

# Point-of-care ultrasound training during anesthesia and critical care residency: preliminary data of a national survey

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Argomento: Altro

**Background:** Point-of-care ultrasound (PoCUS) became an invaluable tool critically ill assessment. Appropriate training is required and should integrate anesthesiology and intensive care residency programs. The purpose of this study is to assess the current state of PoCUS training in Anesthesiology and Critical Care residency programs<sup>1</sup>.

**Aims and objectives:** To assess methods, adequacy and limitations of PoCUS teaching during anesthesia and critical care residency in Italy.

**Methods:** on-line anonymous survey sent to all residents, as approved by the CPAR (Collegio Professori Anestesia Rianimazione), about vascular access-VA, lung ultrasound-LUS, transthoracic echocardiography-TTE; focused-assessment sonography trauma-FAST; transcranial Doppler-TCD; regional anesthesia- RA; diaphragm ultrasound-DUS.

**Results:** In 18 survey days, 168 residents filled it from 12/40 universities (Fig.1) (first year-17.7%, second-18.3%, third-24.6%, fourth-26.9%, fifth-12.6%). Bedside teaching is the most frequent tool for all techniques (Tab.1); frontal lectures are the second one. LUS and DUS more frequently include research activities. Overall, the most neglected is FAST. Most residents never attended an extra-curricular course (54.9%); residents are mentored by physician (75.4%) and/or older residents (35.4%). Ultrasound competences evaluation is performed by theoretical-practical certification in only 3.4%, in everyday bedside activity in 61.7%, is absent in 36.6%. Ultrasound knowledge is considered extremely important for VA (66.6%), RA (63.7%), FAST (55.4%), TTE (51.2%), LUS (50.0%), TCD (31.0%), DUS (25.6%), to guide procedures (VA and RA) and improve patient's understanding (LUS, TTE, TCD, DUS, FAST). The training is mainly perceived as adequate for VA (37.5%) and RA (22.6%), passing for LUS (23.8%), inadequate for TTE (31.5%), FAST (38.1%) and TCD (28.0%), severely inadequate for DUS (25.6%). The main perceived limiting factor is the absence of a standardized didactic process.

**Conclusions:** PoCUS teaching is present although not optimal in Italian critical care residency schools. Standardizing resident's ultrasound curriculum is suggested to improve ultrasound teaching.

**References:** 1.Stolz LA, Acad Emerg Med 2017;24(3):353-361

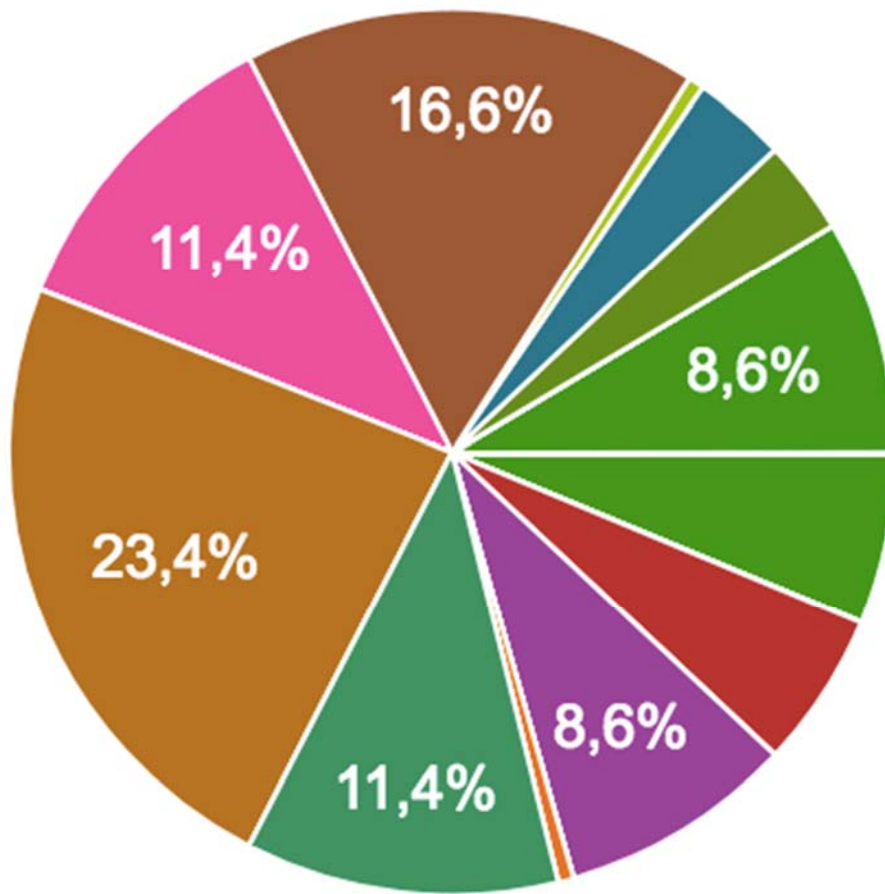


Fig.1: 12 universities are involved in the survey answers.

	<b>Bedside teaching</b>	<b>Online modules</b>	<b>Frontal lectures</b>	<b>Simulation</b>	<b>Research activities</b>	<b>Not yet faced in resident's clinical activity</b>	<b>Nothing</b>
<b>VA</b>	<b>91.7%</b>	3.6%	33.3%	<b>14.6%</b>	4.8%	4.2%	4.2%
<b>LUS</b>	72.0%	<b>5.4%</b>	<b>49.4%</b>	8.9%	18.5%	15.5%	4.8%
<b>TTE</b>	57.7%	4.8%	37.5%	4.2%	7.7%	20.2%	13.1%
<b>FAST</b>	43.5%	4.6%	22.0%	6.6%	0.6%	22.0%	<b>26.2%</b>
<b>TCD</b>	54.2%	4.2%	32.2%	2.4%	5.4%	25.6%	13.7%
<b>RA</b>	79.8%	<b>5.4%</b>	45.8%	10.7%	7.7%	13.1%	7.1%
<b>DUS</b>	42.6%	2.4%	25.6%	4.2%	<b>19.1%</b>	23.8%	19.6%

Tab.1: Teaching instruments adopted for different ultrasound techniques (VA: vascular access; LUS: lung ultrasound; TTE: transthoracic echocardiography; FAST: focused-assessment sonography trauma; TCD: transcranial Doppler; RA: regional anesthesia; DUS: diaphragm ultrasound).