

Table 2. Most Commonly Used Intravenous Drugs for the Treatment of Hypertensive Emergencies.*

Drug	Class	Dose	Onset and Offset of Action	Cautions
Nicardipine	Dihydropyridine calcium-channel blocker, vasodilator	5–15 mg/hr IV drip; adjust by 2.5 mg/hr every 5–15 min	Rapid onset (2–5 min); duration of action, 1–4 hr; adjust dose more slowly (every 15 min) in patients with impaired renal or liver function	Contraindicated in patients with acute coronary ischemia (because of reflex tachycardia)
Clevidipine	Dihydropyridine calcium-channel blocker, vasodilator	1–16 mg/hr IV drip; double dose every 90 sec, more slowly as BP approaches goal	Rapid onset (2–4 min) and offset (5–15 min) of action	Contraindicated in patients with acute coronary ischemia (because of reflex tachycardia) and in patients with allergy to soy or eggs; may increase triglyceride levels (it is a lipid emulsion)
Labetalol	Combined nonselective beta-blocker and alpha-1 blocker (IV beta-to-alpha blocking ratio, approx. 7:1)	10–20 mg IV bolus followed by drip; may repeat at same dose or double dose after 10 min before starting drip; 0.5–10 mg/min IV drip; adjust drip every 15 min; for intermittent boluses, 10–80 mg IV every 10 min (maximum cumulative dose, 300 mg)	Rapid onset (5 min) but prolonged duration of action (3–6 hr, sometimes longer at higher doses)	Contraindicated in patients with heart failure, bradycardia or heart block, asthma or severe airway reactivity; caution in cocaine overdose
Esmolol	Selective beta-1 blocker	500–1,000 µg/kg bolus, followed by 100–300 µg/kg/min IV drip; adjust drip by 50 µg/kg/min every 5 min	Rapid onset (2–10 min) and offset (10–30 min) of action	Contraindicated in patients with heart failure, bradycardia or heart block, asthma, cocaine overdose
Metoprolol	Selective beta-1 blocker	2.5–5 mg IV every 5 min (maximum total dose, 15 mg), then every 4–6 hr	Onset, 15 min; peak, 30–60 min; duration of action, 4–6 hr; not a very potent antihypertensive	Contraindicated in patients with heart failure, bradycardia or heart block, asthma, cocaine overdose
Nitroglycerin	Nitrate donor, mixed venous and arteriolar dilator with predominant venous effects	10–400 µg/min IV drip; adjust by 10–20 µg/min every 5–15 min	Rapid onset and offset (5–10 min) of action; with prolonged use, a higher dose may be needed for same effect	Contraindicated in patients with right ventricular infarction
Nitroprusside	Direct vasodilator with predominant arteriolar effects	0.25–10 µg/kg/min IV drip; adjust by 0.5 µg/kg/min every 5 min	Rapid onset and offset (1–2 min) of action	Contraindicated in pregnancy (risk of fetal cyanide toxicity); use with impaired renal function may lead to thiocyanate toxicity, and use in liver disease may lead to cyanide intoxication, which may occur with higher doses or prolonged infusions; may cause methemoglobinemia (dose-dependent), increased intracranial pressure
Hydralazine	Direct arterial vasodilator	5–20 mg IV every 15–20 min, then every 3–4 hr (maximum dose, 20 mg per dose)	Onset and duration of action variable, depending on acetylator status; usual onset within 20 min and peak within 1 hr; duration of action, 3–6 hr; often demands a beta-blocker or other negative chronotropic agent to control reflex tachycardia	Use should be avoided in most cases; may worsen ischemia (owing to reflex tachycardia and possible coronary steal); unpredictable BP responses, often excessive

* This table is restricted to agents available in the United States. Detailed information is provided in Table S2 in the Supplementary Appendix. IV denotes intravenous.