation, *Rochester, Minn.*	20
6	Washington University Medical Center, *St. Louis*	19
	Thomas Jefferson University Hospital, *Philadelphia*	19
8	Washington Hospital Center, *Washington, D.C.*	18
	Graduate Hospital, *Philadelphia*	18
	Fox Chase Cancer Center, *Philadelphia*	18
	Yale-New Haven Hospital, *New Haven, Conn.*	18
	Marshfield Clinic, *Marshfield, Wis.*	18
	Ohio hospitals	
13	Ohio State University Hospital, *Columbus*	17
20	Cleveland Clinic, *Cleveland*	15
27	St. Francis-St. George Hospital, *Cincinnati*	13
	Toledo Hospital, *Toledo*	13
	University of Cincinnati Medical Center, *Cincinnati*	13

NOTE: Figures are for 2,200 hospitals that practice nuclear medicine and radiation therapy in 21 states regulated by the NRC.
SOURCE: U.S. Nuclear Regulatory Commission

PD

medicine has benefited from the extraordinary trust people place in their doctors.

In researching this series, The Plain Dealer found numerous instances in which patients suspected that doctors or technicians were administering doses of radiation to the wrong areas of their bodies, but allowed it because they assumed the professionals knew what they were doing.

In other cases, identity mix-ups by hospital personnel led to patients being treated with radioactive drugs when they were scheduled for an entirely different medical procedure. Again, some of those patients never questioned the errors beforehand.

"With patients, you get into a situation where it's almost a rat mentality," said James A. Johnson, a lawyer in Rhinelander, Wis., who has represented many people in malpractice lawsuits involving radiological errors. "'Where do I go? Do you want me to lie down on this table?'

"There's a lot of trust that you put in those doctors."

COMING UP

Tragedies across Ohio and the U.S.

TOMORROW: A series of blunders at the Cleveland Clinic in May 1991 led to a record third fine by the NRC and prompted a top clinic official to call the institution's radiation safety program an embarrassment. So the clinic fixed its problem: It fired the radiation safety officer, who had been complaining about violations for years.

TUESDAY: The nation's worst radiation therapy disaster occurred at Riverside Methodist Hospitals in Columbus in 1975-76. Although more than 400 people received radiation overdoses and at least 28 died, the NRC's medical consultant shut down his inquiry because he didn't want to expose the hospital to malpractice lawsuits.

WEDNESDAY: Jean Matalik doesn't show up in NRC records as a radiation therapy casualty because she took her own life after her doctor burned a hole in her chest. Neither does Stella Johnson, even though a radiation overdose killed her. They are among hundreds of people who are overdosed in our nation's hospitals each year.

THURSDAY: NRC investigators have caught dozens of hospital officials lying, falsifying records and covering up radiation overdoses. Yet only three people have been convicted of crimes and no one has ever gone to jail. Some still work at the same hospitals.

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THE PLAIN DEALER SUNDAY DECEMBER 13 1992

Unless a patient's distress is immed medical errors are likely to be overl

FROM/1-A

Interviews and Freedom of Information Act requests found NRC officials unable to identify a single fatality. A computer search of the agency's own database located just two.

Radiation experts claim the annual number of deaths actually is in the thousands, but that they rarely are directly attributable to radiation because radiation-induced cancers are indistinguishable from other cancers.

Some of the radiation errors are made in medical institutions known to have excellent radiation safety programs. But most occur in hospitals where radiation safety is neglected, underfunded and, in some cases, openly scorned.

The PD probe found a vast array of diagnostic and therapeutic blunders routinely deemed to be inconsequential unless patients show immediate signs of distress. That rarely happens because radiation injuries usually take years, even decades, to develop.

The PD also found that some hospital officials fail to report radiation overdoses to the NRC and then lie or try to cover up nuclear medicine program deficiencies. Other cases reveal doctors implicated in criminal misconduct who were never disciplined. And civil fines are so low they embarrass agency officials.

Some of the nation's best hospitals have compiled the worst radiation safety records. They include the Cleveland Clinic and Riverside Methodist Hospitals in Columbus.

"The NRC doesn't do anything to protect patients."

— Walter J. Wolske Jr.
Columbus lawyer

The NRC has fined the clinic $18,875 since 1987, a figure that ranks it No. 4 among all 2,200 NRC-regulated medical institutions. Riverside was the site of the worst radiation catastrophe in modern-day medicine, which occurred in the mid-1970s when more than 400 patients received cobalt overdoses during cancer treatments.

At least 28 Riverside patients died of injuries related to their overdoses, medical reports show.

PLAIN DEALER PHOTO BY TERRENCE SHAW

Barbara Goldstein and her children go through family photos taken before Dwight died. From left to right are Gerald, 12; Barbara; Benjamin, 11; and Carmella, 14.

Unless a patient's distress is immediate, medical errors are likely to be overlooked

Barbara Golstein and her children go through family photos taken before Dwight died. From left to right are Gerald, 10; Barbara; Benjamin, 11; and Carmella, 14.

DWAYNE GOLSTEIN: "It felt like I lost my best friend."

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COLUMN 1

(12)

FROM/1-A

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At least 28 Riverside patients died of injuries related to their overdoses, medical reports show.

"The NRC doesn't do anything to protect patients," said Walter J. Wolske Jr., a Columbus lawyer who represented more than 70 Riverside victims. "Look at Riverside. The hospital burned all those people up and the NRC didn't do anything to them. They found two (actually three) violations, insignificant stuff. One was for a missing sign on a door."

Elsewhere, stories of incompetence and criminal conduct abound.

In Bloomington, Ind., the radiation safety officer and president of Bloomington Hospital lied when questioned about multiple overdoses of radiopharmaceutical drugs, an NRC investigation found. Although the radiation safety officer was convicted of a felony for failing to report an overdose, both he and the president are still on the hospital's staff today.

In Honolulu, a nuclear medicine technologist at Tripler Army Medical Center gave a dose of radioactive iodine-131 to Rensely Phillip, who recently had given birth, but forgot to ask whether she was breastfeeding. Phillip's infant daughter, Pearllyn, subsequently ingested radioactive milk, destroying the baby's growth-regulating thyroid gland.

And in Houston, a West Houston Medical Center technologist destroyed Shi-Jen Wen's thyroid with 30 millicuries of iodine-131, unaware that the dose was 1,000 times stronger than the prescribed dose of 30 microcuries.

"We take the view that probably 80 or 90 percent of the people who are treated ... receive a level of care we would be very pleased with," said NRC Chairman Ivan Selin. "Our responsibility is to try to extend that to 95 or 99 percent."

Achieving that perfect regulatory balance may be impossible because the NRC's regulation of medicine pleases virtually no one — neither the victims of careless hospital practices, nor the nuclear medicine community, which accuses the NRC of invading the sanctity of the doctor-patient relationship.

"The NRC is made up of a bunch of leftover people from the nuclear power industry who don't have anything to do," said Dr. Carol S. Marcus, director of the nuclear medicine outpatient clinic at UCLA-Harbor Medical Center and one of the NRC's most strident critics. "All they do is baby-sit 100 (actually 112) dying nuclear power plants.

"You don't have a federal regulatory agency regulating orthopedic surgeons to make sure that every

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COLUMNS 2-3

AP

IVAN SELIN: "We take the view that probably 80 or 90 percent of the people who are treated . . . receive a level of care we would be very pleased with."

bone they set is done right. God help medicine if every field were to have a bunch of useless regulators like the NRC."

Many serious radiation injuries never come to the NRC's attention. In part, that's because hospitals don't have to report therapeutic overdoses as long as the total dose the patient receives doesn't exceed the prescribed dose by more than 20%. That is true even in cases where the prescribed dose exceeds all recognized medical standards of care.

'The NRC is made up of a bunch of leftover people from the nuclear power industry who don't have anything to do.'

— Dr. Carol S. Marcus, UCLA-Harbor Medical Center

Although the NRC requires hospitals to report radiation "misadministrations" — NRC lingo for overdoses, underdoses and unintended doses — it has no national data on hospital radiation errors because it doesn't require the 29 self-regulated states to report them.

Data on the 21 agency-regulated states — which include Ohio — show that about 475 patients a year are victims of such radiation errors. Scientists at the National Council on Radiation Protection and Measurements, an independent research agency, estimate the number nationally at slightly over 1,400 a year.

At best, that's a rough estimate, said Harriet Karagiannis, an NRC data analyst.

"We haven't come up with any conclusions because it's impossible," she said.

Conclusions also are impossible because the NRC repeatedly has declined to regulate devices such as X-ray machines and supervoltage linear accelerators, which are commonly used in cancer therapy and produce the same kind of radiation as the cobalt unit that killed Dwight Golstein. Overdoses involving X-ray units and accelerators are not required to be reported, except in a few states, unless the error involves a machine malfunction and the patient dies or is seriously injured.

The reported percentage of radiation errors is small when compared with the roughly 7 million diagnostic procedures and 180,000 therapy procedures performed annually in the United States. But critics question the accuracy of NRC statistics because the agency does such a poor job of keeping data on the most serious errors — those that result in death.

"It's not just that they're not reporting the misadministrations; they're not reporting the deaths,"

'Translate that into English and what the NRC is saying is that nobody has ever gotten fatal acute radiation sickness. Well, most of the people who die from radiation exposure don't die immediately, other than the people who were in the closest circle of Hiroshima and Nagasaki.'

— Dr. Sidney M. Wolfe, director, Public Citizen Health Research Group

said David M. Berick, a staff member on the House Subcommittee on Environment, Energy and Natural Resources. "At best, the system isn't working. At worst, they're covering up."

Dr. Sidney M. Wolfe, director of Public Citizen Health Research Group in Washington, is among those who challenge the NRC's contention that deaths from medical overexposures of radiation are rare.

"Translate that into English and what the NRC is saying is that nobody has ever gotten fatal acute radiation sickness," Wolfe said. "Well, most of the people who die from radiation exposure don't die immediately, other than the people who were in the closest circle of Hiroshima and Nagasaki. They don't have any valid data on five or 10 years down the line, when you start seeing the latency period elapsing for the radiation-induced cancers."

Representatives of the American College of Radiology and Society of Nuclear Medicine argue that health concerns are overblown and part of an anti-nuclear hysteria. They are particularly emphatic when discussing diagnostic doses of radiation.

Edward W. Webster, a physicist and professor of radiology at Harvard Medical School, equates diagnostic errors with "giving an aspirin to the wrong person."

UCLA-Harbor's Marcus said, "We burn out between two and four thyroids a year. So the patient has to take thyroid hormone for rest of his life. Nobody dies from it. Nuclear medicine is probably the safest medical specialty that there is."

Despite those protests, the NRC and its predecessor, the Atomic Energy Commission, have long been criticized for having a cozy relationship with the nuclear community. The criticism led Congress to abolish the AEC in 1974 and replace it with the NRC and the Energy Research and Development Administration, now part of the Department of Energy.

But allegations that the watcher is too close to the watched have continued.

A recent example came from the NRC's Office of the Inspector General, its internal watchdog unit.

The 1990 investigation found that the NRC's Office of Nuclear Material Safety and Safeguards had spent eight months secretly drafting a rule-making petition for two nuclear medicine societies.

The NRC staffers believed the NRC had been overregulating nuclear pharmacists, but were concerned that commissioners wouldn't change the rule if the request came from within the agency. So the staffers volunteered to write the proposal to give it "a better chance of succeeding because it would be viewed as having a broad consensus," according to the investigative report.

This family photo shows Dwight, left, and Dwayne at about the time Dwight was diagnosed as having a tumor in his sinus cavity.

After traveling around the country to meet with Marcus and others, the NRC employees drafted the 15-page petition, did the "legal review" and submitted it to commissioners on behalf of the nuclear medicine societies without acknowledging that it was their own work.

Although the NRC investigation found the assistance improper, no disciplinary action was taken because the NRC had no regulations limiting staff assistance. The NRC passed such a rule in March 1991.

Selin, the NRC chairman, dismissed suggestions that the NRC was cozy with the nuclear medicine community.

'We want to be more in the position of an auditor rather than in the position of a record keeper.'

—Ivan Selin, NRC chairman

"These are all reasonable things to do," Selin said. "But they're not right. But it's not because they're cozy with the industry. It's because it's sort of grown up as a reasonably responsible way to do business ... and I think the commission has made it quite clear to the staff that that's not what we'd like to see in the future."

In keeping with the anti-regulatory trend that defined the Reagan-Bush years, Selin believes the NRC should be less didactic toward hospitals.

"The general trend is to get away from what many of us think has been an overly prescriptive approach to the medical side of things — that you must do this, you may not do that ..." he said. "We want to be more in the position of an auditor rather than in the position of a record keeper."

Whatever the NRC's proper role might be, it's irrelevant to Barbara Golstein. To her, the NRC has failed to protect the public health.

Dwight's doctor and the West Coast Cancer Foundation in San Francisco, which did the computer calculations for Dwight's radiation therapy, have paid $500,000 to settle lawsuits. Last Monday, the last defendant, Alta Bates Medical Center, settled for an undisclosed sum.

Dwight was autistic, and Golstein is particularly bitter because the hospital's lawyer questioned her characterization of the quality of Dwight's life and their relationship.

"They wanted to know how it was I could have as normal a relationship with Dwight as with my other children," said Golstein, who is separated and has four other children. "I think what they're trying to say is Dwight was just this thing in the closet, that he was just there and we functioned separately."

Dwight's final days are etched forever into her memory.

She remembers the TV being on and Dwight looking in that direction, but she isn't sure whether the radiation had already blinded him. Because of Dwight's autism, they had developed a special bond over the years that enabled her to feel his joy, his pain and his fear.

"I told Dwight before he died that it was OK to leave us," she said. "He was fighting hard. I told him that he was going to go to heaven and live with Jesus and that it was better for him.

"Three days later, he died."

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LAST OF A SERIES

LETHAL DOSES

RADIATION THAT KILLS

Lies, crimes — and nobody goes to jail

By TED WENDLING and DAVE DAVIS

PLAIN DEALER REPORTERS

It's a long way from Ronceverte, W.Va., to Ketchikan, Alaska, and that's the way Dr. Terry D. Lesko likes it.

It was just over two years ago that Lesko was forced to resign as the staff radiologist and radiation safety officer at Humana Hospital-Greenbrier Valley in scenic southern West Virginia. The area is best known for the Greenbrier hotel, a luxury resort recently revealed as the site of a secret underground bunker members of Congress had built for themselves in the event of a nuclear war.

Whistle-blower

At Humana, just a few miles away, Lesko was a casualty of a nuclear medicine war.

After blowing the whistle in 1990 on Humana's third nuclear medicine scandal in seven years, Lesko moved to Alaska, where he works as a radiologist at Ketchikan General Hospital. Still, he worries that there will be reprisals for having notified the U.S. Nuclear Regulatory Commission that unlicensed physicians were performing nuclear medicine procedures at Humana.

"Humana is very, very powerful," Lesko said. "They are the single most powerful medical corporation in the country. I have to be careful about what I say."

Although former Humana Executive Director Gregory L. Gibson and Associate Director Sherley Ward Jr. also resigned after an investigation by the NRC's criminal division found that they had "neglected to provide complete information" to the NRC, the Humana scandal was typical of NRC hospital probes in that it produced far more sound than regulatory fury.

The probe disclosed that Humana officials provided inaccurate and false information and withheld part of a physics consultant's report that recommended Humana's nuclear medicine department be closed unless serious deficiencies were corrected.

Additionally, Gibson and Ward admitted that four boxes of administration files were destroyed during the probe, NRC records show.

Showing a profit

For those violations and others, Humana Inc. — whose 78-hospital chain showed profits of $292 million during the 1992 fiscal year — paid a $21,500 fine. It was the third largest fine ever levied by the NRC against a medical institution.

Humana spokesman William Shires would not discuss those or past violations, saying simply that the hospital was "committed to complying with the NRC's regulations."

While NRC investigations of medical institutions have repeatedly substantiated allegations that hospital personnel throughout the country lied, falsified records or failed to report radiation overdoses, no one has ever gone to jail as a result of an NRC probe, a Plain Dealer investigation has found.

Since 1982, the NRC has referred 18 hospital investigations to the Justice Department for criminal prosecution. As a result, only three people have been prosecuted and all were convicted.

SEE DECEIVE/16-A

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(2)

Doctors deceive probers, hospitals hide facts — and no one is jailed

FROM/1-A

A fourth defendant, Dr. Charles E. Weinstein, former chief of radiology at Humana-Greenbrier Valley, had his record expunged in 1989 by going through a federal program for first-time offenders. Weinstein was charged after three physicians told the NRC they falsified records at his request to get Weinstein's name added to Humana's nuclear materials license, NRC records show. The three physicians were not charged.

NRC investigators say the lack of prosecutions is frustrating but understandable.

"Who's going to put a doctor in jail?" said Roger A. Fortuna, deputy director of the NRC's Office of Investigations.

In the place of criminal prosecutions, the NRC's investigations and enforcement offices have resorted to using press releases and civil fines to punish medical lawbreakers.

"The first question hospital licensees ask is, 'Are you going to have a press release?' " said James Lieberman, director of the Office of Enforcement. "The second thing they ask is, 'Are you going to issue a civil penalty?' They don't like any fine because any fine puts the hospital in the public domain ... and they want to be perceived — as they are in most cases — as an industry that's trying to serve the public."

Of the two, Lieberman and other NRC officials consider the press release to have more punitive value, in part because fines are so low.

Particularly embarrassing to NRC officials is a fine they issued in an industrial case in 1990 — $875 against General Motors Corp. for losing a gauge containing radioactive cesium. "I'll bet that really broke the bank," quipped NRC public affairs officer Diane Screnci.

Among the 134 fines issued to medical institutions between 1980 and September 1992, 116, or 87%, were $5,000 or less. Penalties against operators of nuclear power plants, which the NRC also regulates, are considerably higher, including seven fines of $100,000 or more last year alone.

"Most of our medical licensees are non-profit organizations," said NRC Chairman Ivan Selin. "They're having a tough time making ends meet. You don't want to fine (a hospital) a million dollars ... unless there's some malfeasance there, not just carelessness.

"On the other hand, the amounts do seem awfully small. They do seem like a slap on the wrist."

Dr. Edward G. Allen, radiation safety officer at Alleghany Regional Hospital in Low Moor, Va., didn't even get a slap on the wrist when he admitted falsifying Weinstein's credentials at Humana. No charges were filed against him.

Allen was one of several physicians who railed against unethical lawyers when the NRC first proposed a rule in the late 1970s that now requires hospitals to report certain radiation errors to patients and the NRC.

"I feel that a report should not be given to the patient ... as this would simply lead to initiation of malpractice suits ..." Allen wrote in an angry July 27, 1978, letter to the NRC. "Under this proposal and the Freedom of Information law, we now have any lawyer that can simply request in the public interest a copy of such a report ... and then proceed to contact the patients involved to initiate malpractice procedures."

But Allen wasn't nearly as concerned about medical ethics in 1985, when Weinstein asked a favor of his old friend. Allen filled out a form in which he falsely claimed that Weinstein had completed 220 hours of clinical training under Allen's supervision, NRC records show.

"It's closed now as far as the NRC is concerned," Allen said when contacted by The PD. "Since it's a closed matter, I'm not going to discuss it."

Many lawyers who specialize in medical malpractice criticize the NRC for being too lenient. But almost all nuclear medicine professionals consider the agency too aggressive.

"I think one of the key issues, rightly or wrongly, is that the NRC is viewed by many people in the medical community as being excessively adversarial in terms of the way they deal with people," said Dr. Barry A. Siegel, a St. Louis radiologist and chairman of the NRC's Advisory Committee on the Medical Uses of Isotopes.

"They seem to be interested in working hard to find the bad apples, fine them, put them out of business, punish them and expose them to public ridicule through press releases — as opposed to being a little bit more collegial...

"If I were to pick a single thing that has irked people ... it would be the notion that by turning on the regulatory screws, that somehow the NRC would make the practice of nuclear medicine failsafe. You can't do it. Medicine can't be made failsafe."

Although hospital officials feel burdened by the paperwork the NRC imposes, the agency's records show it rarely turns on the regulatory screws. And even when it does, hospitals often don't follow up with administrative sanctions.

Of the three people who were convicted as a result of NRC hospital probes, two are still practicing — one at the same hospital at which he worked when he was convicted.

That doctor, Glenn B. Mather, intentionally failed to report four overdoses of radiopharmaceutical drugs because he thought it involved "too much paperwork and red tape," according to a 1985 NRC investigation report. Mather was director of nuclear medicine and the radiation safety officer at Bloomington Hospital in Indiana.

The investigation disclosed that Mather made false statements, withheld records and instructed employees to lie to NRC investigators to impede their probe.

It also found that hospital President Roland E. Kohr, who defended Mather as a "man of integrity," provided false information when asked about one of the overdoses.

(7)

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— Dr. Barry A. Siegel, chairman, NRC advisory committee

Although Mather pleaded guilty in 1989 in U.S. District Court in Indianapolis to a felony count of failing to report an overdose, he remains at Bloomington Hospital as a staff radiologist. He received a suspended sentence and was fined $1,050.

Kohr was not prosecuted and is still president.

"Certainly, nothing's been kept from anybody," said Bloomington lawyer James L. Whitlatch, who represents the hospital. "People at the hospital are aware of what the charges were and Dr. Mather paid the debt he had to pay."

When asked why the hospital's ethics policy didn't call for Mather and Kohr to be fired or disciplined,

'The first question hospital licensees ask is, "Are you going to have a press release?" ' The second thing they ask is, 'Are you going to issue a civil penalty?" '

— James Lieberman, director, NRC Office of Enforcement

Whitlatch said: "They understand Dr. Mather made a mistake and that he corrected it. . . . I certainly don't think Mr. Kohr did anything wrong."

A spokeswoman for the Indiana Medical Licensing Board said no action was taken by the state against Mather because no one had notified the board of his conviction.

Eugene T. Pawlik, director of the NRC's regional Office of Investigations in Glen Ellyn, Ill., said he wasn't surprised to learn that Mather still worked at Bloomington Hospital.

"Not really. This is America," Pawlik said. "I've been at this a long time. . . . If I started worrying about what happened to the people we investigate, it would eat me up."

Consequently, hospitals whose employees have been implicated in wrongdoing often don't worry either.

At Grant Memorial Hospital in Petersburg, W.Va., Dr. Karl J. Reckenthaler, the radiation safety officer, admitted to NRC investigators that he allowed another doctor to create records of never-held radiation safety meetings for four years because he considered the mandatory meetings "just another ridiculous government regulation."

Reckenthaler is still a staff radiologist at Grant, which discontinued its nuclear medicine program as a result of the NRC investigation. Hospital administrator Robert Harman said he saw no need to take disciplinary action against Reckenthaler because the NRC never did.

At Mercy Hospital in Wilkes-Barre, Pa., an NRC investigation found that Dr. Salvatore M. Imperiale, the radiation safety officer, told a nuclear medicine technician not to notify the NRC that a patient scheduled for a chest X-ray had mistakenly been given a dose of a radiopharmaceutical drug used for liver scans.

Although the NRC ordered Imperiale's removal as the hospital's radiation safety officer and suspended him for one year, he is still a staff radiologist at Mercy. Administrators there would not comment, but Imperiale said they took no additional disciplinary action against him. He said he should have reported the mistake, but didn't because the dose "was really of no consequence" and hadn't harmed the patient.

Likewise, administrators at Milford Memorial Hospital in Milford, Del., never disciplined Radiation Safety Officer Dr. Santos F. Delgado and Julie E. Greenly, a nuclear medicine technologist, after Greenly and another technologist admitted to NRC investigators that they had not done dose-calibration tests from May 1986 to December 1986. The technologists then falsified records to indicate that the tests had been done.

Calibration tests, which take less than a minute to perform, are designed to ensure that doses of radioactive drugs given to patients are accurate.

NRC investigators also learned that Delgado had not held NRC-mandated radiation safety meetings for at least 14 years. Instead, he had instructed a secretary to retype the same minutes over and over for distribution to ghost "participants."

One of those people was Dr. Abraham J. Strauss, who replaced Delgado when the NRC ordered Delgado removed as radiation safety officer. Strauss told investigators he never complained about the falsified minutes because "it was his (Delgado's) business and responsibility."

When asked why Delgado listed him as attending the meetings, Strauss told the NRC, "I don't know. Maybe he needed a quorum."

Today, both Delgado and Greenly remain on Mercy's staff. Hospital spokeswoman Dawn Suitor said because the NRC took action, the matter didn't warrant further discipline by the hospital.

"There was no way that patient care was neglected or impacted from this," Suitor said. "Like all hospitals, we have an ethics policy, but the administration felt that the NRC took their separate actions on the matter."

In other cases, the NRC has permitted doctors it has accused of wrongdoing to become licensed elsewhere.

In October 1986, six months after the NRC ordered Mather removed as radiation safety officer at Bloomington Hospital, the agency relicensed him at Morgan County Memorial Hospital in Martinsville, Ind.

Doctors deceive -

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In another case, the University of Cincinnati fired radiation safety officer Kenneth M. Fritz after a series of NRC investigations found numerous violations, including failure to adequately train employees, losing radioactive material, and improperly disposing of radioactive material in sanitary sewers and trash.

Although the NRC commended the university for its prompt action, the agency allowed Fritz to serve in the same capacity at Miami (Ohio) University and at the Veterans Administration Medical Center in Cincinnati.

Fritz is still the radiation safety officer at the Cincinnati veterans hospital.

When Fritz was fired in 1989, a consultant warned university officials of serious deficiencies in the radiation safety program. The consultant also said there was a substantial risk the university could lose its nuclear materials license.

Although NRC investigators determined that Fritz's deputy, Prince Jason, had concealed records, they could not substantiate allegations by Jason that Fritz had ordered Jason to conceal evidence from the NRC. It was on that basis, NRC officials said, that they did not prevent Fritz from being licensed at Miami and UC.

In an interview, Fritz defended his 20 years at UC, saying he ran a good radiation safety program. He said many of the university's problems occurred after he left and had nothing to do with him.

"Keep in mind that they were fined ($10,750) a year or two after I left and after they spent over a million dollars on a consulting firm," Fritz said. "We were never fined while I was there. I never had a problem with the NRC."

Jason countered: "He was the one who issued the directive. I did what I did because he was my superior."

Despite all the criticism of the NRC, Lieberman, the agency's enforcement director, said the NRC is doing all it can to live up to its mission to "protect the public health and safety."

"Obviously, there are only so many resources, and this is a tight area," he said. "We would prefer to have more inspectors, but in this day and age you can't have that.

"What concerns me is we closely regulate nuclear activities. What happens in the rest of the medical community that isn't closely inspected or regulated?"

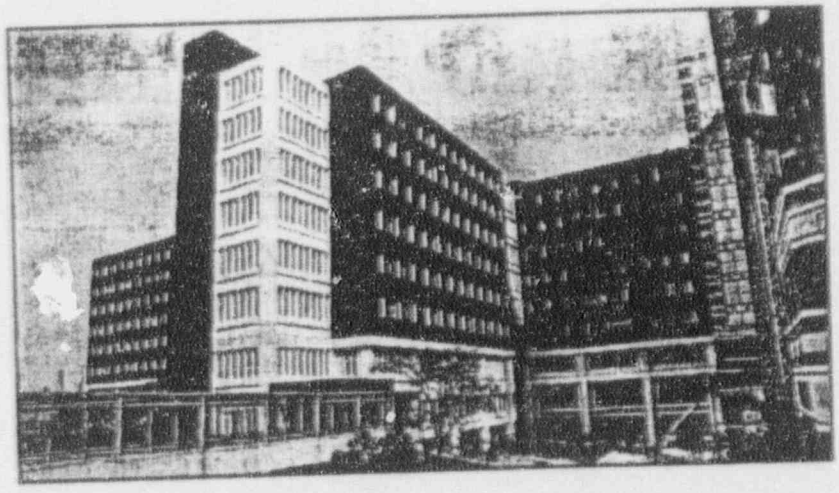
White lies

Caught in the act

University of Cincinnati Hospitals, Cincinnati

In 1989, the university fired radiation safety officer (RSO) Kenneth M. Fritz after NRC investigators found numerous radiation safety violations, including inadequate training of employees, losing radioactive material and improperly disposing of radioactive material.

Fritz had issued a written gag order, prohibiting employees from contacting any outside agency about radiation safety problems. One technician was fired for informing the NRC of problems. NRC investigators found that Prince Jason, the deputy RSO, had ordered a technician to hide records that would have revealed that the university had lost some radioactive nickel-63. The investigation also disclosed that the radiation safety office, including Fritz



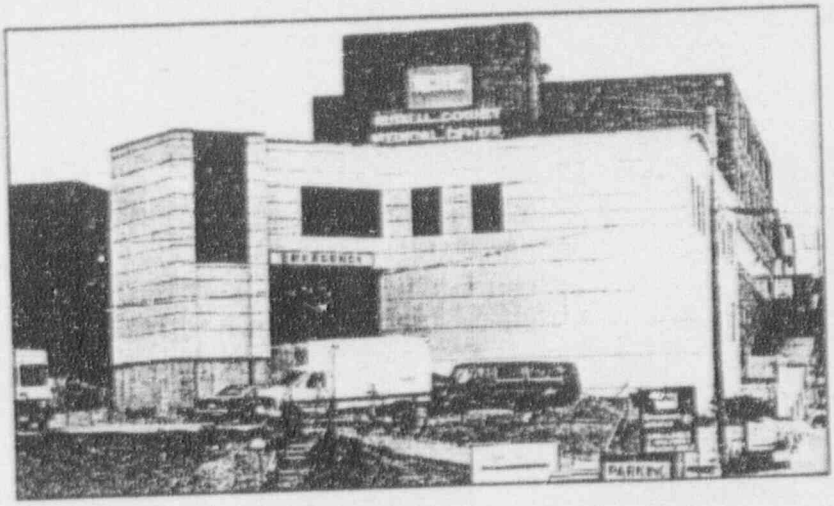
personally, was providing unauthorized for-profit services, including radiation-leak testing and waste brokerage services, to other NRC licensees.

The NRC fined the university $8,750 on Sept. 20, 1991, and another $2,000 on May 1, 1992. The case involving Jason was referred to the Justice Department, which declined to prosecute. Fritz is now RSO at the Cincinnati veterans hospital.

Russell County Medical Center, Lebanon, Va.

Darrell C. (Hal) Murray, former chief nuclear medicine technologist, admitted to NRC investigators that between June 1982 and April 1986, he intentionally administered huge overdoses of diagnostic radiopharmaceuticals to dozens of patients to speed up the imaging time and lessen his workload. Murray then falsified records to indicate that patients had received the prescribed doses rather than the delivered doses. Murray told investigators the overdoses were necessary for obese patients "to overcome the effects of fat tissue." Doctors said the claim has no medical foundation.

The NRC fined the hospital $3,750 on March 16, 1990. Murray pleaded



guilty Aug. 21, 1989, in U.S. District Court in Roanoke, Va., to a felony count of violating the Atomic Energy Act. He was placed on five years' probation and ordered to perform 300 hours of community service.

White Lies
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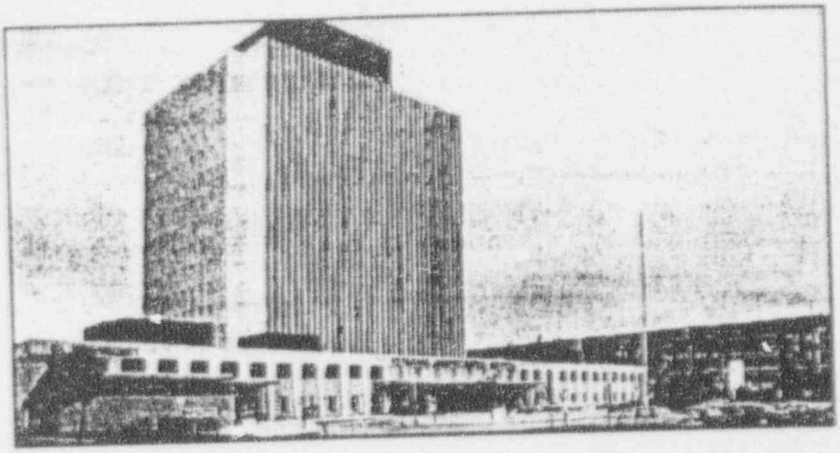
Edward Hines Jr. VA Hospital, Hines, Ill.

An NRC investigation in 1987 found that Dr. Maynard L. Freeman, assistant chief of nuclear medicine, failed to report two diagnostic overdoses and then lied to NRC investigators, destroyed and falsified evidence, and attempted to influence the testimony of a witness.

The NRC issued no fine. Freeman pleaded guilty July 14, 1988, in U.S. District Court in Chicago to willful failure to report misadministrations and concealing information pertaining to misadministrations, both felonies. He received three years' probation, a $10,000 fine and was ordered to perform 300 hours of community service. The Illinois Department of Professional Regulation, which licenses doctors to practice medicine,



issued Freeman a written reprimand in September 1990, but took no action against his license. "Basically, it was a slap on the wrist," said a department spokeswoman. "We kind of officially told him he did wrong." Freeman is now licensed to practice nuclear medicine in Texas and is RSO at the Diagnostic Clinic of Houston.

Lafayette Clinic, Detroit

A 1989 investigation by the NRC determined that Dr. Natraj Sitaram, a researcher, deliberately violated the clinic's license by ordering and using radioactive phosphorus-32 without certification. The investigation found that the clinic subsequently discriminated against radiation safety officer Dr. Lew M. Hryhorczuk by firing him for bringing safety problems, including Sitaram's violation, to the attention of his superiors and the NRC. Investigators also concluded that Dr. Thomas M. Sullivan, the clinic's former acting director, "deliberately misled" the NRC when he told investigators he was unaware that Hryhorczuk had been fired as RSO. NRC records show that it was Sullivan

who fired Hryhorczuk, after which Sullivan also appointed Sitaram to the clinic's radiation safety committee.

The NRC fined the clinic $11,500 on Oct. 3, 1991, and barred Sitaram and Sullivan from being involved in NRC-licensed activities for three years. The agency also referred the case to the Justice Department, which declined to prosecute. The clinic went out of business in October.

White lies
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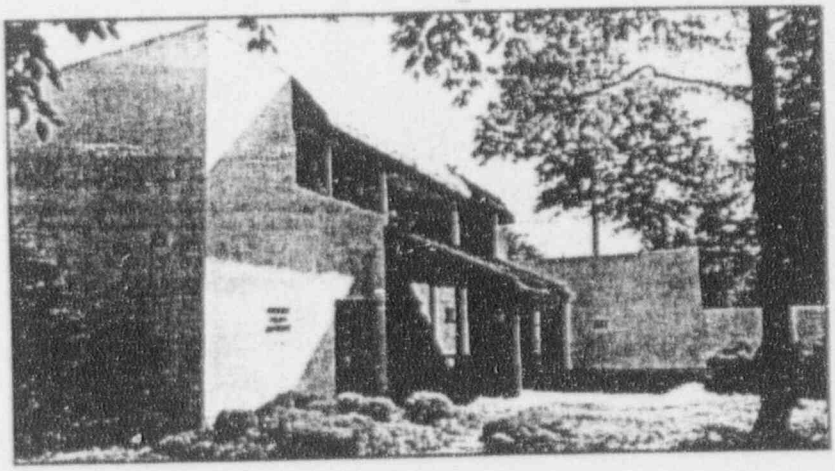
Virginia Heart Institute Richmond, Va.

In 1990, an NRC investigation found that owner Dr. Charles L. Baird Jr. had been routinely administering radiopharmaceuticals since 1979 without a license, even though he previously had been advised to obtain certification. Baird also provided false information to the NRC by listing Dr. William S. Dingledine as the heart institute's only licensed user of nuclear materials despite the fact that Dingledine never worked there. Dingledine, who was employed in the medical department of Virginia Power Co., also submitted false documents to the NRC, certifying that he supervised Baird's performance of nuclear medicine procedures. Such supervision would have allowed Baird to legally use radiopharmaceutical drugs even though he had been rejected for a license by the NRC because of insufficient training.

The NRC did not issue a fine, nor did it refer the case to the Justice Department.



Lakeview Hospital, Wauwatosa, Wis.

An NRC investigation found that between 1976 and 1980, dozens of patients were routinely given double doses of radiopharmaceuticals for diagnostic scans of the brain, bones, liver, spleen and lungs. The overdoses were intended to decrease scanning time and obtain brighter images. Two technicians, who were later fired by the hospital, also falsified records to indicate that the proper dosages were given.

The NRC did not issue a fine, nor did it refer the case to the Justice Department.

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THE PLAIN DEALER

LARGEST NEWSPAPER Cleveland, Tuesday, Dec. 15, 1992 LAKE/GEAUGA

PART 3 OF A SERIES **LETHAL DOSES** RADIATION THAT KILLS

PATTY RUZICKA Dead at age 41

Cover-up

28 burned bodies, but feds looked the other way

By DAVE DAVIS and TED WENDLING
PLAIN DEALER REPORTERS

COLUMBUS

The ominous news landed in front of Patty Ruzicka's suburban Columbus home on April 16, 1976. Her husband, Gus, saw the front page headline first. "Riverside Cancer Patients Given Radiation Overdose."

The words chilled him. Patty had been sicker than ever since her radiation treatments for breast cancer had ended at Riverside Methodist Hospitals in Columbus three months before.

She was only 41, the mother of four children. He thought about how she was so weak he had to help her bathe, about the slow-growing burn eating away at her back, devouring the very area where doctors had beamed radiation for six months.

"Patty, you're not going to believe what's in the paper," he said, handing her the bad news. In that instant, her worst fears were confirmed.

"Oh my God, what did they do to me?"

Six weeks later, Patty Ruzicka was dead.

Although the Franklin County coroner eventually ruled that radiation overexposure was a major factor in her death, the U.S. Nuclear Regulatory Commission, the federal agency responsible for protecting patients against such mistakes, knows nothing about what happened to Ruzicka.

NRC officials say only two people died of radiation injuries after being treated at Riverside. Ruzicka was not among them. A Plain Dealer investigation has found 26 others, including Ruzicka, who died from the overexposures at Riverside, according to death certificates and autopsy reports.

Nationally, The PD found evidence that at least 40 people have died since 1975 from acute medical overdoses of radiation and that hundreds more are injured or receive significant radiation overdoses every year in U.S. hospitals.

In the case of Riverside, the NRC doesn't know the [illegible]

meltdown at Three Mile Island in Middletown, Pa., or any other nuclear power accident in the United States.

Ruzicka was among 413 cancer patients who received overdoses of cobalt radiation at Riverside in 1975 and 1976 when Joel C. Aziz, a young radiation physicist, made a serious error in calculating their treatment times.

NRC investigators determined the cause of the mistake — Aziz used the wrong graph paper to chart the strength of the radioactive cobalt. Questions about the harm done to patients were more complex, so the agency hired Saenger to produce independent medical evaluations on every patient involved.

Saenger, however, performed the evaluations on just three patients — all of them dead by the time the tragedy was discovered. Two of them, he determined, had died as a result of radiation poisoning.

Saenger didn't evaluate the health of any of the patients still living.

Despite overwhelming evidence that hundreds of others were killed or seriously injured by the radiation, the NRC dropped its probe at Saenger's recommendation. In doing so, it ignored the pleadings of some within its own ranks.

In August 1976, Chief Counsel Peter L. Strauss told NRC commissioners they had a moral obligation to determine who had been injured at Riverside and what risk those injuries posed to their long-term health.

Strauss said he recognized the "sensitive questions" involving the hospital's liability.

"Nevertheless, the potentially explosive nature of the affair makes it prudent as well as humane for the NRC in its position of radiation safety leadership to make a substantial effort to assist those who may have been injured," Strauss said in his briefing.

Sixteen years later, NRC officials concede they did nothing to assist victims. They say they kept records on just three patients. They do not know who the other 410 victims were or what has happened to them since the mid-1970s.

Riverside Hospital officials turned down repeated requests for interviews for this story. "There is nobody

COVER STORY - ILLUSTRATIONS

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PART 3 OF A SERIES **LETHAL DOSES** RADIATION THAT KILLS

PATTY RUZICKA Dead at age 41

EDNA GAIL VALENTINE
Dead at age 25

AGNES CARRO
Dead at age 48.

COVER STORY

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Nationally, The PD found evidence that at least 40 people have died since 1975 from acute medical overdoses of radiation and that hundreds more are injured or receive significant radiation overdoses every year in U.S. hospitals.

In the case of Riverside, the NRC doesn't know the fate of hundreds of people who were injured by the radiation overdoses.

That's because Dr. Eugene L. Saenger, the agency's medical consultant, in part fearing that his work would encourage lawsuits against the hospital, cut short the investigation of what turned out to be the worst radiation disaster in modern-day medicine. In terms of human fatalities, the Riverside catastrophe has proven to be far more serious than the March 1979 meltdown at Three Mile Island in Middletown, Pa., or any other nuclear power accident in the United States.

Ruzicka was among 413 cancer patients who received overdoses of cobalt radiation at Riverside in 1975 and 1976 when Joel C. Axt, a young radiation physicist, made a serious error in calculating their treatment times.

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Sixteen years later, NRC officials concede they did nothing to assist victims. They say they kept records on just three patients. They do not know who the other 410 victims were or what has happened to them since the mid-1970s.

Riverside Hospital officials turned down repeated requests for interviews for this story. "There is nobody — the incident obviously being so old — who could knowledgeably talk to you about it," said hospital spokeswoman Teri Krivanek.

Ivan Selin, the NRC's chairman, said he had never heard of the Riverside accident. "You're not really going to ask me about something that happened 15 years ago, are you?" he asked.

SEE COVER-UP/11-A

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ryone wanted Dr. Saenger.

cials at the U.S. Nuclear Regu- Commission wanted him to ut the damage caused by the radiation accident in modern- edicine.

inistrators at Riverside Meth- Hospitals in Columbus, where accident occurred in 1975 and wanted him to help fix their radiation safety program.

victims and their families d him to explain how patients ed or been injured.

the research that established ugene L. Saenger as a leading on the biological effects of ra- n also made him one of the controversial doctors in the y.

four years earlier, the presi- f the University of Cincinnati, hool where Saenger taught ra- y, halted an 11-year-long ex- ent Saenger had undertaken e Department of Defense's weapons program. The presi- was reacting to concerns raised e school's faculty, the media ongress.

he experiment, Saenger ex- poor, terminally ill cancer pa- to radiation at levels comparable those expected to be found on ear battlefield.

he early years, patients were told only that the radiation was to help treat their disease. Later, they were asked to sign consent forms that stated they were participating in a "scientific investigation" that would advance medicine and mankind.

Critics charged that the sole purpose of the research was to help the Pentagon better understand the physical and psychological effects of radiation on the combat readiness of troops.

Saenger, however, maintains that the patients received the radiation for medical reasons, to give them relief from their cancers. The fact that the research could be used by the Department of Defense was just an added benefit, he said.

"In terms of evaluating the effect (of radiation) on the central nervous system and judgment, these are ang the very few studies that have ever been done, and they have been used by various agencies in the Department of Defense off and on for years," Saenger said in an interview.

"There have been very few people with the vision to do what we did. I don't make any apologies for it at all. I think it was darn good work. The only regret I have is that we didn't do more."

Of the 87 people who took part in the experiments, 84 were charity patients, and 61 were black. They had an average schooling of five years. Their average IQ was 86, well below the national average of 100.

In an early report, Saenger's team stated that all of the patients were in "relatively good health" and not in the final stages of their disease.

Even so, 25 of them died within 60 days of receiving radiation treatments, according to the doctors reports.

