

LA BANQUE PROVINCIALE DU CANADA

THE PROVINCIAL BANK OF CANADA

Rues St-Marcel et St-Jean

Drummondville, Qué. 8-358

SUCCURSALE - BRANCH

REÇU DE L'ACHETEUR  
PURCHASER'S RECEIPT

POUR - FOR

TRAITE DE BANQUE  
BANK DRAFT

No. B 13821

À ÊTRE DÉTACHÉ ET RETENU PAR L'ACHETEUR. EN CAS DE PERTE DE LA TRAITE DÉCRITE CI-DESSUS, LA SUCCURSALE DE BANQUE DONT L'ACHETEUR A OBTENU CETTE TRAITE EN REMBOURSE LE MONTANT À L'ACHETEUR, SUR REMISE DE CE COUPON ET CONTRE GARANTIE SATISFAISANTE.

DETACH AND RETAIN, IN THE EVENT OF LOSS OF THE CORRESPONDING DRAFT, THE BRANCH OF THE BANK AT WHICH THE PURCHASER OBTAINED THE DRAFT WILL, ON SURRENDER OF THIS SLIP AND ON RECEIPT OF A SATISFACTORY GUARANTEE, REFUND THE AMOUNT OF THE ORDER TO THE PURCHASER.

DATE

11-10-60

\$ 112.70

LA BANQUE PROVINCIALE DU CANADA

THE PROVINCIAL BANK OF CANADA

Rues St-Marcel et St-Jean

Drummondville, Qué. 8-358

SUCCURSALE - BRANCH

REÇU DE L'ACHETEUR  
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No. **B 13823**

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DATE..... 11-2-10

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POUR - FOR

TRAITE DE BANQUE  
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No. B 13825

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20-12-60

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Promote 20/12/60

1961

LA BANQUE PROVINCIALE DU CANADA  
THE PROVINCIAL BANK OF CANADA  
Rues St-Marcel et St-Jean

Drummondville, Québec 8-358  
SUCCURSALE, BRANCH

RECU DE L'ACHETEUR  
PURCHASER'S RECEIPT  
POUR - FOR  
MANDAT DE BANQUE  
BANK MONEY ORDER

No. U.S. 13715

A ÊTRE DÉTACHÉ ET RETENU PAR  
L'ACHETEUR. EN CAS DE PERTE DU  
MANDAT DÉCRIT CI-DESSUS, LA  
SUCCURSALE DE BANQUE DONT  
L'ACHETEUR A OBTENU CE MANDAT  
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DATE..... 4-1-61 .....

LA BANQUE PROVINCIALE DU CANADA  
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Drummondville, Qué. 8-358  
SUCCURSALE - BRANCH

REÇU DE L'ACHETEUR  
PURCHASER'S RECEIPT  
POUR - FOR  
TRAITE DE BANQUE  
BANK DRAFT

No. B 13826

À ÊTRE DÉTACHÉ ET RETENU PAR L'ACHETEUR. EN CAS DE PERTE DE LA TRAITE DÉCRITE CI-DESSUS, LA SUCCURSALE DE BANQUE DONT L'ACHETEUR A OBTENU CETTE TRAITE EN REMBOURSE LE MONTANT À L'ACHETEUR, SUR REMISE DE CE COUPON ET CONTRE GARANTIE SATISFAISANTE.

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DATE 31 JAN 1961

114.48

114.70

19/1/61

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DIRECTOR  
GENERAL  
LAND OFFICE  
MARCH 1961

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SUCCURSALE - BRANCH  
RECU DE L'ACHETEUR  
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POUR - FOR  
MANDAT DE BANQUE  
BANK MONEY ORDER

No. U.S. 13720

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DATE..... 7 - MAR 1961.....



LA BANQUE PROVINCIALE DU CANADA  
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DATE.....



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150 mg of  
vit C

4 gms Calcium  
lactate in one pint  
of milk

<u>Date of Shipment</u>	<u>Duty paid</u>
Aug 2 / 6	\$ 22.32
Aug 23 / 60	\$ 22.12
Sept 13 / 60	\$ 22.23
Oct 24 / 60	\$ 22.34
Nov 16 / 60	\$ 22.23
Dec 7 / 60	\$ 11.17

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\$ 122.41

## KREBIOZEN

### An Agent for Investigational Use in the Management of Malignant Tumors.

*CAUTION: New Drug limited by Federal Law to investigational use.*

Krebiozen was developed by Dr. Stevan Durovic and is being distributed by the Krebiozen Research Foundation for investigational use. The drug is separated from the serum of horses whose reticuloendothelial system has been stimulated by the intravenous injection of an extract of a culture of *Actinomyces bovis*, an organism which is known to excite the cells of the reticuloendothelial system to produce a granulomatous tumor.

The purpose of the distribution and investigation of the agent is to determine whether it has any specific activity against malignant (as contrasted with non-malignant) conditions. The Foundation has formed the opinion on the basis of preliminary studies that the agent may decrease or abolish pain, improve the general condition of the patient, and provoke a regression or remission of the malignant tumor in some patients.

On the basis of the studies of the Foundation it is suggested that physicians administering the drug look for and record any changes which may occur within one to six days after the first injection and any changes which may occur thereafter or after a series of four or five injections.

**SUGGESTED DOSAGE:** 0.02 mg. of Krebiozen given in two doses of 0.01 mg. each, dissolved in mineral oil, the first dose of 0.01 mg. being given intramuscularly and the second dose seventy-two hours later. No further injections are recommended for seven days, usually later, depending upon the condition of the patient. Intravenous injection is contraindicated.

**TOXICITY:** No evidence of toxicity or of side reactions of the drug per se has been observed in mice, rats, or dogs when given in amounts of 10 to 100 times the single dose recommended for human patients.

**PRECAUTION:** The physician is cautioned to keep in mind the pathological anatomy of the malignant process in the patient under management. If the drug is effective, and acts too rapidly, perforation or hemorrhage of viscera may result and too frequent administration of the drug may lead to symptoms resulting from too great absorption of cellular debris.

#### TECHNIQUE OF ADMINISTRATION

1. It is recommended that Krebiozen be administered exclusively intramuscularly.
2. Administration is made with a tuberculin syringe and a needle of two inches for deep intramuscular injection. (Needle No. 20, 2".)
3. It is necessary that the syringe and needle be dry before use. For this reason it is recommended that the syringe and needle be sterilized by autoclaving.
4. 1 cc. of Krebiozen is believed by the Foundation to be the optimum single dose in most patients.
5. After administration pressure should be exerted on the site of the injection to prevent leakage.

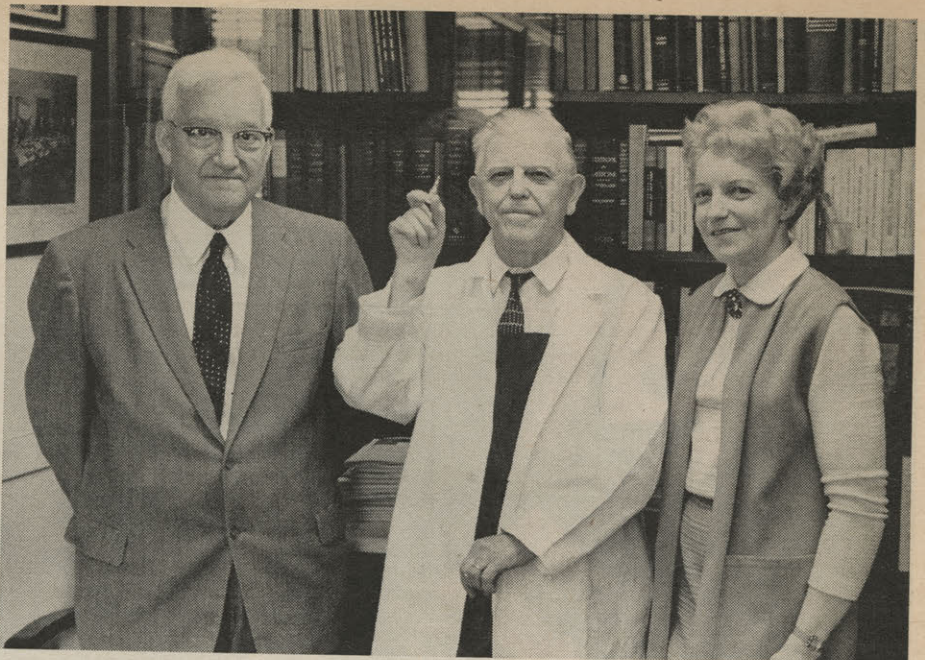
## Cancer & Krebiozen

Over a 500-watt local radio station comes the well-modulated voice of Narrator Walter McGraw in a soft-sell, sincere-sounding pitch for "a fair trial for Krebiozen." (The recording bore the imprint of Manhattan Adman Robert M. Marks, fronting for the Krebiozen Research Foundation.) Into the mails every month go 25,000 or more copies of the *Bulletin* of the Citizens Emergency Committee for Krebiozen (pronounced Kre-by-ozen).

The American Cancer Society's last fund drive was bedeviled by protest cards (thoughtfully provided by the Krebiozen lobby) reading: "... I will resume my support of the A.C.S. when your organization supports the truth about Krebiozen and commits itself to an unbiased clinical test about Krebiozen." G. P. Putnam's Sons, publishers of pro-Krebiozen books, promote them with gaudy red, black and yellow throwaways with such unprovable headlines as REAL HOPE TO CURE CANCER and BIG LIE BANS CANCER DRUG.

**Dangerous Delay.** For the tens of thousands of U.S. cancer victims whose cases are pronounced hopeless in any given year, the unresolved argument over Krebiozen creates a personal emergency of tragic intensity. By pretending that the cancerous Krebiozen controversy does not exist, organized medicine represented by the American Medical Association and the American Cancer Society is acting on the assumption that "if we don't look, it will go away." This, as A.M.A. and A.C.S. are both quick to assert, is the cardinal sin of patients who delay in taking their lumpy growths to a doctor.

What is Krebiozen? Nobody knows for certain (and some extreme skeptics still question whether there is such a thing).



PHYSIOLOGIST IVY (CENTER) & PATIENTS  
Smothered under the gusher.

Arthur Siegel

Does it do any good? Nobody can be sure, on the basis of the ill-organized and sketchy evidence so far available.

Krebiozen is the creation of an intense, sunken-eyed Balkan medico named Stevan Durovic. Now 55, Dr. Durovic got his M.D. at Belgrade in 1930, was a medic in the Yugoslav army when captured by the Italians in World War II. Thanks to a heart condition, P.O.W. Durovic was allowed to leave Italy on a Vatican visa in 1942 for Perón's Argentina.

There, Dr. Durovic began to apply a theory which, he now says, he had been mulling over for years: that some of the body's defense mechanisms, including those against cancer, are seated in the cells of the reticulo-endothelial system\* (RES for short). By 1946 Dr. Durovic had a substance, extracted from the blood of specially treated cattle, which he called Kositerin and considered promising for treatment of high blood pressure.

Dr. Durovic came to the U.S. in 1949. At Chicago's Northwestern University Kositerin's effectiveness was proved to be almost nil. But Durovic was referred to the University of Illinois' Physiologist Andrew Conway Ivy. When Durovic saw Ivy, he told him that he had a drug named Krebiozen, extracted from horse blood, for treating cancer. Some scoffers assert that Kositerin became Krebiozen during a cab ride across town.

**Hippodrome Show.** Ivy was indeed interested. A show-me farm boy of Scottish extraction from Farmington, Mo., Dr. Ivy had made it the hard way to the top ranks of medical research. In 1949 he was 56, loaded with honors, vice president of the professional colleges of the University of Illinois, author of more than 1,000

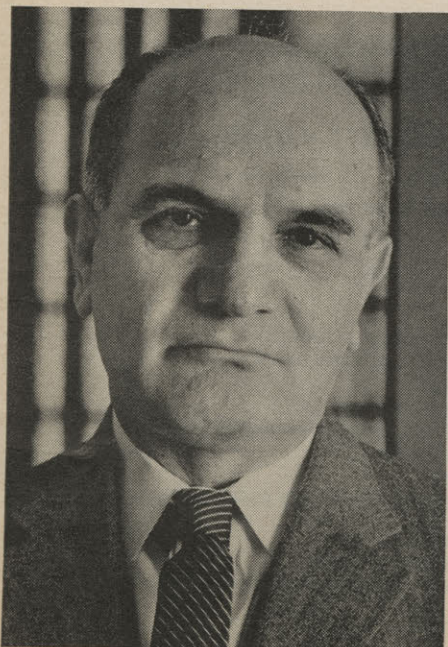
\* From the Latin for a "little net" of tissues lining the blood vessels. The ones that produce white blood cells and (presumably) other defenses against disease are in the spleen, lymph nodes and liver.

technical papers on research. Though an M.D., Ivy was a physiologist and teacher, no bedside physician. Satisfied that Krebiozen was both harmless and promising, the Ivy team injected it into 22 patients nearly all of whom were diagnosed as having last-stage cancer ("terminal cases"). Though most of them soon died anyway, some felt better for a while, and after 17 months two of them were reported free of cancer.

What happened next is history. Early in 1951, at a meeting in Chicago's Drake Hotel, Dr. Ivy reported his findings to the medical profession, press and public. It turned into a hippodrome performance. But why this happened is still a mystery. Dr. Ivy insists that word of miraculous benefits from Krebiozen was leaking out, and he wanted to set the record straight. Dr. Durovic gave his conventional critics a club to beat him with by refusing to tell how he made Krebiozen, claiming that he feared the Communists would get hold of it. This left Krebiozen a secret remedy, which is anathema to medical ethics and ethical medics.

The A.M.A.'s Council on Drugs hastily pulled together reports on 100 patients treated with Krebiozen at seven clinics and concluded that the stuff was valueless. The Chicago Medical Society suspended Dr. Ivy for three months for promoting a secret remedy. University President George D. Stoddard recommended that Ivy be demoted from his vice presidency but left him on the faculty. Then the circus moved under the big top. An Illinois legislative committee held hearings for a year, ended by rebuking President Stoddard. The National Research Council undertook a study of Krebiozen, but still relied on second-hand evidence. The findings, predictably, were negative.

**Around the Rule.** Meanwhile, desperate cancer patients and their families clamored for Krebiozen, and by now an



Arthur Siegel

POWDER-MAKER DUROVIC  
Metamorphosed in a crosstown cab?



that wraps it up gentlemen!...

Last item on the agenda—but the most pleasant. Pleasant because their decision means they'll be doing business with a company of the Canada Iron Group.

It means that all the big and little problems that had been theirs will now be under the Canada Iron wing. And that's a pleasant thought.

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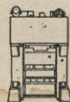
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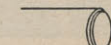
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estimated 3,000 have had injections of it from about 300 physicians. With this number of cases, it ought to be easy for scientists to determine whether the stuff is any good. But last week the *New York Post* devoted six data-packed pages to the controversy and explained why no impartial judge can yet assess its value.

Krebiozen is approved "for investigational use only." It cannot be sold. A doctor must get it from the Krebiozen Research Foundation for cancer cases of the types that the foundation approves of treating, and he is required by law to give the foundation a report of his results. In practice, he usually makes a "donation" of \$9.50 for each ampule (one injection), which gets around the no-sale ruling. Then, all too often, he neglects to file a report.

For \$9.50 what does the patient get? Dr. Durovic says he brought less than a teaspoonful—two grams—of the whitish powder from Argentina. This would mean that it had been extracted from 2,000 horses (costly, because the horses are killed in the process), as Durovic says he gets only about one milligram per horse. And the human dose of Krebiozen is so fantastically minute—only  $\frac{1}{100}$  of a milligram—that two grams would be enough for 200,000 doses. Durovic has recently announced making his first U.S. batch of 200 mg. from 200 horses.

What Krebiozen is, or even whether it exists, has been impossible to establish by impartial analysis because of another whodunit circumstance. In early 1951 Ivy and Durovic were worried about the stuff's keeping qualities. Somebody mentioned casually that perhaps it would keep better in oil. Straightway, Durovic dumped his whole supply into light (pharmaceutical grade, No. 9) mineral oil. The dilution is so great that the presence of the drug can no longer be proved. And of course its chemical composition was smothered under the gusher of oil.

**Fungal Process.** By all odds, a man of Ivy's standing should have wriggled out of the mess as soon as he found what he was in. But Andrew Ivy is as stubbornly devoted to any cause he espouses as he is to his vigorous Methodist faith. Difficult to deal with he certainly is.

Dr. Ivy has studied the secretive Dr. Durovic's method of injecting into horses a preparation of killed and sterilized fungi,\* waiting for the horses' systems to react, then bleeding them and extracting Krebiozen from their blood serum by a highly involved process. He has duplicated the process and has a vial containing a few milligrams of an off-white powder which he believes is identical with Durovic's Krebiozen. Ivy has also worked on Krebiozen's chemistry. It is, he declares, a "tissue hormone" secreted by the RES cells. If Krebiozen is indeed a tissue hormone, he has a better chance of getting it licensed.

Finally, Dr. Ivy has continued to treat patients, usually in his laboratory or



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\* *Actinomyces bovis*, cause of the disease "lumpy jaw" in cattle.



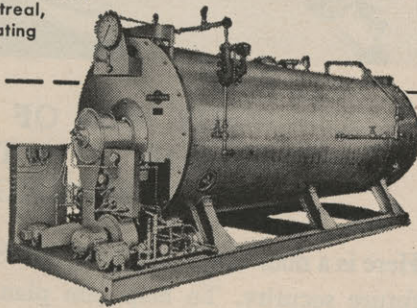
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office. Through it all, Ivy has amassed data which, he asserts, prove Krebiozen's effectiveness against certain types of cancer. He also relies heavily on the practice of two Chicago physicians (with whom he co-authored a 1956 book): Dr. John F. Pick, a plastic surgeon, and Dr. William F. P. Phillips, a general practitioner.

A burly, down-to-earth pragmatist with an earthy vocabulary, Dr. Phillips, 48, has given Krebiozen to about 300 patients—more than any other physician. He keeps aloof from the charges and countercharges about Krebiozen. He is convinced that Krebiozen helps his patients. But he frankly admits that he cannot be sure. He has neither the training nor the time to become a research scientist, he says.

**When Hope Is Gone.** Medical orthodoxy requires that before a new drug gets a formal, elaborate, wide-scale test, there must be a prima-facie case in its favor from the records of patients already treated. Dr. Ivy's cases are too few for that. The Krebiozen Foundation's records are too sketchy. So, for the *New York Post*, two newsmen took turns sitting down with Dr. Phillips and going through his cases. From the first 67, it was clear that no conclusive findings as to the value of Krebiozen would emerge even if all 300 were analyzed.

Sometimes a reported improvement is what the doctors call "subjective," meaning that the patient feels better, says he has less pain, eats better and often resumes normal activities after having been bedridden. Cancer scientists dismiss all such effects as resulting from the power of suggestion.

