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**Extracorporeal Life Support Organization (ELSO)**

ELSO Registry Trauma Addendum, Appendix A:

Abbreviated Injury Scores

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For all comments, questions and concerns please email

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| **Abbreviated Injury Scores: These scores should be obtained directly from the institution’s trauma coordinator. It is not the expectation that the ELSO centers’ database entry staff know how to calculate these scores. They are listed here in their entirety for reference only.** |
| Data Question | Definition / Explanation / Example |
| **Abbreviated Injury Score (AIS)****AIS Neck****AIS Thorax****AIS Thorax****AIS Thorax** **AIS Thorax** **AIS Abdomen****AIS Abdomen** **AIS Abdomen** **AIS Abdomen** **AIS Abdomen**  | The Abbreviated Injury Scale (AIS) is an anatomically based consensus-derived global severity scoring system that classifies each injury in every body region according to its relative severity on a six-point ordinal scale: No injury (0), Minor (1), Moderate (2), Serious (3), Severe (4), Critical (5), Maximal (currently untreatable) as (6). **This information is to be obtained from the local Trauma Center Coordinator**The full AIS definitions are available on the AAST website below:<https://www.aast.org/resources-detail/injury-scoring-scale> |
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| AIS Neck: 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 |   |
|   | External carotid artery | 900.1 | 1-3 |
| III | Subclavian vein | 900.02 | 2-3 |
|   | Vertebral artery | 901.3 | 3-4 |
|   | Common carotid artery | 900.8 | 2-4 |
| IV | Subclavian artery | 900.01 | 3-5 |
|   | Internal carotid artery (extracranial) | 901.1 | 3-4 |
| V |   | 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.  |

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| 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 |
|   |   |   | 807/02 |   |
|   |   |   | 810.00/810.03 | 2 |
| II | 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 |   |
|   |   | 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) |   |   |
|   | Fracture | Bilateral flail chest (>3 ribs on both sides) | 807.4 | 3-4 |
| V | 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

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| 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 |
|   | Blunt or penetrating pericardial wound with out cardiac injury, cardiac tamponade, or cardiac herniation |   |   |
| II | 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 | 861.01 | 3 |
|   | Penetrating tangential myocardial wound up to, but not extending through endocardium, without tamponade | 861.12 | 3 |
| III | Blunt cardiac injury with sustained (>6 beats/min) or multilocal ventricular contractions | 861.01 | 3-4 |
|   | 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 |   |   |
|   | Blunt cardiac injury with cardiac failure |   |   |
| IV | Penetrating tangential myocardial wound up to, but extending through,  | 861.01 | 3-4 |
|   | 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 | 861.12 | 3 |
|   | occlusion producing cardiac failure |   |   |
|   | Blunt or penetrating cardiac injury with aortic mitral valve incompetence |   |   |
|   | Blunt or penetrating cardiac injury of the right ventricle, right atrium, or left atrium |   |   |
|   | Blunt or penetrating cardiac injury with proximal coronary arterial occlusion |   |   |
|   | Blunt or penetrating left ventricular perforation |   |   |
|   | Stellate wound with < 50% tissue loss of the right ventricle, right atrium, or of left atrium | 861.03 | 5 |
| V | Blunt avulsion of the heart; penetrating wound producing > 50% tissue loss of a chamber | 861.03 |   |
|   |   | 861.13 | 5 |
|   |   | 861.03 | 5 |
|   |   |   |   |
| VI |   | 861.13 | 6 |
| \*Advance one grade for multiple wounds to a single chamber or multiple chamber involvement

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| 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 |   |
|   | Laceration | Simple pneumothorax | 860.0/1 | 3 |
| III | Contusion | Unilateral, > 1 lobe | 861.20 | 3 |
|   |   |   | 861.30 |   |
|   | Laceration | Persistent (> 72hrs) air leak from distal airway | 860.0/1 | 3-4 |
|   |   |   | 860.4/5 |   |
|   |   |   | 862.0 |   |
|   | Hematoma | Nonexpanding intraparenchymal | 861.30 |   |
| IV | Laceration | Major (segmental or lobar) air leak | 862.21 | 4-5 |
|   |   |   | 861.31 |   |
|   | Hematoma | Expanding intraparenchymal |   |   |
|   | Vascular | Primary branch intrapulmonary vessel disruption | 901.40 | 3-5 |
|   |   |   |   |   |
| 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.

