

Not only FAST The MUSEC® experience in training surgeons



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Not only FAST - The MUSEC® experience in training surgeons

For a long time surgeons have been discussing the need to improve their skills in the use of ultrasound (US). However in the recent years it has become evident the importance for general and trauma surgeons treating critically-ill patients to learn basic and advanced US. The two last editions (9th and 10th) of the ATLS manual have officially included FAST and e-FAST in the primary assessment of trauma patients, making this tool an essential skill for surgeons. In the acute care setting FAST, e-FAST and other applications have gained a pivotal, evidence-based role in this field. Nevertheless, surgeons are rarely performing US exams by themselves, losing a major decision-making tool. The Modular Ultrasound ESTES Course (MUSEC®) was developed to provide both fundamental and advanced US training for surgeons in trauma and acute care settings. We are strongly convinced, in the light of the results from both the surveys carried out and the customer satisfaction tests administered to all the participants in the MUSEC courses, that US courses such as these should be part of the general surgery residency programs.

KEY WORDS: e-FAST, MUSEC Ultrasound in Emergency Department, Ultrasound Training Trauma Patients

Ultrasound (US) is nowadays a part of daily clinical practice for many doctors in different fields.

Surgeons too have included this tool in their daily activity¹⁻³.

Over the past 2 decades FAST (Focused Assessment with Sonography for Trauma) and e-FAST have gained a central role in the acute care setting⁴⁻⁶. Notwithstanding, the concept of the US probe as an 'anytime, anywhere'

extension of the surgeon's physical examination, for getting quick clinical answers, while well-affirmed in publications, is far from being widespread. Outside of the trauma setting, there is plenty of literature concerning the applications of US in acute venous thrombosis, pulmonary emboli, fractures, interventional manoeuvres, shock management, etc)⁷⁻²⁹. There are various reasons, including political and institutional issues, for the slow penetration of US into the armamentarium of the acute care surgeon. The refrain that US is "operator dependent" engenders fear of using US during daily practice. As regards training in US, the length and the extensive, undifferentiated curricula of the vast majority of residential US courses available is often seen as a problem by surgeons, as does the feeling of spending time learning

