

The Golden Hour Conference II – *The Pathology of Traumatic Injury*

Day One - Session One				
Themed Case				
<p>Matthew is a 26-year-old male patient involved in a road traffic collision. He died in the ambulance on the way to hospital. His autopsy demonstrated multiple injuries including a head injury, severe haemorrhage, and a significant pneumothorax.</p>				
The trauma autopsy	What do clinicians need to know from the trauma autopsy?	Future opportunities for autopsy practice – The perspective of the Royal College of Pathologists	The potentially preventable death The Coroner perspective	Redefining preventable deaths in the pre-hospital phase of care
Dr Nat Cary	Dr Virginia Fitzpatrick-Swallow	Professor Jo Martin	Ms Nadia Persaud	Dr Gareth Davies
<p><i>What would be the key objectives, methods and potential conclusions from a standard autopsy carried out for Matthew?</i></p> <p><i>How is an 'unsurvivable head injury' defined during autopsy?</i></p> <p><i>How do pathologists determine death from exsanguination?</i></p> <p><i>How is the impact of a pneumothorax assessed at autopsy?</i></p>	<p><i>What are the pre-hospital interventions that clinicians might undertake at scene?</i></p> <p><i>What potentially reversible pathology is identifiable at autopsy and of use to clinicians in feedback?</i></p> <p><i>When are clinicians alerted to any negative or positive impact of their interventions?</i></p>	<p><i>What are the implications for injured patients on the training of pathologists in autopsy?</i></p> <p><i>What are the potential opportunities for technology in autopsy?</i></p> <p><i>What has been the impact of medical examiners and how can the trauma community learn lessons from this?</i></p>	<p><i>The potentially preventable death The Coroner's perspective</i></p> <p><i>What are the pros and cons of calling expert witnesses to determine medical preventability</i></p> <p><i>What is the impact of uncertainty on patients and their families?</i></p> <p><i>How are Prevention of Future Deaths recommendations governed?</i></p>	<p><i>Is Impact brain apnoea an outdated term?</i></p> <p><i>What are the true models of exsanguinating haemorrhage?</i></p> <p><i>What have we learned about pathology from the tragic penetrating trauma deaths in London?</i></p>

The Golden Hour Conference II – *The Pathology of Traumatic Injury*

Day One - Session Two Themed Case				
John sustains a single punch head injury outside a nightclub. He is immediately unconscious and is helped by bystanders. On arrival of the ambulance service he is breathing but his breathing is described as abnormal. HEMS arrive on scene and decide to carry out emergency anaesthesia. He is persistently hypotensive prior to and after the anaesthetic.				
The pathology of death from head injury, an overview	Acute head injury and brainstem neuroanatomy	The neurocardiac axis in head injury	Head injury, axonal death and the brainstem	Vertebral artery injuries, and traumatic subarachnoid haemorrhage
Dr Ben Swift	Professor Susan Standing	Dr Flora Bird	Mr Ciaran Scott-Hill	Dr Paul Johnson
<p><i>Deaths from head injury as a diverse spectrum</i></p> <p><i>Markers of primary vs secondary brain injury at autopsy</i></p>	<p><i>Anatomy we have forgotten, or never knew!</i></p> <p><i>Respiratory and circulatory centres, and important reflexes related to head injured patients on scene</i></p>	<p><i>Clinical syndromes related to the neurocardiac axis</i></p> <p><i>Clinical manifestations in intensive care, and on scene</i></p> <p><i>Cardiac dysfunction following acute head injury</i></p>	<p><i>How do axons in the brainstem die?</i></p> <p><i>What are the clinical and radiological signs of primary brainstem injury?</i></p> <p><i>What are the favourable prognostic signs in brainstem injury?</i></p>	<p><i>Vertebral artery injuries, and traumatic subarachnoid haemorrhage</i></p> <p><i>The relationship between traumatic vertebral artery injury and subarachnoid haemorrhage</i></p> <p><i>Confounding factors such as alcohol, implicating outcomes from head injury</i></p>

The Golden Hour Conference II – *The Pathology of Traumatic Injury*

Day Two - Session One

Major Incident Themed Case

The Golden Hour during Major Incidents

Dr Claire Park

Lessons Learned from best practice around the world

Lessons learned from inquests and reviews

The Golden Hour Conference II – *The Pathology of Traumatic Injury*

Day Two - Session Two

Themed Case

Zain, a 15-year-old male patient is hit by a lorry when crossing the road wearing headphones. On clinical examination Zain has multiple rib fractures, and a bruised abdomen. He has agonal ventilations on the arrival of the pre-hospital team. The team undertakes a resuscitative thoracotomy on scene to achieve haemostasis.

The accountable HEMS system and the role of the coroner – the Canadian perspective	Military and Civilian Trauma Systems	What are the limits of what HEMS can achieve?
Dr Andrew McCallum	Dr Jacinthe Lampron	Dr Dave Cooksley
<p><i>Organisational factors for HEMS systems and feedback from coroners</i></p> <p><i>What is the relationship between coroners and HEMS services in Canada?</i></p> <p><i>Are there lessons that other countries can learn?</i></p>	<p><i>The Coroner as a Trauma Surgeon</i></p> <p><i>What lessons have been learned from deaths during armed conflicts?</i></p> <p><i>How is best practice shared between military and civilian practice in trauma systems?</i></p>	<p><i>When might radical interventions cause harm?</i></p> <p><i>What is the quality of outcome of radical pre-hospital interventions?</i></p> <p><i>What are the international models of governance of invasive procedures on scene?</i></p>

The Golden Hour Conference II – *The Pathology of Traumatic Injury*

Day Two - Session Three

Themed Case

Hassan is a 20-year-old male who is stabbed to the abdomen and groin. After being stabbed he runs for a mile from his attackers and collapses, being described as 'agonal' by bystanders when the ambulance is called.

25 years of studying the physiology of acute haemorrhage – what have we learned?	Physiologically directed resuscitation from exsanguination	100 years' experience of roadside exsanguination	Standing on the shoulders of those who didn't make it
Dr Emrys Kirkman	Dr Robbie Lendrum	London HEMS Paramedics	Mr Frank Chege Dr Robbie Lendrum Mr Steve Jones Mr James Ayre
<p><i>How do experimental models of haemorrhage help clinicians at the roadside?</i></p> <p><i>What is a 'pure haemorrhage model' and do these models exist clinically?</i></p> <p><i>What is the implication of tissue injury on physiological modelling of exsanguination?</i></p>	<p><i>....for patients bleeding to death at the roadside</i></p> <p><i>...for those who survive to the emergency room</i></p> <p><i>...for those who survive to the operating room</i></p>	<p><i>What really happens at the roadside?</i></p> <p><i>What are the key lessons for paramedics?</i></p> <p><i>What tidbits can doctors learn from experienced HEMS paramedics?</i></p> <p><i>How do paramedics interface with pathologists and coroners?</i></p>	<p><i>Patients who survive now who wouldn't have survived previously</i></p> <p><i>How do we know who the new survivors are?</i></p> <p><i>What lessons can we learn from the care of new survivors?</i></p>

The Golden Hour Conference II – *The Pathology of Traumatic Injury*

Day Two - Session Four

Themed Case

A pre-hospital medical team is providing support to a music festival. Several drones are spotted in the air and shortly afterwards several party-goers fall to the floor demonstrating 'seizures'.

The Golden Hour following the deliberate release of chemical agents

Dr Mark Byers

Lessons from real incidents around the world including Tokyo and the Middle East

What are the essential therapeutic steps for deliberate chemical agent events within the Golden Hour?

How are agents of chemical warfare identified by forensic teams?