But there remain, says Dr. Phillips, a few patients whose diagnosis of cancer was proved by exacting laboratory techniques and who then lived longer than the majority of patients with similar disease. In some of them, the cancer process actually seemed to have been arrested or even reversed. Could this be chance?

The most determinedly anti-Krebiozen spokesman for a leading U.S. cancer research center admits that not all of these cases can be explained away by other factors, though he still insists there is no reason to test Krebiozen further. Another expert, equally skeptical but more judicial, says: "From these cases, you can't help feeling there's something here that needs to be explained." This jibes with Dr. Phillips' tenet: "If the researchers in their ivory towers would stop bickering and get down to work, we could have some valuable information within a year, and a definite answer before too long."

Last week, the *New York Post* made its own proposal to break the stalemate: The National Cancer Institute should quit making favorable prior evaluation a condition, because adequate data simply do not exist. Ivy should be allowed to determine the drug dosage, because of his experience, but should not be on the evaluating panel.

Krebiozen may be no cure or even palliative for cancer of any kind, but a fair test would cut out most of the cancer of the Krebiozen controversy.



November 21, 1958

Dr. Harold S. Diehl  
Senior Vice President for Research and Medical Affairs  
American Cancer Society, Inc.  
521 West 57th Street  
New York 19, New York

Dear Dr. Diehl:

Having read, in the Chicago Tribune of August 6, 1958, a news item captioned "IVY PROPOSAL ON KREBIOZEN TESTS STUDIED", and with the following subject matter, quote, "The American Cancer Society said Tuesday in New York City that its advisory committee on therapy would study a proposal by Dr. Andrew C. Ivy, head of the clinical science department of the University of Illinois, that the society test the drug Krebiozen".

"Dr. Harold S. Diehl, deputy executive vice president of the society, said he had read a letter from Dr. Ivy in which the proposal was made. The drug has been advanced as having potentialities as a cancer cure."

As reported by Dr. Ivy, 70% of the 1,700 cancer patients treated with Krebiozen by some 400 doctors have shown beneficial results, and in many cases "cures".

We are in full accord with Dr. Ivy's request, and we are of the opinion that the American Cancer Society could perform no greater service to people suffering from cancer, and those supporting the American Cancer Society, than to reverse your previous decision NOT to test this drug and submit it to Dr. Ivy's "Double Blind" test.

We are also suggesting that an early statement to that effect be given to the Press throughout the Nation so that your supporters will not lose their confidence in your relentless drive against cancer.

Respectfully submitted,

*Zelma Lee Ross*

Zelma Lee Ross, Committee Chairman

COMMITTEE FOR A FAIR TEST OF KREBIOZEN, INC.

cc: Dr. John A. Rogers  
American Cancer Society  
Illinois Division, Inc.  
139 N. Clark Street  
Chicago, Illinois

\* \* \* \* \*

We are redoubling our efforts for a "Double Blind" test as a result of the American Cancer Society formally refusing to test Krebiozen on October 24, 1958. Please see that at least two persons signing this petition take petitions to circulate themselves.

My signature which appears on this petition attests to the fact that I have read the letter on the reverse side of this sheet, and that I am in full accord with the statements and requests made therein:

Name	Street	City
1. _____	_____	_____
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5. _____	_____	_____
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30. _____	_____	_____

Signature of person circulating petition

When COMPLETELY filled, please return this petition to Committee For A Fair Test of Krebiozen, Inc., 343 South Dearborn Street, Chicago 4, Illinois.

S T . M A R Y ' S H O S P I T A L

3830 LACOMBE AVE.  
MONTREAL 26, QUE.



May 26, 1960

Mr. L. Lubarsky  
324 St. Marcel Street  
Drummondville, Quebec

Dear Mr. Lubarsky:

As requested I have today written a letter to Dr. Wm. Gough and have given him a resume of your wife's case history.

With best wishes,

Sincerely yours,

R.V. Moralejo, M.D.

rvm/gmc

S T . M A R Y , S H O S P I T A L

3830 LACOMBE AVE.  
MONTREAL 26, QUE.



June 24, 1960

Mr. L. Lubarsky  
324 St. Marcel Street  
Drummondville, Quebec

Dear Mr. Lubarsky:

With reference to your letter of June 21, 1960, the forms from the Krebiozen Foundation, along with dosage suggested, etc., was mailed to Dr. Gough on Friday, June 17, 1960.

With best wishes,

Sincerely,

*R.V. Moralejo / gmc*  
R.V. Moralejo, M.D.

rvm/gmc

# KREBIOZEN RESEARCH FOUNDATION

*a nonprofit organization devoted to research*

Suite 3802, Bankers Building

105 WEST ADAMS STREET, CHICAGO 3, ILLINOIS DEarborn 2-3515

July 12, 1960

Mrs. L. Lubarsky  
324 St. Marcel Street  
Drummondville, Quebec

Dear Mrs. Lubarsky:

In accordance with your request, we are pleased to send you our available literature.

If we may be of any further service to you, please do not hesitate to call upon us.

Sincerely yours,

KREBIOZEN RESEARCH FOUNDATION

*Letter August 22 - permission to write article*



NATIONAL REVENUE, CANADA  
CUSTOMS AND EXCISE  
REVENU NATIONAL DU CANADA  
DOUANES ET ACCISE

REFER TO FILE

RÉFÉRENCE 5284-6 (WIJ)

MG

Ottawa 2,  
August 10, 1960

Mrs. L. Lubarsky,  
324 St. Marcel St.,  
DRUMMONDVILLE, Quebec.

Dear Madam:

I have your letter of August 2, 1960 concerning the importation of a medicine described as Krebiozen produced by the Krebiozen Institute of Chicago, Illinois and shipped to Dr. Wm. Gough, your physician, by Promak Laboratories, Chicago, Illinois.

While this product may be for investigational use, it is not supplied free of charge at all times and therefore, cannot be regarded as of no commercial value which would enable the material to be cleared free of Customs duty and exempt from Sales Tax.

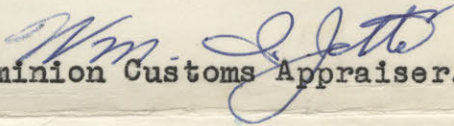
Krebiozen is classified under tariff item 220(ii) at 20% ad valorem when imported from the United States under the Most-Favoured-Nation Tariff regulations.

It is also subject on importation to the Consumption or Sales Tax of 11% levied on the duty paid value.

While the Department is sympathetic to your representations, it is administrative only and has no authority to permit the entry of such material at any lower rate of duty than as set forth in the Customs Tariff.

The invoice submitted with your letter is returned herewith.

Yours truly,

  
Dominion Customs Appraiser.

324 St. Marcel St.  
Drummondville, Que. Canada  
August 13, 1960

Krebiozen Research Foundation  
Chicago 3, Illinois.

Gentlemen:

The arrival in Drummondville, of the fourth shipment of Krebiozen from Bromak Laboratories, has been subject to customs and excise tax. The three previous shipments arrived directly, duty-free. I wrote to the Canadian Customs, explaining my case and asking if I could receive Krebiozen free of duty<sup>(20%)</sup> and sales tax (11%) charges. Their reply is enclosed.

I would now like to know if Krebiozen can be regarded as having no commercial value, that it is manufactured on a nonprofit basis for the sole purpose of medical research. In that case, would you kindly supply me with a certificate to that effect? In the meantime would you kindly advise Bromak Lab. to ship the Krebiozen directly to me, and not in Dr. Gougis name.

O.K.  
Bromak Labs.

Sincerely yours,  
Mrs. E. Lubarsky.

Enc. 2  
(Please return)

# KREBIOZEN RESEARCH FOUNDATION

*a nonprofit organization devoted to research*

Suite 3802, Bankers Building

105 WEST ADAMS STREET, CHICAGO 3, ILLINOIS DEarborn 2-3515

August 25, 1960

Mrs. L. Lubarsky  
324 St. Marcel Street  
Drummondville, Quebec  
CANADA

Dear Mrs. Lubarsky:

Thank you very much for your letter of August 22nd. We would like to express to you our appreciation for your friendly feeling towards our work and your plans to help us.

If we may be of any assistance to you, please do not hesitate to call upon us.

Sincerely yours,

KREBIOZEN RESEARCH FOUNDATION



S T . M A R Y , S H O S P I T A L

3830 LACOMBE AVE.  
MONTREAL 26, QUE.



August 26, 1960

Mr. L. Lubarsky  
324 St. Marcel  
Drummondville, Quebec

Dear Mr. Lubarsky:

Thank you for your letter of August 24, 1960.

We have requested that the Hospital purchase a supply of Krebiozen and as soon as we get it we will let you know.

I have sent to Dr. Gough a report on your wife's x-ray. She seems to be feeling much better although, unfortunately, the x-ray doesn't show any objective improvement, however, we are hoping that she will continue to feel well.

Yours truly,

*R. V. Moralejo*  
R.V. Moralejo, M.D. */gmc*

rvm/gmc

# S T . M A R Y , S H O S P I T A L

3830 LACOMBE AVE.  
MONTREAL 26, QUE.



September 23, 1960

Mr. L. Lubarsky  
324 St. Marcel  
Drummondville, Quebec

Dear Mr. Lubarsky:

I am very sorry to have to tell you that we have been unable to obtain a supply of Krebiozen as we had hoped to do. We have written to the Krebiozen Foundation but they are unwilling to send us a supply of the drug and insist that they can only send this drug for specific patients.

Since, as you know, the drug has anything but a savory reputation, and is unobtainable through the regular channels, Dr. Dinan feels that there is nothing more that we can do to get hold of a supply. As you know, in spite of the unsavory reputation, we are most willing to obtain a supply of the drug and try it out on a series of out-patients. Upon further investigation I find that we are not the only ones who have tried to run some form of control study of this particular material and all other attempts have met with failure.

I am very glad to hear that Mrs. Lubarsky is feeling so well and I hope that she will continue to do so. At the time of her last visit to the Hospital we were most disappointed to find that her x-rays did not mirror her sense of well-being but showed that her disease is progressing at the same rate as before. One encouraging sign in the x-ray pictures was that the areas that had been radiated did show evidence of some healing, although new areas have appeared.

Since, for the moment it would seem that there is no way of our obtaining a supply of the drug in which you have so much faith, perhaps you could write directly to the Krebiozen people, for as I recall, they have stated that where financial conditions are strained they would reduce the price of the drug.

With best wishes and looking forward to seeing Mrs. Lubarsky at her next check-up visit, I am

Sincerely yours,

*R. V. Moralejo*  
R.V. Moralejo, M.D.

November 21, 1960

Dear Dr. Moralejo:

It is now six months that I have been taking Krebiozen. I still feel relatively well; appetite and sleep are normal. I can walk about and tackle staircases - this for the longest period since the mastectomy.

There are internal aches and pains which come and go at two - four week intervals. This probably means the birth of new lesions and the advance of the old-timers. The pains are still subdued. ~~I am still mobile.~~

I shall travel in to see you in a few weeks, providing I'm "enjoying" a comparatively "calm" period.

Sincerely yours,

R. V. Moralejo, M.D.

~~Set~~ Oct 5, 1960

Krebszen Research Foundation

Gentlemen:

Dr. Gough's progress report was mailed to you on Sept. 24. <sup>We did not receive</sup> your reply, giving dosage for the following month. Therefore Dr. Gough went ahead with the 3 c.c. injection on Sept 30.

He will need to send you a progress report on Oct 14. Would you kindly send the necessary forms?

I continue to thrive on Krebszen

Very sincerely yours,

# PROMAK LABORATORIES

1020 SOUTH WABASH AVE.

CHICAGO 5, ILLINOIS

Dr. R. V. Moralejo  
c/o Mrs. E. Lubarsky  
324 St. Marcel Street  
Drummondville, Quebec, Canada

DATE May 13, 1960

ORDER NO.

TERMS 30 DAYS

8 amps of Krebiozen @ 9.50 7  
Postage

76.00  
.35

76.35

PROMAK LABORATORIES  
1020 S. WABASH AVE.  
CHICAGO 5, ILL.

*Paid*  
*6/2/60*

# PROMAK LABORATORIES

1020 SOUTH WABASH AVE.

CHICAGO 5, ILLINOIS

Dr. R. V. Moralejo  
c/o Mrs. E. Lubarsky  
324 St. Marcel Street  
Drummondville, Quebec  
CANADA

DATE June 7, 1960

ORDER NO.

TERMS 30 DAYS

8 amps. of Krebiozen @ 9.50 each

\$ 76.00

Postage

.35

Total

\$ 76.35

PROMAK LABORATORIES  
1020 S. WABASH AVE.  
CHICAGO 5, ILL.

*Pa. 7-7-60*

# PROMAK LABORATORIES

1020 SOUTH WABASH AVE.

CHICAGO 5, ILLINOIS

Dr. William Gough  
c/o Mfs. E. Lubarsky  
324 St. Marcel St.  
Drummondville, Quebec  
CANADA

DATE July 5, 1960

ORDER NO.

TERMS 30 DAYS

8 amps. of Krebiozen @ 9.50 each  
Postage  
Total

\$ 76.00  
    .35  
\$ 76.35

*P. Lubarsky*  
PROMAK LABORATORIES  
1020 S. WABASH AVE.  
CHICAGO 5, ILL.

# PROMAK LABORATORIES

1020 SOUTH WABASH AVE.

CHICAGO 5, ILLINOIS

Dr. William Gough  
c/o Mrs. E. Lubarsky  
324 St. Marcel St.  
Drummondville, Que.,  
CANADA

DATE July 26, 1960

ORDER NO.

TERMS 30 DAYS

12 amps. of Krebiozen @ 9.50 each	\$ 114.00
Postage	<u>.35</u>
Total	\$ 114.35

PROMAK LABORATORIES  
1020 S. WABASH AVE.  
CHICAGO 5, ILL.  
Pd. 8-26-60



# PROMAK LABORATORIES

1020 SOUTH WABASH AVE.

CHICAGO 5, ILLINOIS

DATE Aug. 15, 1960

Dr. William Gough  
c/o Mrs. E. Lubarsky  
324 St. Marcel St.  
Drummondville, Quebec, Canada

ORDER NO.

TERMS 30 DAYS

12 amps. of Krebiozen @ 9.50 each  
Postage  
Total

\$ 114.00  
.35  
\$ 114.35

*Panel*  
PROMAK LABORATORIES  
1020 S. WABASH AVE.  
CHICAGO 5, ILL.  
9-16-60

# PROMAK LABORATORIES

1020 SOUTH WABASH AVE.

CHICAGO 5, ILLINOIS

DATE Sept. 6, 1960

Mrs. E. Lubarsky  
324 St. Marcel St.  
Drummondville, Quebec, Canada

ORDER NO.

Dr. Wm. Gough

TERMS 30 DAYS

12 amps. of Krebiozen @ 9.50 each  
Postage  
Total

\$ 114.00  
    .35  
\$ 114.35

PROMAK LABORATORIES  
1020 S. WABASH AVE.  
CHICAGO 5, ILL

# PROMAK LABORATORIES

1020 SOUTH WABASH AVE.

CHICAGO 5, ILLINOIS

DATE Oct, 17, 1960

Mrs. E. Lubarsky  
324 St. Marcel St.  
Drummondville, Quebeck,  
Canada

ORDER NO.

Dr. W. Gough

TERMS 30 DAYS

12 amps. of Krebiozen @ 9.50 each  
Postage  
Total

\$114.00  
    .35  
\$114.35

PROMAK LABORATORIES  
1020 S. WABASH AVE.  
CHICAGO 5, ILL.

*Paid  
11-23-60*

# PROMAK LABORATORIES

1020 SOUTH WABASH AVE.

CHICAGO 5, ILLINOIS

Mrs. E. Lubarsky  
324 St. Marcel St.  
Drummondville, Que.  
Canada

Dr. W. Gough

DATE Nov. 10, 1960

ORDER NO.

TERMS 30 DAYS

12 amps. of Krebiozen @ 9.50 each  
Postage  
Total

\$114.00  
.35  
\$114.35

PROMAK LABORATORIES  
1020 S. WABASH AVE.  
CHICAGO 5, ILL.

Payd  
12-23-60

# PROMAK LABORATORIES

1020 SOUTH WABASH AVE.

CHICAGO 5, ILLINOIS

DATE Nov. 29, 1960

Mrs. E. Lubarsky  
324 St. Marcel St.  
Drummondville, Que,  
Canada

ORDER NO.

TERMS 30 DAYS

pt. E L Dr. Wm. Gough

6 amps. of Krebiozen @ 9.50 each  
Postage  
Total

\$57.00  
    .35  
      
\$57.35

**PROMAK LABORATORIES**  
1020 S. WABASH AVE.  
CHICAGO 5, ILL.

*paid*  
*1-6-61*

# PROMAK LABORATORIES

1020 SOUTH WABASH AVE.

CHICAGO 5, ILLINOIS

DATE Dec. 21, 1960

Mrs. E. Lubarsky  
324 St. <sup>14</sup>arcel St.  
Drummondville, Quebec  
Canada

ORDER NO.

Dr. W. Gough

TERMS 30 DAYS

6 amps. of Krebiozen @ 9.50 each	\$57.00
Postage	<u>.35</u>
Total	\$57.35 ✓

Our records show that you still owe us for the following shipments:

11-10-60 shipment	12 amps.	\$114.35
11-29-60 shipment	6 amps.	57.35 ✓

57.35  
57.35  
114.70 -

# PROMAK LABORATORIES

1020 SOUTH WABASH AVE.

CHICAGO 5, ILLINOIS

DATE Jan. 5, 1961

Mrs. E. Lubarsky  
324 St. Marcel St.  
Drummondville, Quebec  
Canada

ORDER NO.

Dr. Wm. Gough

TERMS 30 DAYS

---

16 amps. of Krebiozen @ 9.50 each	\$152.00
Postage	<u>.35</u>
Total	\$152.35

# PROMAK LABORATORIES

1020 SOUTH WABASH AVE.  
CHICAGO 5, ILLINOIS

Mrs. E. Lubarsky  
324 St. Marcel St.  
Drummondville, Quebec  
Canada

Dr. Goughl-5-61 shipment;

DATE Feb. 6, 1961  
**Rebill**

ORDER NO.

TERMS 30 DAYS

1-5-61 shipment:

16 amps. of Krebiozen @ 9.50 each	\$152.00
Postage	.35
Total	<u>\$152.35</u>
<b>Received</b>	<b>57.35</b>
<b>Balance Due</b>	<b><u>\$95.00</u></b>

Please return this invoice



# PROMAK LABORATORIES

1020 SOUTH WABASH AVE.

CHICAGO 5, ILLINOIS

DATE Feb. 10, 1961

Rebill

Mrs. E. Lubarsky  
324 St. Marcel St.  
Drummondville, ~~Wm~~ Quebec  
Canada

ORDER NO.