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| 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 | 901.41 | 4 |
|   | hilum | 901.42 |   |
| \*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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| 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 < 25 cm2 | 862.1 | 3 |
| V | Laceration with tissue loss > 25 cm2 | 862.1 | 3 |
| \*Advance one grade for bilateral injuries up to grade III.  |
| Spleen injury scale (1994 revision) |
| Grade\* | Injury type | Description of injury | ICD-9 | AIS-90 |
|   |   |   |   |   |
| I | Hematoma | Subcapsular, <10% surface area | 865-01 | 2 |
|   |   |   | 865.11 |   |
|   | Laceration | Capsular tear, <1cm | 865.02 | 2 |
|   |   | parenchymal depth | 865.12 | 2 |
| II | Hematoma | Subcapsular, 10%-50% surface area | 865.01 |   |
|   |   | intraparenchymal, <5 cm in diameter | 865.11 |   |
|   |   |   |   | 2 |
|   | Laceration | Capsular tear, 1-3cm parenchymal depth that does not | 865.02 |   |
|   |   | involve a trabecular vessel | 865.12 |   |
|   |   |   |   | 3 |
| III | Hematoma | Subcapsular, >50% surface area or expanding; ruptured |   |   |
|   |   | subcapsular or parenchymal hematoma; intraparenchymal |   |   |
|   |   | hematoma > 5 cm or expanding |   |   |
|   | Laceration | >3 cm parenchymal depth or involving trabecular vessels | 865.03 | 3 |
|   |   |   | 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 de-vascularized spleen | 865.14 | 5 |
| \*Advance one grade for multiple injuries up to grade III.  |
| Liver injury scale (1994 revision) |
| Grade\* | Type of Injury | Description of injury | ICD-9 | AIS-90 |
|   |   |   |   |   |
| I | Hematoma | Subcapsular, <10% surface area | 864.01 | 2 |
|   |   |   | 864.11 |   |
|   | Laceration | Capsular tear, <1cm | 864.02 | 2 |
|   |   | parenchymal depth | 864.12 |   |
|   |   |   |   |   |
| II | Hematoma | Subcapsular, 10% to 50% surface area | 864.01 | 2 |
|   |   | intraparenchymal <10 cm in diameter | 864.11 |   |
|   |   |   |   |   |
|   | Laceration | Capsular tear 1-3 parenchymal depth, <10 cm in length | 864.03 | 2 |
|   |   |   | 864.13 |   |
|   |   |   |   |   |
| 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 | 3 |
|   |   |   | 864.14 |   |
| IV | Laceration | Parenchymal disruption involving 25% to 75% hepatic lobe or | 864.04 | 4 |
|   |   | 1-3 Couinaud’s segments | 864.14 |   |
|   |   |   |   |   |
| V | Laceration | Parenchymal disruption involving >75% of hepatic lobe or >3 |   | 5 |
|   |   | Couinaud’s segments within a single lobe |   |   |
|   |   |   |   |   |
|   | Vascular | Juxta-hepatic venous injuries; (i.e., retro-hepatic vena |   | 5 |
|   |   | cava/central major hepatic veins) |   |   |
| VI | Vascular | Hepatic avulsion |   | 6 |
| \*Advance one grade for multiple injuries up to grade III  |
| 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.  |
| 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? 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. a Proximal pancreas is to the patients’ right of the superior mesenteric vein.  |
| 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.  |
| 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.  |
| 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 | 863.31 | 5 |
|   |   | Involving ampulla or distal common bile duct |   | 5 |
| V | Laceration | Massive disruption of duo-deno-pancreatic 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  |
| 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 |
|   |   |   |   |   |
|   | Laceration | Partial thickness, no perforation | 863.20 | 2 |
| II | Laceration | Laceration <50% of circumference | 863.30 | 3 |
| III | Laceration | Laceration > 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 | De-vascularized segment | 863.30 | 4 |
| \*Advance one grade for multiple injuries up to grade III.  |
| 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 > 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 | De-vascularized 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.  |
