

## Scaling system for organ specific injuries

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**Table 1**

Cervical vascular organ injury scale				
Grade	Description of injury	ICD-9	AIS-90	
I	Thyroid vein	900.8		
	Common facial vein	900.8		
	External jugular vein	900.81	1-3	
	Non-named arterial/venous branches	900.9		
II	External carotid arterial branches (ascending pharyngeal, superior thyroid, lingual, facial maxillary, occipital, posterior auricular)	900.8		
	Thyrocervical trunk or primary branches			
	Internal jugular vein	900.8		
III	External carotid artery	900.1	1-3	
	Subclavian vein	900.02	2-3	
	Vertebral artery	901.3	3-4	
IV	Common carotid artery	900.8	2-4	
	Subclavian artery	900.01	3-5	
V	Internal carotid artery (extracranial)	901.1	3-4	
		900.03	3-5	

\*Increase one grade for multiple grade III or IV injuries involving more than 50% vessel circumference. Decrease one grade for less than 25% vessel circumference disruption for grade IV or V.  
From Moore et al. [1]; with permission.

**Table 2**

Chest wall injury scale*				
Grade	Injury Type	Description of Injury	ICD-9	AIS-90
I	Contusion	Any size	911.0/922.1	1
	Laceration	Skin & subcutaneous	875.0	1
	Fracture	< 3 ribs, closed; nondisplaced clavicle closed	807.01	1-2
II			807/02	
			810.00/810.03	2
	Laceration	Skin, subcutaneous and muscle	875.1	1
	Fracture	≥3 adjacent ribs, closed	807.03/807.09	2-3
		Open or displaced clavicle	810.10/810.13	2
		Nondisplaced sternum, closed	807.2	2
		Scapular body, open or closed	811.00/811.18	2
III	Laceration	Full thickness including pleural penetration	862.29	2
	Fracture	Open or displaced sternum	807.2	2
		Flail sternum	807.3	
IV		Unilateral flail segment (<3 ribs)	807.4	3-4
	Laceration	Avulsion of chest wall tissues with underlying rib fractures	807.10/807.19	4
		Unilateral flail chest (≥3 ribs)		
V	Fracture	Bilateral flail chest (≥3 ribs on both sides)	807.4	3-4
	Fracture		807.4	5

\*This scale is confined to the chest wall alone and does not reflect associated internal or abdominal injuries. Therefore, further delineation of upper versus lower or anterior versus posterior chest wall was not considered, and a grade VI was warranted. Specifically, thoracic crush was not used as a descriptive term; instead, the geography and extent of fractures and soft tissue injury were used to define the grade. From Moore et al. [2]; with permission.

**Table 3**

Heart injury scale			
Grade	Description of injury	ICD-9	AIS-90
I	Blunt cardiac injury with minor ECG abnormality (nonspecific ST or T wave changes, premature arterial or ventricular contraction or persistent sinus tachycardia)	861.01	3
II	Blunt or penetrating pericardial wound with out cardiac injury, cardiac tamponade, or cardiac herniation	861.01	3
	Blunt cardiac injury with heart block (right or left bundle branch, left anterior fascicular, or atrioventricular) or ischemic changes (ST depression or T wave inversion) without cardiac failure	861.12	3
III	Penetrating tangential myocardial wound up to, but not extending through endocardium, without tamponade	861.01	3-4
	Blunt cardiac injury with sustained ( $\geq 6$ beats/min) or multilocal ventricular contractions	861.01	3-4
IV	Blunt or penetrating cardiac injury with septal rupture, pulmonary or tricuspid valvular incompetence, papillary muscle dysfunction, or distal coronary arterial occlusion without cardiac failure	861.01	3-4
	Blunt pericardial laceration with cardiac herniation	861.12	3
	Blunt cardiac injury with cardiac failure	861.12	3
	Penetrating tangential myocardial wound up to, but extending through, endocardium, with tamponade	861.12	3
	Blunt or penetrating cardiac injury with septal rupture, pulmonary or tricuspid valvular incompetence, papillary muscle dysfunction, or distal coronary arterial occlusion producing cardiac failure	861.03	5
V	Blunt or penetrating cardiac injury with aortic mitral valve incompetence	861.03	5
	Blunt or penetrating cardiac injury of the right ventricle, right atrium, or left atrium	861.13	5
	Blunt or penetrating cardiac injury with proximal coronary arterial occlusion	861.03	5
VI	Blunt or penetrating left ventricular perforation	861.13	6
	Stellate wound with < 50% tissue loss of the right ventricle, right atrium, or of left atrium	861.13	6
	Blunt avulsion of the heart; penetrating wound producing > 50% tissue loss of a chamber	861.13	6