Dr. Wm. Gough

TERMS 30 DAYS

1-5-61 shipment:

10 amps. of Krebiozen @ 9.50 each

\$95.00

Ord 3-10-61  
AC.

# KREBIOZEN RESEARCH FOUNDATION

*a nonprofit organization devoted to research*

Suite 3802, Bankers Building

105 WEST ADAMS STREET, CHICAGO 3, ILLINOIS DEarborn 2-3515

MEMORANDUM TO:

Dr. R. V. Moralejo  
St. Mary's Hospital  
3830 Lacombe Ave.  
Montreal, Quebec  
CANADA

June 7, 1960

Re: Mrs. Lubarsky

Thank you for your report on your patient.

On the basis of this information, the Foundation suggests that this patient receive 2 cc. every week.

We have instructed Promak Laboratories to send you an additional supply of Krebiozen for the continued treatment of this patient.

Please report to us on the enclosed Subsequent Treatment Form in three weeks. Upon arrival and study of this information, an additional supply of Krebiozen will be sent to you together with the Foundation's further suggestions regarding dosage-rate.

Sincerely,

KREBIOZEN RESEARCH FOUNDATION

Accompaniment:  
Krebiozen 8 amps.  
Enclosures:  
R.S.T. Form  
F.D.A. Form

# KREBIOZEN RESEARCH FOUNDATION

*a nonprofit organization devoted to research*

Suite 3802, Bankers Building

105 WEST ADAMS STREET, CHICAGO 3, ILLINOIS DEarborn 2-3515

July 5, 1960

Re: Mrs. Lubarsky

MEMORANDUM TO:

Dr. Wm. Gough  
324 St. Marcel St.  
Drummondville, Quebec,  
CANADA

Thank you for your report on your patient.

On the basis of this information, the Foundation suggests that this patient receive 2 cc. every week.

We have instructed Promak Laboratories to send you an additional supply of Krebiozen for the continued treatment of this patient.

Please report to us on the enclosed Subsequent Treatment Form in three weeks. Upon arrival and study of this information, an additional supply of Krebiozen will be sent to you together with the Foundation's further suggestions regarding dosage-rate.

Sincerely,

KREBIOZEN RESEARCH FOUNDATION

Accompaniment:  
Krebiozen 8 amps.  
Enclosures:  
R.S.T. Form  
F.D.A. Form

# KREBIOZEN RESEARCH FOUNDATION

*a nonprofit organization devoted to research*

Suite 3802, Bankers Building

105 WEST ADAMS STREET, CHICAGO 3, ILLINOIS DEarborn 2-3515

MEMORANDUM TO:

Dr. Wm. Gough  
324 St. Marcel Street  
Drummondville, Quebec  
CANADA

July 26, 1960

Patient - Mrs. E. Lubarsky

Thank you for your report on your patient.

On the basis of this information, the Foundation suggests that this patient receive **3 cc. every 7 days.**

We have instructed Promak Laboratories to send you an additional supply of Krebiozen for the continued treatment of this patient.

Please report to us on the enclosed Subsequent Treatment Form in three weeks. Upon arrival and study of this information, an additional supply of Krebiozen will be sent to you together with the Foundation's further suggestions regarding dosage-rate.

Sincerely,

KREBIOZEN RESEARCH FOUNDATION

Accompaniment:  
Krebiozen - **12 ampules**  
Enclosures:  
R.S.T. Form  
F.D.A. Form

# KREBIOZEN RESEARCH FOUNDATION

*a nonprofit organization devoted to research*

Suite 3802, Bankers Building

105 WEST ADAMS STREET, CHICAGO 3, ILLINOIS DEarborn 2-3515

MEMORANDUM TO:

Dr. Wm. Gough  
324 St. Marcel St.  
Drummondville, Quebec  
Canada

August 15, 1960

Re: Mrs. E. Lubarsky

Thank you for your report on your patient.

On the basis of this information, the Foundation suggests that this patient receive 3 cc. every week.

We have instructed Promak Laboratories to send you an additional supply of Krebiozen for the continued treatment of this patient.

Please report to us on the enclosed Subsequent Treatment Form in three weeks. Upon arrival and study of this information, an additional supply of Krebiozen will be sent to you together with the Foundation's further suggestions regarding dosage-rate.

Sincerely,

KREBIOZEN RESEARCH FOUNDATION



Stevan Durovic, M. D.

Accompaniment:  
Krebiozen 12 amps.  
Enclosures:  
R.S.T. Form  
F.D.A. Form

# KREBIOZEN RESEARCH FOUNDATION

*a nonprofit organization devoted to research*

Suite 3802, Bankers Building

105 WEST ADAMS STREET, CHICAGO 3, ILLINOIS DEarborn 2-3515

MEMORANDUM TO:

Dr. Wm. Gough  
324 St. Marcel Street  
Drummondville, Quebec  
CANADA

September 6, 1960

Patient - Mrs. E. Lubarsky

Dear Dr. Gough:

Thank you for your report on your patient.

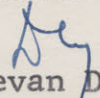
On the basis of this information, the Foundation suggests that this patient receive **3 cc. every 7 days.**

We have instructed Promak Laboratories to send you an additional supply of Krebiozen for the continued treatment of this patient.

Please report to us on the enclosed Subsequent Treatment Form in three weeks. Upon arrival and study of this information, an additional supply of Krebiozen will be sent to you together with the Foundation's further suggestions regarding dosage-rate.

Sincerely,

KREBIOZEN RESEARCH FOUNDATION

  
Stevan Durovic, M.D.,  
DIRECTOR

Accompaniment:

Krebiozen - **12 ampules**

Enclosures:

R.S.T. Form

F.D.A. Form

# KREBIOZEN RESEARCH FOUNDATION

*a nonprofit organization devoted to research*

Suite 3802, Bankers Building

105 WEST ADAMS STREET, CHICAGO 3, ILLINOIS DEarborn 2-3515

September 27, 1960

Re: Mrs. E. Lubarsky

Dr. Wm. Gough  
327 St. Marcel St.  
Drummondville, Quebec  
Canada

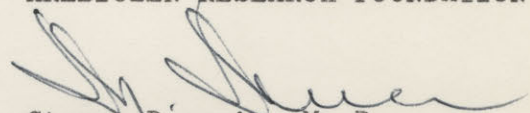
Dear Dr. Gough:

Thank you for your report regarding the above patient. We would suggest that you continue administering the same dosage of 3cc. every 7 days.

On the enclosed Subsequent Treatment Form, please let us know when you will be in need of an additional supply of Krebiozen so that it can be mailed to you.

Very sincerely yours,

KREBIOZEN RESEARCH FOUNDATION

  
Stevan Đurović, M. D.,  
DIRECTOR

Enclosure:  
R.S.T. Form

SD:ma

# KREBIOZEN RESEARCH FOUNDATION

*a nonprofit organization devoted to research*

Suite 3802, Bankers Building

105 WEST ADAMS STREET, CHICAGO 3, ILLINOIS DEarborn 2-3515

October 10, 1960

Dr. Wm. Gough  
324 St. Marcel Street  
Drummondville, Quebec  
CANADA

Patient - Lubarsky

Dear Dr. Gough:

Mrs. Lubarsky wrote to us on October 5th, requesting that we send you our Response to Subsequent Treatment Forms. Enclosed please find the requested forms.

If we may be of any further service, please donnot hesitate to call upon us.

Sincerely yours,

KREBIOZEN RESEARCH FOUNDATION

*Mr Jeanne Lacasse*

2-6470.

(F-30 - 5 at DT Co. LK 8-1373  
Finski)



# KREBIOZEN RESEARCH FOUNDATION

*a nonprofit organization devoted to research*

Suite 3802, Bankers Building

105 WEST ADAMS STREET, CHICAGO 3, ILLINOIS DEarborn 2-3515

MEMORANDUM TO:

Dr. Wm. Gough  
324 St. Marcel Street  
Drommondville, Quebec  
CANADA

October 17, 1960

Patient - Mrs. E. L.

Dear Dr. Gough:

Thank you for your report on your patient.

On the basis of this information, the Foundation suggests that this patient receive

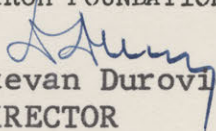
**3 cc. every 7 days.**

We have instructed Promak Laboratories to send you an additional supply of Krebiozen for the continued treatment of this patient.

Please report to us on the enclosed Subsequent Treatment Form in three weeks. Upon arrival and study of this information, an additional supply of Krebiozen will be sent to you together with the Foundation's further suggestions regarding dosage-rate.

Sincerely,

KREBIOZEN RESEARCH FOUNDATION

  
Stevan Durovic, M.D.,  
DIRECTOR

Accompaniment:  
Krebiozen - **12 ampules**  
Enclosures:  
R.S.T. Form  
F.D.A. Form

# KREBIOZEN RESEARCH FOUNDATION

*a nonprofit organization devoted to research*

Suite 3802, Bankers Building

105 WEST ADAMS STREET, CHICAGO 3, ILLINOIS DEarborn 2-3515

MEMORANDUM TO:

November 10, 1960

Dr. Wm. Gough  
324 St. Marcel St.  
Drummondville, Quebec  
Canada

Re: Mrs. Lubarsky

Dear Dr. Gough:

Thank you for your report on your patient.

On the basis of this information, the Foundation suggests that this patient receive 3 cc. every week.

We have instructed Promak Laboratories to send you an additional supply of Krebiozen for the continued treatment of this patient.

Please report to us on the enclosed Subsequent Treatment Form in three weeks. Upon arrival and study of this information, an additional supply of Krebiozen will be sent to you together with the Foundation's further suggestions regarding dosage-rate.

Sincerely,

KREBIOZEN RESEARCH FOUNDATION



Stevan Durovic, M. D.,  
DIRECTOR

Accompaniment:  
Krebiozen 12 amps.  
Enclosures:  
R.S.T. Form  
F.D.A. Form

# KREBIOZEN RESEARCH FOUNDATION

*a nonprofit organization devoted to research*

Suite 3802, Bankers Building

105 WEST ADAMS STREET, CHICAGO 3, ILLINOIS DEarborn 2-3515

MEMORANDUM TO:

November 29, 1960

Dr. Wm. Gough  
324 St. Marcel St.  
Drummondville, Quebec  
Canada

Re: Mrs. E. L.

Dear Dr. Gough:

Thank you for your report on your patient.

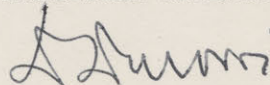
On the basis of this information, the Foundation suggests that this patient receive 2 cc. every 3-4 days in 2 sites.

We have instructed Promak Laboratories to send you an additional supply of Krebiozen for the continued treatment of this patient.

Please report to us on the enclosed Subsequent Treatment Form in three weeks. Upon arrival and study of this information, an additional supply of Krebiozen will be sent to you together with the Foundation's further suggestions regarding dosage-rate.

Sincerely,

KREBIOZEN RESEARCH FOUNDATION



Stevan Durovic, M. D.,  
DIRECTOR

Accompaniment:  
Krebiozen 6 amps.  
Enclosures:  
R.S.T. Form  
F.D.A. Form

# KREBIOZEN RESEARCH FOUNDATION

*a nonprofit organization devoted to research*

Suite 3802, Bankers Building

105 WEST ADAMS STREET, CHICAGO 3, ILLINOIS DEarborn 2-3515

December 21, 1960

MEMORANDUM TO:

Dr. Wm. Gough  
324 St. Marcel St.  
Drummondville, Quebec  
CANADA

re: Mrs. E. Lubarsky

Dear Dr. Gough:

Thank you for your report on your patient.

On the basis of this information, the Foundation suggests that this patient receive 2 cc. every 3-4 days.- in 2 sites.

We have instructed Promak Laboratories to send you an additional supply of Krebiozen for the continued treatment of this patient.

Please report to us on the enclosed Subsequent Treatment Form in three weeks. Upon arrival and study of this information, an additional supply of Krebiozen will be sent to you together with the Foundation's further suggestions regarding dosage-rate.

Sincerely,

KREBIOZEN RESEARCH FOUNDATION

*Stevan Durovic, M.D.*

Stevan Durovic, M. D.,  
DIRECTOR

Accompaniment:  
Krebiozen - 6 amps.  
Enclosures:  
R.S.T. Form  
F.D.A. Form

*letter sent Dec 31 for  
12 ampules*

# KREBIOZEN RESEARCH FOUNDATION

*a nonprofit organization devoted to research*

Suite 3802, Bankers Building

105 WEST ADAMS STREET, CHICAGO 3, ILLINOIS DEarborn 2-3515

January 5, 1961

MEMORANDUM TO:

Dr. W. Gough  
324 St. Marcel St.  
Drummondville, Quebec,  
Canada

Re: Mrs. E. L.

Dear Dr. Gough:

Thank you for your report on your patient. (request from patient)

On the basis of this information, the Foundation suggests that this patient receive 2 cc. every 3-4 days.

We have instructed Promak Laboratories to send you an additional supply of Krebiozen for the continued treatment of this patient.

Please report to us on the enclosed Subsequent Treatment Form in three weeks. Upon arrival and study of this information, an additional supply of Krebiozen will be sent to you together with the Foundation's further suggestions regarding dosage-rate.

Sincerely,

KREBIOZEN RESEARCH FOUNDATION

*Stevan Durovic, M.D.*

Stevan Durovic, M. D.,  
DIRECTOR

Accompaniment:  
Krebiozen 16 amps.

Enclosures:  
R.S.T. Form

~~D.A. Form~~

# KREBIOZEN RESEARCH FOUNDATION

*a nonprofit organization devoted to research*

Suite 3802, Bankers Building

105 WEST ADAMS STREET, CHICAGO 3, ILLINOIS DEarborn 2-3515

MEMORANDUM TO:

January 12, 1961

Dr. Wm. Gough  
324 St. Marcel St.  
Drummondville, Quebec  
Canada

Re: Mrs. Lubarsky

Dear Dr. Gough:

Thank you for your report on your patient.

On the basis of this information, the Foundation suggests that this patient receive 2 cc. every 3-4 days.

We have instructed Promak Laboratories to send you an additional supply of Krebiozen for the continued treatment of this patient. (16 amps. sent on January 5, 1961)

Please report to us on the enclosed Subsequent Treatment Form in three weeks. Upon arrival and study of this information, an additional supply of Krebiozen will be sent to you together with the Foundation's further suggestions regarding dosage-rate.

Sincerely,

KREBIOZEN RESEARCH FOUNDATION

*Stevan Durovic, M. D.*

Stevan Durovic, M. D.,  
DIRECTOR

Accompaniment:  
Krebiozen 16 amps.  
Enclosures: sent  
R.S.T. Form 1-5-61  
~~Form~~

# KREBIOZEN RESEARCH FOUNDATION

*a nonprofit organization devoted to research*

Suite 3802, Bankers Building

105 WEST ADAMS STREET, CHICAGO 3, ILLINOIS DEarborn 2-3515

January 31, 1961

MEMORANDUM TO:

Dr. W. Gough  
324 St. Marcel St.  
Drummondville, Quebec,  
Canada

Re: Mrs. E. Lubarsky

Dear Dr. Gough:

Thank you for your report on your patient.

On the basis of this information, the Foundation suggests that this patient receive 5 cc. every 7 days in 2 sites.

We have instructed Promak Laboratories to send you an additional supply of Krebiozen for the continued treatment of this patient.

Please report to us on the enclosed Subsequent Treatment Form in three weeks. Upon arrival and study of this information, an additional supply of Krebiozen will be sent to you together with the Foundation's further suggestions regarding dosage-rate.

Sincerely,

KREBIOZEN RESEARCH FOUNDATION

Accompaniment:  
Krebiozen 20 amps.  
Enclosures:  
R.S.T. Form  
~~F.D.A. Form~~

Stevan Durovic, M. D.,  
DIRECTOR

(M-A)—Form of Invoice Approved by Canadian Customs (1959) for Goods Sold by Exporter Prior to Importation, for Entry at Most Favoured Nation Tariff Rates

(Place and Date) Chicago Ill, May 13-1960

Invoice of Drug Kelioren Purchased  
 by D. R. v. Moradjevi of Montreal, Canada  
 from Promak Lab. of 2020 So Wabash Chicago Ill  
 Terms 30 days net to be shipped from Chicago Ill per own  
 (Trade discount must be marked as such)

Country of Origin	Marks and Numbers on Packages	QUANTITIES AND DESCRIPTION OF GOODS	Price @	Fair Market Value at Time and Place of Shipment in Currency of Country of Export (See Clauses 5 to 8 of Certificate of Value Hereon)	Price @	Selling Price to the Purchaser in Canada
					In the currency of the actual transaction	
U.S.A		4 boxes of 8 ampoules of Kelioren, a drug in experimental stage for malignant tumor	9.50	76.00	9.50	76.00
					35	35
				76.35		76.35

NOTE: The following facts must be shown:  
 Amount of: Freight, if any, prepaid and charged Postage  
 Freight, if any, prepaid and not charged \_\_\_\_\_  
 Freight, if any, allowed to be deducted by importer on settlement \_\_\_\_\_  
 \* If any freight is prepaid by the exporter and not charged, or is allowed to be deducted by the importer on settlement, a statement must be made on this invoice indicating whether or not the practice is consistent with the exporter's domestic market freight policy.

The following is the full form, combining the Certificate of Value (M) and of Origin (A), prescribed to be written, printed or stamped on the Invoices of Articles for entry in Canada, under the Most Favoured Nation Tariff when the goods have been sold by the exporter prior to importation. In cases where the vendor does not reside in the country of export or for other reasons the vendor is unable to sign the certificate both as to value and origin, a separate certificate of origin in prescribed form signed by the exporter in the country of export, bearing a full description of the goods and the marks and numbers of the packages, so that it may be identified with the shipment, will be accepted.

