

the People's Doctor

A MEDICAL NEWSLETTER FOR CONSUMERS
by Robert S. Mendelsohn, MD

IN THIS ISSUE: The Dangers of X-Rays

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Dr. Robert Mendelsohn

A woman recently wrote me that she was apprehensive about the effect dental x-rays may have on women of childbearing age. She reported that her dentist takes x-rays every visit (about twice a year), and that he took her concern lightly, saying the exposure is so minimal that even the cumulative effect couldn't be injurious to the jaws or to other parts of the body, specifically the ovaries. When she asked me to comment on this possible danger, I began to wonder why patients often are so much smarter than doctors. For decades, patients have been asking me, and I presume all other doctors, if x-rays are safe. And I used to respond with the assurances I was given by my professors as well as by my (former?) friends in the field of radiology. But now, those assurances have a hollow ring. Dr. Karl Morgan, one of the great authorities in the field of health physics, has stated that as far as radiation is concerned, the worst offender has been the medical profession, particularly dentists. According to Dr. Morgan, the failure of dentists to take proper protective measures against radiation has "without question increased the significance of the number of central nervous system tumors, thyroid cancers and leukemias among our population."

As reported by Williams Hines in the Feb. 19, 1978, Chicago Sun-Times, thyroid cancer has developed after an amount of radiation that is less than that produced by 10 bite-wing dental x-rays, and a single abdominal x-ray of a pregnant woman can predispose her child to leukemia. Other scientists reporting to a House Health subcommittee have emphasized the hazards of low-level radiation to the present generation as well as the genetic hazards to future generations, and have even gone so far as to say that radiation may be responsible for shortening the lifespan by producing early aging. Dr. Rosalie Bertell of the Roswell Park Institute at Buffalo, N.Y., has implicated diabetes, cardiovascular disease, stroke, high blood pressure and cataracts--all previously associated with aging--with radiation effects.

Since there is general scientific agreement that no radiation dose is so low as to be absolutely without risk, the woman who wrote to me, as well as other pregnant (and possibly pregnant) women must ask their dentists the following questions:

- 1) How much information about my teeth and mouth can you determine without x-rays?
- 2) What significant information will x-rays add?
- 3) Must I have full-mouth x-rays, or will a smaller segment accomplish the same purpose?
- 4) In what way, if any, will the extra findings that may show up on x-rays change the treatment?
- 5) When was the last time your x-ray machine was checked for safety?
- 6) What form of shielding or other protective measures will you furnish me?

If a dentist continues to play down the dangers of x-rays, he is practicing the medicine of decades ago, and I know of no more dangerous form of specialization than "anachronistic medicine."

Q

What birth defects are associated with x-rays? I was one month pregnant when I had my teeth x-rayed. At the time I wasn't sure I was pregnant, and I didn't know about ANY dangers relating to x-rays. Three were taken, but one didn't develop properly and had to be redone. I've been extremely worried about this, but everyone including my doctor says there's nothing to worry about. My mind would be put at rest if I knew what the percentages were, but I'm just ignored when I ask questions.

Why don't dentists ask if there's a possibility of pregnancy? I would have told him "yes," and I would have been spared a lot of worry. Please answer soon because I don't know how I'll make it through the next four months without knowing.--D.R.

A

*Pregnant
Women
and X-rays*

Dear D.R.: I am continually surprised that doctors advise people to worry about smoking too many cigarettes and about eating too much food, yet try to assuage the patient's concerns about x-rays and drugs. Perhaps your letter will help many dentists realize that it's not very difficult to ask that one little question, "Are you pregnant?" before aiming the x-ray machine.

There has been so little research on the question of x-rays during pregnancy that it is impossible to answer YOUR question on the chances of birth defects developing.

However, a study conducted at Johns Hopkins Hospital showed that the incidence of mongoloid children born to older women was closely related to the number of diagnostic and therapeutic medical and dental x-rays to which the woman had been exposed during her lifetime.

