



Montgomery County Fire and Rescue Service
Division of Operations
Emergency Medical and Integrated Healthcare Services

Office of Medical Oversight Clinical Practice Guideline

Title:	Intravenous Nitroglycerin	Number:	2025 – 02
Date:	February 1, 2025		
Issued by:	Roger M. Stone MD, MS – MCFRS Medical Director		
Purpose:	To provide direction for the administration of IV Nitroglycerin (NTG)		
Target Patient Population:	<u>This CPG replaces and rescinds CPG 2023 - 04</u> Adult (18 and older) Sympathetic Crashing Acute Pulmonary Edema (SCAPE) Patients		
Guideline:	<u>MARYLAND LICENSED PARAMEDICS ONLY</u>		
	<p><u>Background</u></p> <ul style="list-style-type: none"> ● Sympathetic Crashing Acute Pulmonary Edema (SCAPE) is a term used to describe a sub-set of heart failure patients with rapid onset of respiratory distress, rales, flushed warm skin, and marked hypertension. These patients will often present without signs of peripheral fluid overload. ● SCAPE patients meet the definition of “Critically Unstable Patient” and priority must be given to treatment rather than movement. Clinicians should strongly consider calling a 2nd ALS resource to the scene. ● CPAP is the frontline treatment for SCAPE; however, it does not provide direct treatment for the underlying pathophysiology. ● IV nitroglycerin (NTG) has been shown to be safe and effective in the prehospital environment for reducing preload and afterload to treat SCAPE. ● The IV route allows for close titration, continuous infusion, and uninterrupted CPAP during treatment. ● IV NTG boluses and infusions must be administered via infusion pump to provide automation, consistency, and reliability. <p><u>Procedure</u></p> <p><i>All Patients</i></p> <ul style="list-style-type: none"> ● Administer high dose sublingual NTG (0.8 mg) prior to CPAP application. ● Apply CPAP and establish vascular access. Do not hesitate to insert an IO when IV access is unavailable. ● Reconstitute IV NTG to a concentration of 100 mcg/mL. <p><i>Patients with SBP of 190 mmHg or higher</i></p> <ul style="list-style-type: none"> ● Via infusion pump, administer an initial bolus of 400 mcg (4mL) followed by a continuous infusion at <u>60 mcg/min.</u> ● If the target SBP reduction of 20% has not been achieved <u>two (2) minutes</u> after the completion of the bolus, titrate the infusion up by <u>5 mcg/min every 2 minutes</u> to a maximum of 80 mcg/min or until the target SBP reduction is achieved. 		



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Patients with a SBP of 150-189 mmHg

- Via infusion pump, administer an initial bolus of 400 mcg (4mL) followed by a continuous infusion at 40 mcg/min.
- If the target SBP reduction of 20% has not been achieved five (5) minutes after the completion of the bolus, titrate the infusion up by 5 mcg/min every 5 minutes to a maximum of 80 mcg/min or until the target SBP reduction is achieved.

All Patients

- In the event of hypotension, titrate the infusion down by 5 mcg/min increments to achieve the targeted SBP (20% of original). ***Except in cases where the patient goes into cardiac arrest, do not abruptly stop the medication.***

Questions may be directed to any assigned EMS Duty Officer.