Patients received up to 250 rads of radiation — a dose at which more than 20% of them would be expected to die of severe infections resulting from a weakened immune system, medical experts say.

The doctors produced about 800 pages of reports for the Pentagon. The university medical center received more than $850,000. Saenger said the patients all knew exactly what was being done to them, a contention others at the university challenged.

The university's Junior Faculty Association Committee investigated the research, concluding in its 1972 report that "many patients in this project paid severely for their participation and often without even knowing that they were part of an experiment."

The committee said it found no evidence that the experiments were linked to any sort of cancer study.

"We were firmly unanimous in saying that this could not go forward unless it was changed dramatically," said Dr. Edward P. Radford, who as director of the university's Kettering Laboratory took part in the review of Saenger's research. "And part of the change meant that they would have to carefully explain to patients that this was not for their benefit, and that it was a significant radiation exposure that might hasten the death."

Radford, now retired and living in England, is an internationally known expert on the effects of radiation.

"We didn't feel that the Saenger group was careful enough in explaining ... that this radiation was really intended as a treatment, that was really an experiment."

University of Cincinnati professor Dr. Eugene L. Saenger says, "I could not see myself spending the rest of my life in Columbus investigating whether Mr. Smith . . . maybe died a little sooner than somebody thought he should have."

hronology of events at Riverside

ember 1974 — Joel C. Ast, a ine radiation physicist, begins the wrong type of graph paper ulate the strength of the radio- obalt used in the hospital's treatment machine. The error undetected until January 1976, ng in radiation overdoses to han 400 patients treated with

time, a 25-year-old elementary school teacher from Columbus, dies of radiation injuries. She is the first of at least 28 Riverside patients to die from the overdose.

Jan. 30, 1976 — Ast notifies hospital staff that patients have been overdosed. He blames the error on an

Riverside patients for the first time that they have received overdoses of radiation. The stories say 275 patients were overdosed. "Some people may experience side effects," a hospital spokesman says, "but most people have little, if anything, to worry about."

That

leading expert on the biological effects of radiation, arrives at Riverside to begin an investigation. Saenger immediately appears at a news conference with Riverside officials and praises them for their quick actions and concern for patients.

May 6, 1976 — Ast admits to hospital officials that his error, not an

Hospital says issue long settled

Riverside Methodist Hospitals officials declined to discuss the overexposures of 413 people at their hospital in the mid-1970s. The hospital's chief executive officer, Eric Chapman, issued a statement that said:

"Partly as a result of this tragic accident, we now have one of the safest and finest radiation depart-

highest level of accreditation from the Joint Commission on Accreditation of Health Care Organizations and the American College of Radiology.

"The lawsuits from this incident have long since been settled. We have always said that the [illegible] remaining was to honor [illegible] who suffered [illegible] ... [illegible]

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Chronology of events at Riverside

September 1974 — Joel C. Axt, a Riverside radiation physicist, begins using the wrong type of graph paper to calculate the strength of the radioactive cobalt used in the hospital's cancer-treatment machine. The error goes undetected until January 1976, resulting in radiation overdoses to more than 400 patients treated with the machine.

March 1975-January 1976 — Physicians and a deputy coroner at Riverside raise concerns in staff meetings about what they say are excessive side effects from radiation treatments. They are assured by administrators that the burns and other problems result from differences in how individual patients tolerate radiation.

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Hospital says issue long settled

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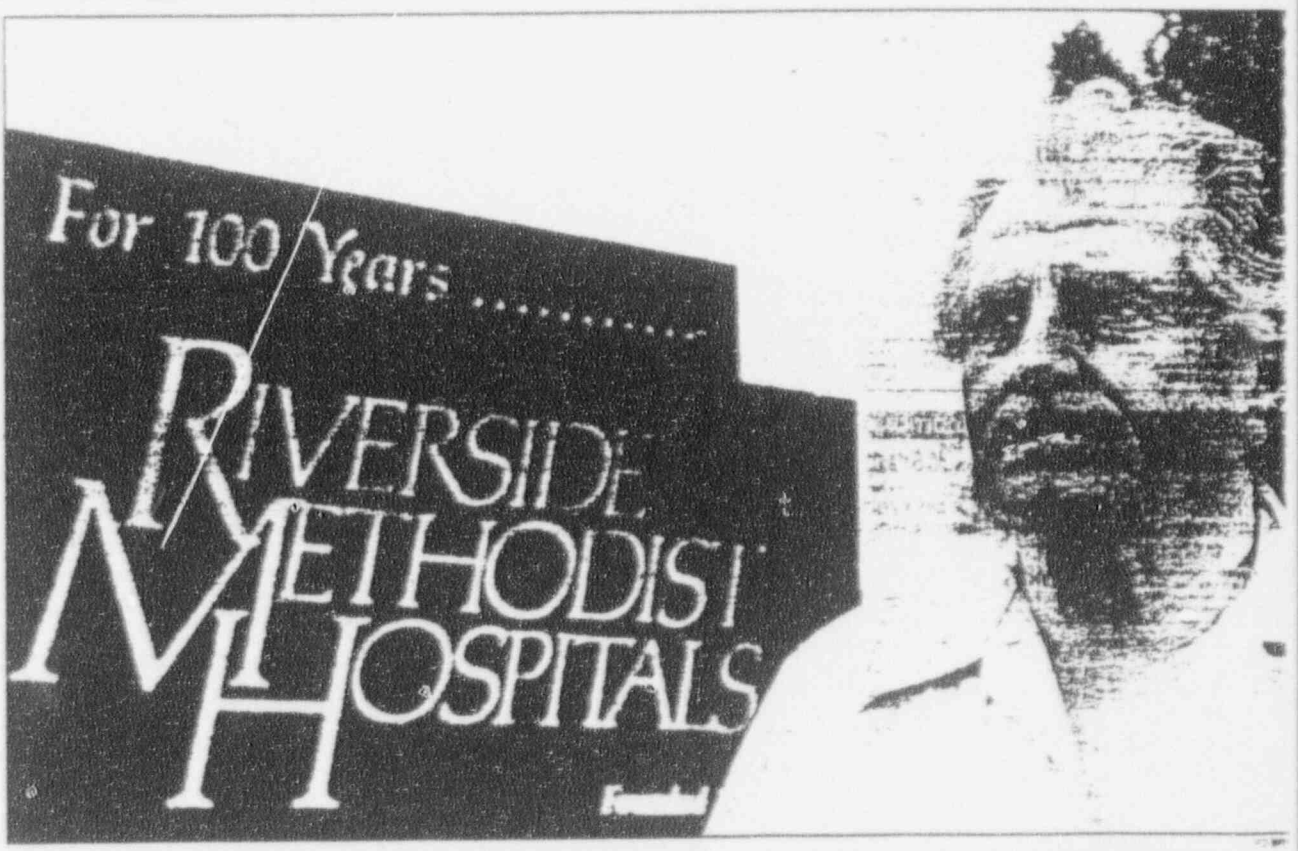

Nick Carro stands in front of Riverside Hospitals in Columbus, where his wife, Agnes, was among 400 people who received overdoses of radiation during cancer treatm[illegible] the mid-1970s. She died. "I was going to change my life some way, but I never got around to it. When you've been married that long, you get lonely and sort of depres[illegible]

Investigator of tragedy overdosed poor patients

By DAVID DAVIS
PLAIN DEALER REPORTER

CINCINNATI

Everyone wanted Dr. Saenger.

Officials at the U.S. Nuclear Regulatory Commission wanted him to sort out the damage caused by the worst radiation accident in modern-day medicine.

Administrators at Riverside Methodist Hospitals in Columbus, where that accident occurred in 1975 and 1976, wanted him to help fix their flawed radiation safety program.

And victims and their families wanted him to explain how patients had died or been injured.

But the research that established Dr. Eugene L. Saenger as a leading expert on the biological effects of radiation also made him one of the most controversial doctors in the country.

Just four years earlier, the president of the University of Cincinnati, the school where Saenger taught radiology, halted an 11-year-long experiment Saenger had undertaken for the Department of Defense's atomic weapons program. The president was reacting to concerns raised by the school's faculty, the media and Congress.

In the experiment, Saenger exposed poor, terminally ill cancer patients to radiation at levels comparable to those expected to be found on a nuclear battlefield.

In the early years, patients were told only that the radiation was to help treat their disease. Later, they were asked to sign consent forms that stated they were participating in a "scientific investigation" that would advance medicine and mankind.

Critics charged that the sole purpose of the research was to help the Pentagon better understand the physical and psychological effects of radiation on the combat readiness of troops.

Saenger, however, maintains that the patients received the radiation for medical reasons, to give them relief from their cancers. The fact that the research could be used by the Department of Defense was just an added benefit, he said.

"In terms of evaluating the effect (of radiation) on the central nervous system and judgment, these are among the very few studies that have ever been done, and they have been used by various agencies in the Department of Defense off and on for years," Saenger said in an interview.

"There have been very few people with the vision to do what we did. I don't make any apologies for it at all. I think it was darn good work. The only regret I have is that we didn't do more."

Of the 87 people who took part in the experiments, 84 were charity patients, and 61 were black. They had an average schooling of five years. Their average IQ was 86, well below the national average of 100.

In an early report, Saenger's team stated that all of the patients were in "relatively good health" and not in the final stages of their disease.

Even so, 25 of them died within 60 days of receiving radiation treatments, according to the doctors' reports.

Patients received up to 250 rads of radiation — a dose at which more than 20% of them would be expected to die of severe infections resulting from a weakened immune system, medical experts say.

The doctors produced about 900 pages of reports for the Pentagon. The university medical center received more than $850,000. Saenger said the patients all knew exactly what was being done to them, a contention others at the university challenged.

The university's Junior Faculty Association Committee investigated the research, concluding in its 1972 report that "many patients in this project paid severely for their participation and often without even knowing that they were part of an experiment."

The committee said it found no evidence that the experiments were linked to any sort of cancer study.

"We were firmly unanimous in saying that this could not go forward unless it was changed dramatically," said Dr. Edward P. Radford, who as director of the university's Kettering Laboratory took part in the review of Saenger's research. "And part of the change meant that they would have to carefuly explain to patients that this was not for their benefit, and that it was a significant radiation exposure that might hasten their death."

Radford, now retired and living in England, is an internationally known expert on the effects of radiation.

"We didn't feel that the Saenger group was careful enough in explaining ... that this radiation was not really intended as a treatment, that it was really an experiment."

AP 1979 photo

University of Cincinnati professor, Dr. Eugene L. Saenger says, "I could not see myself spending the rest of my life in Columbus investigating whether Mr. Smith . . . maybe died a little sooner than somebody thought he should have."

Page 10-A Illustration
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Chronology of events at Riverside

September 1974 — Joel C. Axt, a Riverside radiation physicist, begins using the wrong type of graph paper to calculate the strength of the radioactive cobalt used in the hospital's cancer-treatment machine. The error goes undetected until January 1976, resulting in radiation overdoses to more than 400 patients treated with the machine.

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Patricia J. Ruzicka, 41, of Blacklick, O. Homemaker and mother of four. Died June 1, 1976.

Leah Wanda Henderson, 66, of Columbus. Died June 2, 1976.

Donald E. Manning, 45, of Columbus. Insurance underwriter and father of three. Died June 24, 1976.

Everett L. Disbennett, 70, of Delaware, O. Retired Realtor. Died June 30, 1976.

Claude E. Springer Sr., 65, of Hilliard, O. Father of six. Died July 3, 1976.

Edna Wells, 65, of Upper Arlington. Homemaker, bookkeeper and mother of one. Died July 13, 1976.

Velma S. Earley, 66, of Columbus. Died July 27, 1976.

Janice Elizabeth Renz, 57, of Harmony Township, O. Homemaker. Died Aug. 4, 1976.

Mary F. Grabinger, 36, of Worthington. Homemaker and mother of four. Died Sept. 10, 1976.

Frances F. Fargel, 56, of Columbus. Registered nurse at Whetstone Convalescent Center and mother of one. Died Oct. 4, 1976.

Sheila Sohn, 59, of Columbus. Homemaker. Died Nov. 2, 1976.

Clifford R. Von Gundy, 60, of Grove City, O. Owner of Columbus Printing Ink Co. Died Dec. 22, 1976.

Mary Louise Flanagan, 65, of Columbus. Retired secretary at Ohio State University. Died Dec. 29, 1976.

Lila J. Clapsaddle, 52, of Columbus. Retired doctor's assistant. Died Jan. 3, 1977.

Clarence J. Woodall, 38, of Columbus. Disabled truck driver. Died Jan. 15, 1977.

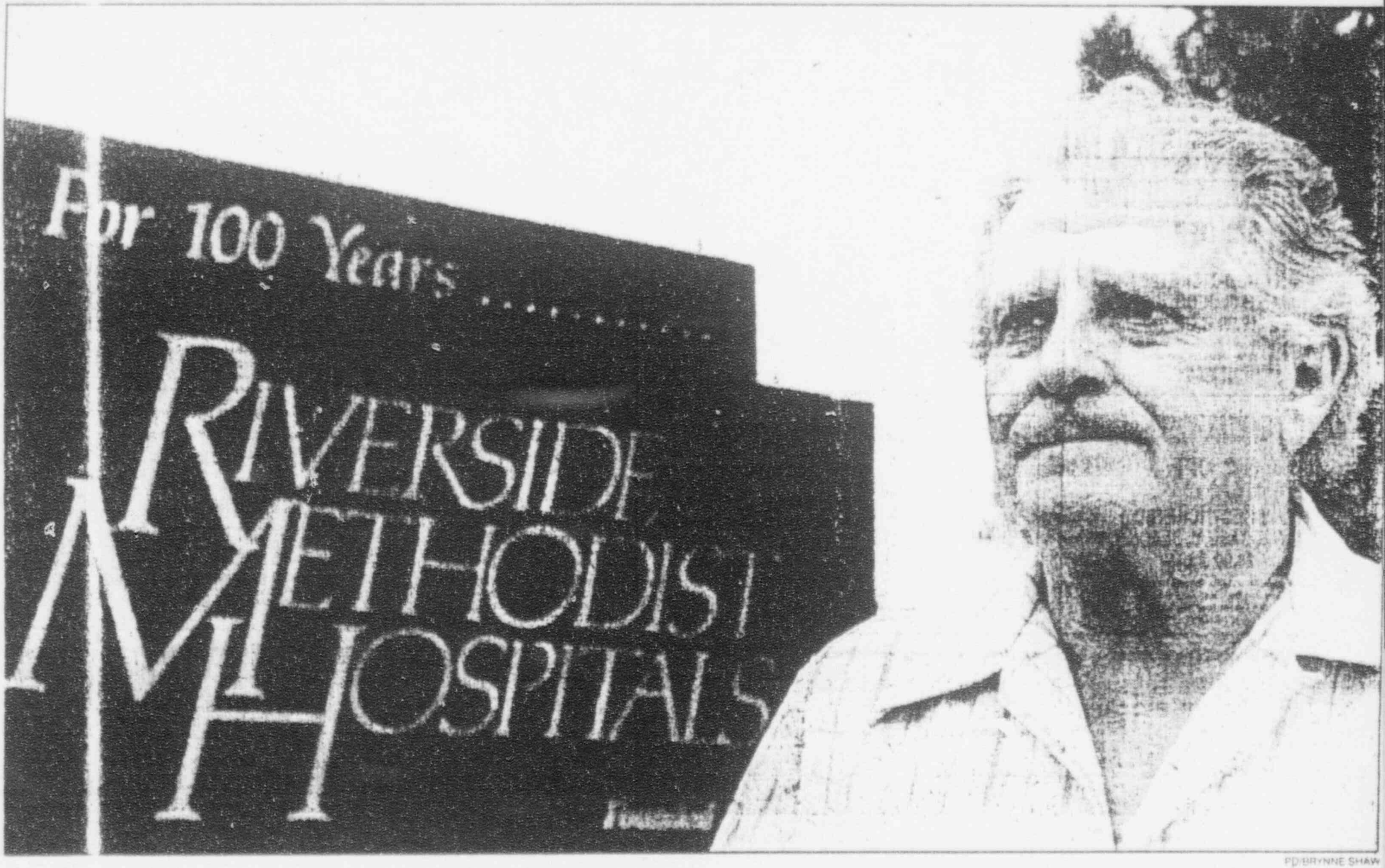
Kenneth J. McElroy, 64, of Columbus. Retired chief landscape architect for city of Columbus. Died Jan. 22, 1977.