Since doctors recommend that their patients keep careful records of immunizations, I think it would be just as easy to advise patients to keep a record of every x-ray they have taken. Ideally, on each exposure, the radiologist would tell the patient the amount of irradiation administered and the conditions under which it was given (e.g., CAT scanner or conventional x-ray). Such a procedure might encourage both the patient and radiologist to ask, "Is this x-ray REALLY necessary?"

Your doctor has told you not to worry. Perhaps he can help by determining, through consultation with a wise radiologist, the amount of radiation you received from the dental x-rays. He could then take this data to an expert geneticist. This kind of approach may provide you with the reassurance you need during the remainder of your pregnancy.

Q

I had four kidney x-rays taken when I was unknowingly two weeks pregnant. I recently gave birth to a healthy baby, but I am wondering about his future. Are such babies more susceptible to leukemia or other diseases in later life?

My obstetrician has assured me that I shouldn't worry, and the doctor who took the x-rays never even mentioned the possibility of pregnancy. Now I read in magazines and newspapers that a woman of child-bearing age should wear a shield to protect herself against x-rays. Should I continue to be concerned about my child?--Mrs. R.B.

A

Dear Mrs. R.B.: I'm going to answer your question by wearing two separate hats--one of physician and one of scientist. As a physician, I join your obstetrician in assuring you that there is no danger to your healthy child. I hope this advice will lessen, if not completely eradicate, your doubts, because I want you to enjoy your baby as fully as possible.

In my role as scientist, I urge you to do what is probably already at the back of your mind when it comes to having more children--stay

away from x-rays whenever there is the slightest chance you might be pregnant. I am surprised that any radiologist or any doctor ordering x-rays in this enlightened decade would fail to ask a woman in her childbearing years if she might be pregnant. It seems to me this is the No. 1 question to ask, preceding even the ever-popular, "Do you have insurance, or will you pay cash?"

Q

After reading about the woman who had kidney x-rays while she was two weeks pregnant, I felt I had to write you. This kind of thing happens all too often; perhaps the groups that fight birth defects should organize a campaign directed toward doctors and x-ray labs to make them conscious of the potential dangers to pregnant women.

Seven years ago, AFTER I had taken kidney x-rays, the lab technician asked if I was pregnant! And just a year ago, another doctor ordered me to have x-rays of the colon. He was displeased when I refused to take the x-rays until the following month after I had had my menstrual period. Yet he had never asked me if I might be pregnant. And when I did go to the lab, nobody there asked me, either.

EVERY precaution should be taken with women of childbearing age regarding both x-rays and medication, but it isn't being done. What can we do to change this?--K.C.

A

*Chest
X-rays*

Dear K.C.: I could not agree more that necessary precautions regarding women and x-rays often are being ignored. The organizations you refer to have not yet vigorously directed campaigns toward doctors and x-ray labs.

A favorite utopian idea of mine is to require every medical school and every board of health to establish a Department of Iatrogenic (doctor-produced) Diseases. This department would investigate all modern therapy, including x-rays, specifically to determine their risks and to make this information readily available to the public. In other words, this department would throw out the bath water long before the baby got into it.

Now to get back to reality, where the patient has to act as his own watchdog: It is clearly incumbent on the public to learn more about medical procedures, so that it can make informed decisions. Each of us, whether we are doctors or patients who have learned through experience, can add to that educational process. Tell your friends to follow your good example when they next see their doctor.

Q

Are chest x-rays good for a person? Can they cause cancer?

My doctor has given me a clean bill of health, but he insists on my having an x-ray of the chest. Since I feel good and take good care of myself, I don't feel this is necessary. A lot of my friends and I will be watching for your answer.--Old Healthy

A

Dear Old Healthy: Since there is no such animal as a safe dose of x-rays, the only time an x-ray can be good is if its benefits outweigh its risks.

I presume that your physician, like all doctors, is aware of the ever-growing scientific information linking x-rays to cancer as well as to a variety of other diseases. Therefore, in considering whether a chest x-ray is good for you, you might ask your doctor the following questions:

- 1) What are you looking for?
- 2) What is the likelihood of finding what you are looking for via chest x-rays?
- 3) Can you find what you are looking for by a safer method?

