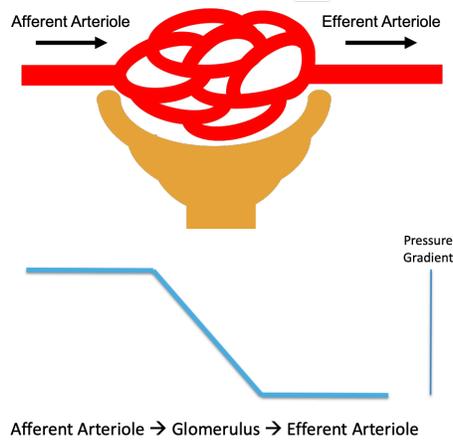


# Renal Venous Congestion:

## General Information:

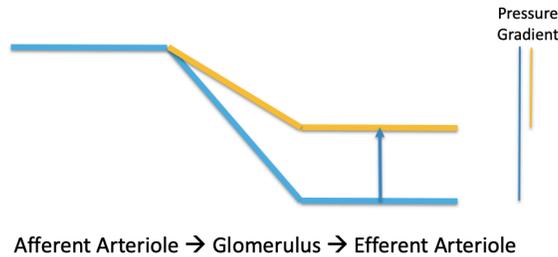
Hemodynamics affect renal function and can lead to renal failure. Breaking down cardiac output into heart rate and stroke volume, and then stroke volume into preload, contractility and afterload helps show how hemodynamics can affect renal blood flow and kidney function.

Ohm's Law (Fluids): Change in Pressure ( $\Delta P$ ) = Flow (F)  $\cdot$  Resistance (R)  
 Simplified: GCHP:  $P_{\text{afferent}} - P_{\text{efferent}}$



## Physiology:

Renal venous congestion increases the efferent arteriole pressure and decreases the pressure gradient (Figure 5). The end result of a decreased pressure gradient is the same as for hypovolemic/distributive, but it is due to venous pressure problems.



**Work-up:** Bedside echo with IVC

## Treatment:

1. Diuretics - first-line
2. Venodilators: nitroglycerin

## Other Subtypes:

