



EMORY  
UNIVERSITY  
SCHOOL OF  
MEDICINE



# Patients With End Stage Renal Disease Undergoing Central Venous Access Placement Experience Longer Sedation Times



EMORY  
UNIVERSITY  
SCHOOL OF  
MEDICINE



Hernan Bello Velez, Jonathan Martin, Zachary Bercu, Jason Mitchell, Patricia Balthazar, Fred Bertino, Janice Newsome

Department of Radiology and Imaging Sciences, Emory University School of Medicine, Atlanta GA

There are no relevant financial disclosures



To explore factors which may affect the length of moderate sedation experienced by patients undergoing placement of central venous catheters in interventional radiology (IR)



IRB-approved retrospective review of the radiology data repository

Procedure-related metrics were acquired by the IR technologist at the time of the procedure:

- time patient arrives and leaves IR suite
- start and end time of moderate sedation
- start and end time of the procedure

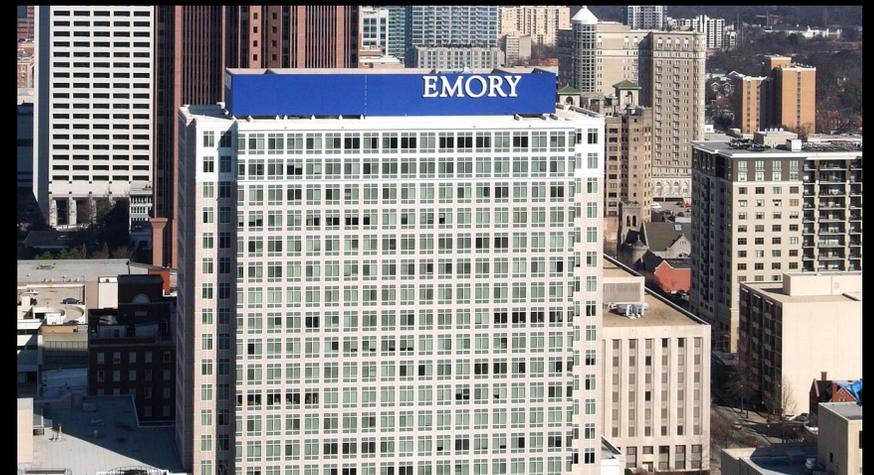


# Materials and Methods



Univariate and multivariate analysis were performed to identify variables associated with longer moderate sedation time  
Statistical significance:  $p \leq 0.05$

Time frame: 12/2016 - 3/2017  
Location: single academic hospital





**Table 1. Study subject and procedure characteristics**

Mean Age		45.67 years (18.37, 42.49-48.86)
Mean BMI		27.81 kg/m <sup>2</sup> (8.81, 26.09-29.53)
Trainees		77%
Comorbidities	Diabetes	11
	ESRD	31
	SCA	46
Medications	Fentanyl	65
	Midazolam	69
	Other Opiates	25
	General Anesthesia	8

**130 sequential cases  
of central venous  
access placement  
were included**



Univariate analysis yielded:

- ESRD ( $42.80 \pm 2.94$  vs.  $28.23 \pm 1.64$ ,  $p < 0.001$ )
- Patient's age ( $F(1,124) = 7.71$ ), with an  $r^2$  of 0.059,  $p$  0.006)
- Sickle cell anemia ( $26.27 \pm 2.5$ ,  $p$  0.007 vs.  $34.73 \pm 1.86$ )

After controlling for these variables, only a diagnosis of ESRD demonstrated independent predictive value for longer moderate sedation times ( $39.72 \pm 3.30$  vs.  $28.16 \pm 1.71$ ,  $p$  0.004)



- ✓ Difficult venous access in patients with chronic and/or recurrent central venous lines, like those suffering from chronic renal disease, is probably a key factor increasing the duration of these procedures and therefore requiring a longer time under sedation
- ✓ Being aware of this correlation is useful from a workflow perspective by considering longer IR suite utilization when scheduling these patients



The diagnosis of ESRD appears to be independently related to the duration of moderate sedation for central venous catheter placement in IR



EMORY  
UNIVERSITY  
SCHOOL OF  
MEDICINE



Thank you