FORM M-A  
 EXPORTER'S DECLARATION

(M) I, the undersigned, do hereby certify as follows:-  
 1. That I am the Manager of Promak Lab exporter of the goods described in the within invoice;  
 2. That the said invoice is in all respects correct and true;  
 3. That the said invoice contains a true and full statement showing the price actually paid or to be paid for the said goods, the actual quantity thereof and all charges thereon;  
 4. That there is included in the said invoice the true value of all cartons, cases, crates, boxes and coverings of any kind and all charges and expenses incident to placing the said goods in condition packed ready for shipment to Canada;  
 5. That the said invoice also exhibits the fair market value, at the time when and place from which the goods were shipped directly to Canada, of like goods when sold in the same or substantially the same quantities for home consumption in the ordinary course of trade under competitive conditions to purchasers located at that place with whom the vendor deals at arm's length and who are at the same or substantially the same trade level as the importer;  
 6. That where like goods are not sold for home consumption in the circumstances described in the preceding section but where the goods shown on this invoice are similar to those sold for home consumption, the fair market value exhibited thereon is not less than the aggregate of  
 (a) the cost of production of the goods exported; and  
 (b) an amount that is the same percentage of the cost of production of the goods exported as the gross profit on the similar goods is of the cost of production of the similar goods;  
 7. That the said fair market value is without  
 (a) any discount or deduction not shown, allowed and deducted on invoices covering sales for home consumption in the country of export in the ordinary course of trade;  
 (b) any deduction on account of any subsidy or drawback of Customs duty that has been allowed by the Government of any other country, or on account of any so-called royalty, rent or charge for use of any machine or goods of any description, that the seller or proprietor does or would usually charge thereon when the same are sold or leased or rented for use in the country of export; or  
 (c) any discount or deduction on account of the amount of consideration or money value of any special arrangement between any persons interested therein, because of the exportation or intended exportation of such goods, or the right to territorial limits for the sale or use thereof;  
 8. That if the fair market value of the said goods described in this invoice is other than the value thereof as above specified, such fair market value has, to the best of my knowledge and belief, been fixed and determined under the authority of the Customs Act at the value exhibited in this invoice;  
 9. That no different invoice of the goods mentioned in the said invoice has been or will be furnished to any one by me or on my behalf;  
 10. That no arrangement or understanding affecting the purchase price of the said goods has been or will be made or entered into between the said exporter and purchaser or by any one on behalf of either of them other than as shown on the said invoice, either by way of discount, rebate, salary, compensation or in any other manner whatsoever;  
 (A) That each article on this invoice is bona fide the produce or manufacture of the country specified on the invoice as its Country of Origin;  
 That each manufactured article on the invoice in its present form ready for export to Canada has been finished in such specified country of origin, and not less than one-half the cost of production of each such article has been produced through the industry of \* \_\_\_\_\_ entitled to the benefits of treaty or convention rates or the British Preferential Tariff.

Dated at Chicago Ill  
 this 13 day of May 19 60  
 Signature D. R. Moradjevi

NOTE.—when invoicing goods which have been finished in a country specified on the invoice as its country of origin from materials originating in a country or countries entitled to the benefits of the Most Favoured Nation Tariff or the British Preferential Tariff, the names of the countries contributing to one-half the cost of production should be shown in the space provided in the certificate.  
 In the calculation of the cost of production for the purpose of determining the qualification for entry under the Most Favoured Nation Tariff none of the following items are to be included or considered, viz:-  
 1. Outside packages and expenses of packing thereinto.  
 2. Manufacturer's or exporter's profit or the profit or remuneration of any trader, broker, or other person dealing in the article in its finished manufactured condition.  
 3. Royalties.  
 4. Customs or excise duty or tax paid or payable on imported materials.  
 5. Carriage, insurance, etc., from place of production or manufacture to port of shipment.  
 6. Any other charges incurred or to be incurred subsequent to the completion of the manufacture of the goods.



(M-A)—Form of Invoice Approved by Canadian Customs (1959) for Goods Sold by Exporter Prior to Importation, for Entry at Most Favoured Nation Tariff Rates

(Place and Date) Chicago Ill May 13 1960

Invoice of Drugg Kelioren Purchased by D. R. v. Morawejer of Montreal, Canada from Promark Lab. of 2020 So Wabash Chicago Ill  
 Terms 30 days net to be shipped from Chicago Ill per air  
 (Trade discount must be marked as such)

Country of Origin	Marks and Numbers on Packages	QUANTITIES AND DESCRIPTION OF GOODS	Price @	Fair Market Value at Time and Place of Shipment in Currency of Country of Export (See Clauses 5 to 8 of Certificate of Value Hereon)	Price @	Selling Price to The Purchaser in Canada
				In the currency of the actual transaction		
U.S.A.		4 boxes of 8 ampoules of Kelioren, a drug in experimental stage for melanin tumor	9.50	76.00	9.50	76.00
				35		35
				76.35		76.35

NOTE: The following facts must be shown:  
 Amount of Freight, if any, prepaid and charged. Postage  
 Freight, if any, prepaid and not charged. \_\_\_\_\_  
 Freight, if any, allowed to be deducted by importer on settlement. \_\_\_\_\_  
 \* If any freight is prepaid by the exporter and not charged, or is allowed to be deducted by the importer on settlement, a statement must be made on this invoice indicating whether or not the practice is consistent with the exporter's domestic market freight policy.

The following is the full form, combining the Certificate of Value (M) and of Origin (A), prescribed to be written, printed or stamped on the Invoices of Articles for entry in Canada, under the Most Favoured Nation Tariff when the goods have been sold by the exporter prior to importation. In cases where the vendor does not reside in the country of export or for other reasons the vendor is unable to sign the certificate both as to value and origin, a separate certificate of origin in prescribed form signed by the exporter in the country of export, bearing a full description of the goods and the marks and numbers of the packages, so that it may be identified with the shipment, will be accepted.

FORM M-A  
 EXPORTER'S DECLARATION

(M) I, the undersigned, do hereby certify as follows:—  
 1. That I am the Morawejer of Promark Lab. name of exporter exporter of the goods described in the within invoice;  
 2. That the said invoice is in all respects correct and true;  
 3. That the said invoice contains a true and full statement showing the price actually paid or to be paid for the said goods, the actual quantity thereof and all charges thereon;  
 4. That there is included in the said invoice the true value of all cartons, cases, crates, boxes and coverings of any kind and all charges and expenses incident to placing the said goods in condition packed ready for shipment to Canada;  
 5. That the said invoice also exhibits the fair market value, at the time when and place from which the goods were shipped directly to Canada, of like goods when sold in the same or substantially the same quantities for home consumption in the ordinary course of trade under competitive conditions to purchasers located at that place with whom the vendor deals at arm's length and who are at the same or substantially the same trade level as the importer;  
 6. That where like goods are not sold for home consumption in the circumstances described in the preceding section but where the goods shown on this invoice are similar to those sold for home consumption, the fair market value exhibited thereon is not less than the aggregate of  
 (a) the cost of production of the goods exported; and  
 (b) an amount that is the same percentage of the cost of production of the goods exported as the gross profit on the similar goods is of the cost of production of the similar goods;  
 7. That the said fair market value is without  
 (a) any discount or deduction not shown, allowed and deducted on invoices covering sales for home consumption in the country of export in the ordinary course of trade;  
 (b) any deduction on account of any subsidy or drawback of Customs duty that has been allowed by the Government of any other country, or on account of any so-called royalty, rent or charge for use of any machine or goods of any description, that the seller or proprietor does or would usually charge thereon when the same are sold or leased or rented for use in the country of export; or  
 (c) any discount or deduction on account of the amount of consideration or money value of any special arrangement between any persons interested therein, because of the exportation or intended exportation of such goods, or the right to territorial limits for the sale or use thereof;  
 8. That if the fair market value of the said goods described in this invoice is other than the value thereof as above specified, such fair market value has, to the best of my knowledge and belief, been fixed and determined under the authority of the Customs Act at the value exhibited in this invoice;  
 9. That no different invoice of the goods mentioned in the said invoice has been or will be furnished to any one by me or on my behalf;  
 10. That no arrangement or understanding affecting the purchase price of the said goods has been or will be made or entered into between the said exporter and purchaser or by any one on behalf of either of them other than as shown on the said invoice, either by way of discount, rebate, salary, compensation or in any other manner whatsoever;  
 (A) That each article on this invoice is bona fide the produce or manufacture of the country specified on the invoice as its Country of Origin; That each manufactured article on the invoice in its present form ready for export to Canada has been finished in such specified country of origin, and not less than one-half the cost of production of each such article has been produced through the industry of \* \_\_\_\_\_ entitled to the benefits of treaty or convention rates or the British Preferential Tariff.

Dated at Chicago Ill this 13 day of May 1960  
 Signature D. R. Morawejer

NOTE.—when invoicing goods which have been finished in a country specified on the invoice as its country of origin from materials originating in a country or countries entitled to the benefits of the Most Favoured Nation Tariff or the British Preferential Tariff, the names of the countries contributing to one-half the cost of production should be shown in the space provided in the certificate.  
 In the calculation of the cost of production for the purpose of determining the qualification for entry under the Most Favoured Nation Tariff none of the following items are to be included or considered, viz:—  
 1. Outside packages and expenses of packing thereinto.  
 2. Manufacturer's or exporter's profit or the profit or remuneration of any trader, broker, or other person dealing in the article in its finished manufactured condition.  
 3. Royalties.  
 4. Customs or excise duty or tax paid or payable on imported materials.  
 5. Carriage, insurance, etc., from place of production or manufacture to port of shipment.  
 6. Any other charges incurred or to be incurred subsequent to the completion of the manufacture of the goods.

(M-A)—Form of Invoice Approved by Canadian Customs (1959) for Goods Sold by Exporter Prior to Importation, for Entry at Most Favoured Nation Tariff Rates

(Place and Date) Chicago Ill, May 13, 1960

Invoice of Dr. R. V. Parendo Purchased  
 by D. R. V. Parendo of Montreal Canada  
 from Prosumak Lab. of 1020 So. Wabash Chicago Ill  
 Terms 30 days net to be shipped from Chicago Ill per air  
 (Trade discount must be marked as such)

Country of Origin	Marks and Numbers on Packages	QUANTITIES AND DESCRIPTION OF GOODS	Price @	Fair Market Value at Time and Place of Shipment in Currency of Country of Export (See Clauses 5 to 8 of Certificate of Value Hereon)	Price @	Selling Price to The Purchaser in Canada
				In the currency of the actual transaction		
U.S.A.		4 boxes of 8 ampoules of Heliozen, a drug in experimental stage for melanoma tumor	9.50	76.00	9.50	76.00
				35		35
				76.35		76.35

NOTE: The following facts must be shown:  
 Amount of: Freight, if any, prepaid and charged Postage  
 Freight, if any, prepaid and not charged \_\_\_\_\_  
 Freight, if any, allowed to be deducted by importer on settlement \_\_\_\_\_  
 \* If any freight is prepaid by the exporter and not charged, or is allowed to be deducted by the importer on settlement, a statement must be made on this invoice indicating whether or not the practice is consistent with the exporter's domestic market freight policy.

The following is the full form, combining the Certificate of Value (M) and of Origin (A), prescribed to be written, printed or stamped on the Invoices of Articles for entry in Canada, under the Most Favoured Nation Tariff when the goods have been sold by the exporter prior to importation. In cases where the vendor does not reside in the country of export or for other reasons the vendor is unable to sign the certificate both as to value and origin, a separate certificate of origin in prescribed form signed by the exporter in the country of export, bearing a full description of the goods and the marks and numbers of the packages, so that it may be identified with the shipment, will be accepted.

FORM M-A  
 EXPORTER'S DECLARATION

(M) I, the undersigned, do hereby certify as follows:—

- That I am the Manager of Prosumak Lab. exporter of the goods described in the within Invoice; insert official capacity name of exporter
  - That the said invoice is in all respects correct and true;
  - That the said invoice contains a true and full statement showing the price actually paid or to be paid for the said goods, the actual quantity thereof and all charges thereon;
  - That there is included in the said invoice the true value of all cartons, cases, crates, boxes and coverings of any kind and all charges and expenses incident to placing the said goods in condition packed ready for shipment to Canada;
  - That the said invoice also exhibits the fair market value, at the time when and place from which the goods were shipped directly to Canada, of like goods when sold in the same or substantially the same quantities for home consumption in the ordinary course of trade under competitive conditions to purchasers located at that place with whom the vendor deals at arm's length and who are at the same or substantially the same trade level as the importer;
  - That where like goods are not sold for home consumption in the circumstances described in the preceding section but where the goods shown on this invoice are similar to those sold for home consumption, the fair market value exhibited thereon is not less than the aggregate of
    - the cost of production of the goods exported; and
    - an amount that is the same percentage of the cost of production of the goods exported as the gross profit on the similar goods is of the cost of production of the similar goods;
  - That the said fair market value is without
    - any discount or deduction not shown, allowed and deducted on invoices covering sales for home consumption in the country of export in the ordinary course of trade;
    - any deduction on account of any subsidy or drawback of Customs duty that has been allowed by the Government of any other country, or on account of any so-called royalty, rent or charge for use of any machine or goods of any description, that the seller or proprietor does or would usually charge thereon when the same are sold or leased or rented for use in the country of export; or
    - any discount or deduction on account of the amount of consideration or money value of any special arrangement between any persons interested therein, because of the exportation or intended exportation of such goods, or the right to territorial limits for the sale or use thereof;
  - That if the fair market value of the said goods described in this invoice is other than the value thereof as above specified, such fair market value has, to the best of my knowledge and belief, been fixed and determined under the authority of the Customs Act at the value exhibited in this invoice;
  - That no different invoice of the goods mentioned in the said invoice has been or will be furnished to any one by me or on my behalf;
  - That no arrangement or understanding affecting the purchase price of the said goods has been or will be made or entered into between the said exporter and purchaser or by any one on behalf of either of them other than as shown on the said invoice, either by way of discount, rebate, salary, compensation or in any other manner whatsoever;
- (A) That each article on this invoice is bona fide the produce or manufacture of the country specified on the invoice as its Country of Origin; That each manufactured article on the invoice in its present form ready for export to Canada has been finished in such specified country of origin, and not less than one-half the cost of production of each such article has been produced through the industry of \* \_\_\_\_\_ entitled to the benefits of treaty or convention rates or the British Preferential Tariff.

Dated at Chicago Ill this 13 day of May 1960

Signature D. R. Parendo

NOTE.—when invoicing goods which have been finished in a country specified on the invoice as its country of origin from materials originating in a country or countries entitled to the benefits of the Most Favoured Nation Tariff or the British Preferential Tariff, the names of the countries contributing to one-half the cost of production should be shown in the space provided in the certificate.  
 In the calculation of the cost of production for the purpose of determining the qualification for entry under the Most Favoured Nation Tariff none of the following items are to be included or considered, viz:—

- Outside packages and expenses of packing thereinto.
- Manufacturer's or exporter's profit or the profit or remuneration of any trader, broker, or other person dealing in the article in its finished manufactured condition.
- Royalties.
- Customs or excise duty or tax paid or payable on imported materials.
- Carriage, insurance, etc., from place of production or manufacture to port of shipment.
- Any other charges incurred or to be incurred subsequent to the completion of the manufacture of the goods.

(M-A)—Form of Invoice Approved by Canadian Customs (1959) for Goods Sold by Exporter Prior to Importation, for Entry at Most Favoured Nation Tariff Rates

(Place and Date) June 8 - 1960 Chicago, Ill.

Invoice of Drug Krelboren Purchased  
 by D.R.V. Mordeley of 324 St. Marcel St. Drummondville, Q.  
 from Promark Lab of 1020 S. Wolosh Chicago, Ill.  
 Terms 30 days to be shipped from Chicago, Ill. per air  
 (Trade discount must be marked as such)

Country of Origin	Marks and Numbers on Packages	QUANTITIES AND DESCRIPTION OF GOODS	Price @	Fair Market Value at Time and Place of Shipment in Currency of Country of Export (See Clauses 5 to 8 of Certificate of Value Hereon)	Price @	Selling Price to The Purchaser in Canada
					In the currency of the actual transaction	
U.S.A.		4 boxes of 8 ampoules of Krelboren, a drug in experimental stage for malignant tumor	9.50	76.00	9.50	76.00
				35¢		35¢
				76.35		76.35

NOTE: The following facts must be shown:  
 Amount of: Freight, if any, prepaid and charged Postage  
 Freight, if any, prepaid and not charged \_\_\_\_\_  
 Freight, if any, allowed to be deducted by importer on settlement \_\_\_\_\_  
 \* If any freight is prepaid by the exporter and not charged, or is allowed to be deducted by the importer on settlement, a statement must be made on this invoice indicating whether or not the practice is consistent with the exporter's domestic market freight policy.

The following is the full form, combining the Certificate of Value (M) and of Origin (A), prescribed to be written, printed or stamped on the Invoices of Articles for entry in Canada, under the Most Favoured Nation Tariff when the goods have been sold by the exporter prior to importation. In cases where the vendor does not reside in the country of export or for other reasons the vendor is unable to sign the certificate both as to value and origin, a separate certificate of origin in prescribed form signed by the exporter in the country of export, bearing a full description of the goods and the marks and numbers of the packages, so that it may be identified with the shipment, will be accepted.

FORM M-A  
 EXPORTER'S DECLARATION

(M) I, the undersigned, do hereby certify as follows:—  
 1. That I am the Manager of Promark Lab. exporter of the goods described in the within invoice;  
 2. That the said invoice is in all respects correct and true;  
 3. That the said invoice contains a true and full statement showing the price actually paid or to be paid for the said goods, the actual quantity thereof and all charges thereon;  
 4. That there is included in the said invoice the true value of all cartons, cases, crates, boxes and coverings of any kind and all charges and expenses incident to placing the said goods in condition packed ready for shipment to Canada;  
 5. That the said invoice also exhibits the fair market value, at the time when and place from which the goods were shipped directly to Canada, of like goods when sold in the same or substantially the same quantities for home consumption in the ordinary course of trade under competitive conditions to purchasers located at that place with whom the vendor deals at arm's length and who are at the same or substantially the same trade level as the importer;  
 6. That where like goods are not sold for home consumption in the circumstances described in the preceding section but where the goods shown on this invoice are similar to those sold for home consumption, the fair market value exhibited thereon is not less than the aggregate of  
 (a) the cost of production of the goods exported; and  
 (b) an amount that is the same percentage of the cost of production of the goods exported as the gross profit on the similar goods is of the cost of production of the similar goods;  
 7. That the said fair market value is without  
 (a) any discount or deduction not shown, allowed and deducted on invoices covering sales for home consumption in the country of export in the ordinary course of trade;  
 (b) any deduction on account of any subsidy or drawback of Customs duty that has been allowed by the Government of any other country, or on account of any so-called royalty, rent or charge for use of any machine or goods of any description, that the seller or proprietor does or would usually charge thereon when the same are sold or leased or rented for use in the country of export; or  
 (c) any discount or deduction on account of the amount of consideration or money value of any special arrangement between any persons interested therein, because of the exportation or intended exportation of such goods, or the right to territorial limits for the sale or use thereof;  
 8. That if the fair market value of the said goods described in this invoice is other than the value thereof as above specified, such fair market value has, to the best of my knowledge and belief, been fixed and determined under the authority of the Customs Act at the value exhibited in this invoice;  
 9. That no different invoice of the goods mentioned in the said invoice has been or will be furnished to any one by me or on my behalf;  
 10. That no arrangement or understanding affecting the purchase price of the said goods has been or will be made or entered into between the said exporter and purchaser or by any one on behalf of either of them other than as shown on the said invoice, either by way of discount, rebate, salary, compensation or in any other manner whatsoever;  
 (A) That each article on this invoice is bona fide the produce or manufacture of the country specified on the invoice as its Country of Origin;  
 That each manufactured article on the invoice in its present form ready for export to Canada has been finished in such specified country of origin, and not less than one-half the cost of production of each such article has been produced through the industry of \* \_\_\_\_\_ entitled to the benefits of treaty or convention rates or the British Preferential Tariff.

