**Blunt Thoracic Aortic Injury (BTAI) Aortic Trauma Foundation Prospective Registry**

**Demographics:**

1. Age (years): \_\_\_\_\_

2. Gender: \_\_\_\_Male \_\_\_\_Female

3. Date of Injury: (Month/Date/Year)

4. Time of admission: \_\_\_\_\_\_

4. Country of placement: \_\_\_\_\_\_\_\_

**5. Known Comorbidities (select all that apply):**

\_\_\_ Coronary Artery Disease \_\_\_ Peripheral Vascular Disease \_\_\_ Hypertension

\_\_\_ Carotid artery disease \_\_\_ Dialysis dependent renal failure \_\_\_ Smoker

\_\_\_ Prior stroke \_\_\_ Angina \_\_\_Atrial Fibrillation

\_\_\_\_Congestive Heart Failure \_\_\_\_Known prior aortic aneurysm

\_\_\_Known prior aortic dissection \_\_\_\_ Cancer (Type: \_\_\_\_\_\_\_\_\_\_)

\_\_\_ Known connective tissue disease (Type: \_\_\_\_\_\_\_\_)

\_\_\_ Other pertinent: (Write in: \_\_\_\_\_\_\_\_\_\_)

**6. Known pre-injury medications (select all that apply):**

\_\_\_ Aspirin \_\_\_ Non-aspirin anti-platelet \_\_\_ Beta-Blocker

\_\_\_\_Calcium Channel Blocker \_\_\_ Statin \_\_\_ Warfarin

\_\_\_\_Other anticoagulant: (Write In: \_\_\_\_\_\_\_)

**7. Known pre-injury prior surgeries**

\_\_\_ Prior carotid endarterectomy

\_\_\_ Prior cardiac revascularization

 \_\_\_\_ Percutaneous angioplasty

 \_\_\_\_ Percutaneous stenting

\_\_\_\_ Coronary artery bypass grafting

\_\_\_\_ Left internal mammary utilization for coronary bypass

\_\_\_\_ Right internal mammary utilization for coronary bypass

\_\_\_ Prior median sternnotomy

\_\_\_ Prior thoracotomy (non-sternotomy)

\_\_\_ Prior percutaneous coronary intervention

\_\_\_ Prior aortic surgery

\_\_\_ Prior peripheral artery open surgery

\_\_\_ Prior peripheral artery endovascular surgery

\_\_\_\_Prior Abdominal exploration / surgery

\_\_\_\_Prior cardiac valve surgery (Type: \_\_\_\_\_\_\_\_\_)

**8. Mechanism (check most appropriate):**

\_\_\_\_ Motor vehicle collision

\_\_\_\_ Motorcycle accident

\_\_\_\_ Auto vs. Pedestrian

\_\_\_\_ Fall

\_\_\_\_ Work-related accident

\_\_\_\_ Other: Write in (\_\_\_\_\_\_\_\_\_)

**9. Admission Physiology / Exam:**

Systolic blood pressure: \_\_\_\_\_\_\_\_ mm Hg

Admission Mean Arterial blood pressure (MAP): \_\_\_\_\_\_\_\_mm Hg\_

Heart Rate: \_\_\_\_\_\_\_\_\_

Glasgow Coma Score: \_\_\_\_\_\_\_\_\_

Temperature: \_\_\_\_\_\_\_ Celsius

**10. Physical exam findings (select all that apply):**

\_\_\_\_ Thoracic seat belt or steering wheel sign \_\_\_\_ Other thoracic wall contusion

\_\_\_\_ Flail chest \_\_\_\_ Chest pain

\_\_\_\_ Chest wall hematoma

**11. Initial trauma plain radiography (CXR) findings on admission (select all that apply):**

\_\_\_\_ Widenened mediastinum

\_\_\_\_ Left hemothorax

\_\_\_\_ Right hemothorax

\_\_\_\_ Left pneumothorax

\_\_\_\_ Right pneumothorax

\_\_\_\_ Clavicular fracture

\_\_\_\_ Rib fractures (Side : \_\_\_\_ number:\_\_\_\_)

