

The optimal minimum blood pressure for burn patients must be individualized. Some patients will maintain adequate organ perfusion (and thus have adequate UOP) at MAP's lower than 70 mmHg. True hypotension must be correlated with UOP. If a MAP (generally <55 mmHg) is not adequate to maintain the UOP goal of 30 ml/hr, then the following steps are recommended:

1. Start with vasopressin 0.04 Units/min drip (do not titrate).
2. Monitor CVP (goal 8-10 mmHg).
3. If CVP not at goal, then increase IV fluid rate by 20-33%.
4. If CVP at goal, then add Levophed (norepinephrine) 2-20 µg/min.
5. If additional vasopressors are needed, consider the placement of a cardiac output monitoring device to guide resuscitation with specific PCWP and SvO₂ goals (Goal PCWP 10-12 mmHg, SvO₂ 65-70%). These patients may be volume depleted but a missed injury should be suspected.
 - a. If PCWP not at goal, then increase IV fluid rate 20-33%.
 - b. If PCWP at goal, then consider dobutamine 5 µg/kg/min (titrate until SvO₂ at goal).
 - c. If hypotension persists, look for missed injury.
 - d. Consider adding epinephrine or neosynephrine as a last resort.
6. If the patient is exhibiting catecholamine-resistant shock, consider the following diagnoses:
 - a. Missed injury and ongoing blood loss.
 - b. Acidemia. If pH<7.20, then adjust ventilator settings to optimize ventilation (target pCO₂ 30-35). If, despite optimal ventilation, patient still has a pH<7.2, consider bicarbonate administration.
 - c. Adrenal insufficiency. Check random serum cortisol and start hydrocortisone 100 mg IV every 8 hours.
 - d. Hypocalcemia. Maintain ionized calcium > 1.1.
7. These guidelines may be contraindicated in patients with a history of MI in last 6 months, acute MI or active myocardial ischemic changes.

APPENDIX

1. Flexbumin 25% contains 12.5g albumin and 145 ± 15 mEq/L of Na in 50 mL.
2. Lactated Ringers contains 130 mEq/L Na.
3. 0.9% Normal Saline contains 154 mEq/L.
4. To make a 5% albumin solution you remove 200 mL of 0.9% NS from a 1 L bag and add 4 bags (200 mL) of Flexbumin 25%.
 - $154 \text{ mEq/L} \times 200 \text{ mL} \times 1 \text{ L}/1000 \text{ mL} = 30.8 \text{ mEq Na removed}$
 - $145 \text{ mEq/L} \times 50 \text{ mL/bag} \times 4 \text{ bags} \times 1 \text{ L}/1000 \text{ mL} = 29 \text{ mEq Na added}$, therefore the concentration of Na in this 5% albumin mixture is 152 mEq/L. The Cl conc. will be approximately 123 mEq/L.
 - $((12.5 \text{ g} \times 4 \text{ bags}) / 1 \text{ L}) \times 1 \text{ L}/1000 \text{ mL} \times 100 \text{ mL/dL} = 5 \text{ g/dL}$ or 5% albumin