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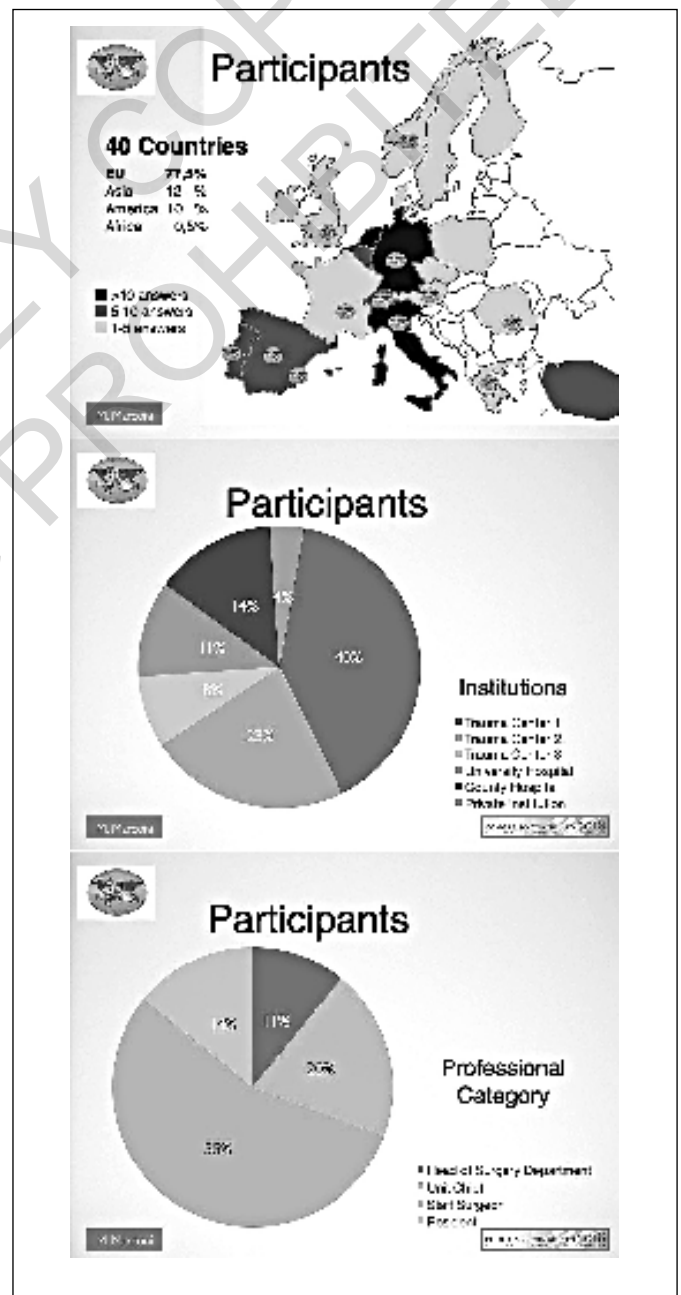
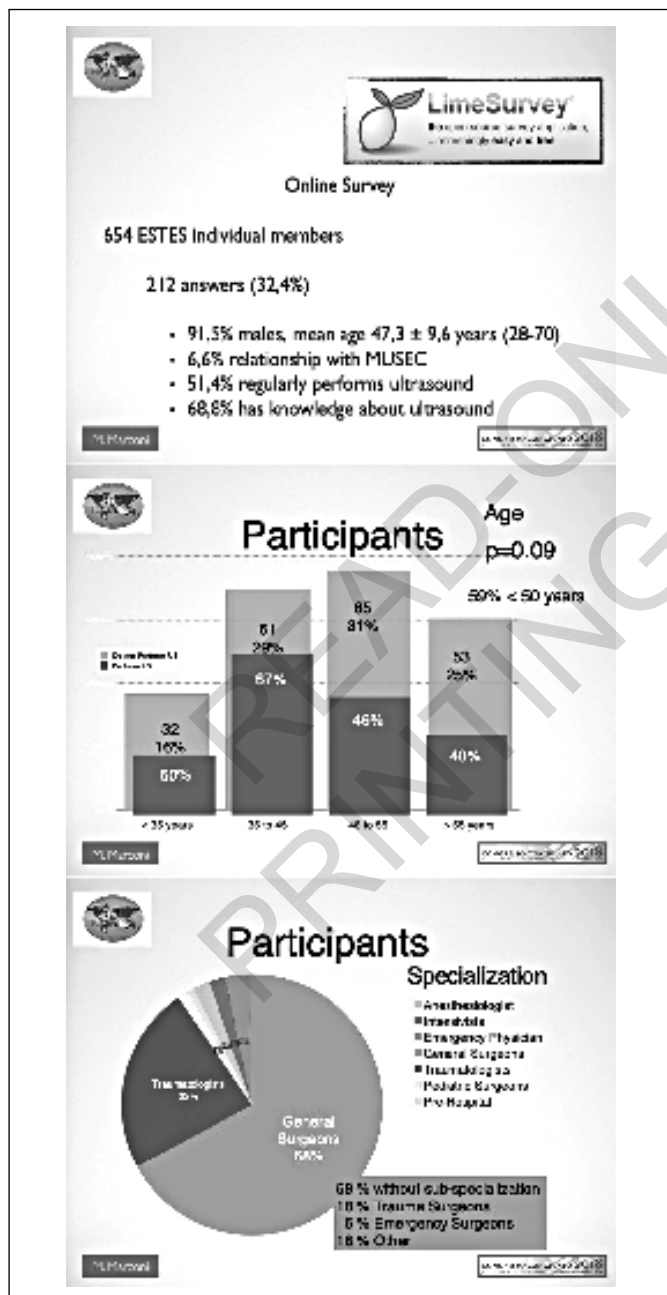
“things” not always immediately required. The Modular Ultrasound ESTES Course (MUSEC) was developed to provide both fundamental and advanced US training, tailored on real and concrete needs of acute care surgeons and physicians³⁰⁻⁴⁰.

