

ATLS 9th Edition Compendium of Changes

Chapter	Subject	8 th Edition	9th Edition
<u>Initial Assessment</u>	Team training	New information	In many centers, trauma patients are assessed by a team, the size and composition of which varies from institution to institution. In order to perform effectively, one team member should assume the role of team leader. The team leader supervises the preparation for the patient's arrival, the assessment, treatment and transfer of the patient. ^{1 2 3}
	<u>Airway</u>	Cuffed pediatric tubes	Previous concerns about cuffed endotracheal tubes causing tracheal necrosis are no longer relevant due to improvements in the design of the cuffs. Ideally, cuff pressure should be measured as soon as it is feasible and, 30mm Hg is considered safe. ^{11 12}
		Use of video laryngoscopy	Alternative intubation devices have been developed over the years with the integration of video and optic imaging techniques. Their use in trauma patients may be beneficial in specific cases by experienced providers. Careful assessment of the situation, equipment, and personnel available is mandatory, and rescue plans must be available. ^{4 5 6 7}
<u>Shock</u>	Crystalloid	Warmed isotonic electrolyte solutions (e.g. lactate ringers (RL) or normal saline), are used for initial resuscitation. This type of fluid provides transient intravascular expansion and further stabilizes the vascular volume by	Hypertonic saline has no benefit over standard crystalloid resuscitation.

	<p>replacing accompanying fluid losses into the interstitial and intracellular spaces. An alternative initial fluid is hypertonic saline although current literature does not demonstrate any survival advantage (page 63).</p> <p>Fluid Resuscitation</p> <p>The goal of resuscitation is to restore organ perfusion. This is accomplished by the use of resuscitation fluids to replace lost intravascular volume, and has been guided by the goal of restoring a normal blood pressure. It has been emphasized that if blood pressure is raised rapidly before the hemorrhage has been definitely controlled, increased bleeding may occur. This may be seen in the small subset of patients in the transient or non-responder categories. Persistent infusion of large volumes of fluids in an attempt to achieve a normal blood pressure is not a substitute for definitive control of bleeding.</p> <p>Fluid resuscitation and avoidance of hypotension are important principles in the initial management of blunt trauma patients particularly with TBI. In penetrating trauma with hemorrhage, delaying aggressive fluid resuscitation until</p>	<p>The concept of balanced resuscitation is further emphasized, and the term aggressive resuscitation has been eliminated. The standard use of 2 liters of crystalloid resuscitation as the starting point for all resuscitation has been modified to initiation of 1 liter of crystalloid.^{8 9 10}</p> <p>Early use of blood and blood products for patients in shock is also emphasized, without mandating or suggesting any specific ratio of plasma and platelets.</p>
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		<p>definitive control may prevent additional bleeding. While complications associated with resuscitation injury are undesirable, the alternative of exsanguination is even less so. A careful balanced approach with frequent reevaluation is required.</p> <p>Balancing the goal of organ perfusion with the risks of rebleeding by accepting a lower than normal blood pressure has been called “Controlled resuscitation”, “Balanced Resuscitation”, “Hypotensive Resuscitation” and “Permissive Hypotension.” The goal is the balance, not the hypotension. Such a resuscitation strategy may be a bridge to but is also not a substitute for definitive surgical control of bleeding (page 63-64).</p>	
<p><u>Abdomen & Pelvis</u></p>			<p>Reemphasized title Abdomen and Pelvis to delineate pelvis as under-recognized source of hemorrhagic shock.</p>
<p><u>MSK & Extremity Trauma</u> <u>Trauma in Women</u></p>			<p>All pelvic content moved to Abdomen and Pelvis chapter</p> <p>Retitled Trauma in Pregnancy and Intimate Partner Violence</p>
<p><u>Pediatric Trauma</u></p>	<p>Cuffed endotracheal tubes</p>	<p>Uncuffed tubes of appropriate size should be used to avoid subglottic edema, ulceration, and disruption</p>	<p>Previous concerns about cuffed endotracheal tubes causing tracheal necrosis are no longer relevant due to improvements in the design of the cuffs. Ideally, cuff pressure should be</p>

		of the infant's or child's fragile airway (p 230).	measured as soon as it is feasible and ,30mm Hg is considered safe. ^{11 12}
<u>Skill stations</u>	Subject	8 th edition	9 th edition
	DPL	Mandatory	Optional*
	FAST		New content*
	Pelvic binder	MSK	Moved to surgical skills to emphasize source of hemorrhagic shock
	Pericardiocentesis	Mandatory	optional
<u>Initial assessment scenarios</u>			7 new initial assessment scenarios included with 9 th edition
<u>MCQ Exam</u>			All tests revised
<u>Instructor Course</u>			Revised
<u>ATLS app</u>			New to 9 th edition. Contains interactive algorithms, calculators, animations, Just in Time videos demonstrating key skills, and an interactive PDF version of the Student Manual.

Either DPL or FAST must be taught during the surgical skill station as a method of evaluating the abdomen as a source of hemorrhagic shock

Abbreviated Reference List:

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4. Aoi Y, Inagawa G, Hashimoto K, Tashima H, Tsuboi S, Takahata T, Nakamura K, Goto T. Airway scope laryngoscopy under manual inline stabilization and cervical collar immobilization: a crossover in vivo cinefluoroscopic study. *J Trauma* 2010;Aug 27.
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11. Clements RS, Steel AG, Bates AT, et al. Cuffed endotracheal tube use in paediatric prehospital intubation: challenging the doctrine? *Emerg Med J* 2007;24(1): 57-58.

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