

MEDICATION REFERENCE LIST

NITROPRUSSIDE SODIUM (NIPRIDE, NITROPRESS)

1. Classification: Antihypertensive, vasodilator
2. Physiological Effect: The principal pharmacological action of sodium nitroprusside is relaxation of vascular smooth muscle and consequent dilatation of peripheral arteries and veins. Other smooth muscles (e.g., uterus, duodenum) are not affected. Sodium nitroprusside is more active on veins than on arteries, but this selectivity is much less marked than that of nitroglycerin. Dilatation of the veins promotes peripheral pooling of blood and decreases venous return to the heart, thereby reducing left ventricular end-diastolic pressure and pulmonary capillary wedge pressure (preload). Arteriolar relaxation reduces systemic vascular resistance, systolic arterial pressure, and mean arterial pressure (afterload). Dilatation of the coronary arteries also occurs. In association with the decrease in blood pressure, sodium nitroprusside administered intravenously to hypertensive and normotensive patients produces slight increases in heart rate and a variable effect on cardiac output. In hypertensive patients, moderate doses induce renal vasodilatation roughly proportional to the decrease in systemic blood pressure, so there is no appreciable change in renal blood flow or glomerular filtration rate.
3. Indications:
 - 3.1. Reduction in blood pressure by physicians orders as needed for
 - 3.1.1. Aneurysm
 - 3.1.2. Congestive Heart Failure
 - 3.1.3. Severe Hypertension refractory to Tridil
4. Primary Contraindication:
 - 4.1. Known Hypersensitivity
 - 4.2. Cerebral hypoperfusion
5. Administration and Dosage:
 - 5.1. Mix 50mg of Nipride in 250cc D5W, yields 200mcg/ml. After mixing the Nipride into the D5W, cover the bag with foil or other protective device as it is light sensitive.
 - 5.2. 0.25mcg/kg/min initially. Titrate to effect by increasing 1mcg/kg/min Q 2-3 minutes not to exceed 10mcg/kg/min. Do not exceed 10mcg/kg/min as cyanide toxicity may occur. Signs and symptoms of cyanide toxicity are: Tinnitus, visual blurring, altered mental status, nausea, abdominal pain, hyperreflexia, and seizures

Mix 50 mg in 250 cc D5W which yields 200 mcg/ml													
Dose in mcg/kg/min	Weight in KG												
	40	45	50	55	60	65	70	75	80	85	90	95	100
0.5	6	7	8	8	9	10	11	11	12	13	14	14	15
1	12	14	15	17	18	20	21	23	24	26	26	27	29
1.5	18	20	23	25	27	29	32	34	36	38	41	43	45
2	24	27	30	33	36	39	42	45	48	51	54	57	60
3	36	41	45	50	54	59	63	68	72	77	81	86	90
4	48	54	60	66	72	78	84	90	96	102	108	114	120
5	60	68	75	83	90	98	105	113	120	128	135	143	150
6	72	81	90	99	108	117	126	135	144	153	162	171	180
7	84	95	105	116	126	137	147	158	168	179	189	200	210
8	96	108	120	132	144	156	168	180	192	204	216	228	240
9	108	122	135	149	162	176	189	203	216	230	243	257	270
10	120	135	150	165	180	195	210	225	240	255	270	285	300

6. Additional Information:
 - 6.1. While the average effective rate in adults and children is about 3 µg/kg/min, some patients will become dangerously hypotensive when they receive sodium nitroprusside at this rate. Infusion of sodium nitroprusside should therefore be started at a very low rate (0.3 µg/kg/min), with upward titration every few minutes until the desired effect is achieved or the maximum recommended infusion rate (10 µg/kg/min) has been reached. Because sodium nitroprusside's hypotensive effect is very rapid in onset

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and in dissipation, small variations in infusion rate can lead to wide, undesirable variations in blood pressure. Sodium nitroprusside should not be infused through ordinary I.V. apparatus, regulated only by gravity and mechanical clamps. Only an infusion pump, preferably a volumetric pump, should be used. Because sodium nitroprusside can induce essentially unlimited blood-pressure reduction, the blood pressure of a patient receiving this drug must be continuously monitored, using either a continually reinflated sphygmomanometer or (preferably) an intra-arterial pressure sensor. Special caution should be used in elderly patients, since they may be more sensitive to the hypotensive effects of the drug.