- 4) Are you using the most modern and well-maintained machines with the lowest possible dose of radiation?
- 5) Will you properly shield the rest of my body?

The answer to these questions, as well as to others that may arise in the course of your conversation, must then be considered against the background of the total number of x-rays, both medical and dental, that you have received and that have accumulated in your body throughout your lifetime. As you can see, this is a time-consuming business, but the ever-increasing awareness of x-ray dangers justifies the most serious thought for even the innocuous-appearing chest x-ray.

Q
A

Should I get a chest x-ray at a mobile unit?--B.T.

Dear B.T.: First, do you need an x-ray at all? There is no more reason for being x-rayed in a mobile unit than there is in a stationary unit. Any x-ray procedure carries with it possible dangers of radiation, and there is no need to get an x-ray just because the machine happens to be in the neighborhood.

Mobile x-rays were quite the rage several decades ago when the dangers of irradiation were less known. And there was another popular use for x-ray machines then: If you were a child during the 1940's, you probably remember having your feet x-rayed in the shoe store to see if your new shoes fit properly. You don't see those machines around anymore, and you don't know how much damage was done by the use of such equipment by unskilled personnel.

Perhaps the present generation will view the mobile unit with the same nostalgia as the earlier generation now views the shoe store x-ray. And I hope this generation will eventually understand that x-ray machines should be used as a diagnostic tool by physicians and not as a gimmicky toy that exposes perfectly healthy people to radiation for doubtful "screening" purposes.

Q
A

My husband recently discovered that, because his tonsils were removed by irradiation (x-ray therapy) 25 years ago, he runs a high risk of developing a growth in his thyroid gland. He's afraid he may have to have thyroid surgery. Will it be necessary to remove this thyroid?--V.R.

Dear V.R.: There are almost as many conflicting opinions on this as there are physicians. The recommendations run the gamut from periodic physical examination of the thyroid, through radioactive iodine studies, all the way to the extreme measure of preventive removal of the thyroid gland.

*Irradiated
Tonsils*

The conservative approach recommends periodic examinations and excision of any nodules that may develop.

Thyroidologist Dorothea E. Hellman, M.D. of Tucson, Arizona, advises, "To recommend removal of the thyroid gland in all patients who have thyroid nodules following x-ray exposure is to commit a very large number of patients to unnecessary surgery with all its attendant risks and complications. Thyroid cancer in such patients usually has been confined to the thyroid gland and possibly to local nodes.... None of our patients with very invasive or metastatic disease has a history of childhood radiation."

If your doctor prescribes a procedure that your husband does not understand thoroughly or considers questionable, ask him to explain it and to advise if there are any potential hazards connected with it. Your husband has already been burned once, and he should do everything within his power to avoid a future conflagration.

Q
A

Mammography

Is mammography a safe procedure for detecting breast cancer?--B.D.

Dear B.D.: Mammography recently has received another black eye, maybe even a knockout punch. An advisory panel to the National Institutes of Health has recommended that a least two pathologists be consulted before breasts containing small or inactive tumors are removed. This recommendation was based on reports of needless breast surgery performed after x-ray detection of tiny abnormalities.

Almost two years ago, I called attention to the dangers of mammograms. Since then the evidence has continued to accumulate. In addition to the specific problem of mammograms and breast cancer, this subject also raises issues of more general concern:

1. More than a quarter century ago, I was taught in medical school that x-rays of the breast were practically worthless. Later they became fashionable for a while, and now it seems as though the wheel has turned full circle. How many other medical technologic tricks of the last decade or so are equally dangerous?

2. A professor of mine once said we would all be better off if every scientist published his research findings only after five years had elapsed. I can foresee the objections of activists about "all the people who would have been denied treatment," but I wonder whether this claim would not be more than counterbalanced by those who would have escaped the harmful effects of the rush to treatment.

3. I hope the government agencies (National Institutes of Health, National Cancer Institute) that have focused their bright spotlights on mammography do not stop there. They should use the opportunity provided by this disclosure, as well as by the magnificent epidemiological expose of the swine flu fiasco, to focus on the risk-benefit ratio of other mass screening techniques such as routine chest x-rays, amniocentesis and hypertension screening.

