

### **Recommendation for clinical interventions**

The rStO<sub>2</sub> target normal range is 55% to 85%. Generally, only one intervention should be chosen at a time. All the interventions proposed here are commonly used in this patient group.

#### **rStO<sub>2</sub> < 55%**

Aim of intervention: A low rStO<sub>2</sub> reflects a low CDO<sub>2</sub>. The interventions should be directed to increasing SaO<sub>2</sub>, [Hb], and/or CBF.

#### Assess cardiovascular status:

Blood pressure low in normal range, consider:

- Vasopressor-inotropes
- Fluid bolus (normal saline)
- Decrease mean airway pressure (MAP)

Poor systemic circulation, consider if:

Echocardiography shows low cardiac output and/or low SVC flow

- Inotropes
- Fluid bolus (normal saline)
- Decrease mean airway pressure (MAP)
- Reduce vasopressor

Echocardiography not available but has at least 2 of the following signs:

Lactate > 3.5 mmol/l

CRT > 3 seconds

Urine output < 1 ml/kg/hour

consider:

- Inotropes
- Fluid bolus (normal saline)
- Decrease mean airway pressure (MAP)
- Reduce vasopressor

Patent ductus arteriosus, consider:

- Medical treatment

#### Assess oxygen transport:

Haemoglobin low in the normal range, consider:

- Red blood cell transfusion

#### Assess respiratory status:

SaO<sub>2</sub> low in normal range, consider:

- Increase FiO<sub>2</sub> (ATTENTION: be careful not to exceed the local upper target threshold of SpO<sub>2</sub>)
- Increase mean airway pressure (MAP)

PCO<sub>2</sub> low in normal range, consider:

- Decrease minute ventilation

#### **rStO<sub>2</sub> > 85%**

Aim of intervention: A high rStO<sub>2</sub> reflects impaired oxygen utilisation and/or disturbed cerebral autoregulation (hyperaemia) and interventions should be directed at identifying and treating the underlying cause.

#### Assess respiratory status:

SaO<sub>2</sub> high in normal range, consider:

- Decrease FiO<sub>2</sub>
- Decrease mean airway pressure

PCO<sub>2</sub> high in normal range, consider:

- Increase minute ventilation

#### Assess blood glucose level:

Blood glucose < 2.5 mmol/l, consider to:

- Increase glucose intake