\*Advance one grade for multiple wounds to a single chamber or multiple chamber involvement.  
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**Table 4**

Lung Injury Scale				
Grade*	Injury Type	Description of Injury	ICD-9	AIS-90
I	Contusion	Unilateral, <1 lobe	861.12	3
			861.31	
II	Contusion	Unilateral, single lobe	861.20	3
			861.30	
			860.0/1	
III	Laceration	Simple pneumothorax	861.20	3
			861.30	
	Contusion	Unilateral, > 1 lobe	860.0/1	3-4
			860.4/5	
IV	Laceration	Persistent (> 72 hrs) air leak from distal airway	862.0	4-5
			861.30	
	Hematoma	Nonexpanding intraparenchymal	861.30	
			862.21	
	Laceration	Major (segmental or lobar) air leak	861.31	
Vascular	Expanding intraparenchymal	901.40	3-5	
		Primary branch intrapulmonary vessel disruption		
V	Vascular	Hilar vessel disruption	901.41	4
			901.42	
VI	Vascular	Total uncontained transection of pulmonary hilum	901.41	4
			901.42	

\*Advance one grade for bilateral injuries up to grade III. Hemothorax is scored under thoracic vascular injury scale. From Moore et al. [3]; with permission.

**Table 5**

Thoracic Vascular Injury Scale			
Grade*	Description of injury	ICD-9	AIS-90
I	Intercostal artery/vein	901.81	2-3
	Internal mammary artery/vein	901.82	2-3
	Bronchial artery/vein	901.89	2-3
	Esophageal artery/vein	901.9	2-3
	Hemizygous vein	901.89	2-3
	Unnamed artery/vein	901.9	2-3
II	Azygos vein	901.89	2-3
	Internal jugular vein	900.1	2-3
	Subclavian vein	901.3	3-4
	Innominate vein	901.3	3-4
III	Carotid artery	900.01	3-5
	Innominate artery	901.1	3-4
	Subclavian artery	901.1	3-4
IV	Thoracic aorta, descending	901.0	4-5
	Inferior vena cava (intrathoracic)	902.10	3-4
	Pulmonary artery, primary intraparenchymal branch	901.41	3
	Pulmonary vein, primary intraparenchymal branch	901.42	3
V	Thoracic aorta, ascending and arch	901.0	5
	Superior vena cava	901.2	3-4
	Pulmonary artery, main trunk	901.41	4
	Pulmonary vein, main trunk	901.42	4
VI	Uncontained total transection of	901.0	5
	thoracic aorta or pulmonary hilum	901.41 901.42	4

\*Increase one grade for multiple grade III or IV injuries if more than 50% circumference; decrease one grade for grade IV injuries if less than 25% circumference.

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**Table 6**

Diaphragm injury scale			
Grade*	Description of injury	ICD-9	AIS-90
I	Contusion	862.0	2
II	Laceration <2cm	862.1	3
III	Laceration 2-10cm	862.1	3
IV	Laceration >10 cm with tissue loss $\leq 25 \text{ cm}^2$	862.1	3
V	Laceration with tissue loss $> 25 \text{ cm}^2$	862.1	3

\*Advance one grade for bilateral injuries up to grade III.  
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**Table 7**

