

# Annual Congress and Medicare Expo on **Trauma & Critical Care**

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## **Cervical collars in the pre-hospital setting friend or foe: A study of current pre-hospital spinal immobilisation practices**

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For 3 decades, we have routinely immobilised “potential” spinal injured patients without really knowing if what we are doing is even necessary. Limited studies have even demonstrated that potential harm can be caused by using rigid cervical collars as part of the immobilisation process. How can we find out what (if it exists), is best practice for pre-hospital immobilisation. Is self extrication and immobilisation a possible alternative in the conscious patient? It is necessary to find an answer to inform practice as historical treatment is clearly unsupported with either detailed research or an evidence base.

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## **Ultrasound challenges and hemodynamic instability, technical skills or clinical judgment**

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The term “hemodynamic instability” is often refers to a low blood pressure in a patient requiring active resuscitation. Adopting this definition as a general principle in all patients may carry confusion and lead to mismanagement. That’s because;

- There is no clear consensus among physicians regarding the exact definition of hypotension.
- Blood pressure may be considered “normal” in vasoconstricted patients. For example initial presentation of a patient with a ruptured abdominal aortic aneurysm.

Hemodynamic instability is better referred as a state of regional or global hypoperfusion associated with inadequate tissue oxygenation. Assessment of organ perfusion and tissue oxygenation may require invasive monitoring for continuous measurement of cardiac output and mixed-venous saturation (SvO<sub>2</sub>). When a patient becomes hemodynamically unstable, active management starts based on clinical judgment. Patients who are not responding to ongoing therapy may require additional diagnostic tools on urgent bases before acute hemodynamic collapse occurs. In this case, physicians are desperate to have their hands on a diagnostic bedside tool with considerable sensitivity and specificity to ensure appropriate patients’ management. Ultrasound is emerging as a reliable diagnostic and monitoring tool to provide bedside diagnosis and facilitate hemodynamic management. The sensitivity of the ultrasound to assist physicians to reach to instant diagnosis and its ability to modify patients’ management is well documented. Nevertheless, acquiring the skills, maintaining quality assurance and integrating the findings of this technology into clinical pictures remains the major obstacle. Physicians who wish to be trained on this technology will need to incorporate these skills into their clinical practice. The process of training often takes three stages. First is to acquire the skills to perform the standard exam (technical skills) in a reasonable amount of time. Second is the ability to identify any cardiac pathologies/abnormalities and understand their clinical impacts. Once the pathology is identified, further cardiac scanning may be required before the diagnosis is made. Third, is to develop the skills to integrate the ultrasound findings into the clinical picture of the patients and formulate a management strategy. The training process may be time consuming however, the presence of mentorship is crucial for successful outcomes. The ultrasound findings should match the clinical picture as any discrepancy between both may result in devastating results. For example a trauma patient with significant blood loss found to have a dilated IVC during initial ultrasound exam. In this presentation, few cases will be presented to demonstrate hemodynamic instability and how technical skills required to be aligned with the clinical pictures.

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