MUSEC has provided continuing medical education (CME) opportunities in various countries and was recognized in 2015 by the European Union of Medical Specialists - European Accreditation Council for Continuing Medical Education (UEMS- EACCME®) for CME credits.

We are convinced that this kind of US course should be included in the training program of all surgery residents.

To validate this thesis the MUSEC steering group decided to submit an online survey to 654 ESTES individual members. There were 212 (32,4%) respondents, mostly males (91,5%), with a mean age of 47,3 years. Among these members only 6,6% were connected with MUSEC. US was routinely performed by 51,4% of the survey participants, and 68,8% had some knowledge about US. Most of them worked in a First Level Trauma Centre (Figs. 1-5) Details of MUSEC Survey results.

We asked those who did not perform US scans routinely how long they usually had to wait to obtain an elective US from the radiologists in their hospitals; 72% answered less than 1 day and 28% from 2 to 7 days. We also asked then how long they had to wait for an



emergency US the answer was less than 1 hour in 76% of cases.

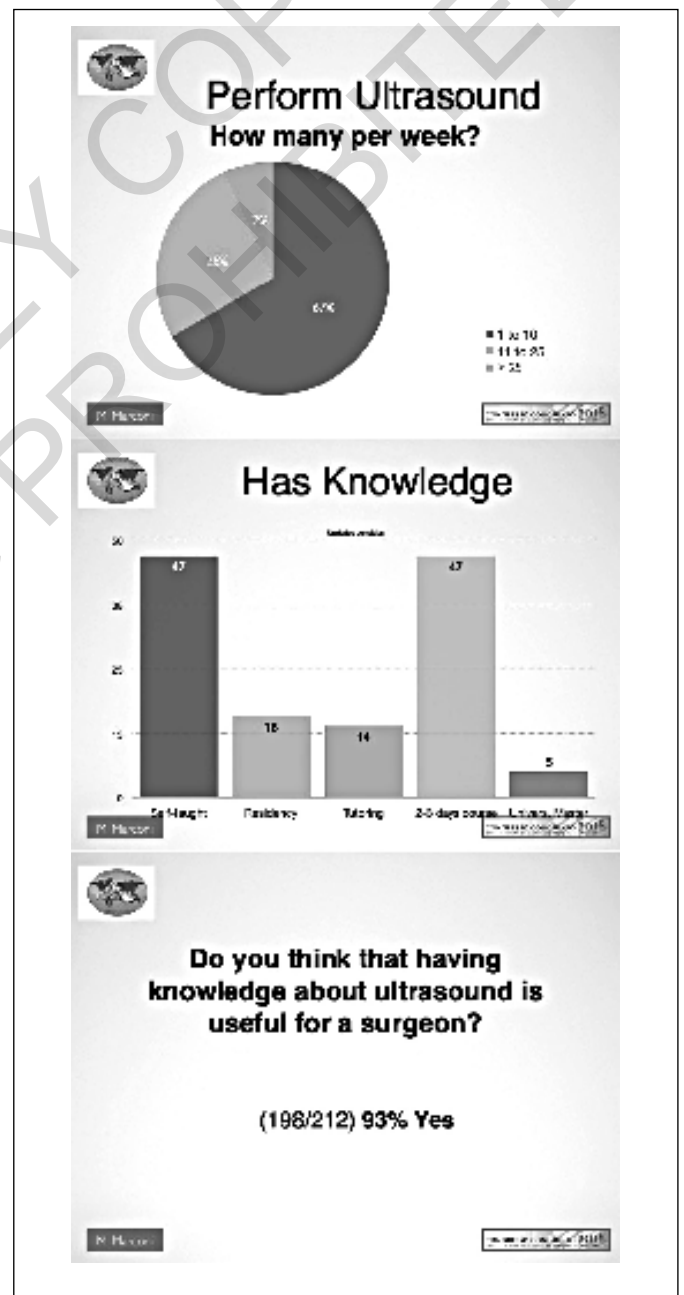
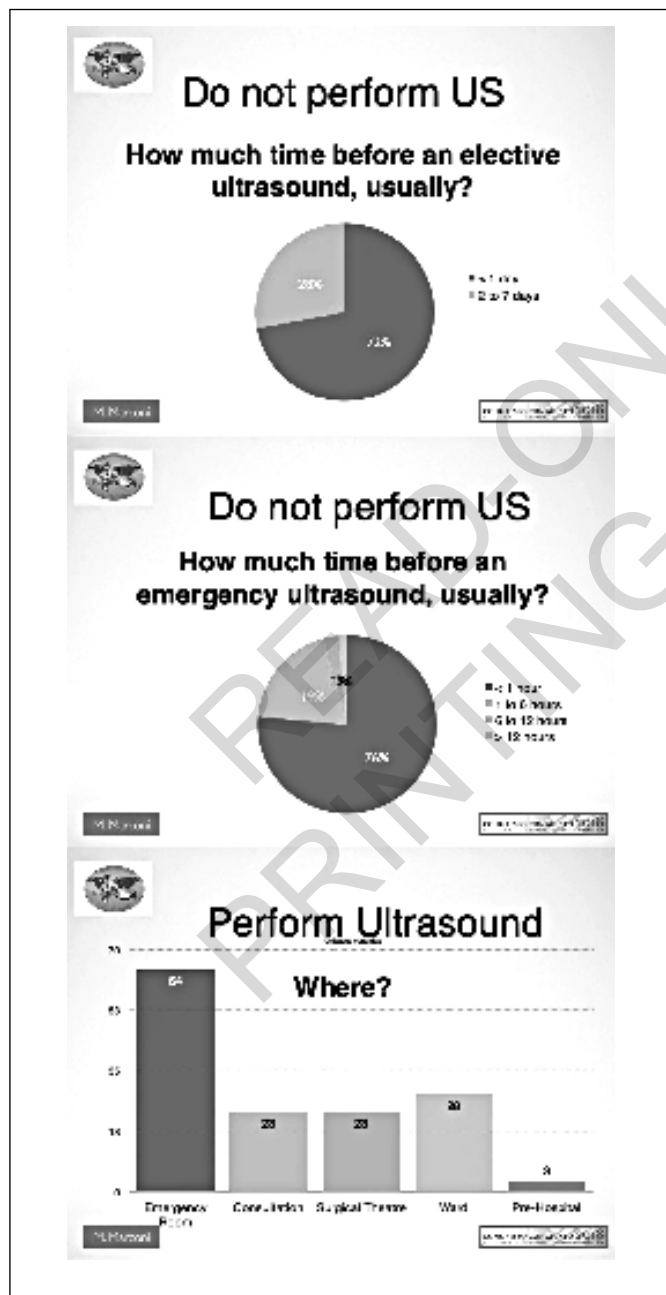
Sixty-four percent of surgeons who declared they performed US scans, usually in the emergency room. (see figures). The number of US scans performed per week was < 10 in 67% of the cohort.