Spleen injury scale (1994 revision)				
Grade*	Injury type	Description of injury	ICD-9	AIS-90
I	Hematoma	Subcapsular, <10% surface area	865.01 865.11	2
	Laceration	Capsular tear, <1cm parenchymal depth	865.02 865.12	
II	Hematoma	Subcapsular, 10%-50% surface area; intraparenchymal, <5 cm in diameter	865.01 865.11	2
	Laceration	Capsular tear, 1-3cm parenchymal depth that does not involve a trabecular vessel	865.02 865.12	
III	Hematoma	Subcapsular, >50% surface area or expanding; ruptured subcapsular or parenchymal hematoma; intraparenchymal hematoma $\geq 5 \text{ cm}$ or expanding		3
	Laceration	>3 cm parenchymal depth or involving trabecular vessels	865.03 865.13	
IV	Laceration	Laceration involving segmental or hilar vessels producing major devascularization (>25% of spleen)		4
V	Laceration	Completely shattered spleen	865.04	5
	Vascular	Hilar vascular injury with devascularizes spleen	865.14	5

\*Advance one grade for multiple injuries up to grade III.  
From Moore et al. [4]; with permission

**Table 8**

Liver injury scale (1994 revision)				
Grade*	Type of Injury	Description of injury	ICD-9	AIS-90
I	Hematoma	Subcapsular, <10% surface area	864.01 864.11	2
	Laceration	Capsular tear, <1cm parenchymal depth	864.02 864.12	2
II	Hematoma	Subcapsular, 10% to 50% surface area; intraparenchymal <10 cm in diameter	864.01 864.11	2
	Laceration	Capsular tear 1-3 parenchymal depth, <10 cm in length	864.03 864.13	2
III	Hematoma	Subcapsular, >50% surface area of ruptured subcapsular or parenchymal hematoma; intraparenchymal hematoma > 10 cm or expanding		3
	Laceration	>3 cm parenchymal depth	864.04 864.14	3
IV	Laceration	Parenchymal disruption involving 25% to 75% hepatic lobe or 1-3 Couinaud's segments	864.04 864.14	4
V	Laceration	Parenchymal disruption involving >75% of hepatic lobe or >3 Couinaud's segments within a single lobe		5
	Vascular	Juxtahepatic venous injuries; ie, retrohepatic vena cava/central major hepatic veins		5
VI	Vascular	Hepatic avulsion		6

\*Advance one grade for multiple injuries up to grade III  
From Moore et al. [4]; with permission

**Table 9**

Extrahepatic biliary tree injury scale			
Grade*	Description of injury	ICD-9	AIS-90
I	Gallbladder contusion/hematoma	868.02	2
	Portal triad contusion	868.02	2
II	Partial gallbladder avulsion from liver bed; cystic duct intact	868.02	2
	Laceration or perforation of the gallbladder	868.12	2
III	Complete gallbladder avulsion from liver bed	868.02	3
	Cystic duct laceration	868.12	3
IV	Partial or complete right hepatic duct laceration	868.12	3
	Partial or complete left hepatic duct laceration	868.12	3
	Partial common hepatic duct laceration (<50%)	868.12	3
	Partial common bile duct laceration (<50%)	868.12	3
V	>50% transection of common hepatic duct	868.12	3-4
	>50% transection of common bile duct	868.12	3-4
	Combined right and left hepatic duct injuries	868.12	3-4
	Intraduodenal or intrapancreatic bile duct injuries	868.12	3-4

\*Advance one grade for multiple injuries up to grade III.  
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**Table 10**

Pancreas Injury Scale				
Grade*	Type of Injury	Description of Injury	ICD-9	AIS-90
I	Hematoma	Minor contusion without duct injury	863.81-863.84	2
	Laceration	Superficial laceration without duct injury		2
II	Hematoma	Major contusion without duct injury or tissue loss	863.81-863.84	2
	Laceration	Major laceration without duct injury or tissue loss		3
III	Laceration	Distal transection or parenchymal injury with duct injury	863.92/863.94	3
IV	Laceration	Proximal <sup>a</sup> transection or parenchymal injury involving ampulla	863.91	4
V	Laceration	Massive disruption of pancreatic head	863.91	5

\*Advance one grade for multiple injuries up to grade III. \*863.51,863.91 - head; 863.99,862.92-body;863.83,863.93-tail. <sup>a</sup>Proximal pancreas is to the patients' right of the superior mesenteric vein.

From Moore et al. [6]; with permission.