| 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 | De-vascularized segment | 863.55 | 5 |
| \*Advance one grade for multiple injuries up to grade III.  |
| 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 |
| II | 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 |
|   | 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 |
| III | 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 |
| IV | Superior mesenteric artery, trunk | 902.25 | 3 |
|   | Celiac axis proper | 902.24 | 3 |
|   | Vena cava, suprarenal and infra-hepatic | 902.10 | 3 |
|   | Aorta, infrarenal | 902.00 | 4 |
| V | Portal vein Extra-parenchymal hepatic vein | 902.33 902.11 | 3 3(hepatic vein) |
|   |   |   | 5 (liver + veins) |
|   | Vena cava, retro-hepatic or supra-hepatic | 902.19 | 5 |
|   | Aorta suprarenal, subdiaphragmatic | 902.00 | 4 |
| \*This classification system is applicable to extra-parenchymal 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.  |
| 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 (> 2 cm) | 868.01/.11 | 2 |
| IV | >50% parenchymal destruction | 868.01/.11 | 2 |
| V | Total parenchymal destruction (including massive intraparenchymal hemorrhage) | 868.01/.11 | 3 |
|   | Avulsion from blood supply |   |   |
| \*Advance one grade for bilateral lesions up to grade V  |
| 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 | 866.01 | 2 |
|   |   | retroperitoneum | 866.11 |   |
|   |   |   |   |   |
|   | Laceration | <1.0 cm parenchymal depth of renal cortex without urinary | 866.02 | 2 |
|   |   | extravagation | 866.12 |   |
|   |   |   |   |   |
| III | Laceration | <1.0 cm parenchymal depth of renal cortex without collecting system rupture or urinary extravagation | 866.02 | 3 |
|   |   |   |   |   |
|   | Laceration | Parenchymal laceration extending through renal cortex, | 866.12 | 4 |
| IV |   | medulla, and collecting system |   |   |
|   |   |   |   |   |
|   | Vascular | Main renal artery or vein injury with contained hemorrhage |   | 4 |
|   |   |   |   |   |
| V | Laceration | Completely shattered kidney | 866.03 | 5 |
|   | Vascular | Avulsion of renal hilum with de-vascularized kidney | 866.13 | 5 |
| \*Advance one grade for bilateral injuries up to grade III  |
| 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.  |
| 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  |
| Urethra injury scale |
| Grade\* | Injury type | Description of injury | ICD-9 | AIS-90 |
|   |   |   |   |   |
| I | Contusion | Blood at urethral meatus; retrograde urethrography 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 transaction with >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  |
| 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 (> 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  |
| 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 |
|   | Deep laceration (>1cm) occurring in second trimester or placental abruption >25% |   |   |
| III | but <50% | 867.4/.5 | 3 |
|   | Deep laceration (>1cm) in third trimester |   |   |
|   | Laceration involving uterine artery | 867.4/.5 | 4 |
| IV | Deep laceration (>1cm) with >50% placental abruption | 902.55 | 4 |
|   | Uterine rupture | 867.4/.5 | 4 |
| V | Second trimester |   |   |
|   | Third trimester | 867.4/.5 | 4 |
|   | Complete placental abruption | 867.4/.5 | 5 |
|   |   | 867.4/.5 | 4-5 |
| \*Advance one grade for multiple injuries up to grade III  |
| 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; de-vascularized segment | 902.89 | 2 |
| \*Advance one grade for bilateral injuries up to grade III  |
| 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  |
| 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  |
| 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  |
| 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  |
|  |
| Scrotum injury scale |
| Grade | Description of injury | ICD-9 | AIS-90 |
|   |   |   |   |
| I | Contusion | 922.4 | 1 |
| II | Laceration <25% of scortal 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 |
|  |
| 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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