Set Study Id

Subject ID

_____
(Site # (initial) plus a sequential number, e.g. 681-18, H18)

Study ID Abbrev

_____
(Three letter abbrev corresponding to HSC study ID)

HSC Study ID

_____
(official HSC study ID)

Study Description

_____
(official study description)

GUID

_____
(Generated using FITBIR tools)

Demographics Comorbidities

Institution	_____
Age	_____
Gender	◯ male ◯ female
Past Medical History	☐ none (previously healthy) ☐ chronic kidney disease (baseline creatinine ≥2 mg/dL) ☐ insulin dependent diabetes mellitus ☐ condition requiring full anticoagulation ☐ pre-injury antiplatelet use (ASA or Plavix)
Type of Insurance	☐ none ☐ medicare ☐ medicaid ☐ other _____
Type of Injury	◯ blunt ◯ penetrating ◯ mixed blunt and penetrating
Mechanism of Injury	◯ motor vehicle crash ◯ pedestrian versus auto ◯ gunshot ◯ stabbing ◯ fall ◯ industrial accident ◯ athletic injury ◯ explosion ◯ iatrogenic (e.g. cath lab injury) ◯ other: _____

Hospital Admission

Vitals (0 to 2 hours after arrival)	
Systolic Blood Pressure (mmHg)	_____
Heart Rate (beats/min)	_____
Glasgow Coma Scale (GCS)	_____

Labs (0 to 2 hours after arrival)	
Hemoglobin (g/dL)	_____
Platelet Count (1000/mm^3)	_____
pH	_____
Lactate (mmol/L)	_____
INR	_____
TEG Type	◯ Kaolin ◯ Rapid
TEG ACT	_____
TEG Alpha-Angle	_____
TEG Max Amplitude	_____
TEG %Lysis (LY30)	_____

Vasopressors

Continuous infusion of vasopressors required during first 24 hours of hospitalization?	◯ Yes ◯ No
Vasopressors	☐ neosynephrine ☐ dopamine ☐ levophed/norepinephrine ☐ vasopressin ☐ epinephrine

Total Blood Products (0 to 24 hours after arrival)

RBC Units	_____
Plasma Units	_____
Platelet Units	_____
Whole Blood Units	_____

Hospital Days

Hospital Length of Stay (days)	_____
ICU length of stay (days)	_____
Ventilator days	_____
in-hospital death	◯ Yes ◯ No

Vascular Injury Information

How many days from injury to surgery?	_____
Specific vascular structure injured (check ONLY ONE for each entry) - if there are concomitant injuries, please enter each separately (multiple survey forms)	◯ cervical ◯ extremity (upper) ◯ extremity (lower) ◯ torso
Cervical	◯ common carotid artery ◯ internal carotid artery ◯ external carotid artery ◯ vertebral artery ◯ internal jugular vein
Extremity (Upper)	◯ brachial artery ◯ axillary artery ◯ radial artery ◯ ulnar artery ◯ brachial vein ◯ axillary vein
Extremity (Lower)	◯ common, superficial, or deep femoral artery ◯ common, superficial, or deep femoral vein ◯ popliteal artery ◯ popliteal vein ◯ anterior tibial artery ◯ posterior tibial artery ◯ peroneal artery
Torso	◯ innominate artery ◯ innominate vein ◯ subclavian artery ◯ subclavian vein ◯ intra-thoracic right common carotid artery ◯ intra-thoracic left common carotid artery ◯ descending thoracic aorta ◯ abdominal aorta ◯ infra-renal inferior vena cava (IVC) ◯ retro-hepatic IVC ◯ common, external, or internal iliac arteries ◯ celiac artery ◯ common hepatic artery ◯ splenic artery ◯ superior mesenteric artery ◯ superior mesenteric vein ◯ portal vein ◯ renal artery ◯ renal vein ◯ iliac vein ◯ other: _____
Hard signs of vascular injury present?	◯ Yes ◯ No
specific hard signs (check all that apply)	☐ hemorrhage ☐ expanding hematoma ☐ ischemia