**Table 11**

Esophagus injury scale			
Grade*	Description of injury	ICD-9	AIS-90
I	Contusion/hematoma	862.22/.32	2
	Partial thickness laceration	862.22/.32	3
II	Laceration <50% circumference	862.22/.32	4
III	Laceration >50% circumference	862.22/.32	4
IV	Segmental loss or devascularization <2cm	862.22/.32	5
V	Segmental loss or devascularization >2cm	862.22/.32	5

\*Advance one grade for multiple lesions up to grade III.

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**Table 12**

Stomach injury scale			
Grade*	Description of injury	ICD-9	AIS-90
I	Contusion/hematoma	863.0/.1	2
	Partial thickness laceration	863.0/.1	2
II	Laceration <2cm in GE junction or pylorus	863.0/.1	3
	<5cm in proximal 1/3 stomach	863.0/.1	3
	<10cm in distal 2/3 stomach	863.0/.1	3
III	Laceration >2cm in GE junction or pylorus	863.0/.1	3
	>5cm in proximal 1/3 stomach	863.0/.1	3
	>10cm in distal 2/3 stomach	863.0/.1	3
IV	Tissue loss or devascularization <2/3 stomach	863.0/.1	4
V	Tissue loss or devascularization >2/3 stomach	863.0/.1	4

\*Advance one grade for multiple lesions up to grade III. GE-gastroesophageal.

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**Table 13**

Duodenum injury scale				
Grade*	Type of injury	Description of injury	ICD-9	AIS-90
I	Hematoma	Involving single portion of duodenum	863.21	2
	Laceration	Partial thickness, no perforation	863.21	3
II	Hematoma	Involving more than one portion	863.21	2
	Laceration	Disruption <50% of circumference	863.31	4
III	Laceration	Disruption 50%-75% of circumference of D2	863.31	4
		Disruption 50%-100% of circumference of D1,D3,D4	863.31	4
IV	Laceration	Disruption >75% of circumference of D2 Involving ampulla or distal common bile duct	863.31	5 5
V	Laceration	Massive disruption of duodenopancreatic complex	863.31	5
	Vascular	Devascularization of duodenum	863.31	5

\*Advance one grade for multiple injuries up to grade III. D1-first position of duodenum; D2-second portion of duodenum; D3-third portion of duodenum; D4-fourth portion of duodenum  
From Moore et al. [6]; with permission.

**Table 14**

Small bowel injury scale				
Grade*	Type of injury	Description of injury	ICD-9	AIS-90
I	Hematoma	Contusion or hematoma without devascularization	863.20	2
II	Laceration	Partial thickness, no perforation	863.20	2
	Laceration	Laceration <50% of circumference	863.30	3
III	Laceration	Laceration $\geq$ 50% of circumference without transection	863.30	3
IV	Laceration	Transection of the small bowel	863.30	4
V	Laceration	Transection of the small bowel with segmental tissue loss	863.30	4
	Vascular	Devascularized segment	863.30	4

\*Advance one grade for multiple injuries up to grade III.  
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**Table 15**

Colon injury scale				
Grade*	Type of injury	Description of injury	ICD-9	AIS-90
I	Hematoma	Contusion or hematoma without devascularization	863.40-863.44	2
	Laceration	Partial thickness, no perforation	863.40-863.44	2
II	Laceration	Laceration <50% of circumference	863.50-863.54	3
III	Laceration	Laceration $\geq$ 50% of circumference without transection	863.50-863.54	3
IV	Laceration	Transection of the colon	863.50-863.54	4
V	Laceration	Transection of the colon with segmental tissue loss	863.50-863.54	4
	Vascular	Devascularized segment	863.50-863.54	4

\*Advance one grade for multiple injuries up to grade III. \*863.41,863.51-ascending;863.42, 863.52-transverse;863.45,863.53-descending; 863.44,863.54-rectum.  
From Moore et al. [6]; with permission

**Table 16**

Rectum injury scale				
Grade*	Type of injury	Description of injury	ICD-9	AIS-90
I	Hematoma	Contusion or hematoma without devascularization	863.45	2
	Laceration	Partial-thickness laceration	863.45	2
II	Laceration	Laceration < 50% of circumference	863.55	3
III	Laceration	Laceration ≥ 50% of circumference	863.55	4
IV	Laceration	Full-thickness laceration with extension into the perineum	863.55	5
V	Vascular	Devascularized segment	863.55	5

