

UW TEVAR/branched endograft TAAA/endograft descending thoracic aortic dissection repair  
*Endograft repair without arch debranching*

Principles of spinal cord protection are the same as open surgery.

Patient is supine.

In branched endograft TAAA repair surgeons place visceral wires through left brachial/axillary artery

Spinal fluid drainage when endograft coverage > 12 cm or T8-10 coverage

SFP 5-8 mmHg after deployment and postoperatively until normal leg strength observed, then stop draining spinal fluid

Goal SFP depends on extent of aortic coverage, corresponding SCI risk, and acuity

R arm arterial line

MAP  $\geq$  90 mmHg after deployment and postoperatively. Relax MAP goal only after normal leg strength observed

CVP

Hb  $\geq$  10 mg/dL

Glucose  $\leq$  170 mg/dL

Hypothermia 33.8°C NP temperature before deployment; passive rewarming only

No Bair Huggers or arterial dilators

Infusions: norepinephrine; insulin; NTG; naloxone 1 mcg/Kg/hr for 48 hrs

Heparin for ACT 225-250 sec

Methylprednisolone 30 mg/Kg up to 2 gm

Mannitol 12.5 gm before deployment

TEVAR blood loss usually 500 mls

Branched endograft TAAA repair has greater blood loss

Extubate when normothermic

Maintain MAP and SFP goals postoperatively until normal leg strength observed

Allow SFP to return to baseline after patient lifts legs. Do not drain fluid after patient lifts legs unless weakness occurs

Head CT if blood in spinal fluid

Remove spinal drain at 48 hrs if normal leg strength, platelets > 90 K/uL, INR  $\leq$  1.3

Do not administer low molecular weight heparin in hospital after spinal fluid drainage

*TEVAR with carotid-subclavian bypass*

Carotid-subclavian bypass is done to create a proximal landing zone for endograft when aneurysm starts in distal arch

May be staged or simultaneous

If simultaneous, carotid-subclavian bypass is done first through a low neck or trap door sternotomy incision, followed by TEVAR. Management during carotid subclavian bypass portion is similar to management for carotid surgery

Drain spinal fluid and use spinal cord protective strategies during TEVAR portion of the procedure

*TEVAR with carotid-carotid-subclavian bypass*

Staged procedure done to create a landing zone when aneurysm starts in the proximal arch

Carotid-carotid-subclavian bypass is done through two neck incisions or trap door sternotomy. Swelling after extensive bilateral neck dissection can cause airway compromise after extubation. In TEVAR following carotid-carotid-subclavian bypass proximal deployment is close to the innominate artery.

Surgeons place wire in the innominate artery through right brachial artery. If proximal deployment compromises innominate artery blood flow, stent is placed over the wire into the innominate.

EEG

Left arm and dedicated femoral arterial blood pressure monitoring

Rapid pacing via temporary RV lead for proximal deployment

Use of spinal cord protective strategies depends on extent of descending thoracic aortic coverage.

*TEVAR for traumatic thoracic aortic tear*

Traumatic aortic tear usually just distal to the left subclavian artery.

Exists with other injuries.

Full stomach.

Hypertension can cause complete aortic disruption and exsanguination.

Permissive hypotension until aortic tear is covered.

Endograft coverage is proximal and short.

No spinal cord protective strategies are needed.