soft signs of vascular injury present	◯ Yes ◯ No
specific soft signs (check all that apply)	☐ wound proximity ☐ reduced pulses ☐ fracture/dislocation pattern
Was the identified vascular injury to an extremity?	◯ Yes ◯ No
Application of pre-hospital tourniquet?	◯ Yes ◯ No
Tourniquet type (check the one that most applies)	◯ combat application tourniquet (CAT) ◯ other commercial device ◯ improvised
Estimated tourniquet time?	◯ < 1 hour ◯ 1-3 hours ◯ 3-6 hours ◯ >6 hours
Doppler pressure measurement (ABI or BBI) < 0.9?	◯ yes ◯ no ◯ not obtained
Mangled extremity calculation: Describe associated skeletal/soft-tissue injury	◯ low energy (stab, simple fracture, pistol gunshot wound) ◯ medium energy (open or multiple fractures, dislocation) ◯ high energy (high speed MVA or rifle GSW) ◯ very high energy (high speed trauma + gross contamination)
Describe associated limb ischemia	◯ pulse reduced or absent but perfusion normal ◯ pulseless, paresthesias, diminished capillary refill ◯ cool, paralyzed, insensate, numb
Describe the nature or absence of shock	◯ systolic BP always within normal limits for age ◯ transient hypotension ◯ persistent hypotension
Modality utilized to make the DEFINITIVE diagnosis of vascular injury (check all that apply)	☐ operative exploration ☐ contrast-enhanced computed tomography/angiography (CTA) ☐ duplex ultrasound ☐ conventional contrast angiography in interventional radiology ☐ conventional contrast angiography in operating room (hybrid OR/IR, C-arm)
Injury type as defined by diagnostic modality utilized (check all that apply):	☐ transection ☐ occlusion ☐ partial transection or flow limiting defect (e.g. dissection or intimal flap) ☐ pseudoaneurysm ☐ other: _____
Vessel size (estimate in mm)	_____

size estimate by (modality):	☐ computed tomography (CT) or magnetic resonance imaging (MRI) ☐ ultrasound (US) ☐ operative exploration
Acute Management of Vascular Injury	◯ Observation of vascular injury (i.e. no operative intervention) ◯ open operative management of vascular injury ◯ endovascular management of vascular injury
Adjunctive medical therapy for vascular injury observation utilized?	☐ none ☐ anti-hypertensive (betablockade or vasodilator) ☐ antiplatelet therapy (ASA or plavix) ☐ anticoagulation (IV or subQ heparinoids) ☐ other
If other, please describe	_____
Initial open operative management of vascular injury - operation performed by	☐ pediatric surgeon ☐ trauma surgeon (adult) ☐ vascular surgeon ☐ microvascular surgeon (plastics, hand, etc) ☐ interventional radiology ☐ other
Use of damage control techniques	☐ no (definitive repair undertaken) ☐ ligation of vascular injury ☐ primary traumatic amputation ☐ use of temporary vascular shunt
type of temporary shunt used (check most applicable)	◯ Argyl shunt ◯ Javid shunt ◯ Sundt shunt ◯ Pruitt-Inahara shunt ◯ other commercial shunt ◯ improvised shunt (IV tubing etc)
What size is the shunt?	_____
Estimated time from injury to functional shunt restoring perfusion (check ONE)	◯ < 1 hour ◯ 1-3 hours ◯ 3-6 hours ◯ >6 hours
Definitive open vascular repair at initial operation	◯ primary repair ◯ autologous vein interposition or bypass graft ◯ synthetic graft used as interposition bypass graft ◯ other type of vascular repair
Primary repair	◯ end-to-end repair ◯ end-to-side repair ◯ lateral suture closure of vessel wall

