



STANFORD UNIVERSITY MEDICAL CENTER

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Radiation

STANFORD UNIVERSITY SCHOOL OF MEDICINE
Department of Genetics

OCT 22 1970

Dear Dr. Morgan:

I am gratified to note the actions recorded in the article in the Well St. Journal. If there is a formal procedure for submitting comments on the standards, I would appreciate being apprised of the correct channel.

May I also ask you for references to whatever cost-benefit analyses may have been made to suggest a rational approach at calculating the Pareto-optimum for the investment in reducing X-ray exposure? Part of this exercise would also include an estimate of the existing cost of radiology, per rad, and some breakdown by different functions.

I attach for your interest some crude calculations of my own which may be relevant to a cost-benefit analysis. My estimate of \$100 as the present value of the integrated genetic-health cost per rad of exposure (gonadal) will draw fire from both sides of the present controversy; but I do not see how it can easily be wrong by much more than a factor of 10. At the same time it is, or should be, consistent with the good practice of radiology, in terms of the expected value to the patient; and it is not that far off what he is likely to be charged for the service. (I am of course speaking of diagnostic work). At least these are some reasonable suppositions, about which I have asked you for some supporting data in my previous paragraph.

But then there must still remain an enormous latitude to justify adding \$1000 to the price of a machine that surely must deliver many kilorads during its useful lifetime, when as you suggest the improvement could give a 1/3 reduction in needless exposure! The kind of number I find elusive is just what the cost per rad-reduced will be.

Please let me know if I can be of any service in this matter.

Yours sincerely,

Joshua Lederberg
Professor of Genetics

see NR DC 5-71