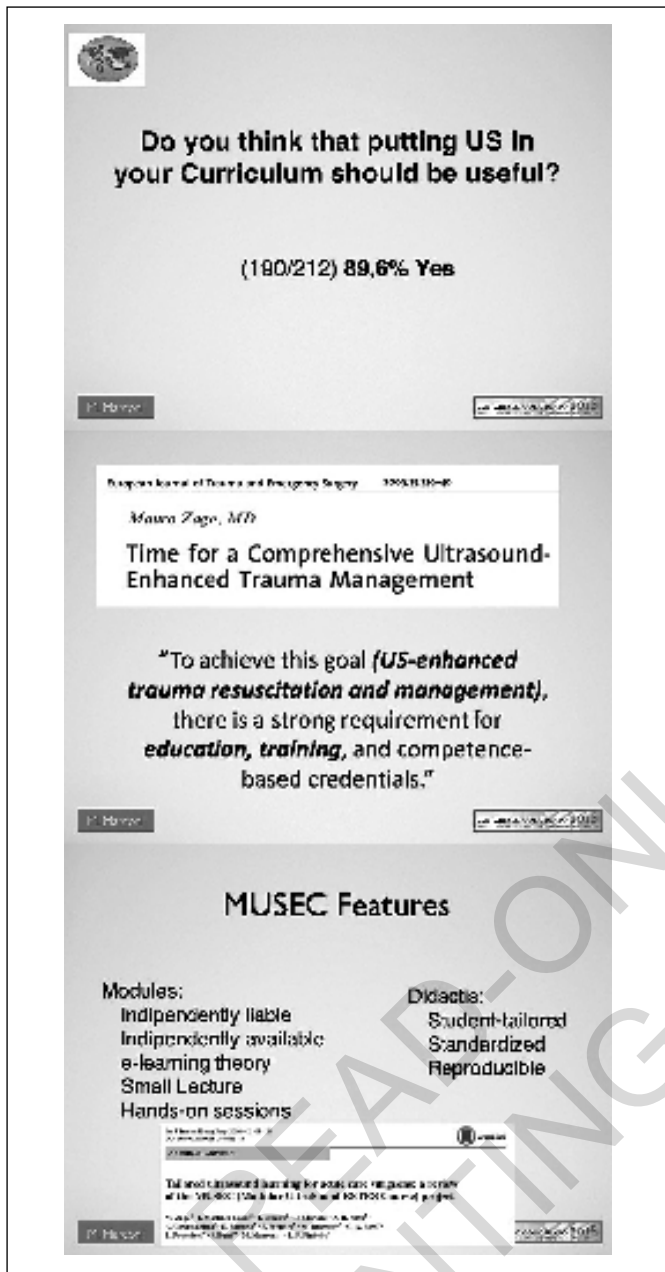
We asked all of them if they thought that having some knowledge about US was useful for a surgeon and 93% said yes, but surprisingly 83% did not know how to perform an US scan. Finally we asked if they thought that putting US in their curriculum would have been useful and almost 89,6% gave a positive answer.