Dated at Chicago, Ill. this 8 day of June 1960  
 Signature J. R. Paladous

NOTE.—when invoicing goods which have been finished in a country specified on the invoice as its country of origin from materials originating in a country or countries entitled to the benefits of the Most Favoured Nation Tariff or the British Preferential Tariff, the names of the countries contributing to one-half the cost of production should be shown in the space provided in the certificate.  
 In the calculation of the cost of production for the purpose of determining the qualification for entry under the Most Favoured Nation Tariff none of the following items are to be included or considered, viz:—  
 1. Outside packages and expenses of packing thereinto.  
 2. Manufacturer's or exporter's profit or the profit or remuneration of any trader, broker, or other person dealing in the article in its finished manufactured condition.  
 3. Royalties.  
 4. Customs or excise duty or tax paid or payable on imported materials.  
 5. Carriage, insurance, etc., from place of production or manufacture to port of shipment.  
 6. Any other charges incurred or to be incurred subsequent to the completion of the manufacture of the goods.

(M-A)—Form of Invoice Approved by Canadian Customs (1959) for Goods Sold by Exporter Prior to Importation, for Entry at Most Favoured Nation Tariff Rates

(Place and Date) June 8 - 1960 Chicago, Ill.

Invoice of Drug Krebiozen Purchased by D.R.V. Mordeley of 324 St. Arceel St. Drummondville, Qc. from Promark Lab. of 1020 1/2 Wabush Chicago, Ill. Terms 30 days to be shipped from Chicago, Ill. per air  
 (Trade discount must be marked as such)

Country of Origin	Marks and Numbers on Packages	QUANTITIES AND DESCRIPTION OF GOODS	Price @	Fair Market Value at Time and Place of Shipment in Currency of Country of Export (See Clauses 5 to 8 of Certificate of Value Hereon)	Selling Price to The Purchaser in Canada	
					Price @	In the currency of the actual transaction
USA		4 boxes of 8 ampoules of Krebiozen, a drug in experimental stage for malignant tumor	0.50	76.00	9.50	76.00
				354		354
				76.35		76.35

NOTE: The following facts must be shown:  
 Amount of: Freight, if any, prepaid and charged. Postage  
 Freight, if any, prepaid and not charged. \_\_\_\_\_  
 Freight, if any, allowed to be deducted by importer on settlement. \_\_\_\_\_  
 \* If any freight is prepaid by the exporter and not charged, or is allowed to be deducted by the importer on settlement, a statement must be made on this invoice indicating whether or not the practice is consistent with the exporter's domestic market freight policy.

The following is the full form, combining the Certificate of Value (M) and of Origin (A), prescribed to be written, printed or stamped on the Invoices of Articles for entry in Canada, under the Most Favoured Nation Tariff when the goods have been sold by the exporter prior to importation. In cases where the vendor does not reside in the country of export or for other reasons the vendor is unable to sign the certificate both as to value and origin, a separate certificate of origin in prescribed form signed by the exporter in the country of export, bearing a full description of the goods and the marks and numbers of the packages, so that it may be identified with the shipment, will be accepted.

FORM M-A  
 EXPORTER'S DECLARATION

(M) I, the undersigned, do hereby certify as follows:—  
 1. That I am the Manager of Promark Lab. exporter of the goods described in the within invoice;  
 2. That the said invoice is in all respects correct and true;  
 3. That the said invoice contains a true and full statement showing the price actually paid or to be paid for the said goods, the actual quantity thereof and all charges thereon;  
 4. That there is included in the said invoice the true value of all cartons, cases, crates, boxes and coverings of any kind and all charges and expenses incident to placing the said goods in condition packed ready for shipment to Canada;  
 5. That the said invoice also exhibits the fair market value, at the time when and place from which the goods were shipped directly to Canada, of like goods when sold in the same or substantially the same quantities for home consumption in the ordinary course of trade under competitive conditions to purchasers located at that place with whom the vendor deals at arm's length and who are at the same or substantially the same trade level as the importer;  
 6. That where like goods are not sold for home consumption in the circumstances described in the preceding section but where the goods shown on this invoice are similar to those sold for home consumption, the fair market value exhibited thereon is not less than the aggregate of  
 (a) the cost of production of the goods exported; and  
 (b) an amount that is the same percentage of the cost of production of the goods exported as the gross profit on the similar goods is of the cost of production of the similar goods;  
 7. That the said fair market value is without  
 (a) any discount or deduction not shown, allowed and deducted on invoices covering sales for home consumption in the country of export in the ordinary course of trade;  
 (b) any deduction on account of any subsidy or drawback of Customs duty that has been allowed by the Government of any other country, or on account of any so-called royalty, rent or charge for use of any machine or goods of any description, that the seller or proprietor does or would usually charge thereon when the same are sold or leased or rented for use in the country of export; or  
 (c) any discount or deduction on account of the amount of consideration or money value of any special arrangement between any persons interested therein, because of the exportation or intended exportation of such goods, or the right to territorial limits for the sale or use thereof;  
 8. That if the fair market value of the said goods described in this invoice is other than the value thereof as above specified, such fair market value has, to the best of my knowledge and belief, been fixed and determined under the authority of the Customs Act at the value exhibited in this invoice;  
 9. That no different invoice of the goods mentioned in the said invoice has been or will be furnished to any one by me or on my behalf;  
 10. That no arrangement or understanding affecting the purchase price of the said goods has been or will be made or entered into between the said exporter and purchaser or by any one on behalf of either of them other than as shown on the said invoice, either by way of discount, rebate, salary, compensation or in any other manner whatsoever;  
 (A) That each article on this invoice is bona fide the produce or manufacture of the country specified on the invoice as its Country of Origin;  
 That each manufactured article on the invoice in its present form ready for export to Canada has been finished in such specified country of origin, and not less than one-half the cost of production of each such article has been produced through the industry of \* \_\_\_\_\_ entitled to the benefits of treaty or convention rates or the British Preferential Tariff.

Dated at Chicago, Ill. this 8 day of June 1960  
 Signature J. R. Rabadon

NOTE.—when invoicing goods which have been finished in a country specified on the invoice as its country of origin from materials originating in a country or countries entitled to the benefits of the Most Favoured Nation Tariff or the British Preferential Tariff, the names of the countries contributing to one-half the cost of production should be shown in the space provided in the certificate.  
 In the calculation of the cost of production for the purpose of determining the qualification for entry under the Most Favoured Nation Tariff none of the following items are to be included or considered, viz:—  
 1. Outside packages and expenses of packing thereinto.  
 2. Manufacturer's or exporter's profit or the profit or remuneration of any trader, broker, or other person dealing in the article in its finished manufactured condition.  
 3. Royalties.  
 4. Customs or excise duty or tax paid or payable on imported materials.  
 5. Carriage, insurance, etc., from place of production or manufacture to port of shipment.  
 6. Any other charges incurred or to be incurred subsequent to the completion of the manufacture of the goods.

(M-A)—Form of Invoice Approved by Canadian Customs (1959) for Goods Sold by Exporter Prior to Importation, for Entry at Most Favoured Nation Tariff Rates

(Place and Date) June 8 - 1960 Chicago, Ill.

Invoice of Drugs Krebiozen Purchased  
 by D.R.V. Ralston of 324 St. Marcel St. Drummondville, Q.  
 from Promark Lab of 1020 S. Wolosh Chicago, Ill.  
 Terms 30 days to be shipped from Chicago, Ill. per air  
 (Trade discount must be marked as such)

Country of Origin	Marks and Numbers on Packages	QUANTITIES AND DESCRIPTION OF GOODS	Price @	Fair Market Value at Time and Place of Shipment in Currency of Country of Export (See Clauses 5 to 8 of Certificate of Value Hereon)	Selling Price to The Purchaser in Canada	
					Price @	In the currency of the actual transaction
USA		4 boxes of 8 ampoules of Krebiozen, a drug in experimental stage for malignant tumor	19.50	76.00	19.50	76.00
				35.0		35.0
				76.35		76.35

NOTE: The following facts must be shown:  
 Amount of Freight, if any, prepaid and charged Postage  
 Freight, if any, prepaid and not charged \_\_\_\_\_  
 Freight, if any, allowed to be deducted by importer on settlement \_\_\_\_\_  
 \* If any freight is prepaid by the exporter and not charged, or is allowed to be deducted by the importer on settlement, a statement must be made on this invoice indicating whether or not the practice is consistent with the exporter's domestic market freight policy.

The following is the full form, combining the Certificate of Value (M) and of Origin (A), prescribed to be written, printed or stamped on the Invoices of Articles for entry in Canada, under the Most Favoured Nation Tariff when the goods have been sold by the exporter prior to importation. In cases where the vendor does not reside in the country of export or for other reasons the vendor is unable to sign the certificate both as to value and origin, a separate certificate of origin in prescribed form signed by the exporter in the country of export, bearing a full description of the goods and the marks and numbers of the packages, so that it may be identified with the shipment, will be accepted.

FORM M-A  
 EXPORTER'S DECLARATION

(M) I, the undersigned, do hereby certify as follows:—  
 1. That I am the Manager of Promark Lab exporter of the goods described in the within invoice;  
 2. That the said invoice is in all respects correct and true;  
 3. That the said invoice contains a true and full statement showing the price actually paid or to be paid for the said goods, the actual quantity thereof and all charges thereon;  
 4. That there is included in the said invoice the true value of all cartons, cases, crates, boxes and coverings of any kind and all charges and expenses incident to placing the said goods in condition packed ready for shipment to Canada;  
 5. That the said invoice also exhibits the fair market value, at the time when and place from which the goods were shipped directly to Canada, of like goods when sold in the same or substantially the same quantities for home consumption in the ordinary course of trade under competitive conditions to purchasers located at that place with whom the vendor deals at arm's length and who are at the same or substantially the same trade level as the importer;  
 6. That where like goods are not sold for home consumption in the circumstances described in the preceding section but where the goods shown on this invoice are similar to those sold for home consumption, the fair market value exhibited thereon is not less than the aggregate of  
 (a) the cost of production of the goods exported; and  
 (b) an amount that is the same percentage of the cost of production of the goods exported as the gross profit on the similar goods is of the cost of production of the similar goods;  
 7. That the said fair market value is without  
 (a) any discount or deduction not shown, allowed and deducted on invoices covering sales for home consumption in the country of export in the ordinary course of trade;  
 (b) any deduction on account of any subsidy or drawback of Customs duty that has been allowed by the Government of any other country, or on account of any so-called royalty, rent or charge for use of any machine or goods of any description, that the seller or proprietor does or would usually charge thereon when the same are sold or leased or rented for use in the country of export; or  
 (c) any discount or deduction on account of the amount of consideration or money value of any special arrangement between any persons interested therein, because of the exportation or intended exportation of such goods, or the right to territorial limits for the sale or use thereof;  
 8. That if the fair market value of the said goods described in this invoice is other than the value thereof as above specified, such fair market value has, to the best of my knowledge and belief, been fixed and determined under the authority of the Customs Act at the value exhibited in this invoice;  
 9. That no different invoice of the goods mentioned in the said invoice has been or will be furnished to any one by me or on my behalf;  
 10. That no arrangement or understanding affecting the purchase price of the said goods has been or will be made or entered into between the said exporter and purchaser or by any one on behalf of either of them other than as shown on the said invoice, either by way of discount, rebate, salary, compensation or in any other manner whatsoever;  
 (A) That each article on this invoice is bona fide the produce or manufacture of the country specified on the invoice as its Country of Origin;  
 That each manufactured article on the invoice in its present form ready for export to Canada has been finished in such specified country of origin, and not less than one-half the cost of production of each such article has been produced through the industry of \* \_\_\_\_\_ entitled to the benefits of treaty or convention rates or the British Preferential Tariff.  
 Dated at Chicago, Ill. this 8 day of June 1960  
 Signature J. R. Ralston

NOTE.—when invoicing goods which have been finished in a country specified on the invoice as its country of origin from materials originating in a country or countries entitled to the benefits of the Most Favoured Nation Tariff or the British Preferential Tariff, the names of the countries contributing to one-half the cost of production should be shown in the space provided in the certificate.  
 In the calculation of the cost of production for the purpose of determining the qualification for entry under the Most Favoured Nation Tariff none of the following items are to be included or considered, viz:—  
 1. Outside packages and expenses of packing thereinto.  
 2. Manufacturer's or exporter's profit or the profit or remuneration of any trader, broker, or other person dealing in the article in its finished manufactured condition.  
 3. Royalties.  
 4. Customs or excise duty or tax paid or payable on imported materials.  
 5. Carriage, insurance, etc., from place of production or manufacture to port of shipment.  
 6. Any other charges incurred or to be incurred subsequent to the completion of the manufacture of the goods.

(M-A)—Form of Invoice Approved by Canadian Customs (1959) for Goods Sold by Exporter Prior to Importation, for Entry at Most Favoured Nation Tariff Rates

(Place and Date) Chicago, Ill., July 5, 1960

Invoice of Drug Krebigen Purchased  
 by Dr. William Golish of Drummondville, Quebec  
 from Pronak Laboratories of 1020 S. Wabash, Chicago, Ill.  
 Terms not 30 days to be shipped from Chicago, Ill. per Air Mail  
 (Trade discount must be marked as such)

Country of Origin	Marks and Numbers on Packages	QUANTITIES AND DESCRIPTION OF GOODS	Price @	Fair Market Value at Time and Place of Shipment in Currency of Country of Export (See Clauses 5 to 8 of Certificate of Value Hereon)	Price @	Selling Price to The Purchaser in Canada
U.S.A.	—	8 ampules of Krebigen a drug in experimental stages for malignant tumor	9.50	<del>4.50</del> 76 00	9.50	76 00
				35		35
				\$76.35		\$76.35

NOTE: The following facts must be shown:  
 Amount of: Freight, if any, prepaid and charged Postage  
 Freight, if any, prepaid and not charged \_\_\_\_\_  
 Freight, if any, allowed to be deducted by importer on settlement \_\_\_\_\_  
 \* If any freight is prepaid by the exporter and not charged, or is allowed to be deducted by the importer on settlement, a statement must be made on this invoice indicating whether or not the practice is consistent with the exporter's domestic market freight policy.

The following is the full form, combining the Certificate of Value (M) and of Origin (A), prescribed to be written, printed or stamped on the Invoices of Articles for entry in Canada, under the Most Favoured Nation Tariff when the goods have been sold by the exporter prior to importation. In cases where the vendor does not reside in the country of export or for other reasons the vendor is unable to sign the certificate both as to value and origin, a separate certificate of origin in prescribed form signed by the exporter in the country of export, bearing a full description of the goods and the marks and numbers of the packages, so that it may be identified with the shipment, will be accepted.

FORM M-A  
 EXPORTER'S DECLARATION

(M) I, the undersigned, do hereby certify as follows:—  
 1. That I am the Manager of Pronak Laboratories exporter of the goods described in the within invoice;  
 2. That the said invoice is in all respects correct and true;  
 3. That the said invoice contains a true and full statement showing the price actually paid or to be paid for the said goods, the actual quantity thereof and all charges thereon;  
 4. That there is included in the said invoice the true value of all cartons, cases, crates, boxes and coverings of any kind and all charges and expenses incident to placing the said goods in condition packed ready for shipment to Canada;  
 5. That the said invoice also exhibits the fair market value, at the time when and place from which the goods were shipped directly to Canada, of like goods when sold in the same or substantially the same quantities for home consumption in the ordinary course of trade under competitive conditions to purchasers located at that place with whom the vendor deals at arm's length and who are at the same or substantially the same trade level as the importer;  
 6. That where like goods are not sold for home consumption in the circumstances described in the preceding section but where the goods shown on this invoice are similar to those sold for home consumption, the fair market value exhibited thereon is not less than the aggregate of  
 (a) the cost of production of the goods exported; and  
 (b) an amount that is the same percentage of the cost of production of the goods exported as the gross profit on the similar goods is of the cost of production of the similar goods;  
 7. That the said fair market value is without  
 (a) any discount or deduction not shown, allowed and deducted on invoices covering sales for home consumption in the country of export in the ordinary course of trade;  
 (b) any deduction on account of any subsidy or drawback of Customs duty that has been allowed by the Government of any other country, or on account of any so-called royalty, rent or charge for use of any machine or goods of any description, that the seller or proprietor does or would usually charge thereon when the same are sold or leased or rented for use in the country of export; or  
 (c) any discount or deduction on account of the amount of consideration or money value of any special arrangement between any persons interested therein, because of the exportation or intended exportation of such goods, or the right to territorial limits for the sale or use thereof;  
 8. That if the fair market value of the said goods described in this invoice is other than the value thereof as above specified, such fair market value has, to the best of my knowledge and belief, been fixed and determined under the authority of the Customs Act at the value exhibited in this invoice;  
 9. That no different invoice of the goods mentioned in the said invoice has been or will be furnished to any one by me or on my behalf;  
 10. That no arrangement or understanding affecting the purchase price of the said goods has been or will be made or entered into between the said exporter and purchaser or by any one on behalf of either of them other than as shown on the said invoice, either by way of discount, rebate, salary, compensation or in any other manner whatsoever;  
 (A) That each article on this invoice is bona fide the produce or manufacture of the country specified on the invoice as its Country of Origin;  
 That each manufactured article on the invoice in its present form ready for export to Canada has been finished in such specified country of origin, and not less than one-half the cost of production of each such article has been produced through the industry of \* \_\_\_\_\_ entitled to the benefits of treaty or convention, rates or the British Preferential Tariff.  
 Dated at Chicago, Illinois  
 this 5<sup>th</sup> day of July 1960  
 Signature J. R. Robinson

NOTE.—when invoicing goods which have been finished in a country specified on the invoice as its country of origin from materials originating in a country or countries entitled to the benefits of the Most Favoured Nation Tariff or the British Preferential Tariff, the names of the countries contributing to one-half the cost of production should be shown in the space provided in the certificate.  
 In the calculation of the cost of production for the purpose of determining the qualification for entry under the Most Favoured Nation Tariff none of the following items are to be included or considered, viz:—  
 1. Outside packages and expenses of packing thereinto.  
 2. Manufacturer's or exporter's profit or the profit or remuneration of any trader, broker, or other person dealing in the article in its finished manufactured condition.  
 3. Royalties.  
 4. Customs or excise duty or tax paid or payable on imported materials.  
 5. Carriage, insurance, etc., from place of production or manufacture to port of shipment.  
 6. Any other charges incurred or to be incurred subsequent to the completion of the manufacture of the goods.