Gertrude Phelps, 59, of Columbus. Homemaker. Died March 2, 1977.

Myrtle R. Roush, 50, of Marengo, O. Died March 26, 1977.

Anne Weilbacher, 54, of Columbus. Homemaker. Died March 30, 1977.

James O. Baily, 42, of Columbus. Ohio Bell account manager and father of three. Died Aug. 11, 1978.



PD/BRYNNE SHAW

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Behind the cover-up: lives torn asunder

11A/1-A

ven, after hearing a brief sum- v of the tragedy, he responded: s just sounds dreadful from your ription. We would not handle it way today. It sounds like things not done the way they should been."

e scientists who developed the ron bomb in the 1970s called it e Cookie Cutter" because it could p out a well-defined area of devaion, killing enemy troops with ntense wave of radiation that did amage to nearby buildings like atomic blasts.

Columbus, it was as if a neutron b hit Riverside: 28 or more dead, dreds injured, careers ruined. hospital was left virtually unned.

oday, Nick Carro, who lost his . Agnes, in the catastrophe, calls rnade "the Taj Mahal of hospi-

idway through construction of 85 million, nine-story tower that add critical-care beds, labor-dey rooms and surgical suites. Rivde has weathered the potentially stating blast, its reputation and ncial health intact.

he hospital, which began 101 's ago in a 15-room house, boasts 3 beds and more than 850 physis, making it one of Ohio's larg-

he institution is doing far better the people involved in the radin tragedy, Carro and others say.

arro lost his wife of 27 years on 19, 1976, the day the Riverside ose story appeared in local spapers. Agnes Carro died of raion injuries.

ick Carro had been living at the pital with his 48-year-old wife. evening, about 10:30, he had e home for a short rest when he ived word that Agnes had died. daughter, Karen, was holding hand when she stopped breath-

She was just a wonderful nan," Carro said as tears welled n his eyes.

fter years of mourning, he joined ingles club and took ballroom cing lessons in an attempt to t other women. He wasn't very ressful. No one could replace es.

I was going to change my life e way, but I never got around to he said. "When you've been marthat long, you get lonely and sort epressed.

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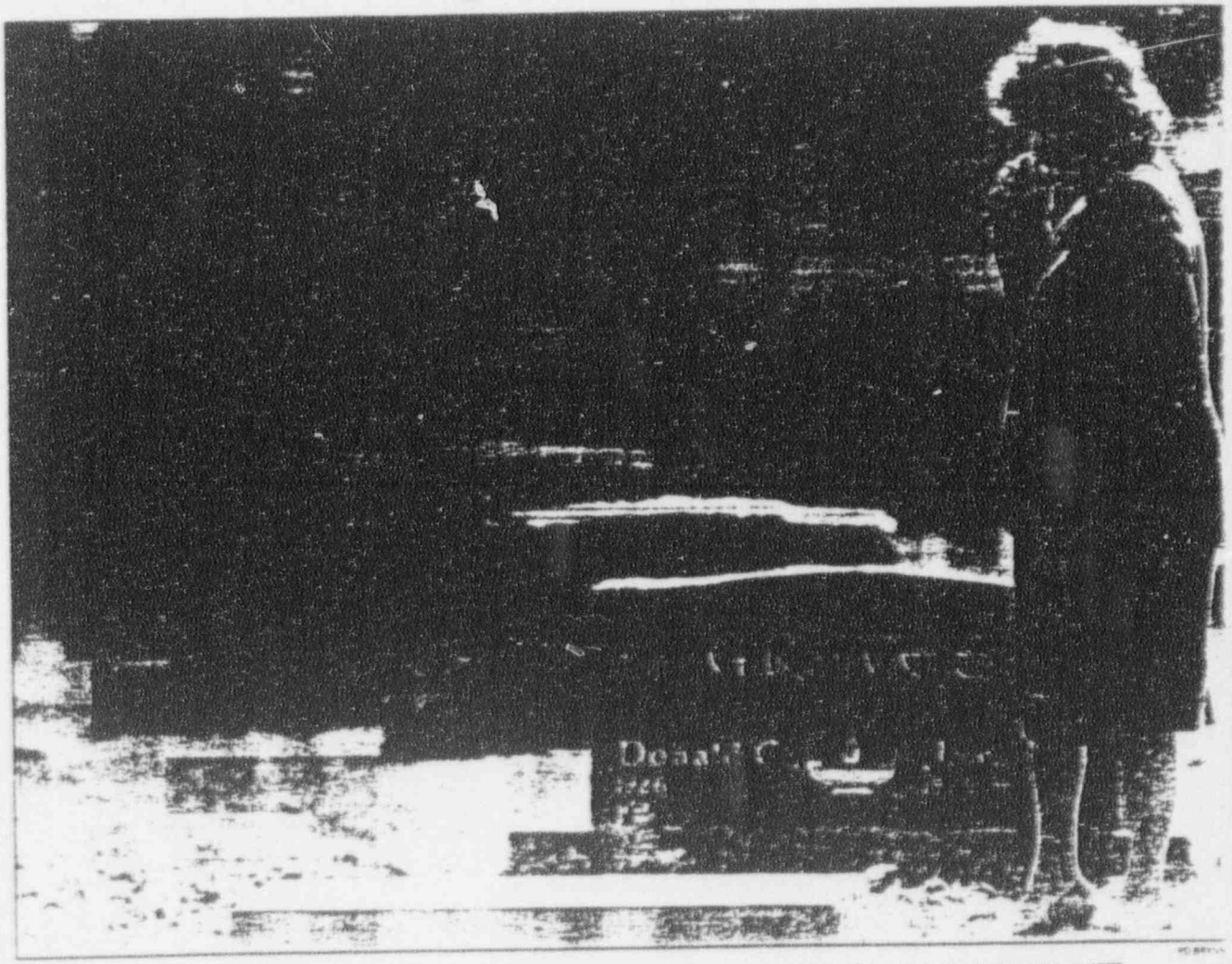

Barbara Hoover pauses at the gravesite of her sister, Gail Valentine, who died of a radiation overdose she received at Riverside Methodist Hospitals in 1975.

too. But everything will be fine. We'll see you when you get out."

Her sister never awoke from that surgery to remove a blood clot.

After 16 years, Hoover said she's still angry because the hospital misled the family about the seriousness of her sister's condition. Up until the day she died, Hoover said, the doc- tives following him and "popping out from behind trees" to take his picture. The hospital was attempting to minimize his injuries, he said.

Craig said he was watching TV on the day the story about the overdoses broke. The hospital never provided a

used against the hospital.

Saenger said his investigation focused solely on whether the mistake had caused harm, not the magnitude of the harm. He said it didn't matter whether the negligence injured two people or 20.

"I didn't see where we could accomplish anything more," said Saenger, a former professor of radiol- "There was a lot of politics and pressure involved at the time.

Zipf assisted in investigating the overexposures because he also served as a deputy Franklin County coroner. He said he was pressured by the hospital to provide as little information as possible to the victims, their families and the NRC.

"Several of us wanted to do more

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Columbus lawyer Walter J. Jr. agrees that the overdoses have been studied, but he says that everyone he has met has

Page 11-A Bottom
2 of 6

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■

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…was 4½ months preg… …e began receiving radi… …ents to kill any lingering …fter undergoing surgery …s disease. Her doctors …r a 90% chance of recov… …few months, both she …were dead.

…d complain all the time …throats and that she …" her sister, Barbara …lled. "She had terrible …chest. They were so bad …wear clothes. The doctor …was normal for someone …color."

…d she would never for… …me she spoke to her sis… …received a call at the el… …hool where they both …e time she got to the …y were wheeling Gail …

…e she was afraid," Hoo… …aid, "Yeah, I would be…

Her sister never awoke from that surgery to remove a blood clot.

After 16 years, Hoover said she's still angry because the hospital misled the family about the seriousness of her sister's condition. Up until the day she died, Hoover said, the doctors predicted that Gail would recover.

"They burned her lungs," Hoover said recently after reading an NRC report that had not previously been made available. "I feel like they lied to us. They knew what had happened all along and they didn't tell us."

The Riverside tragedy left Franklin County Common Pleas Court awash in lawsuits, nearly 150 of them. The hospital contested virtually every case, and court records show that most of the victims or their estates settled for a few thousand dollars. Many cases took years to resolve.

Richard Craig, 56, of Richland, Wash., a physicist for Pacific Northwest Laboratories, is one of the survivors. Craig is a world-class rower, but says he would be better if he had "two sound legs." He walks with a limp because of the radiation damage to his right hip, an area where doctors found cancer.

Craig filed a lawsuit and received a settlement he cannot disclose. Before the hospital settled, however, he said he was subjected to private detecture. The hospital was attempting to minimize his injuries, he said.

Craig said he was watching TV on the day the story about the overdoses broke. The hospital never provided a satisfactory explanation about what happened, he said.

'They burned her lungs. I feel like they lied to us. They knew what had happened all along and they didn't tell us.'

— Barbara Hoover

"When it came out, they pretended to be shocked, but I know God damn well they weren't," he said.

■

Saenger, a leading expert on the biological effects of radiation, is comfortable with the role he played in the aftermath of the Riverside tragedy. Now retired and living in the posh Cincinnati suburb of Indian Hill, Saenger said he cautioned the NRC against doing individual medical evaluations on victims because the information would have been focused solely on whether the mistake had caused harm, not the magnitude of the harm. He said it didn't matter whether the negligence injured two people or 20.

"I didn't see where we could accomplish anything more," said Saenger, a former professor of radiology at the University of Cincinnati. "I could not see myself spending the rest of my life in Columbus investigating whether Mr. Smith, who had far-advanced cancer . . . maybe died a little sooner than somebody thought he should have."

That's not the way the NRC saw it — at least not originally.

In a June 1976 letter to the hospital, a top NRC official laid out a different role for Saenger. He said Saenger had been hired specifically to produce medical evaluations on everyone who had been overexposed and to advise the agency on medical care being provided to survivors. The NRC official also warned the hospital that its plan to hire Saenger as a consultant would be improper since he was already working for the NRC.

At one point during his investigation, Saenger had the medical records of nearly 100 patients, NRC records show. Nothing was ever done with them.

"I can't tell you specifically why things weren't done. I know a lot wasn't done," said Dr. Robert E. Zipf Jr., a former Riverside pathologist.

Zipf assisted in investigating the overexposures because he also served as a deputy Franklin County coroner. He said he was pressured by the hospital to provide as little information as possible to the victims, their families and the NRC.

"Several of us wanted to do more in-depth studies to follow up these patients, and we were discouraged from doing that because of the medical/legal problems," said Zipf, who was forced to resign from Riverside in April 1978 and is now director of laboratories at Nash General Hospital in Rocky Mountain, N.C.

"They were concerned about being sued. They were concerned about publicity. They were concerned about trying to subdue the reports and the public exposure."

Zipf said the hospital had a moral obligation to tell patients and their families the truth about what had happened. He also said the NRC missed an opportunity to use the tragedy to benefit medical science by adding to what scientists know about the biological effects of high-dose radiation.

'Several of us wanted to do more in-depth studies to follow up these patients, and we were discouraged from doing that because of the medical/legal problems. They were concerned about being sued. They were concerned about publicity. They were concerned about trying to subdue the reports and the public exposure.'

— Dr. Robert E. Zipf Jr.

Zipf said when he voiced his concerns to one of Riverside's top officials, he was told: "Bob, I've been in business a long time and if I were you, I'd take all my records, burn them, and go back to my office and do my job."

Zipf's former boss, Coroner William R. Adrion, would not discuss the Riverside tragedy. Adrion claimed not to know anything about the NRC's investigation, even though his office supplied the agency with dozens of autopsy reports on victims. Adrion's employees now say they cannot locate many of those files.

"I think in something like this, with family members and such, I don't think I'd really want to get involved," Adrion said. "I don't want to be in a difficult position."

He added: "We don't know how cancer was eradicated where maybe it wouldn't have been. I think that would make an interesting study. . . . Keep that in the back of your mind."

Columbus lawyer Walter J. Wolske Jr. agrees that the overdoses should have been studied, but he says flatly that everyone he has met was hurt by them. Wolske represented more than 70 victims in lawsuits against Riverside.

Wolske said the NRC didn't do anything to help the Riverside victims. He noted that the agency's investigation of the catastrophe resulted in three citations to the hospital — one for not posting a "caution" sign on a door, one for not testing the cancer-treatment equipment for radiation leaks, and one for allowing a physician who was not approved by the NRC to use radioactive materials.

The violations had nothing to do with the overdoses, Wolske added.

"It's scary," he said. "This is the agency that keeps watch on the nuclear power plants."

He and others compare Riverside to the nation's most serious nuclear power plant accident — Three Mile Island. Although no one died at Three Mile Island and no one appears to have been seriously injured, the event captured the nation's attention for nearly a year, prompting a presidential probe, weeks of congressional hearings, tens of thousands of pages of reports, and an outpouring of concern by the NRC.