\_\_\_\_ Sternal fracture

\_\_\_\_ Pneumomediastinum

\_\_\_\_ Apical cap

\_\_\_\_ Scapula fracture

\_\_\_\_ Deviated trachea or nasogastric tube

\_\_\_\_ Loss of anterior-posterior window

**12. Admission labs (if obtained at admission):**

Lactate : \_\_\_\_\_ mmol/L

Creatinine: \_\_\_\_\_\_ mg / dL

Hemoglobin \_\_\_\_\_ mg / dL

Platelet Count: \_\_\_\_\_\_

Partial thromboplastin time (PTT): \_\_\_\_ secs

Prothrombin time (PT): \_\_\_\_ secs

International Normalized Ratio: \_\_\_\_\_

pH \_\_\_\_\_\_\_

Base Deficit: -/+\_\_\_\_\_\_\_\_

**13. Injury Scoring:**

Injury Severity Score (ISS): \_\_\_\_\_\_

Abbreviated Injury Score (AIS) - Head \_\_\_\_\_\_

Abbreviated Injury Score (AIS) – Chest \_\_\_\_\_\_

Abbreviated Injury Score (AIS) - Abdomen \_\_\_\_\_\_

Abbreviated Injury Score (AIS) – Extremities \_\_\_\_\_\_

**14. Other specific associated injuries (select all that apply):**

\_\_\_ Intracranial hemorrhage or contusion

\_\_\_ Facial fractures

\_\_\_ Cervical Spinal fracture:

\_\_\_ Thoracic Spinal fracture

\_\_\_ Lumbar spinal fracture

\_\_\_ Sacral spinal fracture

\_\_\_ Liver injury (AAST Grade \_\_\_ 1 \_\_\_ 2 \_\_\_ 3 \_\_\_ 4)

\_\_\_ Splenic injury (AAST Grade \_\_\_ 1 \_\_\_ 2 \_\_\_ 3 \_\_\_ 4)

\_\_\_ Renal Injury (AAST Grade \_\_\_ 1 \_\_\_ 2 \_\_\_ 3 \_\_\_ 4)

\_\_\_ Bladder injury

\_\_\_ Pancreatic Injury (AAST Grade \_\_\_ 1 \_\_\_ 2 \_\_\_ 3 \_\_\_ 4)

\_\_\_ Hollow viscus injury ( \_\_\_ Esophageal \_\_\_ Gastric \_\_\_ Small bowel \_\_\_ Large bowel \_\_\_ Rectal)

\_\_\_ Other major vascular injury (Location / type: \_\_\_\_\_\_)

\_\_\_ Pelvic fracture (Type: \_\_\_\_\_\_\_\_)

\_\_\_ Long bone fracture (Location: \_\_\_\_\_ Type: \_\_\_\_\_\_\_)

**15. BTAI Diagnosis / Imaging data – Modality utilized to diagnose injury (Check MOST APPROPRIATE):**

\_\_\_\_\_ Computed tomographic angiography (CTA)

\_\_\_\_\_ Magnetic Resonance angiography (MRA)

\_\_\_\_\_ Traditional angiography (digital subtraction)

\_\_\_\_\_ Transthoracic echocardiogram (TTE)

\_\_\_\_\_ Transesophageal echocardiogram (TEE)

\_\_\_\_\_ Intravascular Ultrasoound

**16. BTAI Grade**

\_\_\_\_\_ Grade I

Length = \_\_\_\_\_\_ millimeters

(Length measured along greater curvature)

Maximum lesion diameter = \_\_\_\_\_ mm

Location:

 \_\_\_ Lesser curvature

 \_\_\_ Greater curvature

Distance from left subclavian artery \_\_\_ mm

\_\_\_\_\_ Grade II

 Length = \_\_\_\_\_\_\_ mms

(Length measured along greater curvature)

Maximum lesion diameter = \_\_\_\_\_ mm

****Location:

 \_\_\_ Lesser curvature

 \_\_\_ Greater curvature

Distance from left subclavian artery \_\_\_ mm

\_\_\_\_\_ Grade III

 % circumference (estimated)

\_\_\_\_ < 25%

\_\_\_\_ 26% - 50%

\_\_\_\_ 51% - 75%

\_\_\_\_ > 75%

Length = \_\_\_\_\_\_ mm

(Length measured along greater curvature)

Maximum lesion diameter = \_\_\_\_\_ mm

Location:

