

ref. 5) found a good correlation (in adults) between kidney depth measured by lateral views (at the completion of renography) and that measured by ultrasound. It is unfortunate that Maneval et al. (1) were not able to include renography studies as part of their protocol, as this would have provided useful data on the accuracy of renal depth measurement derived from lateral (^{99m}Tc -DTPA) images in children.

An important factor in this debate which was not discussed by Maneval et al. (1) is patient positioning. It is known that kidney depth in the sitting position can vary by a centimeter or more from that in the recumbent posture (8); the difference in renal depth being minimized by employing supine positioning (6,9). There are, however, physiologic reasons for preferring the sitting position, which explains why, for patients over 4 yr of age, opinion in the U.K. is divided on this issue (supine: 56% of centers, sitting: 32%, 'other': 12%) (10).

In summary, we agree that it is necessary to apply a depth correction when attempting to estimate *absolute* kidney function from gamma camera renography (in adults and children) and that, despite the limitations mentioned, lateral views (performed with the patient in the same posture as that used for renography) provide a more accurate estimate of kidney depth than currently available empirical formulae. It is important to appreciate, however, that there are numerous sources of error in the renographic estimation of absolute function and, for some of the methods, the *overall* error in the measurement of individual kidney GFR (or ERPF) may not be significantly reduced by the use of lateral views (c.f. formula) for kidney depth estimation (their ref. 1). In general, renographic methods for estimating absolute function may be more accurate in children than adults (2, their ref. 1).

For *routine* renography, we concur with other workers who have concluded that the error (in the estimation of relative function) introduced by not applying a correction for differences in depth of the left and right kidney is small enough to be ignored in most adults (11,12) and the vast majority of children (13, their ref. 15); the extra work involved in routine depth correction therefore being difficult to justify. A U.K. renography survey conducted in 1987 revealed that only 2 out of 34 (6%) centers routinely performed a depth correction when estimating relative renal function (10).

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REPLY: We would like to thank Drs. Cosgriff and Brown for their comments on the recent publication and would like to respond to the two specific issues raised. We feel that the initial sentences of our introduction sufficiently define the context of this investigation and agree fully that the concluding sentence should not be misinterpreted to apply to the evaluation of relative renal function. Secondly, it was neither our intent nor was it possible to critically assess the accuracy of lateral measures of renal depth with the gamma camera in this retrospective study. However, we do feel that the arguments put forth in our discussion provide motivation for including lateral scintigraphy after renography for the clinical assessment of absolute renal function (e.g., GFR) in children.

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Noninvasive Imaging of Giant Hematomas

TO THE EDITOR: The paper by Lisbona et al. (1) on scintigraphic and ultrasound features of giant liver hemangiomas was of great interest to us. We agree with the authors that definite, noninvasive imaging of giant hemangiomas is important to avoid angiography, biopsy, or exploration laparotomy when excluding primary or metastatic malignancy. In our recent publication (2) in which we described 56 hemangiomas diagnosed by ^{99m}Tc -red blood cell (RBC) SPECT, we identified five cases of giant hemangiomas, which we describe below.

Our hemangiomas ranged in size between 80 and 145 mm in diameter; the ultrasound appearance was in three cases a hyperechogenic mass, in two cases a mixed hyper- and hypoechogenic mass, all sharply marginated. Bolus infusion CT was only possible in three cases; the hypodense lesions (pre-contrast CT) showed an initially peripheral enhancement followed by centripetal fill-in. Moreover, bolus infusion was