In contrast, the Riverside catastrophe resulted in no hearings — not by Congress, not by the NRC. NRC investigators didn't speak with a single victim, agency records show. And while the local media provided a general description of what happened, most of the victims' families say they still do not know the details of how their relatives died or were injured.

To this day, Gus Ruzicka, a printer at the Columbus Dispatch, doesn't know how much radiation his wife, Patty, received. The hospital wouldn't tell him and the NRC never bothered to figure it out.

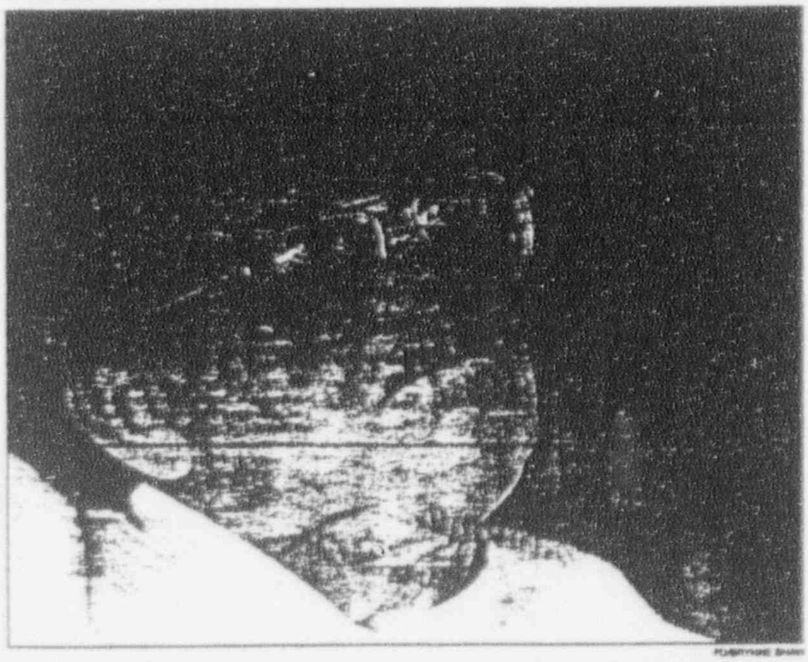
Ruzicka sued and received a confidential settlement, but the experience has left him bitter.

"I wasn't suing them for a pound of flesh. I was suing them because I was so disgusted with the situation," said Ruzicka, who has remarried.

"I remember one of the people at the hospital said, 'Your wife was going to die anyway. It wouldn't have mattered what we'd done.' I wanted to get up and punch somebody. I mean, this is a Methodist hospital and they take that callous an attitude towards life."

Ruzicka said the hospital didn't waive any of the bills, not even for the treatments that killed Patty.

"It's amazing to me that that hospital hasn't suffered a bit," he said. "I wouldn't take my dog to Riverside. I'd go anywhere before I'd die there."



Gus Ruzicka, whose wife, Patty, died June 1, 1976, said, "It's amazing to me that that hospital hasn't suffered a bit. I wouldn't take my dog to Riverside. I'd go anywhere before I'd die there."

TOMORROW / PART 4 Human tragedies, official cover-ups and government laxity

3 of 6

Behind the cover-up:

lives torn asunder

FROM/1-A

Then, after hearing a brief summary of the tragedy, he responded: "That just sounds dreadful from your description. We would not handle it that way today. It sounds like things were not done the way they should have been."

■

The scientists who developed the neutron bomb in the 1970s called it "The Cookie Cutter" because it could stamp out a well-defined area of devastation, killing enemy troops with an intense wave of radiation that did no damage to nearby buildings like most atomic blasts.

In Columbus, it was as if a neutron bomb hit Riverside: 28 or more dead, hundreds injured, careers ruined. The hospital was left virtually unharmed.

Today, Nick Carro, who lost his wife, Agnes, in the catastrophe, calls Riverside "the Taj Mahal of hospitals."

Midway through construction of an $85 million, nine-story tower that will add critical-care beds, labor-delivery rooms and surgical suites, Riverside has weathered the potentially devastating blast, its reputation and financial health intact.

The hospital, which began 101 years ago in a 15-room house, boasts 1,063 beds and more than 850 physicians, making it one of Ohio's largest.

The institution is doing far better than the people involved in the radiation tragedy, Carro and others say.

Carro lost his wife of 27 years on April 19, 1976, the day the Riverside overdose story appeared in local newspapers. Agnes Carro died of radiation injuries.

Nick Carro had been living at the hospital with his 48-year-old wife. That evening, about 10:30, he had gone home for a short rest when he received word that Agnes had died. His daughter, Karen, was holding her hand when she stopped breathing.

"She was just a wonderful woman," Carro said as tears welled up in his eyes.

After years of mourning, he joined a singles club and took ballroom dancing lessons in an attempt to meet other women. He wasn't very successful. No one could replace Agnes.

"I was going to change my life some way, but I never got around to it," he said. "When you've been married that long, you get lonely and sort of depressed."

'I was going to change my life some way, but I never got around to it. When you've been married that long, you get lonely and sort of depressed.'

— Nick Carro

The hospital officials who were responsible for the overexposures suffered as well.

Physicist Joel Axt saw his marriage dissolve after the story broke and was last known to be working at an eye clinic in Odessa, Texas.

Even before his marriage ended, Axt's oldest daughter left home to live with her grandparents because of the publicity. Axt later admitted to NRC investigators that he falsified records to make it appear that the tragedy resulted from an equipment malfunction, but he was never prosecuted.

Dr. Laurence J. Fahey, the radiation oncologist who oversaw the radiation treatments, died of a heart attack on Aug. 16, 1976, the day the NRC released the results of its investigation. He was 37.

■

Today, all but a few of the patients involved in the catastrophe are dead. Many suffered from serious cancers. For them, the radiation overdoses of up to 41% left wounds that would not heal and simply hastened their demise.

Some of the victims, such as Edna Gail Valentine, a 25-year-old elementary school teacher, were expected to survive their cancers.

Valentine was 4½ months pregnant when she began receiving radiation treatments to kill any lingering cancer cells after undergoing surgery for Hodgkin's disease. Her doctors had given her a 98% chance of recovery. Within a few months, both she and her baby were dead.

"She would complain all the time about sore throats and that she couldn't eat," her sister, Barbara Hoover, recalled. "She had terrible burns on her chest. They were so bad she couldn't wear clothes. The doctor told her that was normal for someone with her skin color."

Hoover said she would never forget the last time she spoke to her sister. She had received a call at the elementary school where they both taught. By the time she got to the hospital, they were wheeling Gail into surgery.

"She told me she was afraid," Hoover said. "I said, 'Yeah, I would be,

too. But everything will be fine. We'll see you when you get out.' "

Her sister never awoke from that surgery to remove a blood clot.

After 16 years, Hoover said she's still angry because the hospital misled the family about the seriousness of her sister's condition. Up until the day she died, Hoover said, the doctors predicted that Cail would recover.

"They burned her lungs," Hoover said recently after reading an NRC report that had not previously been made available. "I feel like they lied to us. They knew what had happened all along and they didn't tell us."

The Riverside tragedy left Franklin County Common Pleas Court awash in lawsuits, nearly 150 of them. The hospital contested virtually every case, and court records show that most of the victims or their estates settled for a few thousand dollars. Many cases took years to resolve.

Richard Craig, 56, of Richland, Wash., a physicist for Pacific Northwest Laboratories, is one of the survivors. Craig is a world-class rower, but says he would be better if he had "two sound legs." He walks with a limp because of the radiation damage to his right hip, an area where doctors found cancer.

Craig filed a lawsuit and received a settlement he cannot disclose. Before the hospital settled, however, he said he was subjected to private detectives following him and "popping out from behind trees" to take his picture. The hospital was attempting to minimize his injuries, he said.

Craig said he was watching TV on the day the story about the overdoses broke. The hospital never provided a satisfactory explanation about what happened, he said.

'They burned her lungs. I feel like they lied to us. They knew what had happened all along and they didn't tell us.'

— Barbara Hoover

"When it came out, they pretended to be shocked, but I know God damn well they weren't," he said.

Saenger, a leading expert on the biological effects of radiation, is comfortable with the role he played in the aftermath of the Riverside tragedy. Now retired and living in the posh Cincinnati suburb of Indian Hill, Saenger said he cautioned the NRC against doing individual medical evaluations on victims because the information would have been used against the hospital.

Saenger said his investigation focused solely on whether the mistake had caused harm, not the magnitude of the harm. He said it didn't matter whether the negligence injured two people or 20.

"I didn't see where we could accomplish anything more," said Saenger, a former professor of radiology at the University of Cincinnati. "I could not see myself spending the rest of my life in Columbus investigating whether Mr. Smith, who had far-advanced cancer . . . maybe died a little sooner than somebody thought he should have."

That's not the way the NRC saw it — at least not originally.

In a June 1976 letter to the hospital, a top NRC official laid out a different role for Saenger. He said Saenger had been hired specifically to produce medical evaluations on everyone who had been overexposed and to advise the agency on medical care being provided to survivors. The NRC official also warned the hospital that its plan to hire Saenger as a consultant would be improper since he was already working for the NRC.

At one point during his investigation, Saenger had the medical records of nearly 100 patients, NRC records show. Nothing was ever done with them.

"I can't tell you specifically why things weren't done. I know a lot wasn't done," said Dr. Robert E. Zipf Jr., a former Riverside pathologist.

"There was a lot of politics and pressure involved at the time."

Zipf assisted in investigating the overexposures because he also served as a deputy Franklin County coroner. He said he was pressured by the hospital to provide as little information as possible to the victims, their families and the NRC.

"Several of us wanted to do more in-depth studies to follow up these patients, and we were discouraged from doing that because of the medical/legal problems," said Zipf, who was forced to resign from Riverside in April 1978 and is now director of laboratories at Nash General Hospital in Rocky Mountain, N.C.

"They were concerned about being sued. They were concerned about publicity. They were concerned about trying to subdue the reports and the public exposure."

Zipf said the hospital had a moral obligation to tell patients and their families the truth about what had happened. He also said the NRC missed an opportunity to use the tragedy to benefit medical science by adding to what scientists know about the biological effects of high-dose radiation.

'Several of us wanted to do more in-depth studies to follow up these patients, and we were discouraged from doing that because of the medical/legal problems. They were concerned about being sued. They were concerned about publicity. They were concerned about trying to subdue the reports and the public exposure.'
— Dr. Robert E. Zipf Jr.

Zipf said when he voiced his concerns to one of Riverside's top officials, he was told: "Bob, I've been in business a long time and if I were you, I'd take all my records, burn them, and go back to my office and do my job."

Zipf's former boss, Coroner William R. Adrion, would not discuss the Riverside tragedy. Adrion claimed not to know anything about the NRC's investigation, even though his office supplied the agency with dozens of autopsy reports on victims. Adrion's employees now say they cannot locate many of those files.

"I think in something like this, with family members and such, I don't think I'd really want to get involved," Adrion said. "I don't want to be in a difficult position."

He added: "We don't know how many people lived because they got this (overdose). In other words, their cancer was eradicated where maybe it wouldn't have been. I think that would make an interesting study. . . . Keep that in the back of your mind."

Columbus lawyer Walter J. Wolske Jr. agrees that the overdoses should have been studied, but he says flatly that everyone he has met was hurt by them. Wolske represented more than 70 victims in lawsuits against Riverside.

Wolske said the NRC didn't do anything to help the Riverside victims. He noted that the agency's investigation of the catastrophe resulted in three citations to the hospital — one for not posting a "caution" sign on a door, one for not testing the cancer-treatment equipment for radiation leaks, and one for allowing a physician who was not approved by the NRC to use radioactive materials.

The violations had nothing to do with the overdoses, Wolske added.

"It's scary," he said. "This is the agency that keeps watch on the nuclear power plants."

He and others compare Riverside to the nation's most serious nuclear power plant accident — Three Mile Island. Although no one died at Three Mile Island and no one appears to have been seriously injured, the event captured the nation's attention for nearly a year, prompting a presidential probe, weeks of congressional hearings, tens of thousands of pages of reports, and an outpouring of concern by the NRC.

In contrast, the Riverside catastrophe resulted in no hearings — not by Congress, not by the NRC. NRC investigators didn't speak with a single victim, agency records show. And while the local media provided a general description of what happened, most of the victims' families say they still do not know the details of how their relatives died or were injured.

To this day, Gus Ruzicka, a printer at the Columbus Dispatch, doesn't know how much radiation his wife, Patty, received. The hospital wouldn't tell him and the NRC never bothered to figure it out.

Ruzicka sued and received a confidential settlement, but the experience has left him bitter.

"I wasn't suing them for a pound of flesh. I was suing them because I was so disgusted with the situation," said Ruzicka, who has remarried.

"I remember one of the people at the hospital said, 'Your wife was going to die anyway. It wouldn't have mattered what we'd done.' I wanted to get up and punch somebody. I mean, this is a Methodist hospital and they take that callous an attitude towards life."

Ruzicka said the hospital didn't waive any of the bills, not even for the treatments that killed Patty.

"It's amazing to me that that hospital hasn't suffered a bit," he said. "I wouldn't take my dog to Riverside. I'd go anywhere before I'd die there."