 \_\_\_ Lesser curvature

 \_\_\_ Greater curvature

Distance from left subclavian artery \_\_\_ mm

\_\_\_\_\_ Grade IV

Length = \_\_\_\_\_\_ mm

(Length measured along greater curvature)

Maximum lesion diameter = \_\_\_\_\_ mm

Location:

 \_\_\_ Lesser curvature

 \_\_\_ Greater curvature

Distance from left subclavian artery \_\_\_ mm



**17. Aortic Arch type:**

\_\_\_ Type I

\_\_\_ Type II

\_\_\_ Type III

**18.** **Bovine arch anatomy:**

\_\_\_ Yes \_\_\_\_ No

**19. Intact and complete circle of Willis visualized?**

\_\_\_\_ Yes

\_\_\_\_ No

\_\_\_\_ Not applicable / Not imaged

**20. Normal aortic diameter immediately above injury (cm):** \_\_\_\_ mm

**21. Normal aortic diameter immediately below injury (cm):** \_\_\_\_ mm

**22. Associated chest CT (besides initial plain CXR) findings (check all that apply):**

\_\_\_\_ Rib fractures (number:\_\_\_\_)

\_\_\_\_ Sternal fracture

\_\_\_\_ Pneumomediastinum

\_\_\_\_ Pericardial effusion or blood

\_\_\_\_\_ Pseudocoarcation

\_\_\_\_\_ Associated mediastinal hematoma with any evidence of compression or mass effect

 Maximum depth of mediastinal hematoma identified: \_\_\_\_ cc

\_\_\_\_\_ Associated left hemothorax

Estimated volume of left hemothorax = \_\_\_\_\_\_ cc

(Using following formula)

CT estimate of volume of hemothorax on CT:

ESTIMATE = V (in cc) = d2 X L

(d = greatest depth of hemothorax; from chest wall to lung at right angle on any one CT image, in cms)(L = craniocaudal length, in cms) (number of slices X cm thickness of CT cuts)



**23. Medical management with blood pressure impulse controlled during INITIAL period of BTAI management: \_\_\_\_ Yes \_\_\_\_ No**

 Type: \_\_\_\_ Continuous titrated infusion of antihypertensive

 \_\_\_\_ Intermittent administration of bolus antihypertensive

 Agent utilized: \_\_\_ Beta blocker \_\_\_\_ Calcium Chanel blocker \_\_\_ Other: \_\_\_\_\_\_\_\_\_

 Goal therapy: \_\_\_ To target Systolic blood pressure \_\_\_ To target Mean arterial pressure

 Goal measurement: \_\_\_\_ mm Hg

 Goal attained: \_\_\_ Yes \_\_\_ No \_\_\_ Unknown

**24. DEFINITIVE Treatment of BTAI (check ALL that apply):**

\_\_\_\_\_ **Medical Management** **alone** (blood pressure control)

 Type: \_\_\_\_ Continuous titrated infusion of antihypertensive

 \_\_\_\_ Intermittent administration of bolus antihypertensive

 Agent utilized: \_\_\_ Beta blocker \_\_\_\_ Calcium Chanel blocker \_\_\_ Other: \_\_\_\_\_\_\_\_\_

 Goal therapy: \_\_\_ To target Systolic blood pressure \_\_\_ To target Mean arterial pressure

 Goal measurement: \_\_\_\_ mm Hg

 Goal attained: \_\_\_ Yes \_\_\_ No \_\_\_ Unknown

\_\_\_\_\_ **Open surgical repair**

Case posting type: \_\_\_ Emergent \_\_\_ Urgent \_\_\_ Elective

Primary pecialty of primary surgeon / internventionalist:

 \_\_\_\_ Cardiac surgery \_\_\_\_ Vascular Surgery \_\_\_ Intervnetional radiology

 \_\_\_\_ Trauma Surgery \_\_\_\_ Cardiology

 Date of repair: (Month/date/year): \_\_\_\_\_\_

Time of repair: \_\_\_\_\_\_\_\_

 Actual time from admission to repair: \_\_\_\_\_\_ hours

EBL: \_\_\_\_ cc

Intra-operative crystalloid: \_\_\_\_ cc

Intra-operative PRBC: \_\_\_\_\_ units

Total procedure time: \_\_\_\_\_\_\_ mins

Left heart bypass utilized? \_\_\_ Yes \_\_\_ No

 Type of cannulation utilized: (Write in): \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Hypothermia utilized? \_\_\_ Yes \_\_\_ No