Autologous vein interposition or bypass graft (check vein source below)	◯ contralateral greater saphenous vein interposition or bypass graft ◯ local vein utilization for interposition or bypass graft ◯ other vein type for interposition or bypass graft
other vein type (please describe)	_____
Synthetic graft utilized for interposition bypass - type	◯ expanded ePTFE (Gortex) ◯ Dacron ◯ homograft
Why was synthetic graft utilized?	☐ time limitation ☐ concomitant damage to the vein ☐ severe venous insufficiency ☐ poor quality or size of vein ☐ occlusion of the vein ☐ prone positioning required for injury exposure and treatment ☐ other: _____ ☐ unknown
Are the proximal and distal anastomosis sites known?	◯ Yes ◯ No
What is the anatomic location of the PROXIMAL anastomosis? (vessel name and proximal/distal)	_____
What is the anatomic location of the DISTAL anastomosis? (vessel name and proximal/distal)	_____
Is the length of the implanted conduit/graft known?	◯ Yes ◯ No
Length (cm)	_____
Is the diameter of the implanted conduit/graft known?	◯ Yes ◯ No
Diameter (mm)	_____
Concomitant vein injury encountered during arterial repair	◯ Yes ◯ No
Management of concomitant vein injury	◯ primary venous repair ◯ repair with interposition vein graft ◯ ligation of concomitant vein injury ◯ other management type
Other management type -	_____
Hospital location where endovascular repair was performed?	◯ interventional radiology suite ◯ operating room using mobile c-arm fluoroscopic unit ◯ operating room with fixed fluoroscopic system

Access site for endovascular repair	◯ femoral artery ◯ brachial artery ◯ femoral and brachial artery ◯ other
Other	_____
Access site complication requiring operative intervention?	◯ Yes ◯ No
Covered stent graft repair of vascular injury?	◯ Yes ◯ No
Stent graft product	_____
Bare metal stent graft repair of vascular injury?	◯ Yes ◯ No
Stent graft product	_____
Coil or other material embolization?	◯ Yes ◯ No
Type of material used	_____
Systemic anticoagulation utilized during initial operation or vascular repair	◯ Yes ◯ No
Concomitant nerve injury encountered during operative repair	◯ Yes ◯ No
Concomitant orthopedic fracture encountered during operative repair	◯ Yes ◯ No
Extremity fasciotomies performed intra-operatively?	◯ Yes ◯ No
Characterize role / conduct or fasciotomies performed:	◯ therapeutic at time of initial procedure ◯ therapeutic, delayed (second procedure) ◯ prophylactic at time of initial procedure ◯ prophylactic, delayed (second procedure)
Did fasciotomy sites achieve primary skin closure?	◯ Yes ◯ No
Days to fasciotomy primary skin closure or skin grafting	_____

Operative Variables

Time from injury to initial operative or endovascular intervention
- ◯ < 1 hour
- ◯ 1-3 hours
- ◯ 3-6 hours
- ◯ >6 hours

Surgical incision time:

_____
(24 hr format)

Operative stop time:

_____
(24 hr format)

Duration of operative or endovascular procedure:
- ◯ < 30 minutes
- ◯ 30 minutes - 1 hour
- ◯ 1-3 hours
- ◯ 3-6 hours
- ◯ >6 hours

Fluid requirements during operation / procedure (known or estimate):

Crystalloid (mL)

_____

Non-blood colloid (mL)

_____

Packed red blood cells (units)

_____

Plasma (units)

_____

Platelets (units)

_____

Cryoprecipitate (units)

_____

Was tranexamic acid given at any point during management? ◯ Yes ◯ No

Was factor VIIa given at any point during management? ◯ Yes ◯ No

Was PCC given at any point during management ◯ Yes ◯ No

Was clinically apparent or laboratory-demonstrated coagulopathy encountered during operation / procedure? ◯ Yes ◯ No

Lowest recorded pH during operation/procedure:

_____

Lowest recorded temperature during operation/procedure:

_____

What was the intra-operative / procedure mode of determining adequacy of management strategy? (select all that apply)	☐ no intra-operative assessment ☐ presence or abscence of palpable pulse ☐ continuous wave Doppler ☐ arteriography ☐ other
Other	_____
Was there a need for re-intervention (during initial operative case) on intra-operative repair due to any cause?	◯ Yes ◯ No
Reason for early repeat intervention (select all that apply)	☐ decreased blood flow or stenosis (without full occlusion) through repair due to thrombosis ☐ occlusion of the repair due to thrombosis ☐ Technical error at initial repair ☐ Spontaneous rupture of repair ☐ infection related to repair ☐ Pseudo-aneurysm formation at repair ☐ Aneurysm formation ☐ Bleeding from repair site ☐ Hematoma at repair site ☐ Other
Other	_____
Type of early re-intervention	☐ Thrombectomy ☐ Angioplasty ☐ Bare metal stent utilization ☐ Covered stent utilization ☐ Complete removal/excision of graft ☐ Partial removal/excision of graft ☐ Surgical revision ☐ Ligation of vessel with attempted repair ☐ Other
Other	_____
Was patency restored with re-intervention?	◯ Yes ◯ No