The success of MUSEC among ESTES members and among others who attended the course (with similar

results obtained in the satisfaction test taken at the end of each course) is probably due to the fact that MUSEC is a modular blended-learning course and includes pre-test/posttest examinations, pre-course online materials, more than anything else interactive lectures, interactive case scenarios and discussions with US clips of pathological findings, hands-on practice on healthy volunteer models, and on original phantoms for simulating both pathological US findings and practicing US-guided interventional manoeuvres divided into four independent modules.

The majority of the participants in the survey and in the MUSEC Course (1283 Students in 2013-2018 from 40 different countries all over the world) think that US





is a useful tool in the hands of the clinician and should be incorporated in surgical education curricula.

Encouraged by these results we hope that in the near future the study of US will be mandatory in surgical residency programs in Italy.

Riassunto

Per diversi anni i chirurghi hanno discusso della necessità di migliorare le loro abilità nell'uso dell'ecografia. Tuttavia, solo negli ultimi decenni è stata chiaramente identificata la necessità per i chirurghi generali e d'urgenza di padroneggiare l'ecografia sia di base che avan-

zata nella gestione del paziente politraumatizzato o critico afferenti al pronto soccorso, grande spinta per questa innovazione è stata data anche dalla pubblicazione della nona e decima edizione del manuale ATLS, nel quale la e-FAST è stata esplicitamente inserita come strumento essenziale nella valutazione primaria e secondaria. Tuttavia, ancora oggi, nonostante le premesse questi esami non vengono quasi mai eseguiti dai chirurghi.

È in questo scenario che nasce e si sviluppa il MUSEC, corso creato per fornire le più adeguate e focalizzate conoscenze in campo ultrasonografico a tutti quei chirurghi che si occupano della gestione del paziente nell'ambito dell'emergenza. Alla luce dei risultati ottenuti sia dalle survey effettuate che dai customer satisfaction test somministrati a tutti i partecipanti ai corsi MUSEC, appare auspicabile che corsi di ecografia come questi dovrebbero essere inseriti a pieno titolo nel corso di studi degli specializzandi in chirurgia.

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