\_\_\_ Active hypothermia \_\_\_Passive permissive hypothermia

\_\_\_ Goal temperature utilized: \_\_\_\_ Celsius

Spinal cerebrospinal fluid drain place before procedure? \_\_\_ Yes \_\_\_ No

Location of proximal aortic clamp:

\_\_\_\_ Proximal to left subclavian artery

\_\_\_\_ Distal to left subclavian artery

Graft type utilized: (Write in: \_\_\_\_\_\_\_\_\_\_\_)

Graft size utilized: (Write in: \_\_\_\_\_\_\_\_\_\_\_)

**Intra-operative complications – Open**

\_\_\_\_ Iatrogenic lung injury

\_\_\_\_ Lesion rupture

\_\_\_\_\_\_ **Endovascular repair (TEVAR)**

Case posting type: \_\_\_ Emergent \_\_\_ Urgent \_\_\_ Elective

Primary specialty of primary surgeon / internventionalist:

 \_\_\_\_ Cardiac surgery \_\_\_\_ Vascular Surgery \_\_\_ Intervnetional radiology

 \_\_\_\_ Trauma Surgery \_\_\_\_ Cardiology

 Date of repair: (Month/date/year): \_\_\_\_\_\_

Time of repair: \_\_\_\_\_\_\_\_

 Actual time from admission to repair: \_\_\_\_\_\_ hours

Anesthesia: \_\_\_ General \_\_\_ Local/regional +/- sedation

Iodinated contrast utilized: \_\_\_\_ cc

EBL: \_\_\_\_ cc

Intra-operative crystalloid: \_\_\_\_ cc

Intra-operative PRBC: \_\_\_\_\_ units

Total procedure time: \_\_\_\_\_\_\_ mins

Total fluoroscopy time: \_\_\_\_\_ mins

IVUS utilized: \_\_\_\_ Yes \_\_\_\_ No

TEE utilized: \_\_\_\_ Yes \_\_\_\_ No

Device access side:

\_\_\_\_ Right, Sheath / device diameter size: \_\_\_\_ French

\_\_\_\_ Left, Sheath / device diameter size: \_\_\_\_ French

Ultrasound access guidance utilized: \_\_\_ Yes \_\_\_ No

Deployment technical success: \_\_\_ Yes \_\_\_ No

Initial percutaneous access: \_\_\_ Yes \_\_\_ No

 Conversion to open required? \_\_\_ Yes \_\_\_ No

Initial open access: \_\_\_\_ Yes \_\_\_\_ No

Prosthetic conduit utilized for access? \_\_\_ Yes \_\_\_ No

Device access artery injury? \_\_\_ Yes \_\_\_ No

Access closure: \_\_\_ Percutaneous device

 \_\_\_ Proglide

 \_\_\_ Perclose

 \_\_\_ Other (Write in)

\_\_\_ Open arterial closure without patch angioplasty

\_\_\_ Open arterial closure with patch angioplasty

Device utilized:

 Manufacturer: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Diameter - proximal : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Diameter - distal: :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Length) : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Left SCA covered? (check one): \_\_\_\_\_ Yes \_\_\_\_\_ No

 Additional endovascular modality required to maintain left SCA perfusion \_\_\_\_ Yes \_\_\_\_ No

 \_\_\_\_ Snorkel / Chimney

 \_\_\_\_ Branched graft

 \_\_\_\_ Laser fenestration with graft placement

 \_\_\_\_ other (please specify:\_\_\_\_\_\_\_\_)

 Spinal cerebrospinal fluid drain place before procedure? \_\_\_ Yes \_\_\_ No

 \_\_\_ Initial spinal fluid pressure: \_\_\_\_ mm Hg

 Therapeutic active hypothermia utilized intra-operatively? \_\_\_ Yes \_\_\_ No

**Intraoperative complications – Endovascular**

\_\_\_\_\_ Endograft malpositioning at time of initial endovascular procedure

\_\_\_\_\_ Endoleak

 Type? \_\_\_\_ I \_\_\_\_ II \_\_\_\_ III \_\_\_\_\_ IV (see data dictionary for definitions)