(M-A)—Form of Invoice Approved by Canadian Customs (1959) for Goods Sold by Exporter Prior to Importation, for Entry at Most Favoured Nation Tariff Rates

(Place and Date) Chicago, Ill., July 5, 1960

Invoice of Drugs Krebigen Purchased  
 by Dr. William Golick of Drummondville, Quebec  
 from Promak Laboratories of 1020 S. Wabash, Chicago, Ill.  
 Terms net 30 days to be shipped from Chicago, Ill. per Air Mail  
 (Trade discount must be marked as such)

Country of Origin	Marks and Numbers on Packages	QUANTITIES AND DESCRIPTION OF GOODS	Price @	Fair Market Value at Time and Place of Shipment in Currency of Country of Export (See Clauses 5 to 8 of Certificate of Value Hereon)	Price @	Selling Price to The Purchaser in Canada
U.S.A.	—	8 ampules of Krebigen a drug in experimental stages for malignant tumor	9.50	<del>9.50</del> 76.00	9.50	76.00
				35		35
				76.35		76.35

NOTE: The following facts must be shown:  
 Amount of: Freight, if any, prepaid and charged Postage  
 Freight, if any, prepaid and not charged \_\_\_\_\_  
 Freight, if any, allowed to be deducted by importer on settlement \_\_\_\_\_  
 \* If any freight is prepaid by the exporter and not charged, or is allowed to be deducted by the importer on settlement, a statement must be made on this invoice indicating whether or not the practice is consistent with the exporter's domestic market freight policy.

The following is the full form, combining the Certificate of Value (M) and of Origin (A), prescribed to be written, printed or stamped on the Invoices of Articles for entry in Canada, under the Most Favoured Nation Tariff when the goods have been sold by the exporter prior to importation. In cases where the vendor does not reside in the country of export or for other reasons the vendor is unable to sign the certificate both as to value and origin, a separate certificate of origin in prescribed form signed by the exporter in the country of export, bearing a full description of the goods and the marks and numbers of the packages, so that it may be identified with the shipment, will be accepted.

FORM M-A  
 EXPORTER'S DECLARATION

(M) I, the undersigned, do hereby certify as follows:—  
 1. That I am the Manager of Promak Laboratories exporter of the goods described in the within invoice;  
 2. That the said invoice is in all respects correct and true;  
 3. That the said invoice contains a true and full statement showing the price actually paid or to be paid for the said goods, the actual quantity thereof and all charges thereon;  
 4. That there is included in the said invoice the true value of all cartons, cases, crates, boxes and coverings of any kind and all charges and expenses incident to placing the said goods in condition packed ready for shipment to Canada;  
 5. That the said invoice also exhibits the fair market value, at the time when and place from which the goods were shipped directly to Canada, of like goods when sold in the same or substantially the same quantities for home consumption in the ordinary course of trade under competitive conditions to purchasers located at that place with whom the vendor deals at arm's length and who are at the same or substantially the same trade level as the importer;  
 6. That where like goods are not sold for home consumption in the circumstances described in the preceding section but where the goods shown on this invoice are similar to those sold for home consumption, the fair market value exhibited thereon is not less than the aggregate of  
 (a) the cost of production of the goods exported; and  
 (b) an amount that is the same percentage of the cost of production of the goods exported as the gross profit on the similar goods is of the cost of production of the similar goods;  
 7. That the said fair market value is without  
 (a) any discount or deduction not shown, allowed and deducted on invoices covering sales for home consumption in the country of export in the ordinary course of trade;  
 (b) any deduction on account of any subsidy or drawback of Customs duty that has been allowed by the Government of any other country, or on account of any so-called royalty, rent or charge for use of any machine or goods of any description, that the seller or proprietor does or would usually charge thereon when the same are sold or leased or rented for use in the country of export; or  
 (c) any discount or deduction on account of the amount of consideration or money value of any special arrangement between any persons interested therein, because of the exportation or intended exportation of such goods, or the right to territorial limits for the sale or use thereof;  
 8. That if the fair market value of the said goods described in this invoice is other than the value thereof as above specified, such fair market value has, to the best of my knowledge and belief, been fixed and determined under the authority of the Customs Act at the value exhibited in this invoice;  
 9. That no different invoice of the goods mentioned in the said invoice has been or will be furnished to any one by me or on my behalf;  
 10. That no arrangement or understanding affecting the purchase price of the said goods has been or will be made or entered into between the said exporter and purchaser or by any one on behalf of either of them other than as shown on the said invoice, either by way of discount, rebate, salary, compensation or in any other manner whatsoever;  
 (A) That each article on this invoice is bona fide the produce or manufacture of the country specified on the invoice as its Country of Origin;  
 That each manufactured article on the invoice in its present form ready for export to Canada has been finished in such specified country of origin, and not less than one-half the cost of production of each such article has been produced through the industry of \* \_\_\_\_\_ entitled to the benefits of treaty or convention rates or the British Preferential Tariff.

Dated at Chicago, Illinois this 5<sup>th</sup> day of July 1960  
 Signature J. R. Rowland

NOTE.—when invoicing goods which have been finished in a country specified on the invoice as its country of origin from materials originating in a country or countries entitled to the benefits of the Most Favoured Nation Tariff or the British Preferential Tariff, the names of the countries contributing to one-half the cost of production should be shown in the space provided in the certificate.  
 In the calculation of the cost of production for the purpose of determining the qualification for entry under the Most Favoured Nation Tariff none of the following items are to be included or considered, viz:—  
 1. Outside packages and expenses of packing thereinto.  
 2. Manufacturer's or exporter's profit or the profit or remuneration of any trader, broker, or other person dealing in the article in its finished manufactured condition.  
 3. Royalties.  
 4. Customs or excise duty or tax paid or payable on imported materials.  
 5. Carriage, insurance, etc., from place of production or manufacture to port of shipment.  
 6. Any other charges incurred or to be incurred subsequent to the completion of the manufacture of the goods.

(M-A)—Form of Invoice Approved by Canadian Customs (1959) for Goods Sold by Exporter Prior to Importation, for Entry at Most Favoured Nation Tariff Rates

(Place and Date) Chicago, Ill., July 5, 1960

Invoice of Drugs Krebigen Purchased  
 by Dr. William Goligh of Drummondville, Quebec  
 from Pronak Laboratories of 1020 S. Wabash, Chicago, Ill.  
 Terms 30 days to be shipped from Chicago, Ill. per Air Mail  
 (Trade discount must be marked as such)

Country of Origin	Marks and Numbers on Packages	QUANTITIES AND DESCRIPTION OF GOODS	Price @	Fair Market Value at Time and Place of Shipment in Currency of Country of Export (See Clauses 5 to 8 of Certificate of Value Hereon)	Selling Price to The Purchaser in Canada	
					Price @	In the currency of the actual transaction
U.S.A.	—	8 ampules of Krebigen a drug in experimental stages for malignant tumor	9.50	<del>9.50</del> 76 00	9.50	76 00
NOTE: The following facts must be shown:					35	35
Amount of: Freight, if any, prepaid and charged <u>Postage</u>						
Freight, if any, prepaid and not charged _____						
Freight, if any, allowed to be deducted by importer on settlement _____						
* If any freight is prepaid by the exporter and not charged, or is allowed to be deducted by the importer on settlement, a statement must be made on this invoice indicating whether or not the practice is consistent with the exporter's domestic market freight policy.					76.35	76.35

The following is the full form, combining the Certificate of Value (M) and of Origin (A), prescribed to be written, printed or stamped on the Invoices of Articles for entry in Canada, under the Most Favoured Nation Tariff when the goods have been sold by the exporter prior to importation. In cases where the vendor does not reside in the country of export or for other reasons the vendor is unable to sign the certificate both as to value and origin, a separate certificate of origin in prescribed form signed by the exporter in the country of export, bearing a full description of the goods and the marks and numbers of the packages, so that it may be identified with the shipment, will be accepted.

FORM M-A  
EXPORTER'S DECLARATION

(M) I, the undersigned, do hereby certify as follows:—

- That I am the Manager of Pronak Laboratories exporter of the goods described in the within invoice; insert official capacity name of exporter
- That the said invoice is in all respects correct and true;
- That the said invoice contains a true and full statement showing the price actually paid or to be paid for the said goods, the actual quantity thereof and all charges thereon;
- That there is included in the said invoice the true value of all cartons, cases, crates, boxes and coverings of any kind and all charges and expenses incident to placing the said goods in condition packed ready for shipment to Canada;
- That the said invoice also exhibits the fair market value, at the time when and place from which the goods were shipped directly to Canada, of like goods when sold in the same or substantially the same quantities for home consumption in the ordinary course of trade under competitive conditions to purchasers located at that place with whom the vendor deals at arm's length and who are at the same or substantially the same trade level as the importer;
- That where like goods are not sold for home consumption in the circumstances described in the preceding section but where the goods shown on this invoice are similar to those sold for home consumption, the fair market value exhibited thereon is not less than the aggregate of
  - the cost of production of the goods exported; and
  - an amount that is the same percentage of the cost of production of the goods exported as the gross profit on the similar goods is of the cost of production of the similar goods;
- That the said fair market value is without
  - any discount or deduction not shown, allowed and deducted on invoices covering sales for home consumption in the country of export in the ordinary course of trade;
  - any deduction on account of any subsidy or drawback of Customs duty that has been allowed by the Government of any other country, or on account of any so-called royalty, rent or charge for use of any machine or goods of any description, that the seller or proprietor does or would usually charge thereon when the same are sold or leased or rented for use in the country of export; or
  - any discount or deduction on account of the amount of consideration or money value of any special arrangement between any persons interested therein, because of the exportation or intended exportation of such goods, or the right to territorial limits for the sale or use thereof;
- That if the fair market value of the said goods described in this invoice is other than the value thereof as above specified, such fair market value has, to the best of my knowledge and belief, been fixed and determined under the authority of the Customs Act at the value exhibited in this invoice;
- That no different invoice of the goods mentioned in the said invoice has been or will be furnished to any one by me or on my behalf;
- That no arrangement or understanding affecting the purchase price of the said goods has been or will be made or entered into between the said exporter and purchaser or by any one on behalf of either of them other than as shown on the said invoice, either by way of discount, rebate, salary, compensation or in any other manner whatsoever;

(A) That each article on this invoice is bona fide the produce or manufacture of the country specified on the invoice as its Country of Origin; That each manufactured article on the invoice in its present form ready for export to Canada has been finished in such specified country of origin, and not less than one-half the cost of production of each such article has been produced through the industry of \* \_\_\_\_\_ entitled to the benefits of treaty or convention rates or the British Preferential Tariff.

Dated at Chicago, Illinois this 5th day of July 1960 Signature J. R. Robinson

NOTE.—when invoicing goods which have been finished in a country specified on the invoice as its country of origin from materials originating in a country or countries entitled to the benefits of the Most Favoured Nation Tariff or the British Preferential Tariff, the names of the countries contributing to one-half the cost of production should be shown in the space provided in the certificate.  
 In the calculation of the cost of production for the purpose of determining the qualification for entry under the Most Favoured Nation Tariff none of the following items are to be included or considered, viz:—

- Outside packages and expenses of packing thereinto.
- Manufacturer's or exporter's profit or the profit or remuneration of any trader, broker, or other person dealing in the article in its finished manufactured condition.
- Royalties.
- Customs or excise duty or tax paid or payable on imported materials.
- Carriage, insurance, etc., from place of production or manufacture to port of shipment.
- Any other charges incurred or to be incurred subsequent to the completion of the manufacture of the goods.



APPRAISAL NOTE

FORMULE D'APPRECIATION  
ENTRY NO.

ADDRESS ON PACKAGE AND MARKS AND NUMBERS

NAME OF SHIPPER AND PLACE OF SHIPMENT

Dr. Wm. W. W. W.  
10 E. Lubarsky  
D. U. U.

Promax Laboratories  
Chicago Ill

NO. OF PKGS.	CONTENTS	APPRAISED VALUE	RATE OF DUTY	AMOUNT OF DUTY	DUTY PAID VALUE	SALES TAX	EXCISE TAX
1	Pa. Krelozger Hlen 20671(1)	57.00 1/2 85 56.15	fu		56.15	6.18	

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SALES TAX

EXCISE TAX

TOTAL

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NATIONAL REVENUE  
Duty Paid - Droits Acquies

DEC 26 1960

OFFICER  
Fonctionnaire

Drummond, P. O.

FORMULE D'APPRECIATION

MANIFESTE OU E-19 N°

DECLARATION N°

ADRESSE, MARQUES ET NUMEROS SUR LE COLIS

NOM DE L'EXPEDITEUR ET ENDROIT D'EXPEDITION

NOMBRE DE COLIS	CONTENU	APPRECIATION	TAUX DES DROITS	TOTAL DES DROITS	VALEUR A L'ACQUITTE	TAXE DE VENTE	TAXE D'ACCISE
	810 21-02		21.52	21.52			

TIMBRE DATEUR DU BUREAU

RECU CE COLIS, POUR LEQUEL L'IMPORTATEUR N'A PAS DE FACTURE, LE CONTENU ET LA VALEUR ETANT TELS QU'ENONCES PLUS HAUT.

SIGNATURE DE L'IMPORTATEUR OU DE L'AGENT

INITIALES

DROITS

TAXE DE VENTE

TAXE D'ACCISE

TOTAL

## APPRAISAL NOTE

Mars 2008

ENTRY NO.

MFST. OR E-19 NO.5M

ADDRESS ON PACKAGE AND MARKS AND NUMBERS

E. H. Wheeler  
Dr. H. Wheeler, Dr. Wheeler, Dr. Wheeler

NAME OF SHIPPER AND PLACE OF SHIPMENT

Chemical Drains, Inc.  
Chicago, Ill.

NO. OF PKGS.	CONTENTS	APPRAISED VALUE	RATE OF DUTY	AMOUNT OF DUTY	DUTY PAID VALUE	SALES TAX	EXCISE TAX
1	16 empty drums.	152.00	—	—	152.00	11.73	16.73

NATIONAL REVENUE  
REVENUE NATIONAL  
DUTY PAID  
DUTY PAID

Canada

JAN 10 1961

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OR AGENTOFFICER  
F. O. O.

Drummondville, P. Q.

DUTY	16.73	TOTAL	16.73
SALES TAX	11.73	EXCISE TAX	—

FORMULE D'APPRECIATION

MANIFESTE OU E-19 N°

8007 100000

DECLARATION No

NOM DE L'EXPEDITEUR ET ENDROIT D'EXPEDITION

THESE, MARQUES ET NUMEROS SUR LE COLIS

Handwritten signatures and notes in blue ink.

NOMBRE DE COLIS	EXCISE TAX	CONTENU	APPRECIATION	TAUX DES DROITS	TOTAL DES DROITS	VALEUR A L'ACQUITTE	TAXE DE VENTE	TAXE D'ACCISE

TIMBRE DATEUR DU BUREAU

RECU CE COLIS, POUR LEQUEL L'IMPORTATEUR N'A PAS DE FACTURE, LE CONTENU ET LA VALEUR ETANT TELS QU'ENONCES PLUS HAUT.

SIGNATURE DE L'IMPORTATEUR OU DE L'AGENT

TOTAL

TAXE D'ACCISE

TAXE DE VENTE

DROITS

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Aug. 10, 1960

Dear Esther:

It seems the only proper way to address you as through Alice Master Rosenberg I feel we really know you. *(I'm her mother-in-law)*

I and the rest were so happy to hear that you are being helped in your fight.

We are still having an awful struggle to get doctors here to us "K". So I would like to impose upon you to send me or Alice every once in a while a report on your progress.

Do you think your doctor would be willing to write to the one doctor here who is very much interested? His name is O. R. Eastman, M. D., 239 So. Union St., Burlington, Vermont.

We hope your progress will be continuous.

*Sincerely*

*Mr. Robert (I med. M.)  
Rosenberg*

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THE DANGERS OF RADIATION

RADIATION BULLETIN NO. 1

I. THE RADIATION PROBLEM:

As It Applies to The Citizen

“A questioning attitude on the part of many patients regarding exposure to radiation is now present.”

Tievsky, George, M.D., *Journal of the American Medical Association*, Vol. 166, April 5, 1958, p. 1667.

“Through misunderstanding and many confusing public statements, the public does not know what to do. This is becoming more evident daily, as we hear of people refusing to have chest X-rays, or dental examinations.”

Taylor, Lauriston S., Atomic and Radiation Physics Division, National Bureau of Standards, *Hearings Before the Special Sub-Committee on Radiation of the Joint Committee on Atomic Energy, Congress of the United States, Part I*, May-June, 1957, p. 833.

“So many of the public are already aware of the genetic” (inherited) “damage produced by radiation that their morale is weakened and their apprehensions are increased when they see that the damage is denied by prominent sponsors of our national defense...”

“In view of this situation and of the notorious resistance to the acceptance of genetic principles” (principles of heredity) “on the part of so many, not only of governmental appointees in the policymaking positions, but also of so many of the medical profession, a resistance that has prevented the medical profession for 30 years from duly protecting themselves, their technicians, and their patients when X-rays are used medically, and that has thereby subjected the reproductive cells of our population to very much more radiation than that from fallout—it is my opinion highly important that a National Radiation Health Institute be established as a part of the United States National Institutes of Health, but only if it contains a solid core of competent and versatile geneticists as one of its major features.”

Muller, Hermann J., Ph.D., D.Sc., Nobel Prize Winner, Professor of Zoology, University of Indiana; *Atomic Energy Committee Hearings, Part 2*, June, 1957, pp. 1057 & 1062.

ALL OF THIS MATERIAL IS DIRECTLY QUOTED FROM QUALIFIED SOURCES. THE I.C.R.F. MAKES NO STATEMENTS, DOES NOT INTERPRET NOR EDITORIALIZE. THE I.C.R.F. PROVIDES MERELY THE HEADINGS.

“A growing public awareness of the dangers of excessive exposure to irradiation has finally focused the attention of the medical profession on the serious early and late effects of such exposure, a matter that has concerned the surgeon, and particularly the plastic surgeon, for several decades.”

Cannon, Bradford, M.D., Randolph, Judson G., M.D., and Murray, Joseph E., M.D., *The New England Journal of Medicine*, January 29, 1959, p. 197.

As It Applies to The Doctor

“The potentially harmful effects of ionizing radiation from medical sources are of importance to all practitioners of clinical medicine. The internist who does chest fluoroscopic examinations” (Fluoroscope: a screen used for examining deep structures by means of the roentgen rays) “routinely, the general practitioner with a small X-ray unit in his office, the obstetrician who makes use of X-ray pelvimetry, the urologist and other surgical specialists using X-ray equipment, the dermatologist treating benign lesions, and, in brief, all physicians who make use of X-ray are vitally concerned with the possibility of harm from the use of ionizing radiation.”

Tievsky, p. 1667..

