APLS: SIMULATION CASE T-4

History *{initial candidate briefing prior to arrival of child}*

An 8 year old boy was building a tree house about 3 metres from the ground, when he fell from the tree and impaled himself on a metal stake in his father's rose patch. He is complaining of excruciating abdominal pain, although his mother pulled the metal stake out of him soon after the accident.

Initial Impression *{to tell candidate as child arrives}*

On arrival, the boy is screaming and writhing in agony. Respiratory rate 30 / minute; rapid, good volume pulse 130 / minute; Blood pressure 110 / 70; Pale and sweaty; Capillary refill = 5 seconds. Single non-bleeding, penetrating wound left flank. Estimated weight: 31kg.

Clinical Course *{to be given to candidate as he/she progresses through the assessment and treatment of the child}*

Airway is patent. With oxygen by mask, colour is good and breathing seems initially to be adequate. But while struggling to remove his oxygen mask, patient vomits and may have aspirated gastric contents. When pulse oximeter connected, oxygen saturation seen to be 88%. This does not improve with increased oxygen nor airway manoeuvres, oro-pharyngeal airway nor suction and requires endotracheal intubation and 100% oxygen before oxygenation improves. Blood pressure slowly deteriorates due to active intra-abdominal bleeding, but stabilises with 1x10mls/Kg fluid followed by blood and activation of massive haemorrhage protocol. Tender, distended abdomen as well as clinical evidence of ongoing intra-abdominal bleeding requires urgent surgical consult.

INSTRUCTORS INFORMATION

Key Treatment Points

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<C>Airway & C-spine	Stabilise and protect C-spine (Fall from a height)	
	Assess and maintain airway	
	Pass endotracheal tube and ventilate manually	
Breathing	Attempt high-flow oxygen by face-mask (and fail!)	
	Ventilate with 100% oxygen	
Circulation	Early IV access with wide-bore cannulae	
	1x10mls/Kg boluses of crystalloid and blood including activation of massive haemorrhage protocol	
Specific Therapy	Consider passage of nasogastric tube	
	Chest X-ray (?free subdiaphragmatic air)	
	Surgical referral for peritonitis and ongoing haemorrhage	

Diagnosis

No external sign of head injury. Compensated shock due to penetrating injury of left kidney and spleen, and enlarging retroperitoneal haematoma. Laceration of left colon with peritoneal irritation