\_\_\_\_\_ Failure of device delivery

\_\_\_\_\_ Failure of device deployment

\_\_\_\_\_ Device migration

\_\_\_\_\_ Device maldeployment

\_\_\_\_\_ Device malposition

\_\_\_\_\_ Lesion rupture

\_\_\_\_\_ Access complication

 \_\_\_\_\_\_ Access artery laceration

 \_\_\_\_\_\_ Access artery dissection

 \_\_\_\_\_\_ Access artery related thrombosis

 \_\_\_\_\_\_ Access artery related embolism

 \_\_\_\_\_\_ Access artery related rupture

**25. Initial post-operative labs:**

Lactate : \_\_\_\_\_ mmol/L

Creatinine: \_\_\_\_\_\_ mg / dL

Hemoglobin \_\_\_\_\_ mg / dL

Platelet Count: \_\_\_\_\_\_

Partial thromboplastin time (PTT): \_\_\_\_ secs

Prothrombin time (PT): \_\_\_\_ secs

International Normalized Ratio: \_\_\_\_\_

pH \_\_\_\_\_\_\_

Base Deficit: -/+\_\_\_\_\_\_\_\_

**26. Initial post-operative vital signs / evaluation / care:**

Systolic blood pressure: \_\_\_\_ mm/Hg

Mean arterial pressure: \_\_\_\_ mm/Hg

Heart rate: \_\_\_\_ beats per minute

Initial post-operative neurologic exam with evidence of (check all that apply)

\_\_\_\_\_ Stroke – Ischemic

\_\_\_\_\_ Stroke – Hemorrhagic

\_\_\_\_\_ Paraperesis

\_\_\_\_\_ Paraplegia

Initial post-operative pressors required? \_\_\_ Yes \_\_\_ No

 Agent utilized: \_\_\_\_ Epinephrine \_\_\_ Noriepinehrine \_\_\_ Vasopressin \_\_\_ Other(s): \_\_\_\_\_\_\_\_\_\_\_\_\_

Spinal drainage pressure measured post-op? \_\_\_ Yes \_\_\_ No \_\_\_\_ Not applicable (no drainage)

 Initial spinal pressure post-procedure measured: \_\_\_\_ mm Hg

 Goal spinal drainage pressure: \_\_\_\_ mm Hg

 Amount of CSF fluid drained first 24 hours: \_\_\_\_\_\_ cc

 Duration of spinal drainage use: \_\_\_\_\_ days

 Total CSF fluid evacuated: \_\_\_\_\_\_\_\_ cc

**Hospital Course:**

**27. Other emergent procedures (check all that apply)?**

\_\_\_\_\_ Craniotomy / Craniectomy

\_\_\_\_\_ Laparotomy

 \_\_\_\_ Splenectomy

 \_\_\_\_ Hepatic hemorrhage control (packing or surgical

 \_\_\_\_ Nephrectomy or surgical control renal hemorrhage

 \_\_\_\_ Large bowel repair or resection

 \_\_\_\_ Small bowel repair or resection

 \_\_\_\_ Definitive fascial closure at completion of laparotomy

 \_\_\_\_ Temporary abdominal closure at completion of laparotomy (wound vac / damage control closure)

\_\_\_\_\_ Thoracotomy / Median Sternotomy (for other than open BTAI repair)

 \_\_\_\_ Definitive thoracic closure at completion of laparotomy

 \_\_\_\_ Temporary thoracic closure at completion of laparotomy (wound vac / damage control closure)

\_\_\_\_\_ Others: (write in: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_)

**28. Total blood products first PRE-operatively:**

Units packed red blood cells (PRBCs): \_\_\_\_\_\_\_

Units fresh frozen plasma (FFP): \_\_\_\_\_\_\_

Units platelets (PLTS): \_\_\_\_\_\_\_

**29. Total blood products first INTRA-operatively:**

Units packed red blood cells (PRBCs): \_\_\_\_\_\_\_

Units fresh frozen plasma (FFP): \_\_\_\_\_\_\_

Units platelets (PLTS): \_\_\_\_\_\_\_

**30. Total blood products first 24 hours POST-operatively**

Units packed red blood cells (PRBCs): \_\_\_\_\_\_\_

Units fresh frozen plasma (FFP): \_\_\_\_\_\_\_

Units platelets (PLTS): \_\_\_\_\_\_\_

31. **Was REPEAT thoracic aortic imaging obtained during the initial hospitalization after initiation of treatment (Medical or surgical /endovascular)?** (

