

## ***Perspectives on Current Mechanical Ventilation Use and Training at Pediatric Critical Care Fellowship Programs in the United States of America***

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### ***Abstract***

**O**bjective: The science of mechanical ventilation (MV) has advanced to include new modalities and strategies utilized based upon patient pathology and illness severity. This requires pediatric critical care medicine (PCCM) providers to have a strong knowledge base and experience with many available modalities of MV. Proper management of MV modalities is one of the main competences taught during fellowship training. To characterize the current state of MV training for PCCM fellows in the United States, we surveyed PCCM fellowship program directors (PDs).

**Design:** A piloted and validated survey was sent to all 67 American PCCM fellowships. Data were collected and managed using REDCap® tools. PDs were surveyed regarding MV modalities used in their units, the training that fellows receive for various modalities, and their confidence in the fellows' ability in using those modalities.

**Results:** Forty-eight (71.6%) PCCM PDs responded. A wide variety of conventional MV modes are available for use in PCCM fellowships, with the most common conventional mode used being PRVC-SIMV (27;56%) followed by PC-SIMV (13;27%). Of the "non-conventional" MV modes, more used APRV (26;54%) than HFOV (10;21%).



Training was provided on conventional MV (45;94%), HFOV (44;92%), APRV (31;65%), and NAVA (17;35%). The PD's perceived ability of their trainees' capability to use APRV and NAVA, was higher if institutional training occurred compared to those programs where it did not [25;81% vs. 6;35%,  $p < 0.002$ ], and [14;78% vs. 3;10%,  $p < 0.001$ ] respectively. There was no difference in perceived capability between institutions that provided training for HFOV compared to those that did not [35;79% vs. 33;75%,  $p = 0.83$ ].

**Conclusion:** PCCM fellows are exposed to multiple MV modalities during training. Those skills are best acquired in a safe and structured learning environment. Institutional training of conventional MV, as well as APRV and NAVA improves PDs' perception of their trainees' capability to use these modalities of MV

### ***Biography:***

Dr. Dalabih has completed his MD from Istanbul University-Cerrahpasa, Turkey and fellowship training from Vanderbilt University, USA. He is an associate professor of pediatric critical care at the University of Arkansas for Medical Sciences, he is the director of the pediatric sedation program and Arkansas Infant and Child Death Review program. He has published more than 13 papers in reputed journals

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