
# Recent Trends in Management of Blunt Abdominal Trauma

*Essay*

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*In*

***"General Surgery"***

*By*

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# List of CONTENTS

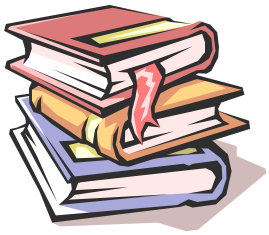
# List of Tables

# List of Figures

# List of Abbreviation

| | |
|---|---|
| **AAST** | American Association for the Surgery of Trauma |
| **ACS** | Abdominal Compartmental Syndrome |
| **ACS** | American College of Surgeons |
| **ACTH** | Adreno Cortico Trophic Hormone |
| **ADH** | Anti Diuretic Hormone |
| **ANP** | Atrial Natriuretic Peptide |
| **ARDS** | Adult Respiratory Distress Syndrome |
| **ATLS** | Advanced Trauma Life Support |
| **BAT** | Blunt Abdominal Trauma |
| **BHT** | Blunt Hepatic Trauma |
| **BMV** | Bag-Mask Ventilation |
| **BTLS** | Basic Trauma Life Support |
| **CBD** | Common Bile Duct |
| **CNS** | Central Nervous System |
| **CRH** | Cortisol Releasing Hormone |
| **CT** | Computed Tomography |
| **CVP** | Central Venous Pressure |
| **DL** | Diagnostic Laparoscopy |
| **DPL** | Diagnostic peritoneal Lavage |
| **EAST** | Eastern Association for the Surgery of Trauma |
| **ERCP** | Endoscopic Retrograde Cholangio-Pancreatography |
| **FAST** | Focused Assessment with Sonography for Trauma |

| | |
|---|---|
| **GSC** | Glasgow Coma Scale |
| **HIDA** | Hydroxyiminodiacetic acid |
| **IAP** | Intra-Abdominal Pressure |
| **IL** | Interleukin |
| **INF** | Interferon |
| **IVC** | Inferior Vena Cava |
| **IVU** | Intravenous Uorography |
| **MRCP** | Magnetic Resonance Cholangio-Pancreatography |
| **MRI** | Magnetic Resonance Image |
| **MVC** | Motor vehicle crash |
| **NPA** | Nasopharyngeal airway |
| **OIS** | Organ Injury Scale |
| **OPA** | Oropharyngeal airway |
| **OPSS** | Overwhelming Post-Splenectomy Sepsis |
| **PBD** | Percutaneous Biliary Drainage |
| **PSAE** | Proximal splenic artery embolization |
| **PTC** | Percutaneous Transhepatic Cholangiography |
| **RTS** | Revised Trauma Score |
| **TSA** | Total Serum Amylase |
| **UPJ** | Uretero-Pelvic Junction |
| **VAC** | Vacuum-Assisted Closure |
| **VATS** | Video-Assisted Thoracoscopic Surgery |
| **WBC** | White Blood Cell |
| **WSACS** | World Society of Abdominal Compartment Syndrome |



# INTRODUCTION

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Trauma is a global public health problem and the dominant cause of morbidity and mortality, particularly in industrialized countries. Despite major improvements in the management strategies for multiple injured patients in recent decades, trauma remains the primary cause of death for young individuals under 45 years of age. 10% of deaths result from abdominal injuries.**(Minino et al., 2007)**

Nearly three quarters of patients involved in road traffic accident and falling from heights associated with blunt mode of injury. Almost one fifth of these patients had abdominal injury .Blunt abdominal trauma **(BAT)** may result in injury to intra-abdominal organs by two discrete mechanisms of injury: direct compression forces and deceleration forces resulting in shearing forces. These forces occur either alone or combined**. (Jansen and Loudon, 2009)**

The initial evaluation of a trauma patient consists of a rapid primary survey aimed at identifying and treating immediately life-threatening problems. Evaluation and decision making are far more difficult in blunt trauma than in penetrating trauma. More energy is transferred over a wider area during blunt trauma than from a gunshot wound or a stab

wound. As a result, blunt trauma is associated with multiple widely distributed injures. (**Ryb et al., 2007**)

The presentation of blunt abdominal trauma ranges from the dramatic (such as a patient involved in a road traffic collision or explosion, presenting with profound haemodynamic instability due to major haemorrhage) to the subtle, early signs of an otherwise well patient with a hollow viscus injury following relatively trivial and localized trauma. Both investigative and management strategies must take into account these widely different presentations, and their different clinical priorities. **(Jansen and Loudon, 2009)**

Diagnosis of intra-abdominal injury and, equally importantly excluding injury by clinical examination is unreliable. The confirmation of the presence or absence of injury relies on the use of diagnostic procedures. Haematology and chemistry laboratory tests are of limited use in the management of the acutely traumatized patient. Clinicians should consider them adjuncts to diagnosis and not substitutes for clinical assessment in blunt abdominal trauma. **(Isenhour and Marx, 2007)**

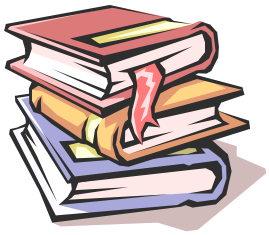
Ultrasonography is the investigation of choice in haemodynamically unstable patients while CT (Computed Tomography) imaging is the diagnostic tool of choice in

haemodynamically stable patients. CT scans can provide a rapid and accurate evaluation of the abdominal viscera, retroperitoneum and abdominal wall .Diagnostic peritoneal lavage (DPL) has a role as a second-line investigation in the diagnosis of hollow viscus injury, particulary in neurologically compromised patient. **(Jansen et al., 2008)**

Strategies for managing BAT range from non-operative management, to minimally invasive techniques such as angio-embolization, primary definitive surgery and damage control surgery .Nowadays conservative treatment is preferred in blunt abdominal trauma as 85%-98% of hepatic injuries and 60-80% of splenic injuries and virtually all renal injuries can be managed conservatively with success rates approaching 95%. (**Schroeppel and Croce, 2007**)

Despite this development, a considerable number of patients with catastrophic intra-abdominal injuries will continue to require immediate and skilled surgical intervention combined with expert resuscitation. (**Jansen and Loudon, 2009)**

The application of damage control to the trauma patient has come from the realisation that minimising surgery until the physiological derangement can be corrected is the best way of improving outcome. **(Loveland and Boffard, 2004).**



# AIM OF THE WORK

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This work aims to highlight the recent modalities of management of blunt abdominal trauma, which are used to improve the prognosis and decrease morbidity and mortality.