



## INTRODUCTION

### Quality improvement project

- Evaluating the effect of reducing the length of bedrest to two-hours and elevating the head of bed to 60 degrees after one hour

### Setting

- Outpatient cardiac catheterization department at New York University Health

### Objectives

- Maintained** good quality indicator reports for groin complications and hematomas
- Reduced** length of stay and discharge times
- Increased** patient satisfaction

## METHODOLOGY

### Study Design

- Control group:** Retrospectively collected 2/1/17-4/30/17
- Intervention group:** Convenience sample collected 2/1/18- 4/30/18

### Sample

- Inclusion criteria:** Outpatient, transfemoral diagnostic cardiac catheterizations with manual sheath removal
- Exclusion criteria:** Sheath size > 6 French, SBP > 180, DBP > 100, Platelet < 100,000/mcL, INR > 1.5, heparin drip, bivalirudin drip

### Measurements/Data Analysis

- Descriptive data:** Age, gender, sheath size, antiplatelet aggregate medication, and aortic stenosis recorded
  - Analyzed using independent *t*-tests, Chi-squared, and Kruskal-Wallis tests
- Groin complications:** Bleeding defined as dressing saturation requiring immediate compression at access site
  - Analyzed using Chi-square test
- Length of stay:** Defined as time of discharge minus hemostasis time and recorded in minutes
  - Length of stay analyzed using independent *t*-test
  - Impact of sheath size analyzed using Kruskal-Wallis tests
- Patient satisfaction:** 3/17-6/17 Press Ganey scores (control) and 3/18-6/18 Press Ganey scores (intervention) were recorded
  - Analyzed using independent *t*-test

## CONTACT

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## RESULTS

### Demographics Between Groups Post Transfemoral Cardiac Catheterization

	2017 Control (n = 170)	2018 Intervention (n = 214)	Statistics	p-value
Age [years: mean (SD)]	63.7 (± 10.5)	62.2 (± 11.1)	t(371) = 1.32	.19
Gender, n (%)				
Male	92 (46)	105 (49)	$\chi^2(1) = .97$	.33
Female	78 (54)	109 (51)		
Aspirin dosing n (%)				
None	55 (32)	27 (13)	$\chi^2(2) = 46.7$	< .01**
81 mg	102 (60)	115 (54)		
325 mg	13 (8)	72 (34)		
Clopidogrel dosing n (%)				
None	127 (75)	178 (83)	$\chi^2(3) = 8.49$	.04*
75mg	39 (23)	28 (13)		
300mg	0 (0)	3 (1)		
600mg	4 (2)	5 (2)		
Sheath size n (%)				
4 French	136 (80)	146 (68)	$\chi^2(2) = 32.8$	< .01**
5 French	11 (6)	58 (27)		
6 French	23 (13)	10 (5)		

Note. \*p < .05, \*\*p < .01

### Groin Complication Comparison Between Groups Post Transfemoral Cardiac Catheterization

	2017 Control (n = 170)	2018 Intervention (n = 214)	Statistics	p-value
Hematoma	2	0	$\chi^2(1) = 2.53$	.11
Bleeding	0	0	n/a	n/a
A/V fistula	0	0	n/a	n/a

## RESULTS

### Length of Stay Comparison Between Groups Post Transfemoral Cardiac Catheterization

	2017 Control (n = 131)	2018 Intervention (n = 178)	Statistics	p-value
4-French Sheath n, [minutes]	109, 281 (± 57.1)	125, 183 (± 55.4)	t(232) = 13.3	< .01*
5-French Sheath n, [minutes]	8, 299.63 (± 54.1)	48, 187 (± 63.6)	t(10.52) = 5.29	< .01*
6-French Sheath n, [minutes]	14, 290 (± 41)	5, 192 (± 29.1)	t(17) = 4.9	< .01*
Total n, [minutes]	131, 283 (± 55.3)	178, 184 (± 57)	t(285) = 15.3	< .01*

Note. \*p < .001

### Patient Satisfaction Results Comparison Between Groups

	Control (n = 17)	Intervention (n = 12)	Statistics	p-value
Overall rating of hospital [score]	89.9 (± 3.92)	91.4 (± 3.65)	t(27) = -1.03	.31
Rating compared to other hospitals [score]	88.6 (± 9.75)	91.7 (± 5.52)	t(27) = -.98	.34
Overall care of nursing [score]	93.8 (± 6.16)	95.9 (± 3.07)	t(27) = -1.07	.29
How well was your pain controlled [score]	89.1 (± 7.05)	95.8 (± 7.55)	t(27) = -2.45	.02*
Wait times for procedure [score]	85.9 (± 2.85)	90.1 (± 5.44)	t(27) = -2.73	.01**
Likelihood to recommend hospital to others [score]	94.1 (± 4.52)	91.6 (± 6.75)	t(27) = 1.18	.25

Note. \*p < .05, \*\*p < .01

## SUMMARY AND CONCLUSION

- Elevating the HOB to 60 degrees after one-hour of bedrest and ambulating after two-hours of total bedrest for transfemoral diagnostic cardiac catheterizations via 4-6 French sheaths with manual removal is **safe**
- Length of stay was **reduced** and resulting in **more effective** recovery space and resource utilization
- Patient perception of procedure delays and pain significantly **improved**
- Practice should be **expanded** to inpatients and emergency department patients