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**Robert Freudenberg***
**Jorg Kotzerke**
**Universitätsklinikum Carl Gustav Carus Dresden*
*Fetscherstrasse 74*
*Dresden, Germany, 01307*
*E-mail: robert.freudenberg@uniklinikum-dresden.de*



DOI: 10.2967/jnumed.110.078832


**REPLY:** We thank Drs. Freudenberg and Kotzerke for their interest in our work on cellular dosimetry of $^{111}$In using Monte Carlo N-particle (MCNP) code (*1*) and for bringing to our attention the Geant4 toolkit, an alternative and free Monte Carlo computation code. For a single-cell model using Geant4, they obtained S values that compared well with ours. Yoriyaz et al. analyzed the discrepancy in photon and electron absorbed fraction calculations using MCNP and Geant4 (*2*). They pointed out, on the one hand, that major sources of discrepancy come from the set of parameters chosen by simulation and the different cross-section libraries used by the codes. On the other hand, MCNP is much easier to use and install than Geant4. MCNP does not require programming from users, whereas users of Geant4 are expected to have extensive knowledge of C++ compiler and the computer system. Moreover, the universe card of MCNP is handy for defining the repeated structure and thus useful for calculating the S values for cell monolayer and cluster models (*3*). It would be interesting to examine the capability of calculating S values for these geometries using Geant4.

The low-energy model of Geant4 allows the simulation of electron transport down to 250 eV, whereas MCNP allows simulation down to only 1 keV. The electron penetration length in water is about 10 and 40 nm for 250-eV and 1-keV electrons, respectively (*4*). Both are far lower than the smallest dimension of a cell nucleus (2 μm) used in our calculations. The difference in electron cutoff energy for MCNP and Geant4 should not cause any significant discrepancy in calculation of cellular S values, as is supported by the comparable S values obtained using both MCNP and Geant4. We note that PENELOPE is able to perform electron–photon transport simulations down to energies on the order of few tens of electron-volts and has an advantage over MCNP and Geant4 in calculation of nanodosimetry (*5*).

Drs. Freudenberg and Kotzerke calculated the S values taking into account both electron and photon emission. Though we are able to calculate the photon contribution to cellular S values using MCNP, only electrons were considered in the calculation in our study. The contribution of γ- and x-ray photons to the S values (<2% of electron contribution to the S value of nucleus to nucleus [$S_{N\rightarrow N}$]; <5% of the electron contribution to the S value of cell surface to nucleus [$S_{CS\rightarrow N}$] and cytoplasm to nucleus [$S_{Cy\rightarrow N}$]) was considered negligible and, therefore, ignored. Goddu et al. (*6,7*) also ignored the photon radiation in calculation of cellular S values.


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**Zhongli Cai**
**Jean-Philippe Pignol**
**Conrad Chan**
**Raymond M. Reilly***
**University of Toronto*
*144 College St.*
*Toronto, Ontario, Canada, M5S 3M2*
*E-mail: raymond.reilly@utoronto.ca*



DOI: 10.2967/jnumed.110.079129


## PET/CT Colonography

**TO THE EDITOR:** We read with interest the article by Taylor et al. on combined CT colonography and PET using a nonlaxative preparation (*1*). It is nice to see others pursuing further this technically feasible examination on which we originally reported (*2*). There are a few points of interest that have prompted this letter: First, we found it remarkable that the mean volume of $CO_2$ insufflated was 3.1 L with a maximum of 4.1 L! Our own examinations averaged 33 L with a maximum of 65 L and had no reported side effects. Our mean room time was longer, however (77 min). Unlike their technique, we did not systematically turn down the $CO_2$ pressure to 15 mm Hg after achieving patient tolerance because we believed that reabsorption of $CO_2$ is so rapid that reducing the pressure would reduce colonic distension. It is hard to understand the difference in volumes between our 2 studies, and