Post-operative or post-intervention variables

Was post-intervention or post-operative therapeutic anticoagulation utilized?	◯ Yes ◯ No
Select anticoagulant	☐ intravenous heparin ☐ subcutaneous low molecular weight heparin ☐ oral direct factor XA or thrombin inhibitor ☐ Argatroban ☐ Bivalirudin ☐ Cangrelor ☐ oral warfarin ☐ other: _____

Was post-intervention or post-operative antiplatelet therapy utilized?	◯ Yes ◯ No
Select antiplatelet medication	☐ aspirin ☐ plavix ☐ Prasugrel ☐ Ticagrelor ☐ Cangrelor ☐ other: _____
Was anticoagulation or antiplatelet therapy continued until discharge?	◯ Yes ◯ No

In-hospital outcomes

Vascular injury or repair evaluated again during hospitalization by other than physical exam?	◯ Yes ◯ No
Evaluated by	☐ CTA ☐ Duplex ☐ injured extremity index or ABI ☐ MRI or MRA ☐ contrast angiography
Need to re-operate or re-intervene on definitive management choice during initial hospitalization?	◯ Yes ◯ No
Re-intervention management of vascular injury - operation performed by	☐ pediatric surgeon ☐ trauma surgeon (adult) ☐ vascular surgeon ☐ microvascular surgeon (plastics, hand, etc) ☐ interventional radiology ☐ other
Time following admission that delayed or repeat reintervention was needed (hours):	_____
Reason(s) for re-operation:	☐ Failure of non-operative management ☐ Treatment of spontaneous rupture ☐ Thrombosis of definitive vascular repair ☐ Occlusion ☐ Flow limiting stenosis of vascular repair ☐ Pseudoaneurysm of vascular repair ☐ Aneurysm formation ☐ Infection resulting in need to re-operate ☐ Treatment of bleeding ☐ Treatment of hematoma ☐ Other: _____
Type of re-operation or re-intervention	◯ open operative revision ◯ endovascular revision ◯ other
Other	_____

Type of re-intervention	☐ thrombectomy ☐ Angioplasty ☐ Bare metal stent utilization ☐ Covered stent utilization ☐ Complete removal/excision of graft ☐ Partial removal/excision of graft ☐ Surgical revision ☐ Ligation of vessel with attempted repair ☐ other
Other	_____
Was patency restored with repeat intervention?	◯ Yes ◯ No
Modality used to determine results of re-operation / re-intervention strategy?	☐ duplex ☐ CTA ☐ MRI/MRA ☐ presence or absence of palpable pulse ☐ continuous wave Doppler ☐ Arteriography ☐ other
Other	_____
Stroke related to vascular injury or injury repair?	◯ Yes ◯ No
Amputation or extremity in which limb salvage was attempted?	◯ Yes ◯ No
Reason for amputation	☐ irreversible ischemia ☐ mangled extremity burden ☐ infection ☐ other
Other	_____
Bowel resection from ischemia in area of vascular injury?	◯ Yes ◯ No
Was a separate operative site utilized to harvest vein for utilization in repair?	◯ Yes ◯ No
Did the harvest site remain free of complications during hospital stay?	◯ Yes ◯ No
Type of complications at the vein harvest site	☐ infection ☐ dehiscence ☐ bleeding ☐ other
other	_____

Type of intervention required for vein harvest site	☐ re-operation ☐ antibiotic treatment ☐ other
Other	_____
Was the patient discharged on therapeutic anticoagulation or antiplatelet medication?	◯ Yes ◯ No
Type of anticoagulation / antiplatelet medication (select all that apply)	☐ subcutaneous low molecular weight heparin ☐ oral warfarin ☐ oral direct thrombin or XA inhibitor ☐ aspirin ☐ plavix ☐ other
Other	_____
Was discharge anticoagulation / antiplatelet medication specifically prescribed for vascular repair benefit?	◯ Yes ◯ No
Did this patient have a second arterial or venous injury?	◯ Yes ◯ No

