

Erratum: “Recommendations for clinical electron beam dosimetry: Supplement to the recommendations of Task Group 25” [Med. Phys. 36, 3239–3279 (2009)]

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It was stated in Report 99¹ from Task Group 70 on p. 3248 that

“Special considerations apply when the minimum field size dimension is less than the minimum radius of the circular field that produces lateral scattered equilibrium. Basically, when the field radius is equal to or less than $0.88\sqrt{\bar{E}_0}$ cm, where \bar{E}_0 is given by Eqs. (3) and (4), then additional dosimetric measurements should be performed.”⁴³

The formula in the report uses \bar{E}_0 , which is defined as the mean energy at the surface of the phantom. However, in the reference from which this formula was obtained,² $E_{p,0}$, the most probable energy at the phantom surface, is used rather than \bar{E}_0 ,

$$R_{eq} = 0.88\sqrt{E_{p,0}}.$$

Calculating R_{eq} based on either \bar{E}_0 or $E_{p,0}$ gives very similar values. There is very little difference in the calculated value of R_{eq} using either \bar{E}_0 or $E_{p,0}$, and the difference is between 0.5 and 1.5 mm for the most common clinical electron energies. The use of $E_{p,0}$ produces slightly larger values of R_{eq} , the minimum radius of a circular field required for lateral scatter equilibrium. We recommend using the original equation from the historical literature² based on $E_{p,0}$.

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¹B. J. Gerbi *et al.*, “Recommendations for clinical electron beam dosimetry: Supplement to the recommendations of Task Group 25,” *Med. Phys.* **36**, 3239–3279 (2009).

²F. M. Khan and P. D. Higgins, “Calculation of depth dose and dose per monitor unit for irregularly shaped electron fields: An addendum,” *Phys. Med. Biol.* **44**, N77–N80 (1999).