4. Finally, it is time to turn away from the unproductive approaches of detection and treatment of breast cancer and to give much higher visibility and funding to the accumulation of evidence implicating the effect of unrestricted estrogen (natural estrogen unmodified by other hormones, such as where there are few pregnancies and a low rate of breast-feeding; or the use of artificial estrogens, such as found in contraceptive pills and post-menopausal hormone therapy) in the CAUSATION of the current devastating epidemic of breast cancer.

Q

Last June I had my second mastectomy. The first was performed eight years ago. Due to my own awareness and prompt action, the operations were performed at an early stage and were followed by no further treatment.

When I was 19, it was discovered that I had scar tissue from a childhood bout with tuberculosis. I was subsequently confined for two months to a sanatorium where I was x-rayed and fluoroscoped more times than I can remember. On the doctors' advice, chest x-rays were taken every year thereafter.

I am now 63 years old, and I think you can see the picture: How do I know that the cumulative effect of more than 40 years of x-rays did not ultimately cause the breast cancer?

I am terribly concerned about those whose lives are being jeopardized by the dangerous practices performed in a routine manner by members of a profession with the power of life and death over people.

And the attitude of the public toward the medical profession is still, "Whatever you say. You are the doctor."

I am now faced with the decision of having more x-rays taken. It seems to me that I will be running a lesser risk if I only have an x-ray taken when and if something seems amiss. What is your viewpoint?
--Mrs. W.B.

A

*Breast Cancer
and X-rays*

Dear Mrs. W.B.: Thank you for writing with so much obvious insight and wisdom. Your suspicions have received support in the most prestigious medical circles. "The Medical Letter," a highly respected publication for physicians, states: "Women with tuberculosis exposed to extensive fluoroscopy had a higher than expected incidence of breast tumors 10 to 30 years later."

The National Cancer Institute has said, "Repeated x-ray examinations may result in an increased risk of breast cancer."

Information published in a scholarly journal by a National Cancer Institute scientist charges that repeated, routine x-raying of women's breasts may be causing as much cancer as it is curing and that frequent x-rays should not be given to women under the age of 50.

To quote again from "The Medical Letter," "Whether repeated mammography can itself increase the risk of developing breast cancer has not been determined, but breast tissue is sensitive to the carcinogenic effects of radiation."

Your fears of x-rays are well-founded, and your conclusion is as valid as any I could possibly come to in view of the evidence.

Every woman should be aware of the dangers of routine x-raying whenever it is recommended that she step in front of the x-ray machine.

Q

Due to some problems in my head, a brain scan and a brain wave test were taken. The results were normal. But a skull x-ray showed a lesion on the bone, in the opinion of one radiologist. I took the same x-ray to another radiologist who pronounced it normal. How can two experts differ like this? Is the skull so hard to read? Do I need some more opinions?--P.S.

A

*Different
Readings of
One X-ray*

Dear P.S.: Not only can two experts differ, but sometimes you can consult three specialists and get four opinions!

It seems to me that between the brain scan, the EEG, the skull x-rays and the conflicting opinions of the two radiologists, you've received just about everything that radiology has to offer you. What you need now is a wise physician who can fit the pieces of the puzzle together and arrive at a considered conclusion.

Your questions about the medical problems that trouble you most, will be answered by Dr. Mendelsohn. Please send your questions to: The People's Doctor, 664 N. Michigan Ave., Suite 720, Chicago, Ill. 60611.