Vascular Injury Information (Subsequent Injuries)

How many days from injury to surgery?	_____ (24 hr format)
Specific vascular structure injured (check ONLY ONE for each entry) - if there are concomitant injuries, please enter each separately under the same patient form	◯ cervical ◯ extremity (upper) ◯ extremity (lower) ◯ torso
Cervical	◯ common carotid artery ◯ internal carotid artery ◯ external carotid artery ◯ vertebral artery ◯ internal jugular vein
Extremity (Upper)	◯ brachial artery ◯ axillary artery ◯ radial artery ◯ ulnar artery ◯ brachial vein ◯ axillary vein
Extremity (Lower)	◯ common, superficial, or deep femoral artery ◯ common, superficial, or deep femoral vein ◯ popliteal artery ◯ popliteal vein ◯ anterior tibial artery ◯ posterior tibial artery ◯ peroneal artery
Torso	◯ innominate artery ◯ innominate vein ◯ subclavian artery ◯ subclavian vein ◯ intra-thoracic right common carotid artery ◯ intra-thoracic left common carotid artery ◯ descending thoracic aorta ◯ abdominal aorta ◯ infra-renal inferior vena cava (IVC) ◯ retro-hepatic IVC ◯ common, external, or internal iliac arteries ◯ celiac artery ◯ common hepatic artery ◯ splenic artery ◯ superior mesenteric artery ◯ superior mesenteric vein ◯ portal vein ◯ renal artery ◯ renal vein ◯ iliac vein ◯ other: _____
Hard signs of vascular injury present?	◯ Yes ◯ No
specific hard signs (check all that apply)	☐ hemorrhage ☐ expanding hematoma ☐ ischemia

soft signs of vascular injury present	◯ Yes ◯ No
specific soft signs (check all that apply)	☐ wound proximity ☐ reduced pulses ☐ fracture/dislocation pattern
Was the identified vascular injury to an extremity?	◯ Yes ◯ No
Application of pre-hospital tourniquet?	◯ Yes ◯ No
Tourniquet type (check the one that most applies)	◯ combat application tourniquet (CAT) ◯ other commercial device ◯ improvised
Estimated tourniquet time?	◯ < 1 hour ◯ 1-3 hours ◯ 3-6 hours ◯ >6 hours
Doppler pressure measurement (ABI or BBI) < 0.9?	◯ yes ◯ no ◯ not obtained
Mangled extremity calculation: Describe associated skeletal/soft-tissue injury	◯ low energy (stab, simple fracture, pistol gunshot wound) ◯ medium energy (open or multiple fractures, dislocation) ◯ high energy (high speed MVA or rifle GSW) ◯ very high energy (high speed trauma + gross contamination)
Describe associated limb ischemia	◯ pulse reduced or absent but perfusion normal ◯ pulseless, paresthesias, diminished capillary refill ◯ cool, paralyzed, insensate, numb
Modality utilized to make the DEFINITIVE diagnosis of vascular injury (check all that apply)	☐ operative exploration ☐ contrast-enhanced computed tomography/angiography (CTA) ☐ duplex ultrasound ☐ conventional contrast angiography in interventional radiology ☐ conventional contrast angiography in operating room (hybrid OR/IR, C-arm)
Injury type as defined by diagnostic modality utilized (check all that apply):	☐ transection ☐ occlusion ☐ partial transection or flow limiting defect (e.g. dissection or intimal flap) ☐ pseudoaneurysm ☐ other: _____
Vessel size (estimate in mm)	_____
size estimate by (modality):	☐ computed tomography (CT) or magnetic resonance imaging (MRI) ☐ ultrasound (US) ☐ operative exploration

