of congenital heart disease. In our team, the anesthesiologist is not alone, and if there is a question that further surgical repair is required, then an echocardiographer, also skilled in perioperative monitoring, is called to assist the surgical team.

It may not be possible for every anesthesiologist to achieve this level of training, but a working association can be established between an echocardiographer and anesthesiologist that would allow the needed intraoperative services without such extensive and time-consuming training for the anesthesiologist. Therefore, we recommend that the guidelines proposed by the American Society of Echocardiography be followed. These are

that the anesthesiologist develop a close collaborative relationship with a cardiologist who has expertise in transesophageal echocardiography. A team that provides intraoperative transesophageal echocardiography must include physicians who have developed expertise in diagnostic echocardiography (including transesophageal echocardiography) who are available when needed to maximize the value of transesophageal echocardiography in surgical management decision.

To reply to the question, "Who watches the patient during the transesophageal echocardiography assessment?": obviously, if the patient is hemodynamically unstable, transesophageal echocardiography must wait until there is additional help available or until the patient is stable enough for the examination to be performed.

At our institution, the intraoperative transesophageal service evolved such that the anesthesiologist is primarily responsible for performing the intraoperative transesophageal echocardiography, and the pediatric transesophageal service has evolved as an extension of it.

We believe that our study was an important matter to publish in ANESTHESIOLOGY because it brings to the forefront just the issues raised by Hickey regarding the anesthesiologist’s ultimate responsibility for patient monitoring. We believe that the anesthesiologist should have the ability to interpret transesophageal echocardiograms, which will ultimately provide a standard of care in congenital heart surgery.

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REFERENCE


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In Reply—In his letter addressing the paper by Muhiudeen et al.,

and our accompanying editorial, Hickey raises an obvious point that I believe is well appreciated by those in institutions in which a large number of congenital heart disease operations are performed and where transesophageal echocardiography has found its deserved and pivotal role.

We agree completely that expertise involving judgments of surgeons, anesthesiologists, pediatric cardiologists, and experts in performing and interpreting color Doppler echocardiograms needs to be taken into account when decisions are made regarding adequacy or inadequacy of congenital heart disease repairs and the possibility of reestablishing bypass to revise them. As a simple example, the velocity dependence of most velocity variance color mapping techniques makes driving pressure a fundamental determinant of the jets arising from restrictive orifices, such as those in valvular regurgitation or those across ventricular septal defects, and intraoperative transesophageal echocardiographic findings must be interpreted in light of this interpretation.

In many instances in our own institution, all four teams (surgery, anesthesia, clinical pediatric cardiology, and echocardiographic imaging) collaborate on intraoperative decision-making. As such, we fully agree with Hickey’s comments and are most appreciative that he took the time to send them to the Journal.

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