\*Advance one grade for multiple injuries up to grade III.  
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**Table 17**

Abdominal vascular injury scale			
Grade*	Description of injury	ICD-9	AIS-90
I	Non-named superior mesenteric artery or superior mesenteric vein branches	902.20/.39	NS
	Non-named inferior mesenteric artery or inferior mesenteric vein branches	902.27/.32	NS
	Phrenic artery or vein	902.89	NS
	Lumbar artery or vein	902.89	NS
	Gonadal artery or vein	902.89	NS
	Ovarian artery or vein	902.81/.82	NS
	Other non-named small arterial or venous structures requiring ligation	902.90	NS
	Right, left, or common hepatic artery	902.22	3
	Splenic artery or vein	902.23/.34	3
	Right or left gastric arteries	902.21	3
II	Gastroduodenal artery	902.24	3
	Inferior mesenteric artery, or inferior mesenteric vein, trunk	902.27/.32	3
	Primary named branches of mesenteric artery (e.g., ileocolic artery) or mesenteric vein	902.26/.31	3
	Other names abdominal vessels requiring ligation or repair	902.89	3
	Superior mesenteric vein, trunk	902.31	3
	Renal artery or vein	902.41/.42	3
	Iliac artery or vein	902.53/.54	3
	Hypogastric artery or vein	902.51/.52	3
	Vena cava, infrarenal	902.10	3
	Superior mesenteric artery, trunk	902.25	3
III	Celiac axis proper	902.24	3
	Vena cava, suprarenal and infrahepatic	902.10	3
	Aorta, infrarenal	902.00	4
	Portal vein	902.33	3
	Extraparenchymal hepatic vein	902.11	3 (hepatic vein) 5 (liver + veins)
IV	Vena cava, retrohepatic or suprahepatic	902.19	5
	Aorta suprarenal, subdiaphragmatic	902.00	4

\*This classification system is applicable to extraparenchymal vascular injuries. If the vessel injury is within 2 cm of the organ parenchyma, refer to specific organ injury scale. Increase one grade for multiple grade III or IV injuries involving > 50% vessel circumference. Downgrade one grade if <25% vessel circumference laceration for grades IV or V. NS-not scored.  
From Moore et al [2]; with permission



**Table 18**

Adrenal organ injury scale				
Grade*	Description of injury	ICD-9	AIS-90	
I	Contusion	868.01/.11	1	
II	Laceration involving only cortex (<2 cm)	868.01/.11	1	
III	Laceration extending into medulla ( $\geq$ 2 cm)	868.01/.11	2	
IV	>50% parenchymal destruction	868.01/.11	2	
V	Total parenchymal destruction (including massive intraparenchymal hemorrhage) Avulsion from blood supply	868.01/.11	3	

\*Advance one grade for bilateral lesions up to grade V  
From Moore et al [1]; with permission

**Table 19**

Kidney injury scale				
Grade*	Type of injury	Description of injury	ICD-9	AIS-90
I	Contusion	Microscopic or gross hematuria, urologic studies normal	866.01	2
	Hematoma	Subcapsular, nonexpanding without parenchymal laceration	866.11	2
II	Hematoma	Nonexpanding perirenal hematoma confirmed to renal retroperitoneum	866.01 866.11	2
	Laceration	<1.0 cm parenchymal depth of renal cortex without urinary extravagation	866.02 866.12	2
III	Laceration	<1.0 cm parenchymal depth of renal cortex without collecting system rupture or urinary extravagation	866.02	3
IV	Laceration	Parenchymal laceration extending through renal cortex, medulla, and collecting system	866.12	4
	Vascular	Main renal artery or vein injury with contained hemorrhage		4
V	Laceration	Completely shattered kidney	866.03	5
	Vascular	Avulsion of renal hilum which devascularizes kidney	866.13	5

\*Advance one grade for bilateral injuries up to grade III  
From Moore et al. [7]; with permission