Acute Management of Vascular Injury (choose 1)	◯ Observation of vascular injury (i.e. no operative intervention) ◯ open operative management of vascular injury ◯ endovascular management of vascular injury
Adjunctive medical therapy for vascular injury observation utilized?	☐ none ☐ anti-hypertensive (betablockade or vasodilator) ☐ antiplatelet therapy (ASA or plavix) ☐ anticoagulation (IV or subQ heparinoids) ☐ other: _____
Initial open operative management of vascular injury - operation performed by	☐ pediatric surgeon ☐ trauma surgeon (adult) ☐ vascular surgeon ☐ microvascular surgeon (plastics, hand, etc) ☐ interventional radiology ☐ other
Use of damage control techniques	☐ no (definitive repair undertaken) ☐ ligation of vascular injury ☐ primary traumatic amputation ☐ use of temporary vascular shunt
type of temporary shunt used (check most applicable)	◯ Argyl shunt ◯ Javid shunt ◯ Sundt shunt ◯ Pruitt-Inahara shunt ◯ other commercial shunt ◯ improvised shunt (IV tubing etc)
What size is the shunt?	_____
Estimated time from injury to functional shunt restoring perfusion (check ONE)	◯ < 1 hour ◯ 1-3 hours ◯ 3-6 hours ◯ >6 hours
Definitive open vascular repair at initial operation	◯ primary repair ◯ autologous vein interposition or bypass graft ◯ synthetic graft used as interposition bypass graft ◯ other type of vascular repair
Primary repair	◯ end-to-end repair ◯ end-to-side repair ◯ lateral suture closure of vessel wall
Autologous vein interposition or bypass graft (check vein source below)	◯ contralateral greater saphenous vein interposition or bypass graft ◯ local vein utilization for interposition or bypass graft ◯ other vein type for interposition or bypass graft _____
Synthetic graft utilized for interposition bypass - type	◯ expanded ePTFE (Gortex) ◯ Dacron ◯ homograft

Why was synthetic graft utilized?	☐ time limitation ☐ concomitant damage to the vein ☐ severe venous insufficiency ☐ poor quality or size of vein ☐ occlusion of the vein ☐ prone positioning required for injury exposure and treatment ☐ other: _____ ☐ unknown
Are the proximal and distal anastomosis sites known?	◯ Yes ◯ No
What is the anatomic location of the PROXIMAL anastomosis? (vessel name and proximal/distal)	_____
What is the anatomic location of the DISTAL anastomosis? (vessel name and proximal/distal)	_____
Is the length of the implanted conduit/graft known?	◯ Yes ◯ No
Length (cm)	_____
Is the diameter of the implanted conduit/graft known?	◯ Yes ◯ No
Diameter (mm)	_____
Concomitant vein injury encountered during arterial repair	◯ Yes ◯ No
Management of concomitant vein injury	◯ primary venous repair ◯ repair with interposition vein graft ◯ ligation of concomitant vein injury ◯ other management type _____
Hospital location where endovascular repair was performed?	◯ interventional radiology suite ◯ operating room using mobile c-arm fluoroscopic unit ◯ operating room with fixed fluoroscopic system
Access site for endovascular repair	◯ femoral artery ◯ brachial artery ◯ femoral and brachial artery ◯ other: _____
Access site complication requiring operative intervention?	◯ Yes ◯ No
Covered stent graft repair of vascular injury?	◯ Yes ◯ No
Stent graft product	_____
Bare metal stent graft repair of vascular injury?	◯ Yes ◯ No

Stent graft product	_____
Coil or other material embolization?	◯ Yes ◯ No
Type of material used	_____
Systemic anticoagulation utilized during initial operation or vascular repair	◯ Yes ◯ No
Concomitant nerve injury encountered during operative repair	◯ Yes ◯ No
Concomitant orthopedic fracture encountered during operative repair	◯ Yes ◯ No
Extremity fasciotomies performed intra-operatively?	◯ Yes ◯ No
Characterize role / conduct or fasciotomies performed:	◯ therapeutic at time of initial procedure ◯ therapeutic, delayed (second procedure) ◯ prophylactic at time of initial procedure ◯ prophylactic, delayed (second procedure)
Did fasciotomy sites achieve primary skin closure?	◯ Yes ◯ No
Days to fasciotomy primary skin closure or skin grafting	_____

