



# 2/22/24 Intern Boot Camp @CPSolvers



"One life, so many dreams" Case Presenters/Facilitators: Youssef (@SaklawiMD), Mark (@Mark\_Heslin), Maddy (@MadellenaC), Sara (@sarazhous)

**Case:** You are on a night float seeing a list of patient. You get a call-> your patient is hypotensive & BP is 85/35 mmHg

A 60 yo male with CAD, HFrEF 30% admitted for AKI on that day. You perform a quick review-> temp is 101.6, BP is 85/35, HR is 103, RR is 18, SpO2 is 95% on 2L NC.

Labs is notable for WBC of 18k, and a creatinine of 1.5 from a baseline of 0.8.

Awake & oriented

JVP normal

Normal heart sounds

**Dec breath sound on LL**

Abdomen soft non tender

**Extremities warm to touch**

**POCUS: IVC <2cm & collapsible, B lines in LLL,**

**No effusions**

**Started on vancomycin, piperacillin, & tazobactam and IV fluids. Resolution of symptoms over the next 2 days.**

## Teaching Points:

### Learning Objective: Develop a Framework for Hypotension

MAP=CO x SVR Developing a clear quick approach is necessary. Determining mechanism of hypotension can also help in deciding management.

Cardiogenic, hypovolemic, Obstructive and distributive causes not only tell us about the mechanism of cause but also guide us for evaluation.

MAP=CO \* TPR can help us decide what is actually causing hypotension.

Rapid response: ask for help. There's a lot of roles in rapid response.

Ask for fresh set of vitals. Access to fluids, 2 iv lines preferably large bores, and antibiotics.

Vital signs is vital. Pulse pressure is proportional to stroke volume and inversely proportional to SVR. Low PP in cardiogenic & High PP in distributive.

Extremities may be warm in septic shock as it is a distributive shock and cardiogenic shock may reveal cool extremities. JVP may be elevated in cardiogenic shock. Passive leg raise test will show increase in pulse pressure in distributive shock like septic shock. Checking perfusion using **ride a" BUS"**

B brain: U urine output: S skin: Warm skin means low SVR state. Capillary refill used as assessment of perfusion has mortality benefit.

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POCUS: Can be helpful to detect obstructive shock. Use of POCUS for volume status assessment is getting controversial. IVC collapsibility and diameter of IVC is used to assess for volume status.

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### Learning Objective: Develop a Framework for Sepsis

Sepsis is a dysregulated response to infection leading to organ dysfunction. SIRS criteria (Temp <36 or >38, HR >90 bpm, RR > 20, WBC <4 or >12) is recommended over qSOFA. Common causes: skin, lung infection, line infection etc. Other causes of distributive shock: neurogenic, anaphylaxis & capillary leak (like cytokine storm).

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### Learning Objective: Cardiogenic Shock

Low Cardiac index and high PCWP are markers of cardiogenic shock. PCWP is a surrogate marker of LVEDP.

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Undifferentiated cardiogenic vs septic shock: Pulse pressure can help.

History: arrhythmia, use of diuretics, change of weight,

### Learning Objective: Management of sepsis

Ordering sepsis bundle of labs quickly is important. 30 cc fluid within 3 hour of suspicion. Balanced crystalloid should be used. NS (can cause acidosis) vs RL is very patient specific. RL is more physiologic in terms of sodium. Generally cover all bacteria with broad spectrum antibiotics like Vanc-zosyn. Fluid in CHF: In general, small studies show patient who receive 30cc pkg have better mortality. Limitation is how much of pulmonary edema does patient have.

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