**Table 20**

Ureter injury scale				
Grade*	Type of injury	Description of injury	ICD-9	AIS-90
I	Hematoma	Contusion or hematoma without devascularization	867.2/867.3	2
II	Laceration	< 50% transection	867.2/867.3	2
III	Laceration	≥ 50% transection	867.2/867.3	3
IV	Laceration	Complete transection with < 2cm devascularization	867.2/867.3	3
V	Laceration	Avulsion with > 2cm of devascularization	867.2/867.3	3

\*Advance one grade for bilateral up to grade III.  
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**Table 21**

Bladder injury scale				
Grade*	Injury type	Description of injury	ICD-9	AIS-90
I	Hematoma	Contusion, intramural hematoma	867.0/867.1	2
	Laceration	Partial thickness		3
II	Laceration	Extraperitoneal bladder wall laceration <2 cm	867.0/867.1	4
III	Laceration	Extraperitoneal (≥2cm) or intraperitoneal (<2cm) bladder wall laceration	867.0/867.1	4
IV	Laceration	Intraperitoneal bladder wall laceration ≥2cm	867.0/867.1	4
V	Laceration	Intraperitoneal or extraperitoneal bladder wall laceration extending into the bladder neck or ureteral orifice (trigone)	867.0/867.1	4

\*Advance one grade for multiple lesions up to grade III  
From Moore et al. [2]; with permission

**Table 22**

Urethra injury scale				
Grade*	Injury type	Description of injury	ICD-9	AIS-90
I	Contusion	Blood at urethral meatus; retrography normal	867.0/867.1	2
II	Stretch injury	Elongation of urethra without extravasation on urethrography	867.0/867.1	2
III	Partial disruption	Extravasation of urethrography contrast at injury site with visualization in the bladder	867.0/867.1	2
IV	Complete disruption	Extravasation of urethrography contrast at injury site without visualization in the bladder; <2cm of urethra separation	867.0/867.1	3
V	Complete disruption	Complete transection with $\geq 2$ cm urethral separation, or extension into the prostate or vagina	867.0/867.1	4

\*Advance one grade for bilateral injuries up to grade III  
From Moore et al. [2]; with permission

**Table 23**

Uterus (nonpregnant) injury scale				
Grade*	Description of injury	ICD-9	AIS-90	
I	Contusion/hematoma	867.4/.5	2	
II	Superficial laceration (<1 cm)	867.4/.5	2	
III	Deep laceration ( $\geq 1$ cm)	867.4/.5	3	
IV	Laceration involving uterine artery	902.55	3	
V	Avulsion/devascularization	867.4/.5	3	

\*Advance one grade for multiple injuries up to grade III  
From Moore et al. [5]; with permission

**Table 24**

Uterus (pregnant) injury scale				
Grade*	Description of injury	ICD-9	AIS-90	
I	Contusion or hematoma (without placental abruption)	867.4/.5	2	
II	Superficial laceration (<1cm) or partial placental abruption <25%	867.4/.5	3	
III	Deep laceration ( $\geq 1$ cm) occurring in second trimester or placental abruption >25% but <50%	867.4/.5	3	
	Deep laceration ( $\geq 1$ cm) in third trimester			
IV	Laceration involving uterine artery	867.4/.5	4	
	Deep laceration ( $\geq 1$ cm) with >50% placental abruption	902.55	4	
V	Uterine rupture	867.4/.5	4	
	Second trimester	867.4/.5	4	
	Third trimester	867.4/.5	5	
	Complete placental abruption	867.4/.5	4-5	

\*Advance one grade for multiple injuries up to grade III  
From Moore et al. [5]; with permission

**Table 25**

Fallopian tube injury scale			
Grade*	Description of injury	ICD-9	AIS-90
I	Hematoma or contusion	867.6/.7	2
II	Laceration <50% circumference	867.6/.7	2
III	Laceration ≥50% circumference	867.6/.7	2
IV	Transection	867.6/.7	2
V	Vascular injury; devascularized segment	902.89	2

\*Advance one grade for bilateral injuries up to grade III  
From Moore et al. [5]; with permission