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Medical News

Is an annual Pap smear necessary? Not according to Dr. Emerson Day, medical director of the Cancer Prevention Center in Chicago who says that the chances of discovering cancer of the uterus are not much different than if the test is done every two or three years. His conclusion is based on findings in thousands of women who were tested during the past 25 years. "I don't believe we need to repeat the Pap test each year," says Day. "One needs a test as a baseline...but in terms of obtaining findings that would justify the procedure annually --well, you can't justify it because the yield is so low." (Chicago Sun-Times, March 9, 1978)

In an epidemiological survey of myocardial infarction (heart attack) in England, patients were divided into those who had suffered a "definite," "positive," or "not" myocardial infarction. Seven hundred and fifty-one "definite" cases were studied who were treated in their homes, the hospital ward, and the coronary care unit. The fatality rate among patients treated at home was less than among those treated in either the ward or the coronary care unit. The study concludes that there is little evidence that coronary care units benefit patients who have survived at home for a median interval of three hours. (British Heart Journal, November 1977 as reported in the Journal of the American Medical Association, April 14, 1978.

Between March and June, 1977, more than one million prescriptions for amphetamines were written by doctors in Duval County (Jacksonville) Florida. In response to complaints from pharmacists, the Duval County Medical Society, the Florida Osteopathic Medical Association, and the Duval County Pharmaceutical Association joined in instituting a plan which cut amphetamine prescriptions by 81 per cent. Said Dr. Guy Selander, immediate past president of the Duval County Medical Society, "We had almost no antagonism or complaints about the program. In fact, the physicians said we should have done this a long time ago." (American Medical News, March 27, 1978)
(Ed. note: So what took you so long?)

A test in Middlesex, England investigated the effects of taking 10 grams of ascorbic acid during the first two and one-half days for symptoms of the common cold. Of 1,524 volunteers recruited from various working groups in different parts of the country, colds developed in 482. There was no evidence that upper respiratory or general constitutional symptoms were alleviated by ascorbic acid. The conclusion of this trial was that ascorbic acid is of no value in treating the common cold. (JAMA, February 20, 1978)
(Ed. note: While the see-saw battle around Vitamin C continues, my wife still swears by it.)

Another View

by Marian Tompson
President, La Leche League
International



Recently my husband had a dental checkup. As the dentist examined his teeth he said to the hygienist, "I want a radiograph of Mr. Tompson's mouth." "A radiograph!" my husband exclaimed. "You never used that term before. Are you trying to get around a person's fear of x-rays?" The dentist chuckled and left the room.

I find it difficult, I must admit, to remain calm, cool, and collected when discussing x-rays and related topics. This is because I've seen so much carelessness in the use of these tools.

Several years ago our son, Brian, then fifteen years old, was in the hospital with a broken leg. The break was close to the hip socket, and dozens of x-rays were taken during his three-month hospitalization. Yet on each occasion we specifically had to ask for a lead shield to cover his genitals. "Oh, Mrs. Tompson," one technician remonstrated as he darted out of range, "your son is not getting any more radiation than he would get from standing in front of a brick wall on a sunny day." "Which goes to show how dangerous it can be in front of a brick wall," my son whispered.

Then there was the problem of getting a good picture. Sometimes three or four x-rays were taken before one could be used. Luckily Brian found a friendly technician who answered his questions about machine settings. The next time a technician had trouble producing a usable picture, Brian suggested a particular setting and the results were so good they wrote the information on his cast for others to use. Wouldn't it have made sense, though, to have put that information on file or even on his cast in the first place, so that he wouldn't be exposed to any more radiation than necessary?

I'm also concerned about the kind of information given people having diagnostic tests which use radioactive material. A typical phone call, a few days ago, was from a young mother who just had had a diagnostic test using radioactive technetium to see if the x-ray treatments she had had as a teenager to clear up her acne had produced any thyroid damage. Her concern was with her nursing baby. Several weeks earlier her doctor, when questioned, had said this would not interfere with her breastfeeding. That morning immediately after the test, when she questioned him again, he said, well, maybe she should not breastfeed for a day or two. (Actually, opinions on when breastfeeding can safely be resumed after this kind of test vary from six to forty-eight hours.) But no one had told her that the greatest hazard to her baby was that of proximity and that she should not be near her child for at least six hours after the test. Nor had anyone suggested other tests which would be less hazardous and would not create problems with breastfeeding.

If your family is faced with these kinds of situations, don't be afraid to ask a lot of questions, check out the answers, travel in pairs, especially if it's to the hospital, and remember a radiograph is still an x-ray.