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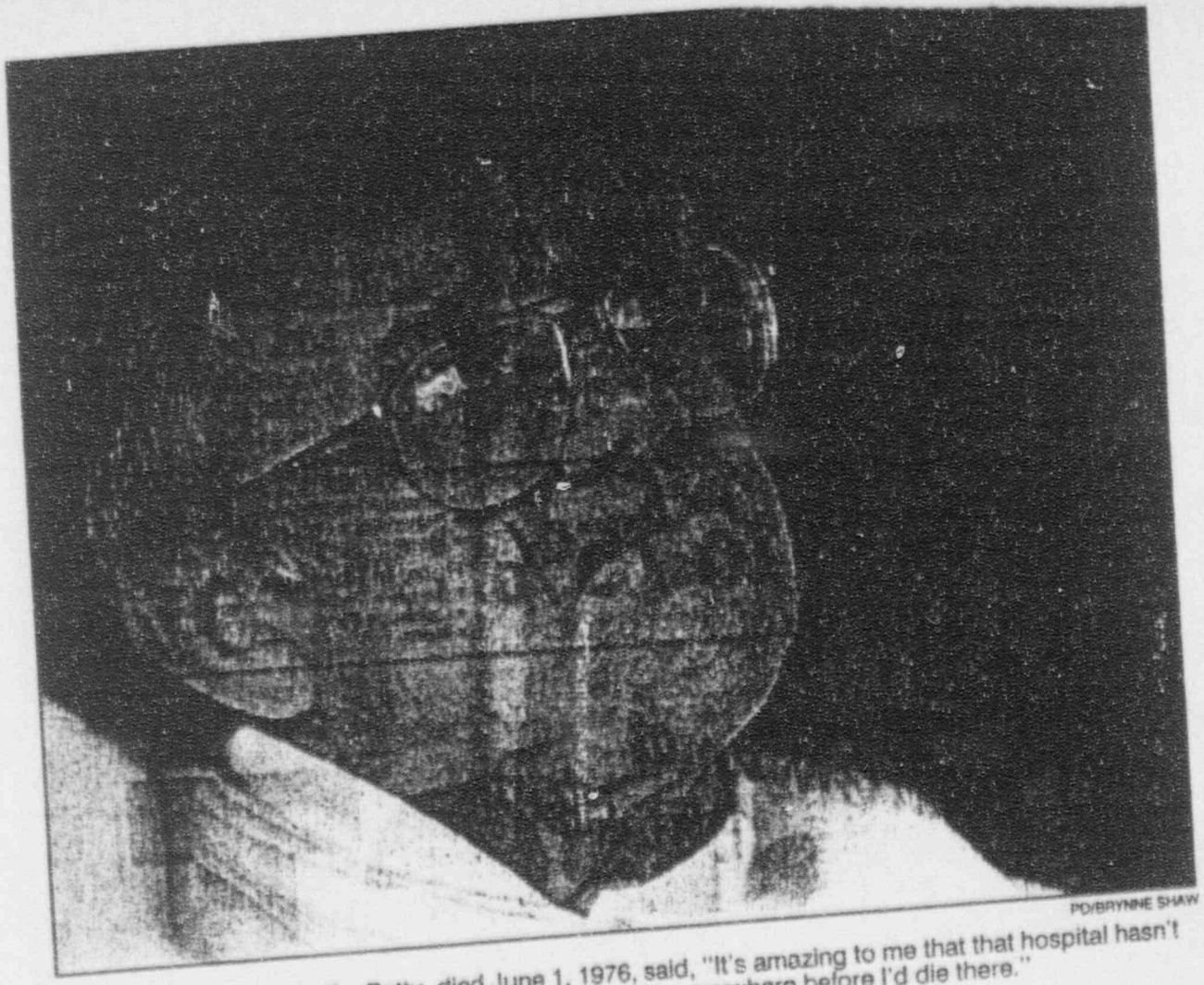


PD/BRYNNE SHAW

Gus Ruzicdka, whose wife, Patty, died June 1, 1976, said, "It's amazing to me that that hospital hasn't suffered a bit. I wouldn't take my dog to Riverside. I'd go anywhere before I'd die there."

TOMORROW / PART 4 Human tragedies, official cover-ups and government laxity

(Cleveland) The Plain Dealer 12-19-92 P. 1-A

NRC faces probes by Congress

By TED WENDLING
and DAVE DAVIS
PLAIN DEALER REPORTERS

Sen. John Glenn and an Oklahoma congressman said yesterday they would sponsor hearings within the next few months to examine failures in the U.S. Nuclear Regulatory Commission's medical licensing and inspection programs.

Responding to a series of Plain Dealer stories this week on the scores of deaths and serious injuries caused in the practice of radiation oncology in America's hospitals, Glenn, chairman of the Governmental Affairs Committee, said his committee would begin an immediate investigation. Glenn, D-O., tentatively set a Capitol Hill hearing for Feb. 2.

Separately, Rep. Michael L. Synar, D-Okla., chairman of the House subcommittee on environment, energy and natural resources, said his subcommittee also would hold hearings, probably beginning in mid-March.

Synar said the subcommittee would look at issues raised in the PD series, but would expand its probe to include all non-reactor licensees, as well as the NRC's agreement state program. Under the program, the NRC has given authority to 29 states — not including Ohio — to license and inspect nuclear materials other than power plants.

LETHAL DOSES
RADIATION THAT KILLS
A PD SERIES FOLLOW-UP

In a related development, NRC Chairman Ivan Selin yesterday said the PD series had prompted the agency to begin a comprehensive review of its licensing and inspection programs for medical institutions. He said the review would include the commissioning of "a small outside group, with a very specific charter, to get a few fresh outside ideas."

"I think you did a very valuable public service, and it will lead to some positive action on our part," Selin said. "Without in any sense denigrating your efforts, if two reporters can work for a few months and come up with what you got, that's a pretty good indication that we're not doing our jobs."

In a five-part series, The PD documented the NRC's poor record of identifying and investigating deaths and injuries caused in the practices of radiation therapy and nuclear medicine nationwide.

SEE NRC/B-A

NRC

FROM/1-A

Although the NRC is charged with the responsibility of protecting "the public health and safety" by regulating the civilian uses of nuclear materials, agency officials were unable to identify a single fatality. The PD found at least 46.

"I don't know whether what you've gotten into is just the tip of the iceberg or not," Glenn said. "It's our responsibility to see. Maybe they need more people, maybe they need more money. I don't know."

Glenn said his panel would attempt to determine what agencies maintain records, the extent of the NRC's authority and what individual states are doing to protect citizens.

Synar said his subcommittee would focus on the NRC's "abysmal record" of licensing people and institutions to use nuclear materials, the NRC's agreement state program and its program to decontaminate radioactive dump sites such as Chemetron Corp.'s Bert Ave. dump in Newburgh Heights.

Early indications are that Glenn and Synar's committees would get full cooperation from the NRC. In what Capitol Hill sources said was a virtually unprecedented move, Selin allowed investigators from both staffs to sit in on a Dec. 11 NRC staff briefing he called to apprise him of what The PD's findings would be. The briefing was held two days before the series began.

Selin said the NRC had a long way to go.

PD file

SEN. JOHN GLENN: His panel would attempt to determine what agencies maintain records, the extent of the NRC's authority and what individual states are doing to protect citizens.

"I think we do a pretty good job," he said. "But compared to what the public has the right to expect, I think we fall far short of what we should be doing."

Selin also said the NRC would review the patient-notification clause in its so-called misadministration reporting rule in light of The PD's disclosure that some victims of radiation therapy overdoses were never informed of the errors.

AP

REP. MICHAEL L. SYNAR: His subcommittee would focus on the NRC's record of licensing people and institutions to use nuclear materials, the agreement state program and its program to decontaminate radioactive dump sites.

The NRC currently requires hospitals to notify the referring physician and the patient or a relative, unless, "based on medical judgment," the physician deems that it would be "harmful" to the patient or relative to inform them.

"One of the many valuable things that your articles pointed out is how very tough it is for patients to find out about these exposures," Selin said. "We sort of assumed they could get this information easily, and it turns out we were wrong."

Selin also said the NRC would review the "serious question" of whether civil fines issued to medical institutions are sufficiently punitive. Out of the 134 fines issued to medical institutions between 1980 and this September, 116, or 87%, were $5,000 or less.

He also said the agency would study anecdotal evidence that medical institutions were "shifting" from the use of cobalt-60 cancer-therapy units to supervoltage linear accelerators in an effort to evade the NRC's regulatory authority. "We need to see whether there's a trend there," Selin said.

Although the NRC regulates the medical uses of isotopes such as cobalt-60 and iridium-192, it does not regulate electrically generated radiation such as that delivered by accelerators and X-ray devices. In most cases, hospitals are not required to report patient errors involving the latter machines — even in the event of a patient's death — unless the overdose was caused by a machine malfunction.

Selin cautioned that it was not the NRC's responsibility "to supervise the practice of medicine. We don't look at doses, whether the risk is worth the procedure — those are medical decisions." He also emphasized that he believed radiation oncology to be "a very safe form of medicine dealing with very sick people."

Plain Dealer reporter Tom Diesser contributed to this article.

NRC to scrutinize radiation methods check

WASHINGTON (AP) — A Nuclear Regulatory Commission spokesman says the agency will scrutinize the way it oversees hospitals and labs that use radioactive materials.

Joe Fouchard said the commission will be taking "a hard look" at its medical licensing and inspection program in the wake of a November radiation-linked death in Pennsylvania and allegations this week in a newspaper series.

The (Cleveland) Plain Dealer reported Tuesday that 413 people were given radiation overdoses at Riverside Methodist Hospital in Columbus, Ohio, in 1975 and 1976.

The overdoses killed 28 people, the newspaper's investigation found.

But the NRC documented only two of the deaths.

"Clearly in the Riverside case we did not do a thorough followup," Fouchard said.

"We are clearly more aggressive today than we were 16 years ago. We would follow up today to an incident like (that) in an entirely different manner than we did in 1976."

The hospital on Tuesday released a statement in which its president and chief executive officer, Eric Chapman, said: "We currently have no one on our staff who was directly involved in the incident."

The letter said that "as a result of this tragic accident, we now have one of the safest and finest radiation departments in the country."

Fouchard said the newspaper stories contained "disturbing" information and "We're going to use the information that's in *The Plain Dealer* series in connection with a hard look that we're going to be taking at the medical licensing and inspection program."

Nationally, the paper said it found at least 40 people have died since 1975 from medical overdoses of radiation.

While the NRC requires radiation errors to be reported in 24 hours, The Plain Dealer reported today that its review of 4,000 incident reports showed the average reporting time was 29 days.

NRC chairman Ivan Selin said the agency needs to encourage more honest reporting of incidents by hospitals by increasing fines.

"The penalties should be such that the risk of telling a falsehood should be greater than the risk of telling the truth," he said. "We assume that the ones who aren't honest are rational people and we don't really have procedures to guard against massive collusion and fraud."

The agency has no way of knowing how many radiation errors go unreported, said James Lieberman, director of the NRC Office of Enforcement.

"We haven't found that many cases of misadministrations not being reported," he said in an interview published today. "If they destroyed all the records, obviously we'll never know."

NRC records document only five deaths from radiation errors, Fouchard said.

The NRC also inspects medical licensees more frequently now — yearly rather than every three to five years, he said.

Daytona Crescent-News
12-14-92 p. 9

(Cleveland) The Plain Dealer 12-20-92 P.1-A

A PD SERIES FOLLOW-UP **LETHAL DOSES** RADIATION THAT KILLS

utopsy tomorrow on exhumed body

'Aren't you afraid to touch me?' dying woman asked friend

By DAVE DAVIS and TED WENDLING
PLAIN DEALER REPORTERS

INDIANA, Pa.

Even as she lay dying in a delirium of pain and fear, 42-year-old Sara Mildred Colgan was the only one who knew.

"Aren't you afraid to touch me?" she asked her friend, Kathy Millikan.

"No Mid, why would I be afraid to touch you?" Millikan responded.

"A wire's broken off in me," the elderly woman whispered. "One of those things has broken off."

Millikan and her mother, Willa Prushnok, continued to soothe Colgan, unaware that a tiny piece of high-intensity radioactive iridium-192 had broken off inside Colgan's rectum during a treatment for cancer, leaving them and eventually 31 others exposed to the dangerous radiation that burned Colgan's internal organs.

"She was my very best friend," said Prushnok. "For two nights, I was there. I hugged her. I kissed her. I prayed with her. I took her pulse. I was very close to her, practically right upon her.

"Each day, she got sicker, until Thursday when I went in and she was really bad. She said, 'I've never felt like this before. When I had radiation before, I never felt like this. I look like I'm from Somalia.'

"We prayed and I even sang to her in her ear. 'There's going to be a meeting in the air, in that sweet, sweet bye and bye.' She looked up at me and smiled because I think she knew she was going to that meeting in the air.

"Finally, she dozed off to sleep and we left. That was Friday, Nov. 20, and she died the next day.

She was a strong woman

Alive, Colgan, known simply as "Mid" to her friends and family, was a strong, feisty woman who loved the piano, beer and pizza. She attracted a great deal of attention. That hasn't changed since she died.

On Friday, the Indiana County coroner and Pennsylvania State Police exhumed Mid Colgan's body from the peaceful country hillside that overlooks the farms near Barnesboro, Pa., about 20 miles into the hills that surround Indiana. There, Colgan was buried next to her only son, Robert, who was killed in a plane crash in Alaska in 1968.

The coroner has scheduled an autopsy for 10 a.m. tomorrow to determine whether radiation — or something else — killed Colgan.

In stark contrast to other incidents in which patients have been killed or injured by medically administered doses of radioactive materials regulated by the U.S. Nuclear Regulatory Commission, agency officials responded quickly. The NRC hired Boston radiation oncologist Dr. Daniel F. Flynn as an expert consultant and dispatched an investigative team to Indiana.

Without even seeing Colgan's body, Flynn and Dr. Carl J. Paperiello, the head of the NRC's investigative team, said Colgan appeared to have died of a radiation overdose.

In a series of stories last week, The Plain Dealer reported that the NRC had no knowledge of scores of deaths and serious injuries caused in the practice of radiation oncology in U.S. hospitals. Although The PD was able to document at least 40 deaths, Colgan's demise from an apparent radiation-therapy overdose was the first such death the NRC had acknowledged. Since Dec. 4, when the NRC called a news conference to announce Colgan's death, the agency has identified four other radiation therapy deaths dating to the late 1960s.

Hearings planned

On Friday, Sen. John Glenn, D-O., and Rep. Michael L. Synar, D-Okla., said committees they chair would hold separate hearings to investigate The PD's findings and other issues involving the NRC. Ivan Selin, the NRC's chairman, also announced major reforms.

Questions about Colgan's death have created a scandal in this town of 16,000, which is best known as "the Christmas tree capital of the world" and the birthplace of actor Jimmy Stewart.

At the center of the controversy is one of Indiana's leading citizens, Dr. James E. Bauer, the Indiana Regional Cancer Center oncologist who surgically implanted the iridium into Colgan using a machine called a High Dose Rate (HDR) Afterloader brachytherapy unit.

NRC officials said Bauer and other cancer center personnel disregarded an alarm that went off after the radioactive tip of a thin metal cable used in the procedure broke off inside one of Colgan's plastic treatment catheters. In turn, the error has raised questions about whether Bauer may have covered up his mistake.

When Coroner Thomas L. Streams' mother had breast cancer, she was treated at the cancer center. Now Streams finds himself investigating the center's medical director, Bauer, a doctor Streams says he knows and respects.

Streams said he is investigating whether negligence by the doctor caused Colgan's death and whether Bauer then tried to cover up the mistake.

"At this point, we haven't found anything," he said. "But that's what the autopsy's for."

SEE AUTOPSY/18-A

Autopsy

FROM/1 A

Bauer has practiced in the area for several years. On Monday, he bought a full-page ad in the Indiana Gazette, which ran under the heading "An Open Letter To The Indiana Community." In it, he asked the community not to lose faith in brachytherapy, even though his cancer center had suspended such treatments until new safeguards are implemented. Brachytherapy involves inserting a high-intensity radioactive material directly into a tumor that is hard to get at. This minimizes damage to healthy tissue.

