providing researchers with reliable bone mineral measurements in neonates. In private communications (three oral communications, September 1983), I have gathered the following information: (1) Laura Hillman, MD, of the Neonatology Department, St Louis Children's Hospital, who has been measuring the humerus of neonates down to 1,000 g, routinely has obtained precisions of 3% in multiple scans without repositioning, and 5% when an infant has been repositioned. (2) Steve Gross, MD, of the Newborn Services Department, Boston City Hospital, when measuring bones with BMC in the 0.13- to 0.08-g/cm range, routinely has obtained the same value when remeasuring the same infant without repositioning. (3) Milton Werthman, MD, of the Neonatology Department, Washington (DC) Hospital Center, has claimed variances "in the third decimal place" over six or seven scans of the humeri of newborns. In fact, he has seen a less than 10% difference when deliberately repositioning to a new site a centimeter or so away.

One last statement may help to avoid future confusion: As of this writing, the Norland model 278-A Bone Densitometer is no longer available. However, its successor, the model 2780/2740, uses the same computation algorithms and thus produces the same results over the full range of BMC from 0.03 to 1.6 g/cm.

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1. Tyson JE, Maravilla A, Lasky RE, et al: Measurement of bone mineral content of preterm neonates: Reliability of the Norland densitometer. *AJDC* 1983;137:735-737.

In Reply.—As noted in our article[1] and as described by Dr Nord, the photon absorptiometer marketed by the Norland Corporation, Fort Atkinson, Wis (and until recently the only one used for assessing small infants) has indeed been modified. Our findings obscure the interpretation of virtually all published studies using photon absorptiometry in small infants, but they do not reflect the reliability of the model 278-A Norland Bone Densitometer. Dr Nord's statements about this model are encouraging. However, as for other evaluation tools, adequate reliability should not be assumed until the manufacturers or investigators answer all important questions about their reliability studies. One should know whether only "representative" scans were included and whether scans without clearly discernible bone edges were excluded when reliability was calculated. Was the instrument further modified by the investigators, or were high-intensity radiation sources used to improve reliability? Were low-birth-weight infants with rickets or severe osteopenia included in the studies? In performing successive measurements of BMC, were the investigators blinded to all previous values? If not, might investigator bias influence the results (eg, by determining the points on the scan designated as the bone edges in estimating BMC)? Exactly how was reliability calculated? Failure to resolve such questions resulted in the erroneous but apparently widespread belief that the previous Norland absorptiometer was reliable in assessing the BMC of preterm infants. Aside from questions of reliability, there apparently has been little effort in using either model to evaluate the validity for preterm infants (as might be done by direct analysis of the bone ash content of infants who die).

Photon absorptiometry is an extremely promising tool to study rickets and osteopenia, which are common in very preterm infants, and to assess the effects of the increased dietary intake of minerals that result from new commercial formulas. My colleagues and I look forward to further information to verify adequate validity and reliability in assessing this population.

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1. Tyson JE, Maravilla A, Lasky RE, et al: Measurement of bone mineral content of preterm neonates: Reliability of the Norland densitometer. *AJDC* 1983;137:735-737.

Role of *Yersinia enterocolitica*

Sir.—In the report by Burchfield et al[1] on intussusception associated with *Yersinia enterocolitica* gastroenteritis, the actual role of *Y enterocolitica* as the specific cause of gastroenteritis may have been suspected, but the characteristics of *Y enterocolitica*, isolated from the patient's stool culture, were not demonstrated, as biogroup, serogroup, and phage-type tests were not performed.

Furthermore, no attempt was made to arrive at a serodiagnosis by means of the *Y enterocolitica* strain recovered from the patient during the convalescent period.

In citing Marks et al,[2] Burchfield and colleagues[1] failed to mention that only *Y enterocolitica* biotype 4, serogroup 0:3, was associated with infection in the Canadian experience, whereas *Y enterocolitica* non-0:3 serogroups were not considered pathogenic for childhood diarrhea on the basis of short duration of excretion, infrequent spread to contacts, and lack of humoral antibodies; serogroups 0:8 and 0:9 were not isolated by Marks et al.[2]

At present, we can consider, as human pathogens, only *Y enterocolitica* strains belonging to biotype 4, serogroup 0:3 (Canadian phage type IX b, European and Japanese phage type VIII, South African phage type IX a), biotype 2, serogroup 0:9 (phage type X_3), and biotype 1, serogroup 0:8 (phage type X_z or X_o).[3-5] The incidence of *Y enterocolitica* biotype 2, serogroup 0:5,27 (phage type X_z or X_o), as a human pathogen, has been increasing.[5]

Therefore, we think that Burchfield et al[1] should have described the type of *Y enterocolitica* isolated from the patient's stools.

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1. Burchfield DJ, Rawlings D, Hamrick HJ: Intussusception associated with *Yersinia enterocolitica* gastroenteritis. *AJDC* 1983;137:803-804.
2. Marks MI, Pai CH, Lafleur L, et al: *Yersinia enterocolitica* gastroenteritis: A prospective study of clinical, bacteriologic, and epidemiologic features. *J Pediatr* 1980;96:26-31.
3. Aldova E, Alonso JM, Chiesa C, et al: Les yersinioses: Rapport sur la réunion d'un group de travail. *Rapports Etudes Euro OMS* 1982;60:1-33.
4. Marks MI, Pai CH, Lafleur L: *Yersinia enterocolitica* gastroenteritis in children and their families, in Bottone EJ (ed): *Yersinia enterocolitica*. Boca Raton, Fla, CRC Press Inc, 1981, pp 95-104.
5. Bottone EJ: Current trends of *Yersinia enterocolitica* isolates in the New York City area. *J Clin Microbiol* 1983;17:63-67.

In Reply.—Chiesa et al are correct when stating that tests to place the *Y enterocolitica* isolated from our patient into a specific serogroup and biotype were not performed. My col-