intragastric and/or central venous pressure could successfully predict safe primary closure. We have recently completed this study[5] which showed (in 11 patients) that it could.

Although we suspected from the study of Wesley *et al.*[6] that intragastric pressure measurement could serve as a guide in determining whether to close an infant's defect primarily, there were also data to suggest that this might not work. Several laboratory studies[7,8] have shown that increasing intra-abdominal pressure above 20 mmHg may seriously compromise cardiac output and organ blood flow. In these same studies, however, there was no correlation between intra-abdominal and intragastric pressure. Furthermore, Wesley made his measurements through a gastrostomy tube connected to a water manometer.[6] He used 20 cm of water as his therapeutic cutoff, which is less than our finding of 20 mmHg measured through a fluid-filled nasogastric tube.

We agree with Drs. Sacks and Gongaware that human research demands that an individual patient's welfare not be jeopardized for "study purposes." In our study, the decision to close an infant's abdominal wall defect was a clinical decision made by our surgeons. Once it became clear from our data that intraoperative measurements could help separate those children who successfully underwent primary closure from those who failed, we immediately stopped our study and set up a treatment algorithm to test our hypothesis.

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REFERENCES

1. Canty TG, Collins DL: Primary fascial closure in infants with gastroschisis and omphalocele: A superior approach. J Pediatr Surg 18:707–712, 1983
2. Filston HC: Gastroschisis—Primary fascial closure. Ann Surg 197: 260–264, 1983
3. Yaster M: The dose response of fentanyl in neonatal anesthesia. ANESTHESIOLOGY 66:433–435, 1987
4. Yaster M, Buck JR, Dudgeon DL, Manolio TA, Simmons RS, Zeller P, Haller JA: Hemodynamic effects of primary closure of omphalocele/gastroschisis in human newborns. ANESTHESIOLOGY 69:84–88, 1988
5. Yaster M, Scherer TLR, Stone MM, Maxwell LG, Schleien CL, Wetzel RC, Buck JR, Nichols DG, Colombani TM, Dudgeon DL, Haller JA: Prediction of successful primary closure of congenital abdominal wall defects using intraoperative measurements. J Pediatr Surg (in press)
6. Wesley JR, Drongowski R, Coran AG: Intragastric pressure measurement: A guide for reduction and closure of the silastic chimney in omphalocele and gastroschisis. J Pediatr Surg 16: 264–270, 1981
7. Masey SA, Koehler RC, Buck JR, Pepple JM, Rogers MC, Traystman RJ: Effect of abdominal distension on central and regional hemodynamics in neonatal lambs. Pediatric Research 19:1244–1249, 1985
8. Lacey SR, Bruce J, Brooks SP, Griswald J, Ferguson W, Allen JE, Jewett TC, Jr., Karp MP, Cooney DR: The relative merits of various methods of indirect measurement of intraabdominal pressure as a guide to closure of abdominal wall defects. J Pediatr Surg 22:1207–1211, 1987

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Standards for Oxygen Analyzers

To the Editor:—At a meeting of ASTM Committee F-29.03.08 held March 22, 1989, on the harmonization of the international standard on oxygen analyzers for breathing mixtures[1] and the relevant United States standard,[2] it was unanimously decided to recommend withdrawal of the United States standard forthwith. This United States standard was written by F-29's predecessor committee, American National Standards Institute (ANSI) Z79.[3]

The international standard should be followed until a new United States standard that is in concordance with the new edition of IEC 601–1[4] and ISO 7767[1] is published by ASTM, probably in 1990. Any queries about this supercedence should be addressed to Ms. Beth K. Moran, Staff Manager, ASTM Committee F-29 on Anesthetic and Respiratory Equipment, 1916 Race Street, Philadelphia, PA 19103–1187.

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REFERENCES

1. International Organization for Standardization: Oxygen analyzers for monitoring patient breathing mixtures—Safety requirements, 1st edition (ISO 7767). Geneva, ISO, 1988, pp 1–26
2. American National Standards Institute: Requirements for Oxygen Analyzers for Monitoring Patient Breathing Mixtures (ANSI Z79.10–1979). New York, ANSI, 1979, pp 1–19
3. Hedley-Whyte J: Monitoring and alarms—Philosophy and practice. Clin Anesthesiology 2:379–389, 1988
4. International Electrotechnical Commission: Safety of medical electrical equipment, Part 1: General requirements, 2nd edition (IEC 601–1). Geneva, IEC, 1988, pp 1–351

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