The use and potential benefits of the focused trauma ultrasound examination in the accident and emergency setting has been increasingly recognised in recent years. We report a case re-emphasising the benefits of immediate access to skilled ultrasound examination in the critically ill non-trauma patient.

CASE REPORT
A 25 year old woman presented to our accident and emergency department with a three hour history of retrosternal pleuritic chest pain and dyspnoea. She was previously completely well, was a non-smoker and her only medication was a levonorgestrel-based second generation oral contraceptive. Initial clinical examination revealed moderate obesity, tachypnoea (oxygen saturation of 94% on air) and a tachycardia of 110 bpm. There were no other abnormal clinical signs and no evidence of lower limb venous thrombosis. 12-lead ECG showed an "S1Q3T3" pattern.

After initial assessment she was accompanied to the toilet, where she collapsed with no palpable cardiac output. She was immediately transferred to the resuscitation room. Appropriate cardiopulmonary resuscitation was started and electromechanical dissociation was noted. A presumptive diagnosis of massive pulmonary embolism was made. She was given 3×1 mg...
Given the potential benefit of thrombolytic therapy, every effort should be made to diagnose massive pulmonary embolism quickly and accurately. A clear history is often difficult to obtain in this setting and attending physicians rely heavily on non-specific investigations that give inconclusive results. In this particular case, given the nature of the presentation, a presumptive diagnosis of massive pulmonary embolism had already been made before echocardiography and it could be argued that thrombolysis should have been administered anyway. However, a firm diagnosis is often easier to make retrospectively than in the setting of a cardiac arrest and there is an obvious (and appropriate) reluctance to use thrombolysis in the face of diagnostic uncertainty, because of its potential catastrophic effects, for example, if given to a patient with an aortic dissection. Transesophageal echocardiography is more diagnostically powerful and is widely available in district general hospitals, although its 24 hour availability is still unusual. A transthoracic echocardiogram is usually abnormal in massive pulmonary embolism, showing right ventricular enlargement, a consequent increase in right ventricular to left ventricular diastolic diameter and paradoxical septal motion, both in systole and diastole. It also allows the simultaneous exclusion of important left heart or aortic abnormality.

This case report illustrates that transthoracic echocardiography has the potential to substantiate the clinical diagnosis of massive pulmonary embolism during cardiopulmonary resuscitation to the extent that thrombolytic therapy can be rapidly, safely and effectively administered.

REFERENCES