Pushing Out the Push-Does with Dirty Dancing

More Efficient Training with an Epi Drip Model

You get my heart racing like an epinephrine drip.

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NO SOUP FOR YOU!!
ONE PRESSOR TO RULE THEM ALL!
What Are the Possible Indications for Epinephrine Infusions?

1. Symptomatic Bradycardia
2. Non-hypovolemic shock
3. Post-ROSC Hemodynamic Support
4. CRASHING PATIENT!
Are Peripheral Vasopressors Safe?

Inclusion Criteria:

**Major**: Tissue Necrosis and Limb Ischemia

**Minor**: Extravasation, Thrombophlebitis and Cellulitis

<table>
<thead>
<tr>
<th>Primary Outcome</th>
<th>Complication Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Complications*</td>
<td>0/55 (0%)</td>
</tr>
<tr>
<td>Minor Complications**</td>
<td>3/55 (5.45%)</td>
</tr>
<tr>
<td>Delayed Complications***</td>
<td>0/55 (0%)</td>
</tr>
</tbody>
</table>

* No Medical or Surgical Interventions Required

**2 out of 3 complications were in PIVs in the hand; 3 out of 3 complications occurred with 20g catheters; 3 out of 3 complications occurred during infusions running for 11hrs, 28hrs, and 40hrs

***ZERO delayed complications (i.e. up to 48 hours after discontinuation of pressor infusion)

1. Medlej et al. Complications from administration of vasopressors through peripheral venous catheters: an observational study. JEM. 2018
How Are Infusions Administered Without a Pump?

Drip Rate = (Volume * Drop Factor)/Time

Math = Bad
The Dirty Epi Drip

1 mg Epinephrine + 1 L Normal Saline

Rate = Wide Open to Clinical Effect

Concentration = 1 mcg/mL

18 G IV = 20 – 30 mcg/min

Titrate to Clinical Effect

https://www.aliem.com/2013/06/dirtyepi/
Dirty Epi Drip vs. Push-Dose Epinephrine

Push-Dose Epinephrine

Requires Math – Potential Safety Concerns
Dose Recommendations = 100 mcg/5 min aka 20 mcg/min

Dirty Epi Drip

No Math -
Dosing via 18 G IV = 20 mcg/min

https://www.aliem.com/2013/06/dirtyepi/
Columbus Fire Protocol

Indications
- Bradycardia-continued
- Pulmonary Edema/CHF
- Non-Traumatic Shock
- Allergic Reaction/Anaphylaxis
- Neurologic Trauma-continued

Adult Dose
1 mg in 1,000 ml normal saline; run wide open to clinical effect.
See: Epinephrine Infusion

Pediatric Dose
∅
Columbus Fire Protocol

**Epinephrine (Adrenaline)**

Mix 1 mg of 1:1,000 epinephrine in 1,000 mL of normal saline; run wide open through peripheral IV to achieve clinical affect. Stop infusion if adverse reaction occur.

(See: **Epinephrine 1:1,000 Infusion** protocol)
What Lessons Did We Learn?

1. Simplified Protocol

2. Easier Training

3. Assuage Concerns Regarding Volume Overload

4. Overall Positive
QUESTIONS??????

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