Check One) \_\_\_\_\_ Yes \_\_\_\_\_ No

**32. Type of imaging obtained and timing (date of admission = Hospital Day #1) :**

\_\_\_\_ Plain radiography specifically to assess graft position Hospital Day(s): \_\_\_\_\_

\_\_\_\_ CTA Hospital Day(s): \_\_\_\_\_

\_\_\_\_ Traditional Angiograpy Hospital Day(s): \_\_\_\_\_

\_\_\_\_ MRA Hospital Day(s): \_\_\_\_\_

**33. In-Hospital Complications (Check all that apply – refer to data dictionary for specific definitions of complications as required)**

\_\_\_\_\_ Unanticipated return to OR for access site complication

\_\_\_\_\_ Unanticipated return to OR for index BTAI treatment complication

\_\_\_\_\_ Stent fracture

\_\_\_\_\_ Stent migration

\_\_\_\_\_ Procedure related aortic perforation

\_\_\_\_\_ Re-operation for bleeding attributable to aortic injury

\_\_\_\_\_ Delayed rupture

\_\_\_\_\_ Access site pseuduoaneurysm

\_\_\_\_\_ Access site persistent or delayed bleeding requiring intervention

\_\_\_\_\_ Access surgical site infection (SSI)

\_\_\_\_\_ Delayed paralysis attributable to aortic intervention (NOT as a direct result of spinal cord injury due to trauma)

\_\_\_\_\_ Delayed Ischemic stroke

\_\_\_\_\_ Delayed Hemorrhagic Stroke

\_\_\_\_\_ Confirmed vocal cord deficit

\_\_\_\_\_ Acute Renal Failure (serum creatinine > 2.0 mg/dL)

\_\_\_\_\_ Deep Vein Thrombosis

\_\_\_\_\_ Pulmonary Embolism

\_\_\_\_\_ Catheter-associated Urinary Tract Infection (UTI)

\_\_\_\_\_ Blood Stream Infection (BSI)

\_\_\_\_\_ Central line associated blood stream infection (CLABSI)

\_\_\_\_\_ Intestinal Ischemia

\_\_\_\_\_ Mechanical Ventilation via endotracheal tube > 48 hours required

\_\_\_\_\_ Non-invasive ventilation > 48 hours required

\_\_\_\_\_ Need for tracheostomy for prolonged ventilation

\_\_\_\_\_ Dysrythmia other than sinus tachycardia

\_\_\_\_\_ Leg ischemia / emboli

\_\_\_\_\_ Arm ischemia / emboli

\_\_\_\_\_ Spinal ischemia

 \_\_\_\_ Time to symptoms: \_\_\_\_\_ hrs

 \_\_\_\_ Permanent deficit: \_\_\_ Yes \_\_\_ No

\_\_\_\_\_ Myocardial infarction

\_\_\_\_\_ Leg compartment syndrome

\_\_\_\_\_ Surgical Site Infection

\_\_\_\_\_ Hospital Acquired Pneumonia

\_\_\_\_\_ Ventilator Associated Pneumonia

\_\_\_\_\_ Acute Lung Injury / Acute Respiratory Distress Syndrome

\_\_\_\_\_ Sepsis

**34. Need for delayed aortic intervention or re-intervention DURING INITIAL HOSPITALIZATION (check all that apply):**

\_\_\_\_ Treatment required for FAILURE of medical management

 Type of treatment required (check most appropriate): \_\_\_\_\_ TEVAR \_\_\_\_\_ Open repair

\_\_\_\_ Need for re-intervention after TEVAR

 Type of re-intervention (check most appropriate): \_\_\_\_\_ Endovascular \_\_\_\_Open

\_\_\_\_ Need for re-intervention after Open Repair

 Type of re-intervention (check most appropriate): \_\_\_\_\_ Endovascular \_\_\_\_Open