Operative Variables

Time from injury to initial operative or endovascular intervention	◯ < 1 hour ◯ 1-3 hours ◯ 3-6 hours ◯ >6 hours
Duration of operative or endovascular procedure:	◯ < 30 minutes ◯ 30 minutes - 1 hour ◯ 1-3 hours ◯ 3-6 hours ◯ >6 hours
What was the intra-operative / procedure mode of determining adequacy of management strategy? (select all that apply)	☐ no intra-operative assessment ☐ presence or abscence of palpable pulse ☐ continuous wave Doppler ☐ arteriography ☐ other: _____
Was there a need for re-intervention (during initial operative case) on intra-operative repair due to any cause?	◯ Yes ◯ No

Reason for early repeat intervention (select all that apply)	☐ decreased blood flow or stenosis (without full occlusion) through repair due to thrombosis ☐ occlusion of the repair due to thrombosis ☐ Technical error at initial repair ☐ Spontaneous rupture of repair ☐ infection related to repair ☐ Pseudo-aneurysm formation at repair ☐ Aneurysm formation ☐ Bleeding from repair site ☐ Hematoma at repair site ☐ Other: _____
Type of early re-intervention	☐ Thrombectomy ☐ Angioplasty ☐ Bare metal stent utilization ☐ Covered stent utilization ☐ Complete removal/excision of graft ☐ Partial removal/excision of graft ☐ Surgical revision ☐ Ligation of vessel with attempted repair ☐ Other: _____
Was patency restored with re-intervention?	◯ Yes ◯ No

In-hospital outcomes

Vascular injury or repair evaluated again during hospitalization by other than physical exam?	◯ Yes ◯ No
Evaluated by	☐ CTA ☐ Duplex ☐ injured extremity index or ABI ☐ MRI or MRA ☐ contrast angiography
Need to re-operate or re-intervene on definitive management choice during initial hospitalization?	◯ Yes ◯ No
Re-intervention management of vascular injury - operation performed by	☐ pediatric surgeon ☐ trauma surgeon (adult) ☐ vascular surgeon ☐ microvascular surgeon (plastics, hand, etc) ☐ interventional radiology ☐ other: _____
Time following admission that delayed or repeat reintervention was needed (hours):	_____

Reason(s) for re-operation:	☐ Failure of non-operative management ☐ Treatment of spontaneous rupture ☐ Thrombosis of definitive vascular repair ☐ Occlusion ☐ Flow limiting stenosis of vascular repair ☐ Pseudoaneurysm of vascular repair ☐ Aneurysm formation ☐ Infection resulting in need to re-operate ☐ Treatment of bleeding ☐ Treatment of hematoma ☐ Other: _____
Type of re-operation or re-intervention	◯ open operative revision ◯ endovascular revision ◯ other: _____
Type of re-intervention	☐ thrombectomy ☐ Angioplasty ☐ Bare metal stent utilization ☐ Covered stent utilization ☐ Complete removal/excision of graft ☐ Partial removal/excision of graft ☐ Surgical revision ☐ Ligation of vessel with attempted repair ☐ other: _____
Was patency restored with repeat intervention?	◯ Yes ◯ No
Modality used to determine results of re-operation / re-intervention strategy?	☐ duplex ☐ CTA ☐ MRI/MRA ☐ presence or absence of palpable pulse ☐ continuous wave Doppler ☐ Arteriography ☐ other: _____
Stroke related to vascular injury or injury repair?	◯ Yes ◯ No
Amputation or extremity in which limb salvage was attempted?	◯ Yes ◯ No
Reason for amputation	☐ irreversible ischemia ☐ mangled extremity burden ☐ infection ☐ other: _____
Bowel resection from ischemia in area of vascular injury?	◯ Yes ◯ No
Was a separate operative site utilized to harvest vein for utilization in repair?	◯ Yes ◯ No
Did the harvest site remain free of complications during hospital stay?	◯ Yes ◯ No

Type of complications at the vein harvest site	☐ infection ☐ dehiscence ☐ bleeding ☐ other: _____
Type of intervention required for vein harvest site	☐ re-operation ☐ antibiotic treatment ☐ other: _____
Did this patient have an additional (3rd) arterial or venous injury? If so, please repeat this survey for each injury.	◯ Yes ◯ No

