Introduction: Traditionally, intensivists, however skilled, have limited, non-invasive bedside tools to make a comprehensive evaluation of their patients. Requesting one or more imaging modalities is almost always needed to make such evaluation. Ultrasonography of various body organs (including echocardiography) is one of the most commonly used imaging modalities to achieve that goal, as it is safe, can be portable, and has no radiation risk. Performing and reporting such investigation, even for emergency cases, may take hours or even days, considering the load on the respected department. This may delay the diagnosis and, hence, the treatment of the patient, which, if done fast, could be lifesaving. As technology advances, ultrasound machines have become very concise, easy to use and relatively cheap, which attracted intensivists to utilize them at the bedside. With careful training, intensivists can now perform a focused bedside ultrasound examination and confidently interpret it to complement their clinical assessment. This has been shown to facilitate reaching an accurate diagnosis and speed up the initiation of the appropriate therapy. Furthermore, intensivists can perform invasive, bedside, diagnostic or therapeutic procedures using ultrasound guidance, which is considered the standard of care in many organizations due to the significantly lower complication rate. These procedures include, central venous cannulation, thoracentesis, paracentesis, pericardiocentesis, lumbar puncture, percutaneous tracheostomy and biopsy of various organs and so on. It also helps intensivists to evaluate the hemodynamic status of their patients to direct fluid / vasopressor management. Bedside ultrasound has marked a new era in the clinical practice after the fact that the use of this tool has long been restricted to radiologists and cardiologists.

Objectives: We have been intensively using bedside diagnostic and interventional ultrasonography & echocardiography in our unit for the past several years and I would like to share with you our experience in this regard. I am also running intensive training courses on critical care ultrasonography in Saudi Arabia and the other Gulf Countries and would like to highlight the benefits and challenges of such training courses.

Methods: In our unit, we provided intensive training courses and seminars on critical care ultrasonography to all intensive care physicians of all levels. These physicians are supervised initially with any ultrasound exam/procedure until he/she acquires the basic ultrasound skills. They may then perform ultrasound exams/procedures on their own but still may get assistance during the procedure by an expert if a difficulty is encountered. All physicians in our unit are encouraged to use ultrasound whenever applicable. Lately, most procedures performed on our unit are ultrasound-guided and the many of our trainees are now conformable with most aspects of diagnostic and interventional ultrasonography. We also conduct well-designed national and regional courses on critical care ultrasonography to, at least, encourage intensivists get interested to learn more on ultrasonography in critical care.

Results: Over a period of three years, we achieved an excellent outcome in training a new patch of intensivists who are capable of using bedside ultrasonography efficiently in the clinical practice. We also built a well-designed training curriculum and planning to merge ultrasound training in our fellowship program. At a personal level, there are endless number of examples
where ultrasound completely altered the diagnosis/management, decreased procedure related complications and avoided risks related to transporting patients to the radiology department.