kidney emptying was obtained (this is not very different from the criteria outlined by the guideline authors, suggesting that good response means a $T_{1/2}$ of <10 min). Type 3: between 30% and 60%; these were considered to be equivocal responses. Analysis of our data showed that in 83 hydronephrotic kidneys (74 patients) we had a Type 2 response. In 9 kidneys (9 patients), we observed a Type 1 response on at least one renographic study and all these patients underwent a pyeloplasty. In 1 kidney (1 patient), a Type 3 response was observed (57% residual activity) and the patient also had surgery.

We conclude that in our series of ^{99m}Tc-MAG3 renographic studies, the percentage of abnormal or equivocal responses to furosemide is low, as expected in this particular population of patients with prenatally detected hydronephrotic kidneys. Oral hydration and absence of bladder catheterization did not result in an abnormal number of poor responses to furosemide.

Bladder catheterization and intravenous hydration are invasive and time-consuming procedures, and they are not easy to apply to ambulatory young patients. We strongly suggest that these procedures not be used routinely, unless the authors of the guideline are able to produce unequivocal arguments for their systematic application.

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REPLY: I appreciate the input of Dr. Piepsz and his colleagues on the topic of intravenous hydration and bladder catheterization in the performance of diuretic renography in children. He strongly suggests "that these procedures not be used routinely" in diuretic renography. The suggestions for hydration and catheterization that appear in the Procedure Guideline for Diuretic Renography in Children published in *Journal of Nuclear Medicine* in October 1997 (*1*) were based partly on the recommendations that appeared in the description of the "well-tempered" diuretic renogram (*2*) as well as the practical wisdom of several pediatric nuclear physicians. The well-tempered diuretic renogram was formulated by a consortium of members of the Society for Fetal Urology and the Pediatric Nuclear Medicine Club of the Society of Nuclear Medicine (SNM). The purpose of the well-tempered diuretic renogram was to diminish the effects of the many variables (renal function, compliance of the collecting system, back pressure from the full bladder, state of hydration, choice of radiopharmaceutical and timing of the diuretic injection) that can complicate and confuse study results. The standardization of methodology in the U.S. permits many different institutions to compare statistics and accumulate significant data to answer many questions about perinatal hydronephrosis.

However, the SNM's clinical procedure guideline is intended to be more flexible than the research procedure that would be used in multicenter trials. Increased flexibility permits the guideline to be adopted by nuclear physicians in private practice and general hospitals, as well as those in tertiary-care children's hospitals. The guideline clearly states that "some laboratories do not use intravenous hydration or catheter drainage of the bladder for the initial evaluation (particularly in older children) so that the kidneys can be evaluated without intervention," so Dr. Piepsz's preference to avoid catheterization and hydration is completely acceptable.

All of the SNM's procedure guidelines are reviewed periodically. We appreciate the comments of Dr. Piepsz and his colleagues and encourage other nuclear medicine professionals to send any comments they have on any guideline to the Guidelines Development and Communications committee (Kevin Donohoe, chairman). All comments will be given careful consideration when the guidelines are revised.

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SPECT Imaging with Technetium-99m-Tetrofosmin for Pulmonary Nodules

TO THE EDITOR: In the article by Kao et al. (*1*), they stated that the diagnostic sensitivity and specificity in previous reports, including ours (*2*), seemed excessively high in contrast to their results. Studies in the previous reports used a similar scanning protocol for dosage and imaging time. Kao et al. reported that one possible explanation might be selection of patients with different P-glycoprotein expression. I agree that patient selection might be one of the causes for the differences in sensitivity and specificity. However, other causes for the differences also should be considered. The differences might arise from a selection of the range in images for reconstruction in data processing. Judging from the figures in their article, Kao et al. selected a relatively large range of images for reconstruction. If there are extremely high-count regions such as the myocardium and the liver in the reconstructed SPECT images, small and low-count lesions will not be visualized at all, or they will be visualized poorly. If possible, the reconstruction of images should be performed by excluding high-count regions to improve sensitivity.

In addition, although the results of Kao et al. showed that there was no difference in the sensitivities in detecting by ^{99m}Tc-tetrofosmin among histological types of lung cancer, our preliminary studies (*3*) demonstrated that the sensitivity of detecting small lung cancers with ^{99m}Tc-tetrofosmin tended to be lower in adenocarcinoma, especially in the bronchioloalveolar type, than in other cancers. It is necessary to compare small lung cancers without necrotic tissue and to compare similar tumor sizes, to examine the difference of ^{99m}Tc-tetrofosmin uptake among various histological types of lung cancer. In the case of a large mass with poor perfusion, the lesion will not be visualized, or it will be only partially visualized.

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Localization of Radiolabeled Streptavidin in Tumor

TO THE EDITOR: In a January 1998 article Zhang et al. (*1*) compared the biodistribution of radiolabeled biotin administered to mice bearing a human colon xenograft with that of radiolabeled streptavidin injected either intravenously or intraperitoneally to mice bearing the same tumor model but pretargeted with unlabeled biotinylated monoclonal antibody directed against the colon cancer. As with virtually all experiments performed with radiolabeled streptavidin and pretargeting with antibody, a very important control was left out; that is, the distribution of radiolabeled streptavidin in nonpretargeted tumor-bearing mice. Zhang et al. state that such data is available. It would be most helpful to publish it in concert with the rest of the data. Of particular importance is the determination of the ratio of tumor to normal tissues after administration of streptavidin alone. Our experiments suggest that radiolabeled streptavidin demonstrates high localization in breast tumors not pretargeted with monoclonal antibody (*2,3*), and it would be most interesting to determine whether this is unique for breast tumors or also true for other tumors such as colon cancer.

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REPLY: We thank Drs. Fawwaz and Wang for their interest in our article (*1*). The main purpose of our article was to investigate the effect of the distribution pattern of binding sites on the intratumoral penetration of radiolabels, not to confirm the effectiveness of biotinylated antibody pretargeting in tumor uptake of radiolabeled streptavidin. We agree that biodistribution data of streptavidin without pretargeting is important, and we have already examined the biodistribution in mice bearing subcutaneous or intraperitoneal human colon cancer xenografts with radiolabeled streptavidin injected intravenously or intraperitoneally, respectively (*2–5*). In all cases, both the tumor uptake and tumor-to-nontumor ratios of radioactivity were significantly higher with pretargeting than without pretargeting (*2–4*). In the experiments performed in the article under discussion (*1*), tumor uptake and tumor-to-nontumor ratios at 6 hr postinjection of 5 μg of radiolabeled streptavidin (Table 1) were significantly lower than those with pretargeting, which is similar to results from our other studies (*2–4*). Although radiolabeled streptavidin may accumulate in some tumors, our experiments demonstrate that pretargeting techniques using biotinylated antibody provided higher tumor localization of radiolabeled streptavidin.

TABLE 1
Biodistribution of Radioiodinated Streptavidin in Tumor-Bearing Mice

	Biotinylated antibody pretargeting	
	+ (n = 5)	− (n = 4)
Tumor uptake (% of injected dose per gram)	32.13 ± 4.00	6.27 ± 1.15
Tumor-to-blood ratio	1.53 ± 0.38	0.77 ± 0.09

Mean ± s.d.
+ = pretargeted; − = nonpretargeted.

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