

# St Charles Medical Center Intensive Care Unit – Neurocritical Care Blood Pressure Goals

Conditions	Lower Limit (mm Hg)	Upper Limit (mm Hg)	Recommended Medication*
<b>Acute Ischemic Stroke</b>			
Requiring antihypertensives	MAP $\geq$ 80	< 220/120 <sup>1,2</sup>	Labetolol, or nicardipine <sup>1</sup> hydralazine, candesartan PO <sup>2</sup>
Eligibility for TPA	MAP $\geq$ 70	< 185/110 <sup>1,2</sup>	Labetolol, nicardipine <sup>1,2</sup> or hydralazine
During/after TPA	MAP $\geq$ 70	< 185/105 <sup>1,2</sup>	Labetolol, nicardipine <sup>1,2</sup> or hydralazine
<b>Intracerebral hemorrhage</b>			
First 24 hours	MAP $\geq$ 70	SBP $\leq$ 160-180 <sup>3</sup>	Labetolol, nicardipine <sup>2</sup> or hydralazine
	ICP elevation: titrate MAP to CPP $\geq$ 60 <sup>3</sup>		
Post-craniotomy	MAP $\geq$ 70	SBP $\leq$ 180	Labetolol, nicardipine <sup>2</sup> or hydralazine
<b>Subarachnoid hemorrhage</b>			
All cases for 21 days			Nimodipine 60mg PO Q4H <sup>2,4</sup>
Pre-repair	MAP $\geq$ 70	SBP $\leq$ 160 <sup>2,5</sup>	Labetolol, nicardipine <sup>2</sup> or hydralazine
Post-repair	MAP $\geq$ 70	Allow HTN, SBP < 200 <sup>6</sup>	Phenylephrine, dopamine or norepinephrine <sup>2</sup>
Symptomatic vasospasm	MAP $\geq$ 80	Raise SBP $\leq$ 220 <sup>2</sup>	Phenylephrine, dopamine or norepinephrine <sup>2</sup>
<b>Severe traumatic brain injury</b>			
Acute phase (pre-ICP monitor)	MAP $\geq$ 80	SBP $\leq$ 180	Phenylephrine, dopamine or norepinephrine <sup>2</sup>
ICU phase (post ICP monitor)	Titrate MAP to CPP $\geq$ 60	SBP $\leq$ 180	Labetolol, nicardipine, or hydralazine & Phenylephrine, dopamine or norepinephrine <sup>2</sup>
<b>Traumatic spinal cord injury</b>			
For the first 7 days	MAP $\geq$ 70	SBP $\leq$ 180	Phenylephrine, dopamine or norepinephrine <sup>2</sup>

1. Adams HP et al. Guidelines for the early management of adults with ischemic stroke: a guideline from the american heart association/american stroke association. *Stroke* 2007;38:1655-1711
2. Rose JC, Mayer SA. Optimizing blood pressure in neurological emergencies. *Neurocrit Care* 2004;1:287-299.
3. Morgenstern LB et al. Guidelines for the management of spontaneous intracerebral hemorrhage: a guideline for healthcare professionals from the american heart association/american stroke association. *Stroke* 2010;41(9):2108-2129.
4. Diringer MN et al. Critical care management of patients following aneurysmal subarachnoid hemorrhage: recommendations from the neurocritical care society's multidisciplinary consensus conference. *Neurocrit Care* 2011;15:211-240.
5. Connolly ES et al. Guidelines for the management of aneurysmal subarachnoid hemorrhage: A guideline for healthcare professional from the american heart association/american stroke association. *Stroke* 2012; 43: 1711-1737.
6. Suarez SI, Tarr RW, Selman WR. Aneurysmal subarachnoid hemorrhage. *N Engl J Med* 2006;354:387-96.

## Medications

### **Acute Hypertension Recommendations**

1. Labetalol IV 10-20mg over 1-2 mins. May repeat every 10-20 mins. Max dose: 300mg
2. Nicardipine IV 5mg/hr. Titrate to desired affect: increase 2.5mg/hr every 5 mins. Max dose: 15mg/hr
3. Hydralazine 10-40mg Q30 mins PRN
4. Nitroprusside in not recommended

### **Vasopressor Recommendations**

1. Norepinephrine: initial 0.01mcg/kg/min titrate to effect
  2. Phenylephrine: initial 0.04mcg/kg/min titrate to effect
  3. Dopamine: initial 2-10 mcg/kg/min titrate to effect. Max dose 50mcg/kg/min
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