Follow-Up

Did the patient have a follow-up visit?	◯ Yes ◯ No
How many days from injury to follow-up?	_____
Time since initial vascular injury (months):	_____
Was the vascular injury or injury repair assessed at the time of this follow-up visit?	◯ Yes ◯ No
	◯ Pulse exam ◯ Injured extremity or ankle brachia index ◯ Other: _____
Was the vascular injury or injury repair imaged for this follow-up visit?	◯ Yes ◯ No
	◯ Presence or absence of palpable pulse ◯ Continuous wave doppler ◯ CTA ◯ Duplex Ultrasound ◯ MRI/MRA ◯ Arteriography ◯ Other: _____
At this follow-up is the patient on therapeutic anticoagulation for injury or repair?	◯ Yes ◯ No
	◯ Subcutaneous low molecular weight heparin ◯ Oral warfarin ◯ Other: _____
At this follow-up is the patient on antiplatetlet therapy?	◯ Yes ◯ No
	◯ Aspirin ◯ Plavix ◯ Other: _____
If vascular repair was the form of management (not observation), was the repair patent and complication free at this visit?	◯ Yes ◯ No
As a result of this visit, was there need for re-intervention on original vascular injury management choice?	◯ Yes ◯ No
If Yes, please select the identified complications necessitating re-intervention	◯ 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

Failure or technical problem with original open vascular repair	☐ Spontaneous rupture ☐ Bleeding complication ☐ Stenosis of repair ☐ Occlusion of repair ☐ Pseudoaneurysm of repair ☐ Aneurysm of the repair ☐ Hematoma accumulation ☐ Infection requiring surgical intervention ☐ Infection requiring antibiotics ☐ Wound dehiscence
Failure of, or technical problem with original endovascular repair	☐ Spontaneous rupture ☐ Bleeding complication ☐ Stenosis of repair ☐ Occlusion of repair ☐ Pseudoaneurysm of repair ☐ Aneurysm of the repair ☐ Hematoma accumulation ☐ Infection requiring surgical intervention ☐ Infection requiring antibiotics ☐ Wound dehiscence
Type of Procedure utilized to address identified issue:	◯ Thrombectomy ◯ Angioplasty ◯ Bare metal stent utilization ◯ Covered stent graft utilization ◯ Complete removal/excision of graft ◯ Partial removal/excision of graft ◯ Surgical revision ◯ Other: _____
Was patency restored with re-intervention?	◯ Yes ◯ No ◯ Unknown
Have any of the following major morbidities occurred since hospital discharge (select all that apply)	☐ Stroke related to or in distribution of vascular injury ☐ Amputation of extremity in which the vascular injury occurred ☐ Extremity ischemia from arterial access or other operation-related complication ☐ Major infectious complication ☐ Bowel resection secondary to ischemia in distribution of vascular repair
If a separate incision was required for vein harvest for repair, were any complications at this second operative site observed?	◯ Yes ◯ No
What harvest site complications were noted? (select all that apply)	☐ Ecchymosis / Bruising ☐ Erythema ☐ Serous Drainage ☐ Purulent Drainage ☐ Swelling ☐ Tenderness ☐ Seroma/fluid collection ☐ Hematoma ☐ Wound Separation ☐ Localized Pulsatile Mass
Were any interventions/procedures required to treat vein harvest site complications?	◯ Yes ◯ No

Interventions required (select all that apply)	☐ Operative exploration or debridement ☐ Local non-operative wound care ☐ Antibiotics ☐ Other: _____
Is there a planned surveillance of vascular injury?	◯ Yes ◯ No
Next planned surveillance of vascular injury (months):	_____
Type of planned surveillance for next follow-up (check all that apply):	☐ Duplex ☐ CTA ☐ MRI/MRA ☐ Arteriography ☐ Injured extremity index or ankle brachial index

ISS Scores

Injury Severity Score (ISS): (range 0-75) _____

Abbreviated InJury Score (AIS) - (0-6)

	0	1	2	3	4	5	6
Head	◯	◯	◯	◯	◯	◯	◯
Abdomen	◯	◯	◯	◯	◯	◯	◯
Chest	◯	◯	◯	◯	◯	◯	◯
Extremity	◯	◯	◯	◯	◯	◯	◯