counters—achieves the following:

- an axial field-of-view of 21 cm, which is 12 times larger than microPET;
- a 3-D submillimeter spatial resolution and therefore a volumetric resolution <1 μl, which is 8 times better than microPET;
- an absolute sensitivity of 8.9 Hz/kBq, which is 60% better than microPET;
- and a sensitivity, for a cat's-head phantom (5.5 cm diameter and 6 cm long), of 918 Hz/kBq/mL, which is 15 times better than microPET.

This HIDAC camera has provided imaging results that have been acclaimed by S. Cherry, the designer of microPET (personal communication, September 1997). The HIDAC camera has been in regular use at the MRC Cyclotron Unit at Hammersmith Hospital (London, UK) since February 1999, where quantitative biologic applications are being investigated. At Oxford Positron Systems, we have now delivered a commercial, quad-detector camera that provides a 3-fold improvement in sensitivity, a 5-fold shorter electronic dead time, and a maximum coincidence counting rate of 500000 Hz.

3-D HIDAC-PET cameras have existed for many years, and earlier work has been documented in this journal (*4*). The technology is well proven commercially, as hundreds of systems for autoradiography (InstantImager; Packard Bioscience, Downers Grove, IL) are in operation worldwide.

REFERENCES

1. Tornai MP, Jaszczak RJ, Turkington TG, Coleman RE. Small-animal PET: advent of a new era of PET research. *J Nucl Med.* 1999;40:1176–1179.
2. Chatziioannou AF, Cherry SR, Shau Y, et al. Performance evaluation of microPET: a high-resolution lutetium oxyorthosilicate PET scanner for animal imaging. *J Nucl Med.* 1999;40:1164–1175.
3. Jeavons AP, Chandler RA, Dettmar CAR. A 3D HIDAC-PET camera with sub-millimetre resolution for imaging small animals. *Trans Nucl Sci.* 1999;46:468–473.
4. Townsend DW, Frey P, Jeavons AP. High density avalanche chamber. *J Nucl Med.* 1987;28:1554–1562.

Alan P. Jeavons
Oxford Positron Systems, Ltd.
Oxfordshire, United Kingdom

Procedure Guideline for Gastric Emptying and Motility

TO THE EDITOR: The procedure guideline for gastric emptying and motility by Donohoe et al. (*1*) covers the field extensively and merits full attention. Solid and liquid test meals were extensively discussed, but the use of semisolid test meals was only treated as a side issue of minor importance and barely mentioned. Semisolid meals combine emptying characteristics of liquid and solid meals. The emptying of liquids depends more on pressure gradients between the stomach and duodenum and is more influenced by gravity than by muscular propulsion. The emptying of solid meals, however, is primarily influenced by the effectiveness of mastication, which in turn influences the duration of grinding within the antrum (2). This process is known to triturate food particles to a size of less than 1 mm, causing a lag period of variable duration before gastric contents are passed into the duodenum. The disadvantages of liquids and solids ingested separately or in combination may be avoided by the use of a semisolid test meal (*3,4*).

Donohoe et al. (*1*) asserted, "if a patient cannot tolerate the ingestion of a standard solid or liquid meal study, that the procedure should not be done." However, a semisolid meal could replace solid or liquid meals because its consistency is variable and may be adapted as required. Such meals exhibit the linear emptying characteristics of solid meals, particularly when their consistency is more stiff than liquid. When prefabricated, ready-made mixes are used, their preparation is simple and requires little time. Such commercially available products avoid the inconvenience of multistep cooking and offer additional advantages. They maintain the same nutritive density and osmolality, a constant fat–carbohydrate–protein ratio, and constant electrolyte and spice concentrations. Differences in these properties are known to influence the rate of gastric emptying (*5*). Fluctuations are likely to occur when multicomponent solid meals are individually prepared. Meals of vegetable origin are generally palatable, light, and easily digestible even in patients with digestive disorders. They are acceptable for vegetarians and should not elicit objections that are based on religious preferences or special dietary restrictions. These properties characterize semisolid meals as valuable intermediates between liquid and solid meals that should not be neglected when the choice of test meal is considered.

REFERENCES

1. Donohoe KJ, Maurer AH, Ziessman HA, Urbain JLC, Royal HD. Procedure guideline for gastric emptying and motility. *J Nucl Med.* 1999;40;1236–1239.
2. Urbain JLC, Siegel JA, Charkes ND, Maurer AH, Malmud LS. The two component stomach: effects of meal particle size on fundal and antral emptying. *Eur J Nucl Med.* 1989;15:254–259.
3. Lipp RW, Hammer HF, Schnedl W, et al. A simple scintigraphic method for continuous monitoring of gastric emptying. *Eur J Nucl Med.* 1993;20:260–263.
4. Leb G, Lipp RW. Criteria for labelled meals for gastric emptying studies in nuclear medicine. *Eur J Nucl Med.* 1993;20:185–186.
5. Moore JG, Christian PE, Coleman RE. Gastric emptying of varying meal weight and composition in man. Evaluation by dual liquid- and solid-phase isotopic method. *Dig Dis Sci.* 1981;26:16–22.

Rainer W. Lipp
Wolfgang J. Schnedl
Karl-Franzens University School of Medicine
Graz, Austria

Prognostic Value of FDG PET Imaging in Malignant Pleural Mesothelioma

TO THE EDITOR: We read with interest the article by Benard et al. (*1*), which illustrated the potential value of FDG PET imaging in patients with mesothelioma to indicate prognosis. This article provides an opportunity to highlight another specific role of FDG PET in patients with pleural thickening or pleural plaques needing a diagnosis. FDG PET, by its functional nature, provides information about metabolically active areas and may be used as a guide to the most appropriate area to biopsy for better yield. This use of the PET complements its other functions in oncology: diagnosis, staging, and grading of tumors; evaluation of residual masses; prognostication; and monitoring of response to treatment. In particular, for tumors that are infiltrative, spreading, or bulky, which may have variability in histology (ranging from cystic