

## Background

Transfemoral Arteriogram is a minimally invasive diagnostic interventional radiology (IR) procedure which utilizes VCD to achieve hemostasis. Post procedure patient discomfort arises due to restrictions in position and prolonged bedrest.

Can flat bedrest and ambulation time frames be safely reduced by one hour (which is supported by current evidence) after post transfemoral arteriography with vascular closure device?

## Aim of the Project

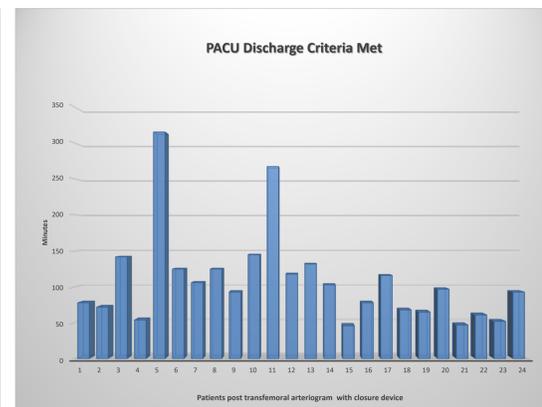
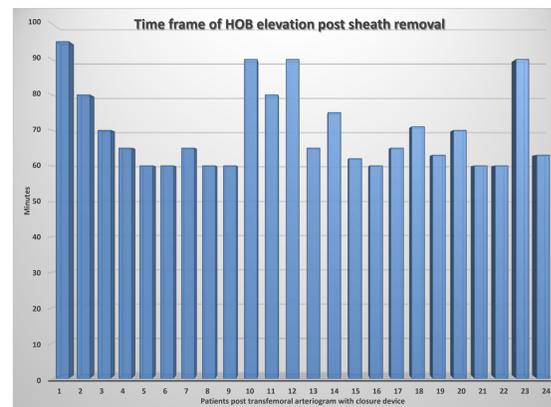
Can supine positioning be reduced from 120 minutes to 60 minutes and total bedrest time be reduced from 180 minutes to 120 minutes without incidence of bleeding or trauma after post transfemoral arteriography (PTFA) with vascular closure device (VCD)?



## Description of Planning Phase

Literature search yielded 892 articles and only 12 appropriate articles met PICO criteria. Mesh terms were post angiography, closure device, transfemoral access, early ambulation, early discharge with databases from PUBMED, CINAHL, Joanna Briggs, Cochrane Review 2006-2019. Evidence supported recommendation to safely raise head of bed 30 degrees after one hour and safe to ambulate after two hours of bedrest. Once IR physicians, Nursing Research Committee and IRB approval obtained, 24 patients were enrolled in QI project.

## Description of Data Collection and Analysis



The Plan Do Study Act (PDSA) format was utilized which compares the current practice of interventional radiology (IR) and Neuro IR patients requiring three-hour bedrest while maintaining supine head of bed (HOB) in flat position for two hours then elevating the HOB to 30 degrees for one additional hour vs implementing two-hour bedrest while maintaining supine HOB in flat position for one hour then elevating the HOB to 30 degrees for an additional hour.

Data collection time frame was May 1, 2021 to December 1, 2021, and involved monitoring BP, HR, RR, pulse check, femoral groin site check, pain score and patient satisfaction for 24 patients. Data revealed the average minutes post transfemoral sheath removal to HOB elevation to thirty degrees was 69.95 min and PACU discharge criteria met average time was 108 minutes. Nursing staff were encouraged to report any complications that occurred in the 24 IR patients. However, no adverse events were reported during this QI project.

Current standard of care at Johns Hopkins Hospital Cardiac Cath is for PACU patients to recover post procedure with HOB in flat position for one hour and progressively elevate HOB every thirty minutes with ambulation after two hours. The investigators sought to establish comparative IR nursing standards with the Cardiac Cath PACU guidelines.

## Outcome Measures/ Results

Outcome Data Revealed:

1. Reduction in the total supination time from 120 to 69.95 minutes and total bedrest time from 180 to 108 minutes
2. No increased risk for bleeding or trauma in the patient
3. Overwhelming increase in patient satisfaction related to decrease in back discomfort while supine
4. Ability to void out-of-bed and/or without assistive devices.
5. Further evaluation of new protocol revealed reduction in PACU length of stay and decreased PACU costs due to decreased utilization of resources, manpower, and length of hospital stay.

## Implications for Practice

The strength of evidence revealed ten years of studies recommended it was safe to ambulate within 120 minutes PTFA with VCD. Roebuck, et al., disclosed there were no discernable difference in complications when mobilizing patients two hours versus four hours PTFA.

Larsen et al., concluded that immediate mobilization PTFA with Angioseal showed no increased risk of bleeding vs standard practice with bedrest. Toretti, et al., stated protocol safe to ambulate and discharge.

## Lessons Learned

The study showed that patients post transfemoral arteriogram with closure device can be supine with HOB flat for one hour, then HOB elevated to thirty degrees for one hour for a total of two- hour bedrest then ambulate thereafter with minimal or no complications, reduce PACU stay and improve patient satisfaction.

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## Acknowledgements –

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