

SYNTOGRAM

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Good evening Americans.

Characteristically, we worry about the wrong things.

We worry about the hideous effects of atomic radiation . . . about what might happen if the Russians atomize us. . . .

Then we walk into the dentist's or doctor's office and ask for it.

You and I are going to save somebody's life tonight, though we won't get much help and we may get some interference.

Because a big industry is involved and a long-accepted medical practice is just about to get the rug jerked out from under it.

If you are standing in your front yard when a modern atomic missile bursts five miles up directly over your head, you will be exposed to atomic radiation.

But from one standard chest X-ray, you are exposed to ONE HUNDRED TIMES THAT DOSAGE.¹

We worry about the wrong things.

We know that an overdose of X-ray causes cancer.

We know that it is "cumulative", it builds up over the years.

Every new X-ray adds to the radioactivity which your body has accumulated from previous ones.

We used to think a person could absorb radiation, two-tenths of one roentgen unit a day safely.

We learned better. Persons exposed to that amount developed cancer, cataracts, anemia, leukemia.

We backed down.

Then scientists decided one-tenth of an "r" was as much as we could take,

But still tissue was destroyed.

Now some say it's safe to be exposed to 300 milliroentgens per week.

That's 300 millionths of one "r" per week.

The truth is, we don't know for sure.

But we do know. . . that the X-ray gadget in the shoe store. . . is spilling out from 12 to 107 "r" per minute.²

The leading United States scientists, after a year-long study sponsored by the National Academy of Sciences on the "biological effects of radiation" agreed THERE IS NO SUCH THING AS A SAFE AMOUNT.

Americans, in their enthusiasm for X-ray have insisted that it be used for everything from dandruff and pimples to mis-fit shoes without realizing that they are playing with a deadly form of delayed-action dynamite.

Dentists use X-ray for routine oral examination.

Doctors have used it for warts.

It is noteworthy that among all members of the medical profession, the highest incidence of leukemia – cancer of the blood – is among radiologists.

Tragically, one of the first men to use radium to fight cancer, Radiologist Mario Ponzio, died this year. From cancer induced by radiation burns. At the age of 46.³

Further, it is generally agreed that radiation under certain conditions can cause hereditary defects. Sterility malformed bodies, susceptibility to mental disease.

Dr. Mariam Sachs of the New Jersey Department of Health says, "The epidemic danger is not from thermonuclear bombs. It comes from peace-time applications of atomic radiation - - radioisotopes, used in medicine and industry, chest and dental X-rays, fluoroscope shoe-fitting machines."

Only one state, New York, has started to police this hazard. New York adopted a sanitary code which at least requires licensing and inspection of these devices.

Dr. Dwight Clark of the University of Chicago says he has seen fifteen cases of cancer of the thyroid in children under the age of fifteen. All in infancy and childhood had prior X-ray treatment in the neck region.

Average time between the exposure and the cancer diagnosis, 6.9 years.

Maybe the cigarette has received an unjust share of the blame for lung cancer. Well-meaning societies seeking to prevent TB offer lung X-ray free.

That National Academy of Sciences' year-long study showed that, "as of now medical and dental X-rays are piling on more troubles for generations yet unborn than are the atomic weapons."⁵

These were the 145 most accomplished scientists who could be assembled for a study of this subject. And they decreed: We should limit ourselves to a radiation dose in the area of the reproduction glands of not more than ten roentgen units from conception until age thirty.

Not more . . . than ten "r" in thirty years.

Hear this:

You get five from one dental X-ray.

And a fraction of that dental X-ray "spills over" . . . strays to the reproductive organs.

I know, this subject scared the socks off anybody who ever dug into it.

You and I are exposed all the time to some background radiation

From outer space, from the gram of radium that exists in a square mile of the earth's soil.

But the body repairs minor radiation damage continuously.

The damaged tissue has a chance to recover from this gradual absorption.

But our bodies are no match for our machines.

Dr. Anton Raventos of Philadelphia says the doctor who used X-ray must consider "whether he may be condemning his patient to the risk of an early death." He finds "a five-to-ten times greater death rate from leukemia among persons treated in childhood with X-ray.

And now television!

The international Commission on Radiological protection, August 8, 1956⁶ said, "sit back from the set."

"We know of no manufacturer who allows his TV set to give off more than .5 mr per hour."

But, again this cumulative.
And becomes perhaps 35mr in a week!

The government is carefully charting the radioactive fallout from our weapons tests (and of our neighbors), twice a day.

But still, Dr. Ralph Lapp says the world is "fast approaching the maximum safe level."
He says, "education about the biological effects of nuclear radiation is an absolute prerequisite if the human race is to survive."

But while the doctors and the biologists and the physicists fight that one out with the politicians . . .

It makes little sense if you and I still wear luminous watch dials, watch T.V. soak up "r" from the sundry other sources . . .

When Lapp and Andrews' study on Nuclear Radiation Physics says it this bluntly: "Any amount of radiation is potentially dangerous and should be avoid."⁷

We know of no "tolerance limit" that applies to everybody.
We do know that 150 r in infants and 300 r in children are capable of causing growth disturbances.⁸

We know the man who invented dental X-ray lost his fingers to cancer, then his life.

What I have said here is not new.
It is all previously published, carefully documented.
But in technical papers rarely read outside the profession.
This is what you would hear if you could eavesdrop wherever physicians talk privately.

Your doctor is in an uncomfortable position.
If he fails to use X-ray when X-ray is indicated, he may be legally liable for mal-practice.
Sometimes, there, he will be guided by your insistence.
So let us see if there is some rule of thumb. Let's get down to cases.

If Junior swallows a safety pin, X-ray may be worth the risk involved
IF THE X-RAY IS PERFORMED BY A SPECIALIST IN THAT FIELD.

If Junior swallows a dime, no.

If there is a tooth problem of abscess of impaction, X-ray examination may be the lesser of evils.
I said, it may be.
Certainly not for a routine dental examination.

A few hundred roentgens for subacromial bursitis?
That depends on the extent of the patient's distress.
I wouldn't . . . for myself.

Big doses of skin-blistering X-ray treating cancers? Yes.

Present evidence indicates that the dangers are not too high a price to pay for destroying a definitely diagnosed malignance.

You gamble on causing one for the better chance for curing one.

But X-ray in the shoe store?

Every medical source I questioned answered that one with the same word: "No."

X-ray, for anything less than cancer should be used with a vivid appreciation for its capacity to harm.¹⁰

Now maybe you're beginning to understand why this has gone so long unsaid.

Much time, effort and money have been invested in the study, development and application of X-ray.

Perhaps, like ripe cheese, it has to be a little bit bad to be any good.

But it's nothing to toy with.

It's nothing to take lightly.

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