

# Planned emergency thoracotomy

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Planned emergency thoracotomy implies an emergency thoracotomy performed as a planned procedure in the operating theatre, directed at the management of a specific injury. As such, the approach chosen is dependent on the indication for surgery and the organ injured (Table 29.5). Some organs are best approached through a median sternotomy. Otherwise the thoracotomy may be right or left sided, and these may be joined, producing the so-called 'clamshell incision'. This gives excellent exposure for any surgeon who is not routinely entering the chest. Posterolateral thoracotomy is not used in the emergency situation because of the difficulties in positioning of the patient, except for specific access to certain posterior mediastinal organs.

Patients who have suffered abdominal trauma can generally be classified into the following categories based on their physiological condition after initial resuscitation:

- physiologically 'normal' – investigation can be completed before treatment is planned;
- physiologically 'non-compromised' – investigation is more limited; it is aimed at establishing whether the patient can be managed non-operatively, whether angioembolisation can be used or whether surgery is required;
- physiologically 'compromised' – investigations need to be suspended as immediate surgical correction of the bleeding is required.

A trauma laparotomy is the final step in the pathway to delineate intra-abdominal injury. Occasionally it is difficult to determine the source of bleeding in the shocked, multiple injured patient. If doubt still exists, especially in the presence of other injuries, a laparotomy may still be the safest option.

- The key is to make a decision, as indecision leads to delay in definitive control.
- The patient's physiology must be assessed constantly; if there is an indication that the patient is still actively bleeding, the source must be identified unless the patient is unstable and requires immediate surgery.

Blood loss into the abdomen can be subtle and there may be no clear clinical signs. Blood is not an irritant and does not initially cause any abdominal pain. Distension is subjective, and a drop in the blood pressure may be a very late sign in a young fit patient. Examination in compromised patients should take place either in the emergency department or in the operating theatre if the patient is deteriorating rapidly.

TABLE 29.5 Different approaches to the contents of the chest cavity. Approach Best for

Left anterolateral	Left lung and lung hilum	thoracotomy	Thoracic aorta	Origin of left subclavian artery
Left side of heart	Lower oesophagus	Right anterolateral	Right lung and lung hilum	thoracotomy
Azygos veins	Superior vena cava	Infracardiac	inferior vena cava	Upper oesophagus
Thoracic trachea	Median sternotomy	Anterior aspect of heart	Anterior mediastinum	Ascending aorta and arch of aorta
Pulmonary arteries	Carina of the trachea			

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TABLE 29.5 Different approaches to the contents of the chest cavity.

Approach	Best for
Anterolateral	Left lung and lung hilum
Thoracotomy	Thoracic aorta
Origin of left subclavian artery	Left side of heart
Lower oesophagus	Right anterolateral
Right lung and lung hilum	Thoracotomy
Azygos veins	Superior vena cava
Infracardiac inferior vena cava	Upper oesophagus
Thoracic trachea	Median sternotomy
Anterior aspect of heart	Anterior mediastinum
Ascending aorta and arch of aorta	Pulmonary arteries
Carina of the trachea	

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TABLE 29.5 Different approaches to the contents of the chest cavity.

Approach	Best for
Left anterolateral thoracotomy	Left lung and lung hilum, Thoracic aorta, Origin of left subclavian artery
Right anterolateral thoracotomy	Right lung and lung hilum, Thoracic aorta, Origin of right subclavian artery
Median sternotomy	Anterior aspect of heart, Anterior mediastinum, Ascending aorta and arch of aorta, Pulmonary arteries, Carina of the trachea
Upper oesophagus	Superior vena cava, Infracardiac inferior vena cava
Lower oesophagus	Left side of heart, Lower oesophagus
Azygos veins	Right side of heart, Lower oesophagus

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