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EMERGING PRACTICE PATTERNS IN CHOICE OF DOUBLE-LUMEN TUBE SIZE

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Background: The choice of left sided double-lumen tubes (DLT) size (35-41 FR) in adults undergoing thoracic surgery requiring one-lung isolation is often based on gender and body habitus with the goal of inserting the largest possible DLT. There are sparse reports of any relation of DLT size and intraoperative outcome. **Methods:** Due to a wide variation in practice patterns at our institution and a tendency by some to yzed prospectively collected data for a quality improvement project on whether smaller than conventional DLT are associated with intraoperative hypoxemia or one-lung isolation failure. DLT size was chosen at the discretion of the participating anesthesiologist supervising house staff. DLT insertion was done blindly and then confirmed/positioned by fiberoptic bronchoscopy (FOB).

Results: Of the 278 patients studied only two 41 FR DLT were used and excluded from the analysis. Patient characteristics are shown in Table 1. In males there were no differences in any characteristic among the DLT groups. Intraoperative outcome measures among the groups are shown in Table 2. More males with 37 or 39 FR DLT required initial positioning with FOB than 35 FR; however, during surgery there were no gender differences in any intraoperative outcomes. There were no reported complications consistent with airway injury.

Conclusions: These preliminary findings suggest that the use of smaller than conventional DLT is not associated with any differences in clinical intraoperative outcomes.

Table 1: Patient Characteristics

	DLT Size (FR)		
	35 (n=129)	37 (n=91)	39 (n=56)
Age, yr	60 ± 15	62 ± 11	63 ± 12
Male	37 (29)	46 (51)	53 (95)
Female	92 (71)	45 (49)	3 (5)
Height	166 ± 10*	168 ± 12*	178 ± 7
Weight	71 ± 16**	78 ± 20**	89 ± 15**
FEV ₁ % pred.	88 ± 21	84 ± 23	87 ± 20
DLCO % pred.	87 ± 24	82 ± 25	90 ± 24
P _a O ₂ , mmHg	84 ± 10	79 ± 11	80 ± 9

Data are n (% within each DLT size group) or mean ± SD. *P<0.01, vs. 39 FR. **P<0.01, 35 vs. 37 or 39 and 37 vs. 39 FR.

Table 2: Intraoperative Outcomes

	DLT Size (FR)		
	35 (n=129)	37 (n=91)	39 (n=56)
Position with FOB-Male	5 (11)*	18 (38)	24 (45)
Female	43 (47)	20 (44)	1 (2)
S _p O ₂ < 88%- Male	2 (5)	2 (4)	1 (2)
Female	5 (5)	1 (2)	0
Inadequate collapse-Male	2 (5)	2 (4)	4 (8)
Female	2 (2)	2 (4)	0
DLT Repositioned during surgery-Male	4 (11)	5 (11)	6 (11)
Female	9 (10)	5 (11)	0

Data are n (% within each DLT size group) or mean ± SD. *P=0.003, 35 vs. 37 or 39 FR.