**Table 26**

Ovary injury scale			
Grade*	Description of injury	ICD-9	AIS-90
I	Contusion or hematoma	867.6/.7	1
II	Superficial laceration (depth <0.5 cm)	867.6/.7	2
III	Deep laceration (depth ≥ 0.5 cm)	867.8/.7	3
IV	Partial disruption or blood supply	902.81	3
V	Avulsion or complete parenchymal destruction	902.81	3

\*Advance one grade for bilateral injuries up to grade III  
From Moore et al. [5]; with permission

**Table 27**

Vagina injury scale			
Grade*	Description of injury	ICD-9	AIS-90
I	Contusion or hematoma	922.4	1
II	Laceration, superficial (mucosa only)	878.6	1
III	Laceration, deep into fat or muscle	878.6	2
IV	Laceration, complex, into cervix or peritoneum	868.7	3
V	Injury into adjacent organs (anus, rectum, urethra, bladder)	878.7	3

\*Advance one grade for multiple injuries up to grade III  
From Moore et al. [5]; with permission

**Table 28**

Vulva injury scale			
Grade*	Description of injury	ICD-9	AIS-90
I	Contusion or hematoma	922.4	1
II	Laceration, superficial (skin only)	878.4	1
III	Laceration, deep (into fat or muscle)	878.4	2
IV	Avulsion; skin, fat or muscle	878.5	3
V	Injury into adjacent organs (anus, rectum, urethra, bladder)	878.5	3

\*Advance one grade for multiple injuries up to grade III  
From Moore et al. [5]; with permission

**Table 29**

Testis injury scale			
Grade*	Description of injury	ICD-9	AIS-90
I	Contusion/hematoma	911.0/922.4	1
II	Subclinical laceration of tunica albuginea	922.4	1
III	Laceration of tunica albuginea with <50% parenchymal loss	878.2	2
IV	Major laceration of tunica albuginea with ≥50% parenchymal loss	878.3	2
V	Total testicular destruction or avulsion	878.3	2

\*Advance one grade for bilateral lesions up to grade V  
From Moore et al [1]; with permission

**Table 30**

Scrotum injury scale			
Grade	Description of injury	ICD-9	AIS-90
I	Contusion	922.4	1
II	Laceration <25% of scrotal diameter	878.2	1
III	Laceration ≥25% of scrotal diameter	878.3	2
IV	Avulsion <50%	878.3	2
V	Avulsion ≥50%	878.3	2

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**Table 31**

Penis injury scale			
Grade*	Description of injury	ICD-9	AIS-90
I	Cutaneous laceration/contusion	911.0-922.4	1
II	Buck's fascia (cavernosum) laceration without tissue loss	878.0	1
III	Cutaneous avulsion	878.1	3
	Laceration through glans/meatus		
	Cavemosal or urethral defect <2cm		
IV	Partial penectomy	878.1	3
	Cavarnosal or urethral defect ≥ 2 cm		
V	Total penectomy	876.1	3

\*Advance one grade for multiple injuries up to grade III  
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**Table 32**

Peripheral vascular organ injury scale			
Grade*	Description of injury	ICD-9	AIS-90
I	Digital artery/vein	903.5	1-3
	Palmar artery/vein	903.4	1-3
	Deep palmar artery/vein	904.6	1-3
	Dorsal/plantar artery	904.7	1-3
	Plantar artery/vein	904.5	1-3
	Non-named arterial/venous branches	903.8/904.7	1-3
II	Basilic/cephalic vein	903.8	1-3
	Saphenous vein	904.3	1-3
	Radial artery	903.2	1-3
	Ulnar artery	903.3	1-3
III	Axillary vein	903.02	2-3
	Superficial/deep femoral vein	903.02	2-3
	Popliteal vein	904.42	2-3
	Brachial artery	903.1	2-3
	Anterior tibial artery	904.51/904.52	1-3
	Posterior tibial artery	904.53/904.54	1-3
	Peroneal artery	904.7	1-3
	Tibioperoneal trunk	904.7	2-3
IV	Superficial/deep femoral artery	904.1/904.7	3-4
	Popliteal artery	904.41	2-3
V	Axillary artery	903.01	2-3
	Common femoral artery	904.0	3-4

\*Increase one grade for multiple grade III or IV injuries involving >50% vessel circumference. Decrease one grade for < 25% vessel circumference disruption for grades IV or V

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