**35. Other type of re-interventions required:**

\_\_\_ Access-related complication treatment

\_\_\_ Delayed placement of spinal drain for plegia / paralysis

\_\_\_ Return to operating room for issue related to index BTAI procedure

Intensive Care Unit Length of Stay (ICU LOS) = \_\_\_\_\_\_\_ days

Hospital Length of Stay: \_\_\_\_\_\_\_ days

Ventilator Days: \_\_\_\_\_\_\_ days

**36. IN HOSPITAL MORTALITY**

\_\_\_\_\_ In-hospital Mortality

\_\_\_\_\_ 30 day mortality

\_\_\_\_\_ Aortic related in hospital mortality

 \_\_\_\_ Death directly related to initial aortic injury (ex. rupture)

\_\_\_\_ Death directly related to complication specifically of aortic treatment (ex. Procedure-related aortic

perforation, catastrophic stroke related to intervention)

If Aortic-related mortality, did it occur prior to opportunity for endovascular or open surgical intervention?

(Check one): \_\_\_\_ Yes \_\_\_\_\_ No

**FOLLOW-UP DATA MODULE**

1. Time since BTAI (months):\_\_\_\_\_\_\_\_\_\_\_

2. Was BTAI or injury repair assessed at the time of this follow-up visit: \_\_\_\_ Yes \_\_\_\_ No

3. Assessment type (check all that apply):

\_\_\_\_ Pulse exam \_\_\_\_ Injured extremity or ankle brachia index \_\_\_\_ Other:\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Was BTAI or repair imaged for this follow-up visit \_\_\_\_ Yes \_\_\_\_ No

5. Imaging type (check all that apply):

\_\_\_\_ Plain radiography \_\_\_\_ CTA \_\_\_\_ MRI/MRA \_\_\_\_ Arteriography \_\_\_\_ Echocardiogram

\_\_\_\_ Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. At this follow-up is the patient on therapeutic anticoagulation? \_\_\_\_ Yes \_\_\_\_ No

7. Anticoagulation type (check all that apply):

\_\_\_\_ Subcutaneous low molecular weight heparin \_\_\_\_ Oral warfarin

\_\_\_\_ Other:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. At this follow-up is the patient on antiplatetlet therapy? \_\_\_\_ Yes \_\_\_\_ No

9. Antiplatelet therapy type (check all that apply):

\_\_\_\_ Aspirin \_\_\_\_ Plavix \_\_\_\_ Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. If BTAI repair was the form of management (not observation), was the

repair patent and complication free at this visit? \_\_\_\_ Yes \_\_\_\_ No

11. As a result of this visit, was there need for re-intervention

on original BTAI management choice? \_\_\_\_ Yes \_\_\_\_ No

 If Yes, choose reason for re-intervention (check all that apply)

 \_\_\_\_ Failure of non-operative or non-interventional management

 \_\_\_\_ Failure of or technical problem with original open vascular repair

 \_\_\_\_ Failure of or technical problem with original endovascular repair

 \_\_\_\_ Need to re-operate or re-intervene for findings at this follow up visit

 \_\_\_\_\_ Endoleak

 Type? \_\_\_\_ I \_\_\_\_ II \_\_\_\_ III \_\_\_\_\_ IV (see data dictionary for definitions)

 \_\_\_\_ Stent graft migration

 \_\_\_\_ Stent graft fracture

 \_\_\_\_\_\_ Device compression

 \_\_\_\_ Thrombosis

 \_\_\_\_ Flow-limiting stenosis or narrowing

 \_\_\_\_ Infection

 \_\_\_\_ Subclavian steal or ischemia as a result of left subclavian artery coverage

12. have any of the following major morbidities occurred since hospital discharge (check all that apply):

 \_\_\_\_ Stroke

 \_\_\_\_ Ischemic complication from left subclavian artery coverage

 \_\_\_\_ Extremity ischemia from arterial access or other operation-related complication

 \_\_\_\_ Major infectious complication

 \_\_\_\_ Bowel resection or other embolic complication distal to BTAI or BTAI repair

13. Next planned surveillance of vascular injury (months): \_\_\_\_\_\_\_\_

14. Type of planned surveillance for next follow-up (check all that apply):

\_\_\_\_ Plain radiograph \_\_\_\_ CTA \_\_\_\_ MRI/MRA \_\_\_\_ Arteriography \_\_\_ Echocardiogram