"A tragic accident has taken place in our community and I am personally saddened and shaken . . . " he wrote. "However, I am asking you, my friends and neighbors, not to see the incidents surrounding the accident as an indictment of a promising technology.

"It should come as no surprise that the technologies used in medicine today are so complex and so very intricate that they can be likened to the Space Shuttle."

In the lengthy statement, Bauer didn't mention his own role in the accident, which, according to NRC investigators, may have been fatal.

In addition to ignoring the wall-monitor alarm that indicated the presence of radiation, Bauer and the three technologists who assisted him failed to survey the patient with a hand-held instrument that would have told them that the radioactive material had broken off inside Colgan, according to NRC officials.

The result: The iridium, which should have been in Colgan's rectum for just a few minutes, remained in her for nearly 100 hours until the catheter came out on its own. The catheter was inadvertently disposed of in the normal trash by staff at the nursing home in which she lived.

The mishap went undiscovered for 11 days, until Nov. 27, when the iridium set off an alarm at a 48-foot tractor-trailer containing two boxes of medical waste from the Indiana clinic passed through the gates of the Browning-Ferris Industries Medical Waste System incinerator in Warren, O.

Facility manager Dave Shepler said the shipment was rejected and sent back to Pittsburgh, where it originated.

The men driving the truck have been checked for contamination and none was found, NRC officials said. Workers at the Warren incinerator were not given blood screens because they did not come in contact with the truck or the waste.

Shepler said it was about the sixth time this year that the radiation alarm had been tripped by a waste shipment.

The accident involving Colgan at the Indiana Regional Cancer Center was followed by an identical failure of the same HDR cancer treatment equipment at the Greater Pittsburgh Cancer Center on Dec. 9. In that case, a sliver of iridium-192 being inserted into the nasal pharynx of a lung-cancer patient also broke off.

NRC investigators determined the accident did not injure the patient because the medical physicist noticed an alarm and immediately cut the cable(s) between the source and the patient.

Both machines are manufactured by Omnitron International Inc. of [illegible] for less than two years. Twenty-five hospitals and clinics across the country have Omnitron units of the type that malfunctioned in Pittsburgh and Indiana. The machines cost about $350,000 each.

Committee Chairman Russell Chambers said both malfunctions occurred when the radioactive source "separated from its control wire" during treatments. In Pittsburgh, he said, medical personnel responded properly to the malfunction and retrieved the iridium source. At the Indiana clinic, he said, personnel failed to respond to warnings from the equipment's safety systems.

Prushnok is certain the failure to detect the malfunction killed Colgan, her friend of 50 years.

"They killed her," Prushnok said. "She wasn't ready to die. She wasn't sick enough to die."

Colgan worked most of her life as a physical therapist at nearby Ebensburg State School, a home for mentally retarded children, returning in the mid-1970s.

She kept a neat country house on nine acres near Cherry Tree, a one-stop sign town, just a few miles from Prushnok. She always had two marigolds out front in warm weather.

When illness forced her to seek medical treatment in Indiana, Colgan stayed at Bethany Hill Manor, a local nursing home.

Because she was nearly blind, Colgan spent her evenings listening to radio talk shows. But her sight problems and her arthritis didn't keep her from her greatest passion: music.

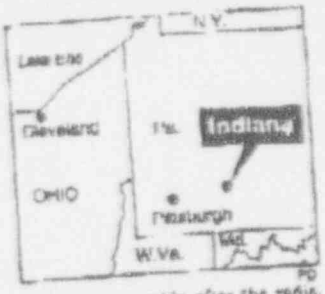
"Her family was in the restaurant business in the area," Prushnok said. "And the girls worked there. They used to have bands, and Mild would play."

"Dad love me, with those fingers that were so crippled from arthritis, do you know that she still banged the piano? The last night, she said to my daughter, 'Two fingers and no piano.'"

Joan Gallace, a half-sister from Parma Heights, said Colgan had been diagnosed with cancer in October 1991, after which she had both chemotherapy and external-beam radiation therapy. She said the radiation burned Colgan's bottom so badly she had to take frequent cold-water sitz baths.

"Brother, they burned her like crazy with the radiation," Gallace said. "Her rear was just raw red. She had to sit in water to cool off. It was terrible."

Mary Wolfe, a half-sister who lives in Middleburg Heights, said Colgan



deteriorated quickly after the radiation treatments.

"She couldn't even hold the phone," Wolfe said. "We would call, but she would say, 'I can't talk. I'm too weak to talk.'"

A Food and Drug Administration official has said Colgan received 200,000 to 1 million rads of radiation. Coroner Sueanne said that's more than 100 times a lethal dose.

The intensity of the radioactive source has worried Prushnok, Milliken and others who spent time with Colgan while she was "hot." Many who had contact with Colgan also say no one from the NRC investigation team, which spent several days in the area, bothered to speak with them.

They now worry about possible long-term damage to their health.

Prushnok said NRC officials wouldn't even return a phone call when she attempted to inquire about risks.

She said she didn't find out that something had happened until she walked past a laboratory in Indiana Hospital and ran into members of Colgan's family, who were awaiting blood tests.

Prushnok was there to visit her daughter, Milliken, who had just been admitted for surgery. Colgan's family asked her if she was there to be tested for radiation damage.

Prushnok and Milliken eventually were among 39 people the NRC had tested for possible radiation injuries. The NRC has said results of 33 of the tests showed maximum potential exposure of up to 10 rem — an amount that is 40 times the dose the general public is allowed to receive in a year.

NRC officials nevertheless said those exposed should feel no effect. Studies to determine whether chromosomal damage had occurred, he said, were being conducted on six people.

Albert E. Hairigh, director of the funeral home that handled Colgan's burial, is still upset that the NRC never contacted him. Hairigh didn't learn that Colgan had been radioactive until he saw it on the 6 o'clock news. When he called the NRC, he was told by a person who answered the phone that the investigators would not return his call because he had no reason to be concerned.

"There is no residual radioactivity in the body once the source is removed," said NRC spokesman Joseph J. Fouchard. "Once it comes out, the person is not radioactive."

But the NRC's explanation didn't mollify Hairigh.

"The thing that upset me about it was no one from the NRC or the cancer center bothered to call me," Hairigh said. "I saw all this publicity about it and no one called. I'm still [illegible] about it."

Plain Dealer
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THE PLAIN DEALER
Our 151st Year

12-20-92

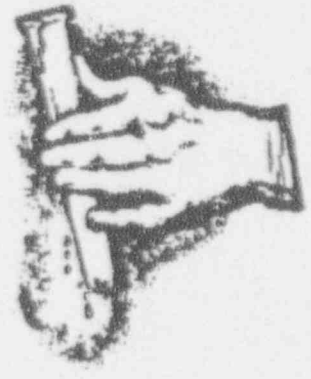
The NRC's deadly ignorance

The Nuclear Regulatory Commission has no shortage of authority or bureaucrats.

Now it must show it has some semblance of a conscience.

After numerous deaths it never knew about and countless more serious injuries it was blatantly unaware of, the NRC has promised to improve how it regulates the use of radiation in medical treatments. But trusting solely in the NRC's word and judgment could be a crucial mistake Americans can ill afford to make.

The most stringent pressure, from Congress to the general public, must be imposed upon the NRC to shed a disgraceful atmosphere of ignorance. It's an atmosphere that has already doomed people to early deaths or lives of misery.



The NRC's vow of reform came only after a five-part, Plain Dealer series, "Lethal Doses — Radiation that Kills," revealed the consequences of when lax government oversight combines with slipshod medical procedures. Reporters Ted Wendling and Dave Davis traveled the country, reviewed more than 10,000 pages of documents and interviewed more than 150 people (from officials to victims) to put a human face on a growing tragedy.

Wendling and Davis found cases such as the plight of Dwight Golstein, a 9-year-old California boy given overdoses of radiation so severe his injuries transformed him beyond recognition prior to his death. And Pennsylvania medical secretary Jean Matalik, who killed herself rather than live on with a disfiguring, painful injury caused by badly administered radiation. Not to mention scores of other cases in which patients have died or suffered because of sloppy radiological procedures in hospitals — the reporters pinpointed 28 deaths

In all, Wendling and Davis documented at least 40 people who have died of problems caused by medical radiation overdoses since 1975. That are at least 40 more cases than the NRC, created to protect the public from such abuses, claimed to know of before the PD began its investigation.

The reasons for such a gap between grotesque reality and the NRC's illusion are chilling and indefensible. For too long, the NRC has not made it a top priority to monitor radioactive materials, spending far more time and energy on regulating nuclear power plants. Thus, its ability to keep records of actual problems involving the medical uses of radiation was seriously marred, and countless cases possibly fell through the cracks. And on the sporadic occasions the NRC has investigated hospitals for poor handling of radioactive materials, the agency's discipline often took the form of low, four-figure fines.

Another problem has been the unwillingness on the part of NRC officials to make consistent, strict demands of their hospital counterparts. There has been a disturbing sense of comfort and collegiality between the regulator and the regulated. And many have paid a lethal price for this cozy complacency.

There are numerous steps that must be taken to rectify problems involving the NRC and the medical use of radioactive materials. Among them are:

■ A congressional inquiry into how the NRC approached and investigated flawed medical procedures, such as the radiation overdoses. This now appears a certainty, based on reports yesterday that both a House and Senate panel will conduct investigations based on the series.

■ An agreement by the NRC to begin actively regulating devices that provide electrically generated forms of radiation (such as X-ray units). In the past, the NRC has repeatedly declined requests to regulate such devices.

The NRC must take these and other steps if the nation is to benefit from the cruel lessons of "Lethal Doses — Radiation that Kills." The grim fact is that the NRC's obligation to the American people has been as shamefully incomplete as the agency's files; as shamefully overlooked as Dwight Golstein, Jean Matalik and the other radiation victims the

Measuring 'Lethal Doses'

On April 19, 1976, the Nuclear Regulatory Commission was advised of the grievous overexposure of a large group of patients treated for cancer at Riverside Methodist Hospital in Columbus. I was retained as the NRC medical consultant by Region III to evaluate the crisis. My initial visit to the hospital was on April 21, 1976.

At the time, there wer 275 patients living with greater than 10% in excess of the planned dose. There were also 118 deceased patients. This unfortunate situation had been discovered on Jan. 30, 1976. A consulting physician, Robert Shalek, Ph.D., of Houston and a consulting radiation therapist, Frank Henderson, M.D., of Chicago, were retained by the hospital. All patients and the families of the deceased patients were immediately notified. Over the next two months, the cause was established as being due to mistakes on the part of the physicist in determining the radiation doses given to the patients and to failure to recognize the consequences of these errors by the radiation therapists.

In my role as medical consultant, it was decided to investigate in detail the course of two cases: Mrs. Valentine and Mrs. Cerro. The injuries to these two individuals were so severe and their clinical courses were so rapidly downhill as to indicate that the deaths were attributable to the radiation therapy. One additional case was evaluated by me in which the clinical and pathological evidence was sufficiently contradictory so that it was not possible to determine that radiation was the cause of the patient's demise. The latter case illustrates the difficulty in determining what factors were contributory to death or disability in the large number of patients who were involved.

Once the responsibility of RMH for the death of two patients was established, the responsibility of the medical consultant was completed. The hospital had retained its own consultants to deal with steps to correct the situation and to determine what happened and who had responsibility. It was only necessary for the NRC consultant to establish a pattern, not to conduct an epidemiological study. With the available knowledge in the radiation therapy literature there was no need to proceed further.

As a result of this investigation, there were several crucial consequences:

1. The failure of the RMH physicians and physicist was exposed. They were replaced. Medical staff continued to provide care. The medico-legal process began.

2. On Aug. 9, 1976, NRC issued Bulletin 76-08 to hospital administrators where there were NRC-licensed teletherapy units (cobalt-60 teletherapy units). This bulletin required frequent recalibrations, comparison with previous measurements, the use of quality-control methods and verification by licensees. The NRC has no responsibility for patient care except for the rules regarding misadministration.

EUGENE L. SAENGER, M.D.

12-20-92
THE PLAIN DEALER

WE AT THE OHIO Radiological Society are co
that your series on radiation accidents may leave
with the mistaken impression that radiation ther
some diagnostic testing are unsafe. As a result, pa
tients may be afraid to have a life-saving tests or
ments. The series is correct that ionizing radiati
powerful diagnostic and therapeutic tool that wh
improperly can lead to injuries and death, but th
tial risk must be placed in perspective and not b
gerated.

There are some 20 million radiation therapy a
million nuclear medicine procedures carried ou
year. While no injury should every be minimize
fect on the patient and family, the fact is that th
of incidents compared to procedures is extreme
In addition, many of the examples cited date be
20 years. In the interim, there have been major
provements in radiation safety procedures and
fectiveness of these types of treatment and dia

The American College of Radiology, with wh
affiliated, has taken an active role in improvin
ity of diagnostic and therapeutic testing to fur
the chances of any harmful mistakes being m
college has drafted and widely distributed gui
ards to radiation oncologists throughout the c

The Ohio Radiological Society believes that
aspects of diagnostic and therapeutic radiolog
been overlooked in your series. There is only
reference to the advances that have led to mo
creased survival rates. Nor is there any substa
cussion of the improvements in diagnosis tha
more conservative treatment, such as lumpec
breast cancer, possible.

It would be tragic if even one patient were
not to have a needed diagnostic test or radia
that could save their lives because the risk a
were not clearly delineated in your series.

SAMUEL HISS

Hissong is president of the Ohio State Radio
ciety.

AS THE DAUGHTER-IN-LAW of Philon
ley, whose overdose of radiation at Clevela
reported in your series, I can only express
The Plain Dealer for its competent coverag
lem of accidents. But I must also express m
again, at the Cleveland Clinic for its nonch
ment of this problem, and also at Dr. Clare
baugh. His comment that my mother-in-la
radiated is preposterous, arrogant and neg
mention his opinions on anything nuclea
conflict of interest.

Also, are we to believe a man who exper
cancer patients with increased levels of ra
to determine the effect of radiation on hea
nauts? What does this tell us? How inhum
have seen she condition my mother-in-law
think anyone seeing her could honestly s
not overradiated. As one of the many who
watched her suffer so needlessly, so pain
ridly. The Cleveland Clinic's admission o
this area comes too late for all of us as wa
as well as the family's was unconscionab
commit to changing things, but it's mur
mother-in-law and our family.

My mother-in-law was a wonderfu
her life was cut short at 58. She is
all of us who knew and loved her
dren who were denied the privil

KIM

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Dr. Daniel Flynn, a U.S. Nuclear Regulatory Commission medical consultant, surveys the coffin of Sara Mildred Colgan Friday for radioactivity. The body was then removed for an autopsy scheduled for tomorrow in Indiana, Pa.