"Any practitioner who does fluoroscopic or radiographic examinations has, without realizing it, passed imperceptibly into a period of tremendously increased liability due to radiation damage. It does not require a great deal of imagination to foresee the types of malpractice suits that might occur in the future. There will undoubtedly be tests concerning the physician's liability in presumed cases of miscarriage, stillbirth, congenital deformity, or neoplasia" (formation of any new and abnormal growth, such as a tumor) "linked to relatively low dosage radiation.

"The lack of knowledge on the part of the physician relative to radiation hazards will place him in a rather precarious position on the witness stand. Failure to have had radiation equipment surveyed by a qualified physicist, lack of knowledge of dosage factors, and failure to use standard measures of protection will leave him extremely vulnerable for damage claims....

"Unless there is rigorous self-policing by the profession, public pressure may well be generated to a sufficient degree that licensing radiation equipment of all types will be required."

*Ibid.*, p. 1670

#### As It Applies to Civilization

"Since the advent of the nuclear age, the amount of radiation to which man is exposed has been increasing. Nuclear technology is still in its infancy, but it is anticipated that in a decade tremendous developments will have occurred. A major problem will be that of controlling the radiation dosage to whole populations."

*Ibid.*, p. 1667.

"Now it is a plain fact ... that radiations ... (gamma rays and/or X-rays) ... penetrating the bodies of human beings are genetically undesirable." (Undesirable from the point of view of heredity.) "Even very small amounts of radiation unquestionably have the power to injure the hereditary materials. Ought we take steps at once to reduce, or at least to limit, the amount of radiation which people receive?"

Committee on Genetic Effects of Atomic Radiation, National Academy of Sciences, *Science*, June 29, 1956, p. 1157.

"There has been concern about the possible genetic harm due to the fallout of radioactive material which results from the testing of atomic weapons ... (fallout on grazing and cropland; fallout in the sea and possible concentration in marine organisms; the distribution of fallout material by the winds and in the upper atmosphere; possible pathological damage due to long-lived isotopes built into our bones; and so forth.)"

"From the point of view of this committee there are two summary remarks that should be made. First, since any additional radiation is genetically undesirable, the fallout dose is genetically undesirable.

"Second, the fallout dose to date (and its continuing value if it is assumed that the weapons testing program will not be substantially increased) is a small one as compared with the background radiation, or as compared with the average exposure in the United States to medical X-rays."

*Ibid.*, pp. 1163-1164.

"1. Radiations cause mutations" (changes). "Mutations affect those hereditary traits which a person passes on to his children and to subsequent generations.

"2. Practically all radiation-induced mutations which have effects large enough to be detected are harmful. A small but not negligible part of this harm would appear in the first generation of the offspring of the person who received the radiation. Most of the harm, however, would remain un-noticed, for a shorter or longer time, in the genetic constitution of the successive generations of offspring. But the harm would persist, and some of it would be expressed in each generation. On the average, a detrimental mutation, no matter how small its harmful effect, will in the long run tip the scales against some descendant who carries this mutation, causing his premature death or his failure to produce the normal number of offspring...

"3. Any radiation dose, however small, can induce some mutations. There is no minimum amount of radiation dose, that is, which must be exceeded before any harmful mutations occur.

"4. For every living thing—bacterium, fruit fly, corn plant, mouse or man—there exists mutations which arise from natural causes (cosmic rays, naturally occurring radiations from radium and similar substances, and also from heat

and certain chemicals). These naturally occurring, and hence unavoidable, mutations are usually called 'spontaneous mutations' ...

"5. Additional radiation (that is, radiation over and above the irreducible minimum due to natural causes) produces additional mutations (over and above the spontaneous mutations) ...

"The total dose of radiation is what counts, this statement being based on the fact that the genetic damage done by radiation is cumulative.

"A larger amount of radiation produces a larger number of mutations. But within the limits of the radiation doses being considered in this report there is every reason to expect that these additional mutants would be of the same general sort as those produced by the natural background radiation. That is to say, mildly larger doses of radiation would produce more, but not worse, mutants.

"6. From the above five statements a very important conclusion results. It has sometimes been thought that there may be a rate (say, so much per week) at which a person can receive radiation with reasonable safety as regards certain types of direct damage to his own person. But the concept of a safe rate of radiation simply does not make sense if one is concerned with genetic damage to future generations. What counts, from the point of view of genetic damage, is not the rate; it is the total accumulated dose to the reproductive cells of the individual from the beginning of his life up to the time the child is conceived.

"What is genetically important to a child is the total radiation dose that child's parents have received from their conception to the conception of the child."

Committee on Genetic Effects of Atomic Radiation, National Academy of Sciences, *Science*, June 29, 1956, p. 1159-1160.

"In the broad sense, radiation protection is a problem that will touch the lives of most of us and more as time goes on, whether it be in connection with non-restrictive testing, with radiology, or with the production of nuclear power. The uses of radiation-producing machines and the use of radioactive materials will undoubtedly increase as time goes on, and radiation, as such, will become an increasingly important part of our national economy."

Taylor, p. 827.

"The control of radiation, however, differs from that of all other noxious" (harmful) "agents in that man is not equipped by nature to detect this potential peril to his existence. A serious danger has been produced, both for man the individual and for all mankind, for which there is no sensory warning. Only the proper instruments, properly placed and tended, are useful in warning of the danger."

Tievsky, p. 1668.

"The crux of the present problem as it relates to medical practice, is the dissemination and utilization of already existing knowledge in the area of radiation safety."

*Ibid.*, p. 1669.

## II. SOURCES OF RADIATION

"The present sources of ionizing radiations ... include the following:

### Natural Sources

1. Cosmic radiation (radiation of extremely high penetrating power that seems to originate beyond the earth's atmosphere).
2. Naturally occurring amounts of radium, thorium and potassium in the earth crust.
3. Content of natural radioactive elements in living tissues.

### Man-made Sources

4. Radioactive material and technical arrangements producing ionizing radiation (such as X-Ray tubes and other particle accelerators, nuclear reactors, etc.) used in education, science, medicine, industry and commerce.



5. Sources used by the population for other purposes than those mentioned in 4 (radioactive luminous compounds on watches and other articles for common use, television sets, etc.), although such sources are much less significant than those mentioned in 4 and 6. It is important, however, that their existence be recognized.

6. Artificial radioactive elements distributed by man in nature."

*Atomic Energy Committee Hearings, Part 2, June 1957, p. 1733.*

### III. MEASUREMENTS OF RADIATION

"The danger of ionizing radiation has been under close scrutiny for 30 years by well-organized bodies of scientists. The fact that the hazards are not limited to national boundaries was recognized in 1926 by the action of the first International Congress of Radiology, which established the International Committee on Roentgen Units and Protection.

"Shortly after this, the medical radiologists of the United States organized a similar committee with its activities centered at the National Bureau of Standards in Washington, D.C. Dr. Lauriston S. Taylor, an eminent radiation physicist of the bureau, has been chairman of the National Committee on Radiation Protection (NCRP) since its inception. It should be emphasized that this is not a governmental commission but is composed of representatives from private medical, scientific, and industrial fields, plus those from the federal services ...

"The philosophy underlying the protective measures it has outlined is based on a full utilization of all available knowledge concerning radiation effects on man. It has suggested standards which are fully protective and yet practical in their application. The importance of this committee to organized medicine and to the individual practitioner cannot be overstressed."

*Tievsky, p. 1668.*

"Radiation was recognized as a potential hazard to health soon after its discovery. Efforts to understand and curtail radiation exposure to individuals, were not begun seriously until the 1920's. One should bear in mind that it was not until 1928 that the world had a uniform and acceptable unit of radiation dose, namely the roentgen. Consequently, radiation-protection efforts and protection standards were, of necessity, on a purely qualitative basis. Until 1928, most radiation treatments were expressed in terms of fractions of an erythema dose—the amount of radiation that would cause a defined reddening of the skin... It was not until the mid-thirties that stray radiation exposure was measured quantitatively, thus making it possible to put radiation-protection standards on a reasonably firm quantitative basis...

"One could venture the suggestion that if there is any basic standard of radiation protection it would be what is now referred to as the maximum permissible dose, or maximum permissible exposure of an individual. By maximum permissible exposure is meant the amount of radiation to which the whole body of an individual can be subjected over the period of his adult lifetime without producing in that individual any detectable harmful effects.... Another basic standard is needed for the exposure of the entire population—one that takes the genetic effects into consideration.

"Parenthetically, it should be remarked that the old term 'tolerance dose' that prevailed for many years is a complete misnomer. There is no such thing as a 'tolerable dose of radiation.' No radiation, other than for the treatment of disease, is known to be beneficial to man. Any radiation exposure received by man must be accepted as harmful. Therefore, the objective should be to keep man's exposure as low as possible and yet, at the same time, not discontinue the use of radiation altogether."

*Taylor, p. 828.*

"Man is at present receiving radiations from the following:

1. Background radiation. This is the radiation which results from natural causes (cosmic rays, naturally occurring radium, etc.) not under our control. Each person receives on the average a total accumulated dose of about 4.3 roentgens over a 30-year period. At high altitudes this dose is greater, because of the increase of cosmic rays. Thus this background is as high as 5.5 roentgens in some places in the United States.

2. Medical X-rays. According to present estimates, each person in the United States receives, on the average a total accumulated dose to the gonads" (sex glands) "which is about 3 roentgens of X-radiation during a 30-year period. Of course, some persons get none at all; others may get a good deal more.

3. Fallout from weapons testing. The Atomic Energy Commission (under the Department of Defense, other measurements relating to fallout are also being made) is doing a technically competent and a socially conscientious

job of measuring fallout, but it does not follow from this that one can answer, with high precision, all questions about biological risks involved... Thus one cannot expect figures on fallout to be very precise ones....

With these understandings, it may be stated that United States residents have, on the average, been receiving from fallout over the past 5 years a dose which, if weapons testing were continued at the same rate, is estimated to produce a total 30-year dose of about one-tenth of a roentgen; and since the accuracy involved is probably not better than a factor of 5, one could better say that the 30-year dose from weapons testing if maintained at the past level would probably be larger than 0.02 roentgen and smaller than 0.50 roentgen....

4. Atomic power plants. As yet the general population has not received radiation from atomic power plants or from the disposal of radioactive wastes. These are future sources of radiation that might become dangerous.

5. Occupational hazards. The preceding four points apply to everyone. Unless proper precautions are taken, persons who are close to equipment emitting X-rays, who are engaged in experimental work in atomic energy, who operate atomic plants, who test weapons, who mine or otherwise handle radioactive material, and so forth, are subject to the risk of greater radiation exposure during their work."

*Science*, June 29, 1956, pp. 1161-1162.

"Doses that are necessary to cure cancer are in the order of five- to ten-thousand roentgens ... Doses ... from fallout ... are in the thousandths of roentgens."

Friedell, H. L., Professor of Radiology, School of Medicine, Western Reserve University, *Atomic Energy Committee Hearings*, Part 1, May-June, 1957, p. 898.

"Representative Holifield: What would be the exposure of a chest X-ray ... and a fluoroscopic examination of the chest, and what would be the scatter to the gonads" (sex glands)?"

"Dr. Friedell: I am glad you make this distinction. First of all, there is a difference between radiation on the thorax" (chest) "and radiation to the gonads. The radiation to the thorax is considerably larger than to the gonads. As Dr. Warren pointed out, that makes a difference whether you have the miniature kind of chest examination which is really a photograph of a fluoroscopic image or whether you have an ordinary X-ray film that many of you have had for various studies.

"Somewhere of the order of six hundredths to one tenth of a roentgen is given to the thorax for an exposure to get a satisfactory chest film. Depending on the various methods that are used for protection of the gonads and the possible protective devices which may be placed over the gonads, the dose to the gonads is considerably reduced. From the scatter alone, it may be as low as one one-hundredth of the dose given to the thorax. I would not want to put a firm figure on it because it is a function of how it is done.

"From the point of view of fluoroscopy, there is not any comparison between the amount of radiation delivered to the chest and to the gonads, because of scatter when fluoroscopy is used, because at the present time the fluoroscopic methods require a large dose of radiation to be visible on the fluoroscopic screen. Depending on the time, I would say that a chest could easily receive as much as 5 to 15 roentgens in one examination.

"Representative Holifield: In the case of exploring for a swallowed safety pin by a child, for instance, where you have to probe with instruments, and you follow it with your fluoroscope, what would be the exposure?"

"Dr. Friedell: That is difficult to estimate, but I think this would help you. Most fluoroscopic machines will turn out somewhere in the order of 5 to 10 roentgens a minute. Some will turn out much more, but they are not really carefully controlled. Generally the lower limit is about 5 roentgens a minute. This determines in effect how much radiation will be received by the body in general, and it is generally fairly easy to calculate what might be received by the gonads. If the radiation is directed to the gonads for various reasons, they receive much more.

"Representative Holifield: Do you think there is a comprehension on the part of most radiologists of the importance of the damaging effects of this scatter from a genetics standpoint?"

"Dr. Friedell: I think this is a difficult question for me to answer. I know that people in whose circles I move are very concerned with the problem and are examining it very carefully. I would say that the radiologists in general are now very acutely aware of this problem. It is conceivable that they were not aware of it 10 or 15 years ago, and are now beginning to institute all the necessary measures to get as much protection as we can.

"Representative Holifield: Certainly when they are utilizing a machine with such potentially damaging effects, they should from a professional standpoint guard the people as much as possible.

"Dr. Friedell: I think I would agree with this, but I would also like to add to this that you are always faced with the problem of measuring the value of this medically as compared with the possible hazard that is introduced. This is a very difficult thing to measure sometimes. It is conceivable that much error can be introduced, but I think most physicians are acutely aware of weighing these two things and must do the best for the patient."

*Ibid.*, pp. 983-985.

"In general, much larger doses of radiation result from fluoroscopy than from radiography. The exposure is of least significance, both from the standpoint of body damage and of the genetic hazard, when X-rays are used to examine the limbs... There is a considerable difference between exposing a limited region of the body to 25r and exposing the entire body to the same dose. The skin over the region being examined will also sustain a much larger dose than the internal organs."

Warren, Shields, M.D., Cancer Research Institute, New England Deaconess Hospital, *Scientific American*, September, 1959, p. 168.

"The skin dosage of irradiation by the photoroentgenographic technic proved to be more than thirty times as great as by the conventional method. Even more startling is the evidence that the local skin dosage for a full-mouth X-ray examination is three times greater than that of the chest survey. Any or all of these routine examinations may be repeated as the patient goes from one institution to another, or as he has a periodic dental checkup."

Cannon, Randolph & Murray, pp. 197-198.

"When we consider that at present our population is receiving almost half of the 10-roentgen allowance per generation from man-made sources, and that exposure is certain to increase as wastes from the development of peaceful uses of atomic energy multiply, a five-fold increase in fall-out from weapons testing would add to a grave problem."

Glass, Bentley, Ph.D., Professor of Biology, Johns Hopkins University, *Atomic Energy Committee Hearings*, Part 2, June 1957, pp. 1037-1038.

TABLE OF MEASUREMENTS

Routine Chest X-ray .....	0.05 to 2-r per exposure
Fluoroscopic examination .....	10 to 20-r per minute
Cinefluorography.....	25-r per examination
Dental X-ray .....	10 to 150-r per whole-mouth series
Shoe-store fluoroscopy (shoe fitting unit).....	50 to 150-r per minute to feet
Radium-dial watch .....	7-r per year to the wrist

*Atomic Energy Committee Hearings*, Part 2, June, 1957, Table VI, p. 1132.

IV. THE NATURE OF RADIATION INJURIES

"There has been a curious official silence concerning findings showing that the main damage to the exposed individuals themselves by small or moderate exposures to radioactive substances of X-rays consists of an insidious weakening of the body's resistance to the onset of infirmities and diseases of all kinds, expressing itself in a shortening of the length of life, and also consists in a long delayed production of certain specific disorders of which the most important are leukemia and some other malignant conditions.

"Still less publicized has been the increasing evidence that the amount of these effects is simply proportionate to the total dose of radiation received, even when this has been given in tiny bits scattered over long periods."

Muller, p. 1049.

"Extensive information on effects of lower levels of radiation has recently appeared. This knowledge requires a re-evaluation of the cost to humans of radiation exposure in terms of (a) genetic effects, (b) shortening of life-span, (c) induction of cancers, (d) destruction of tissue, (e) congenital malformation, and (f) effects upon young individuals. All these effects appear to be proportional to the exposure to radiation, and have been largely responsible for a recent downward revision in maximum allowable exposure to radiation."

Jones, Hardin B., Ph.D., University of California Radiation Laboratory, *Atomic Energy Committee Hearings*, Part 2, June 1957, p. 1119.

"It is well known that radiation absorbed in the body produces undesirable effects whenever the absorbed energy exceeds certain amounts to which the body has become accustomed, in its natural surroundings. Investigation has shown that injuries to living cells are in general proportional to the ionization produced in their structure. However, injuries vary for different types of ionization, the intense local ionization produced by alpha particles and protons being more damaging than the less densely localized ions produced by gamma rays, for example.

"It is the lethal" (deadly) "effect of ionization on individual cells that plays the dominant role in the radiation injuries in the body. However, an additional factor is present when comparing the effect of radiation in individual cells and that produced on an animal as a whole. This is the ability of many types of cells to replace destroyed cells. Therefore, radiation sufficiently intense to destroy only a small fraction of the cells produces no permanent

injury, provided sufficient time elapses between exposures to permit recovery from the damage. This is the basis of the commonly accepted ideas regarding tolerance limits of exposure to radiation. However, not all types of cells can cooperate to repair damage of this type. For example, parts of the eye, brain, and some muscular tissue cannot produce new tissue to replace that which has been destroyed."

U.S. Department of Commerce, National Bureau of Standards, *Circular 476*, October 15, 1949, p.81.

"What, then, are the deleterious effects of radiation with which the practitioner should be concerned? They may be divided into two broad categories: (1) The genetic effects, which depend on the exposure of the gonadal tissues, and (2) the somatic" (pertaining to body tissue) "effects, which depend on the exposure of other body tissues. The first is primarily of long range concern to the race; the second is of immediate concern to the individual."

Tievsky, p.1668.

#### Genetic Effects

"1. All geneticists agree that there is no threshold for this effect, i.e., that even the most minute dose of radiation does some damage to the genes.

"2. Once damage is done, it is irreparable. In view of this, the genetic damaging effects of radiation are cumulative over the years.

"3. The result of this genetic damage is to produce deviations from the norm in the offspring of the irradiated individual. They are referred to as mutations and the resultant offspring as mutants.

"The mutants which have been observed to result from X-ray exposure of many different types of organisms are characterized, in general, by decreased longevity, increased susceptibility to disease, and decreased fertility. The mutant genes are usually recessive, or masked, so that the first generation offspring do not bear the full brunt of the genetic damage. Thus ... freaks and monstrosities do not often occur in the first generation following irradiation of the mother. The full expression of the damage comes in subsequent generations when there is a mating of similarly damaged genes. Partial expression of the undesirable characteristics of the damaged gene occurs prior to this and may be of so subtle a character that detection is extremely difficult."

