

# Small Volume Bolus Of Papaverine Versus Heparin To Maintain Patency Of Peripheral Arterial Catheters In Pediatric Patients Undergoing Cardiac Surgeries: A Randomized Double-Blind Controlled Trial.

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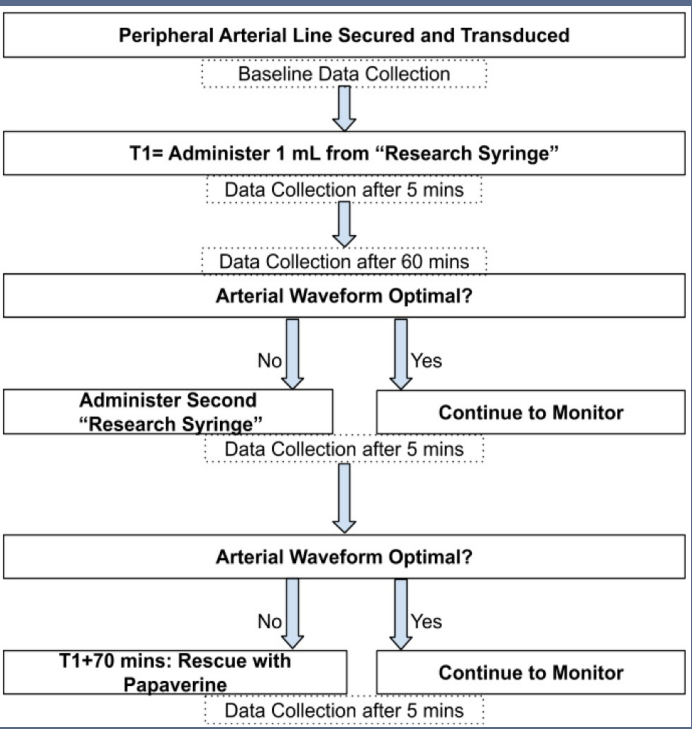
**HYPOTHESIS:** Administration of intraluminal Papaverine immediately after placement of a peripheral arterial catheter improves arterial waveform characteristics.

### Methods

Single-Institution,  
Double Blinded, Randomized Trial

### Randomization

1 mL of Heparin 2 units/mL  
1 mL Papaverine 0.12mg/mL  
Target Enrollment: 100 Patients



### Methods

Optimal Waveform definition

- Presence of dicrotic notch
- Ease of negative aspiration
- Cavitation on negative aspiration
- # of oscillations on square wave test
- Color change at site

### Demographics

	Heparin (N=46)	Papaverine (N=42)	p-value
Age in months	6 (0, 38)	3.5 (0, 16)	0.29
Number of Infants	26 (46%)	30 (54%)	0.14
Weight kg	6.9 (3.3, 12.8)	5.7 (2.9, 9.1)	0.23
Artery size in mm	1.1 (1.0, 1.5)	1.1 (0.9, 1.4)	0.89

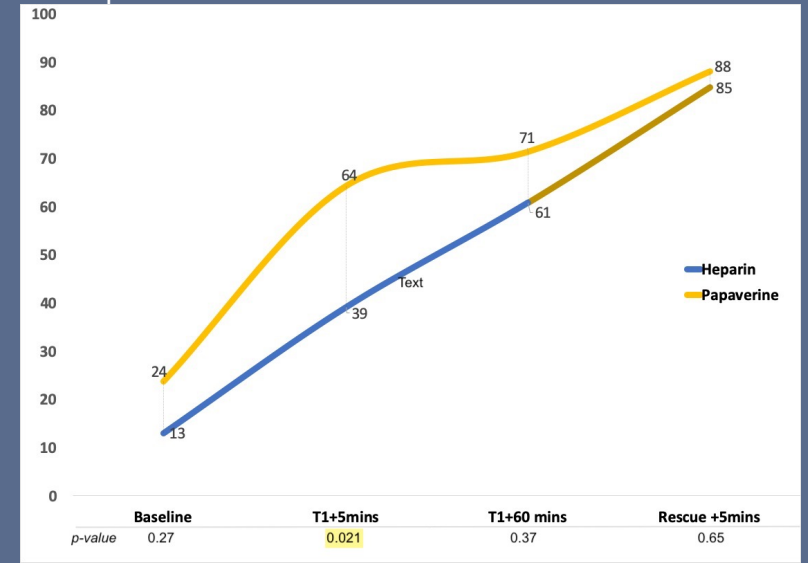
No complications with use of Papaverine

### Summary

In pediatric patients, papaverine injection immediately after peripheral arterial catheter placement was associated with improved initial arterial line patency.  
*This drug was further associated with improved arterial patency when used as a rescue medication.*

### Results

% Improvement in waveform



	Heparin (N=46)	Papaverine (N=42)	p-value
Need for Papaverine Rescue after 1 hour	17 (37.0%)	7 (16.7%)	0.05
Response to Papaverine Rescue	13 (46%)	3 (42%)	0.01