



## THORACIC DAMAGE CONTROL SURGERY (DCS): HOW TO TEACH

Tamás F Molnar DSc (1,2), David Sütöri MD (2), Gabor Elő PhD (3)  
*Dept Operational Medicine, Faculty of Medicine, University of Pécs, Hungary*  
*Dept Surgery, Petz A University Teaching Hospital, Győr*  
*LRG Medtech Unit, Szechenyi University, Győr*

### Introduction

Thoracic damage control surgery is a method of choice for non-thoracic surgeons facing traumatic chest emergencies. A complex training concept for chest drainage and cardiorrhaphy / lung stapling was developed and a simulation training box had been built .

### Material and Methods

The video presents the electromechanical details of the training box and its features, functions. Fresh slaughterhouse harvested pig heart-lung complex is attached to a blood-air pump system, self adjusted to the tempo and volume of blood loss resulted by penetrating heart injury. Different heart wound management techniques are presented. Peripheral lung stapling (destroyed parenchyma) completes the presentation. Chest drainage training frame (not shown in the video) is the third pillar of the hybrid training scheme.

### Result

The thoracic surgical maneuvers presented are sufficiently real-life like, and make the trainee confident with real-life operational theater challenges. The training kit is for individual junior surgeons or team exercises.

### Discussion

The very nature of chest trauma challenges desired skill preparadness and proper training on the operative field. Present legal and media environment makes animal/live tissue training undesirable. The presented method uses hybrid technique and offers safe environment, using otherwise discarded animal tissue.

### Conclusion

The method and skill box seems to fulfill the requirements of junior surgeon training in thoracic trauma. Further developments are underway to replace the pig-heart in the present model.