*Ibid.*, p.1668.

"Suppose it" (damage to the genes) "reduces by 5 percent the chance of an individual surviving to maturity; that is a chance of death of 1 in 20. It does so by handicapping him in some way. It is usually a slight handicap that he hardly realizes is there. He takes it in his stride because he has had it perhaps from birth, though it may not have expressed itself always, and it is mixed in with his other infirmities. All of us have some. No one is perfect, because there is no such thing. But by it his biological survivability is reduced by just that much, and he hands that weakness on down to the next generation, and after awhile it will take its toll by happening to come in a combination of circumstances where it will kill or prevent reproduction."

Muller, p.1055.

#### Somatic Effects

"... Somatic Effects are considered by many workers to be of more immediate import than the genetic effects. The apparent increase in the incidence of leukemia has been thought by some authorities to be due, in part, to the increased use of ionizing radiation in the last half century. The demonstration that roentgen therapy for such benign" (not malignant) "conditions as ankylosing spondylitis in adults and so-called thymic enlargement in infants has in later years resulted in an apparent increased incidence in neoplasia in these irradiated groups is a good cause for a reappraisal of radiation therapy for all benign conditions."

Tievsky, p.1669.

"Only three unadulterated agents have thus far been proved to be carcinogenic" (cancer-producing) "for man.

"These are (1) radiation, such as ultraviolet rays, X-rays and rays from radioactive material; (2) beta-naphthylamine, a compound associated with the manufacture of certain dyes, and (3) arsenic."

Department of Health, Education and Welfare, *The Challenge of Cancer*, 1950, p.31.

"The natural environment contains only a few recognized carcinogens," (cancer-producing substances) "Of these, solar radiation is one of the best proved, particularly as it affects light-skinned people who become over-exposed for long periods of time to the carcinogenic ultraviolet radiation in southern dry and sunny climates and at high altitudes....

"The question of solar cancer, so called, is an interesting one. Significant results on the relation of solar cancer

to the intensity and duration of sunlight have been obtained in recent years. The chart of skin cancer incidence in certain American cities shows important variations in proportion to differences in total annual solar radiation."

Department of Health, Education and Welfare, *The Challenge of Cancer*, 1950, pp. 32-33.

"Medicinal exposure to X-rays and radium, in the treatment of often non-malignant diseases, has resulted in cancers of the irradiated tissues in some patients."

*Ibid.*, p. 31.

"The fact that radiation can damage living tissue became apparent soon after the discovery of X-rays and radioactivity. The early investigators found themselves suffering intractable burns and even more serious injuries. Many of these later became cancerous. The destructive effect of the new radiations suggested that they be used to attack diseased tissue. It was observed that X-rays were especially damaging to rapidly dividing cells, such as appear in cancerous tissue. Soon physicians were employing X-rays for the therapy of cancerous and non-cancerous tumors, in some cases with apparently good results.

"Physicians nowadays have come to limit radiation therapy largely to malignant tumors and to benign tumors that present surgical difficulties. Among the non-cancerous, superficial conditions still sometimes treated with X-rays, however, are hemangiomas (the 'strawberry marks' on the skin of young children), warts, ringworm and acne. The use of X-rays to treat such skin conditions is not desirable, except as a last resort. In the treatment of benign skin tumors the dose is much smaller than the 5,000r (or more) administered in skin cancer. In the treatment both of deep-seated and of superficial cancers radiation is given a few hundred r at a time, so that between treatments the normal tissue in the region can recover to some extent from radiation damage.

"Radiation is also used (and sometimes misused) to treat non-malignant conditions within the body. The painful and crippling rheumatic disease ankylosing spondylitis ('poker back') was until recently quite frequently treated with radiation. Now radiation is becoming a 'last resort' treatment. The dosage to bone marrow is fairly high, and studies in Great Britain, cited by Loutit, indicate that the treatment increases the incidence of leukemia....

"For therapeutic radiation purposes we now recognize three types of malignant tumor: radiosensitive, radioresponsive and radioresistant. The first type will regress and sometimes disappear after exposure to 2,500r or less. A radioresponsive growth will regress with 2,500 to 5,000 r, and a radioresistant one will not regress below 5,000 r. Radioresistant tumors are generally not treated with radiation because the damage to surrounding tissue is too great. Cancers of the intestine especially tend to be resistant, and since normal intestinal cells divide rapidly, they are almost as sensitive to radiation as the cancer cells. One of the principal problems in the radiotherapy of cancer is that the cancer cells tend to become resistant to radiation. If the first series of treatments does not succeed, it is often found that the renascent tumor has become radioresistant and that further radiation is valueless."

Warren, p. 170.

"In *The New England Journal of Medicine*, Drs. Bradford Cannon, Judson G. Randolph and Joseph E. Murray of Boston report that 'patients continue to appear with permanent tissue destruction that has resulted from relatively recent radiation treatment of acne, plantar wart, eczema (and) superfluous hair.' Examining 165 such cases from their personal files and the records of Massachusetts General Hospital, the doctors starkly document the dangers of unnecessary exposure to irradiation. Items:

" 'Nearly half the patients suffered from persistent painful ulceration.

Cancer appeared in 36—or 22%—of the cases.

Of the ten patients who had been treated for acne, nine developed skin cancer.

" 'This appears to be an increasing problem,' warn the doctors, 'since twice the number were observed at the Massachusetts General Hospital in the decade 1948 to 1957 as in the preceding decade.' But the worst may be yet to come. No one knows how many healthy people with histories of such treatment may later develop malignancies. The interval for the appearance of cancer after treatment ranged in the study from five to 55 years."

*Time*, February 23, 1959, p. 62.

"Carcinoma" (cancer) "of the thyroid in children is being diagnosed with increasing frequency. Several explanations have been offered to help explain this. Among these is the formerly prevalent use of X-ray therapy for benign childhood conditions. If a carcinogenic mechanism is involved we should expect a decrease in the incidence of this neoplasm in the future, as the practice of using irradiation for benign conditions in children is being abandoned. Also, if such a mechanism exists, it probably operates most strongly during infancy. Thyroid cancer after irradiation in adults is a rarity. Of 357 children with reported thyroid carcinomas, approximately one-third had received prior radiation therapy to the pharynx, neck, or chest for non-malignant conditions. Further studies are needed before definite conclusions are reached, and until that time children should be protected from ionizing radiation in the treatment of benign conditions."

Rooney, Donald R., M.D. and Powell, R. Waldo, M.D., *Journal of the American Medical Association*, A.M.A. Abstract, January 3, 1959, p. 2.

"The fourth" (group) "I would like to discuss consists of 1,700 children treated with X-rays in infancy. They were treated for a condition known as enlargement of the thymus gland which in the past has been alleged to be associated with sudden death of a previously healthy child or with severe and sometimes fatal respiratory distress in young children. When a diagnosis of thymic enlargement was made in a sick child, it was customary to treat the child with a beam of X-rays to the region of the chest. In the 1920's and 1930's, doses of 500 or 600 roentgens or more have frequently been administered through ports which covered the entire chest of the child. Fear of the consequences of thymic enlargement became so intense that asymptomatic children who were suspected of having this condition were often given prophylactic" (preventive) "X-ray treatment to prevent symptoms. In one city in upstate New York it has been found that approximately 1 percent of the children born between 1925 and 1950 have been treated with X-rays for thymic enlargement. This form of treatment is still used at the present time but the practice is less common and the port size is considerably smaller now."

Hempelman, L.H., Strong Memorial Hospital, University of Rochester, *Atomic Energy Committee Hearings*, Part 2, June 1957, p. 1119.

"Increasing numbers of human beings are exposed to repeated doses of radiation frequently at very low dose levels. Thus in industry and in AEC installations, in radiologists and radiological technicians, public health surveys and particularly those using fluoroscopy, and in repeated roentgenograms in medical and dental diagnosis, large populations are exposed to radiation at levels well in excess of background...."

"In the course of radiotherapy for relatively benign conditions, it seems clear that serious late effects can result from a single exposure or a series of exposures to X- or isotopic radiations. Thus thyroid cancer has resulted in children given X-radiation for thymic enlargement. Similarly, leukemia has been reported in individuals receiving repeated X-radiation therapy for spondylitis, and in patients receiving repeated I-131 for thyroid cancer."

"There was in addition an odd assortment of diseases treated by sufficient X-ray to produce severe skin damage. These include ... pulmonary tuberculosis, goiter, rheumatism, spondylitis..."

Cannon, Randolph & Murray, p. 200.

"The third group of exposed individuals" is a series of patients with a severe form of rheumatic disease of the spine known as ankylosing spondylitis. This is a painful crippling disease occurring mainly in young men. Intensive X-ray therapy has often been used with considerable success in treating this illness. X-ray doses of 2,000 r given to the entire spinal column through ports 10 cms. wide are not unusual. Such treatments are not given all at once but are usually fractionated over a period of weeks. Such a series of treatments is often repeated once and possibly twice."

Hempelman, p. 989.

"Thirty-two cases of plantar wart were seen. Surgery was indicated for the irreversible radiation changes in the foot, not for recurrence of the wart. Most of these patients had had multiple treatments with X-rays. The average time lapse from exposure to surgical treatment in the group mentioned above was five and a half years. Nineteen patients with abnormal skin conditions (eczema, psoriasis, lichen planus and so forth) treated with X-rays had severely injured skin and soft tissue. The mean latent period between exposure and skin breakdown in these patients was fourteen years. Isolated hemangiomas given a small dose or doses of X-rays in infancy account for 14 cases in this series. The average time lapse before they sought surgical advice was twenty years, in striking contrast to fourteen years in patients with diseased skin. Several hemangiomas had been treated with a single X-ray exposure; 1 is documented as 400 r. Twelve cases of tissue damage followed the use of X-rays for removal of unsightly hair. The complications of this unregulated method of epilation," (removal of hair by the roots) "popularized about thirty years ago, are still being seen."

Cannon, Randolph & Murray, p. 200.

#### Case History of a Patient Suffering from Athlete's Foot (Dermatophytosis):

"Mr. G. first reported to Dr. R on May 15, 1935. He was aged 28 at that time. He came in complaining of a condition of his feet, which had existed for about 7 years and which developed on the feet, and which was more aggravated during the summer months. Recently bullae" (blisters) "developed on the feet. Examination by Dr. R as follows: Over both plantar surfaces are irregular areas, some vesicles," (blisters) "some bullae. The diagnosis was dermatophytosis."

X-ray therapy from May 15, 1935 to May 28, 1935

Recurrence - October 8, 1935

X-ray - October 8, 1935 to October 29, 1935

Recurrence — April 10, 1936  
X-ray therapy — April 10, 1936 to May 13, 1936  
Recurrence — July, 1936  
X-ray therapy — July 16, 1936  
Recurrence — October, 1936  
X-ray therapy - October, 1936  
Recurrence — April 28, 1937  
X-ray therapy — April 28, 1937  
Recurrence — May, 1937  
X-ray therapy — May-June, 1937  
Recurrence — August, 1937  
X-ray therapy — August & September  
Recurrence — January 11, 1940  
X-ray therapy — March, 1940  
Recurrence — January 16, 1941  
X-ray therapy — January 16, 1941  
The above was the last visit to Dr. R.

“The patient visited Dr. S.’s office in January, 1944, states Dr. S.:

“He complained of an intractable case of athlete’s foot. Examination made it apparent that what might have been athlete’s foot was now extensive inoperable case of X-ray burns involving the entire plantar surface: toes and sides of foot. More on the left than on the right. In the center of these X-ray burns were multiple areas of chemically discernible radiation cancers.

“It was my unpleasant task to inform Mr. and Mrs. G that Mr. G’s problem was no longer one of simple athlete’s foot but was a tragic aftermath of over-exposure to modern X-ray therapy.

“This is what I term man-made cancer. The suffering in such cases is intolerable. There is no known method of reversing the serious changes caused by radiation. The only hope of sparing Mr. G. continued unbearable pain and of arresting the spread of the still localized skin cancers was to amputate his left leg below the knee. This amputation was performed in March, 1944, at the Veterans’ Hospital after consultation with Dr. Francis Carter Wood of St. Luke’s Hospital, New York City, and Dr. James Ewing of Memorial Hospital, New York City.”

Independent Cancer Research Foundation files.

## V. STEPS TO BE TAKEN TO AVOID RADIATION DAMAGE

“Some states have outlawed the use of fluoroscopy in the fitting of shoes. The United States Public Health Service has recommended that the widespread use of the photo-chest X-ray survey be discontinued. The hazards of X-ray exposure were emphasized by measurements reported from the Department of Radiology at the Massachusetts General Hospital.”

Cannon, Randolph & Murray, p. 197.

“The individual—the prospective patient— ... can ... avoid unnecessary radiation by not ‘shopping around for better X-rays’, by not using such foolish things as shoe-fitting X-ray machines, and by not bringing unnecessary radioactive devices into his home.”

Taylor, p. 833.

“The American Public Health Association recommends that before any X-ray examination you ask your doctor these questions:

- “1. Is the examination necessary?
- “2. Who is to make the examination?
- “3. Has he received formal training in radiology?
- “4. Is the assisting technician certified or qualified by formal training?

“Here are some further rules for living with radiation in the atomic age:

"Don't confuse X-ray with nuclear radiation. The latter affects the whole body and can be much more dangerous. The former can be pinpointed on an organ while other parts of the body are shielded.

"Don't refuse X-ray, fluoroscopy or treatment by radioisotopes if the doctor says there is a good reason for their use—and certainly not in the case of cancer.

"If your doctor or dentist proposes X-ray examinations at a time you think you might be pregnant, tell him your suspicions. He will probably postpone the tests unless necessary.

"In fact, if possible, avoid all sorts of X-ray therapy during pregnancy, especially in the first three months.

"Rely on skin tests rather than chest X-rays for detection of tuberculosis, except in special circumstances.

"But remember that if you are a heavy smoker, an annual chest X-ray may be worth the risk.

"Although dental X-rays contribute little to your total body radiation, as a rule, talk with your dentist if you feel he overdoes them.

"Don't allow your child to stand under a shoe-fitting fluoroscope; many are still around despite their bad publicity.

"Don't insist on X-ray treatment for benign conditions like ringworm, acne and falling hair.

"Be sure that as much as possible of your baby's body is covered when he is examined under radiation.

"Inquire about reasons if your doctor seems to give too-frequent routine chest fluoroscopes to your children or yourself.

"These are just common-sense precautions, but remember that the doctor who knows you and his profession is the only one who can evaluate the degree of X-ray danger against the net gain to your health. If you have the right doctor and the right radiologist, you needn't fear cautious, measured, health-saving medical radiation."

*Changing Times*, February, 1959, pp. 35-36.

"X-rays should definitely be avoided during the early months of pregnancy, four experts warned. This means that they should be avoided whenever possible in at least the first three months, and there should be no such thing as 'routine' X-rays.

"Doctors should also pay more attention to pregnant patients who call them to say that they are going to visit the dentist. Dental surveys are usually recommended at this time, and obstetricians should be particularly on guard to prevent dental X-rays to the mouth from hitting the pelvic area. It has recently been discovered that one of the largest doses to the reproductive organs is received in the dental chair where 15 or 20 exposures are shot in a sitting position and the rays are directed downward towards the pelvis."

*Science News Letter*, August 22, 1959, p. 118.

"First, it must be recognized that low-dosage radiation can possibly damage cells, at least in certain individuals, irretrievably. It is most important that radiation be confined to the smallest possible portion of the body in all examinations and that whole body irradiation (as can occur in an improperly performed diagnostic examination) be avoided at all costs. Second, reappraisal should be made of all 'routine' diagnostic examinations or re-examinations. Third, the use of radioisotopes should be carefully appraised because of the intimate contact of the radiation emitter with the body cells. Fourth, radiation procedures in children and pregnant women should be done with special care. This applies particularly to fluoroscopic examinations. Fifth, all radiation therapy for benign conditions should be carefully reappraised. The use of radiation in conditions where effective substitutes are available can no longer be considered as conservative medical practice."

Tievsky, p. 1669.

"As geneticists we say: keep the dose as low as you can. Thus we recommend:

"1. That, in view of the fact that total accumulated dose is the genetically important figure, steps be taken to institute a national system of radiation exposure record-keeping, under which there would be maintained for every individual a complete history of his total record of exposure to X-rays, and to all other gamma radiation. This will impose minor burdens on all individuals of our society, but it will, as a compensation, be a real protection to them. We are conscious of the fact that this recommendation will not be simple to put into effect.

"2. That the medical authorities of this country initiate a vigorous movement to reduce the radiation exposure from X-rays to the lowest limit consistent with medical necessity; and in particular that they take steps to assure that proper safeguards always be taken to minimize the radiation dose to the reproductive cells.



"3. That for the present it be accepted as a uniform national standard that X-ray installations (medical and non-medical), power installations, disposal of radioactive wastes, experimental installations, testing of weapons, and all other humanly controllable sources of radiations be so restricted that members of our general population shall not receive from such sources an average of more than 10 roentgens, in addition to background, of ionizing radiation as a total accumulated dose to the reproductive cells from conception to age 30.

"4. The previous recommendation should be reconsidered periodically with the view to keeping the reproductive cell dose at the lowest practicable level. If it is feasible to reduce medical exposures, industrial exposures, or both, then the total should be reduced accordingly.

"5. That individual persons not receive more than a total accumulated dose to the reproductive cells of 50 roentgens up to age 30 (by which age, on the average, over half of the children will have been born), and not more than 50 roentgens additional up to age 40 (by which time about nine-tenths of their children will have been born).

"6. That every effort be made to assign to tasks involving higher radiation exposures individuals who, for age or other reasons, are unlikely thereafter to have additional offspring. Again it is recognized that such a procedure will introduce complications and difficulties, but this committee is convinced that society should begin to modify its procedures to meet inevitable new conditions." (The underlining is ours.)

*Science*, June 29, 1956, p. 1164.

#### ADDENDUM

As this bulletin goes to press, the following statements appear in the March 12th issue of the Journal of the American Medical Association:

"No amount of ionizing radiation, however small, should be considered inconsequential to the patient, to the physician and others engaged in radiologic work, or to their posterity. Young persons especially should be protected against needless exposure. Fluoroscopy involves considerable exposure. This can be reduced by a number of precautions ... Fluoroscopy should not be allowed to become routine, and when it is necessary it should be preceded by a study of roentgenograms so that the fluoroscopist can concentrate his examination on specific areas and reduce the exposure."

Corday, Eliot, M.D. and Jaffe, Henry, M.D., *Journal of the American Medical Association*, Vol. 172, p. 1127.

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