Prevention and treatment of paraplegia after major vascular surgery

Background - paraplegia from spinal cord ischaemia

-The blood supply to the spinal cord is precarious during and after major aortic procedures, which may result in postoperative leg weakness.

Prevention of paraplegia

- Maintain MAP above the limit set below (usually 70-90mm Hg) and avoid episodes of marked hypotension

- The patient may have a CSF drain in place to increase the spinal cord perfusion pressure. If so, drain the CSF for 24 - 48 hours post operatively at the pressure ('Pset') indicated below. Then, if there has been no leg weakness, pause CSF drainage but leave CSF drain in situ for a further 24 hours.

Detection of paraplegia

- If the patient is ventilated postoperatively, sedate with propofol and a short-acting opioid.

- Assess and chart movements in each leg hourly on the ITU chart using the scale below

- If leg weakness develops or increases inform the vascular surgeon and anaesthetist immediately

Treatment of paraplegia

-Raise MAP

-Lower Pset value on CSF drain (ensuring Pset is less than the current P_{CSF}) and consider ↑Vset to 25-30mls/hr to promote CSF drainage and monitor closely for any improvements

Leg movement score- based on epidural chart score to avoid need for 2 separate scores	
Score	Description
0	Full power
1	Weak but able to raise legs
2	Able to bend knees but not raise legs
3	Minimal movement
4	Complete paralysis

BP and CSF drainage instructions							
Keep MAP above	Vset ml/hr	Pset mm Hg			Date	Time	Signature Name
80	20	10					

-If no CSF drains for 2 consecutive hours or if the machine alarms indicating a blockage, contact the vascular anaesthetist immediately.

-The main risk of CSF drainage is subdural or cerebellar haematoma. Observe for reduced conscious level and severe headache.

-If the Pset < 10mm Hg, avoid sitting patient up or more than a slight head up position.