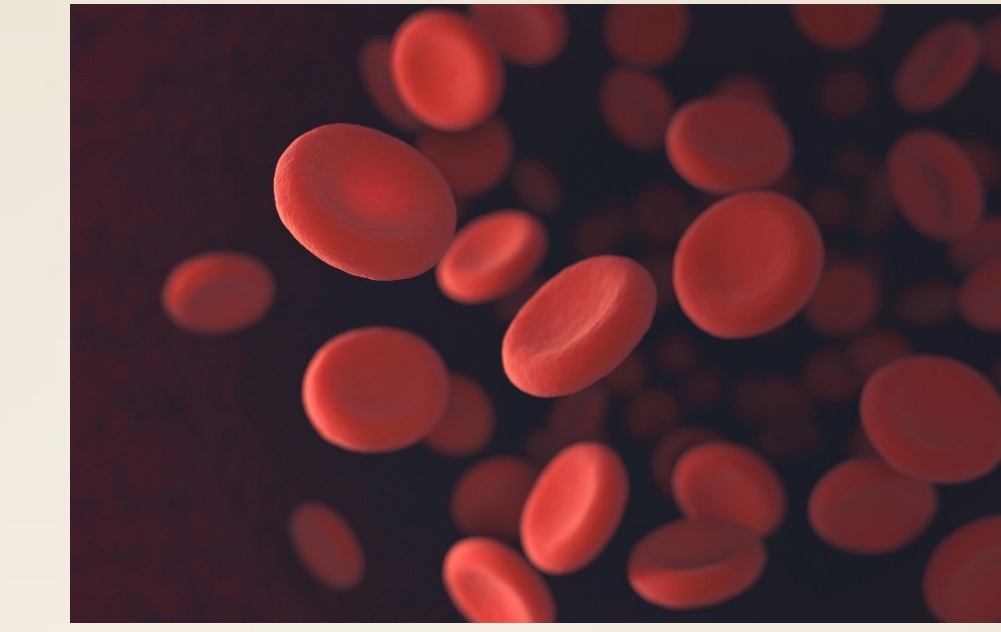
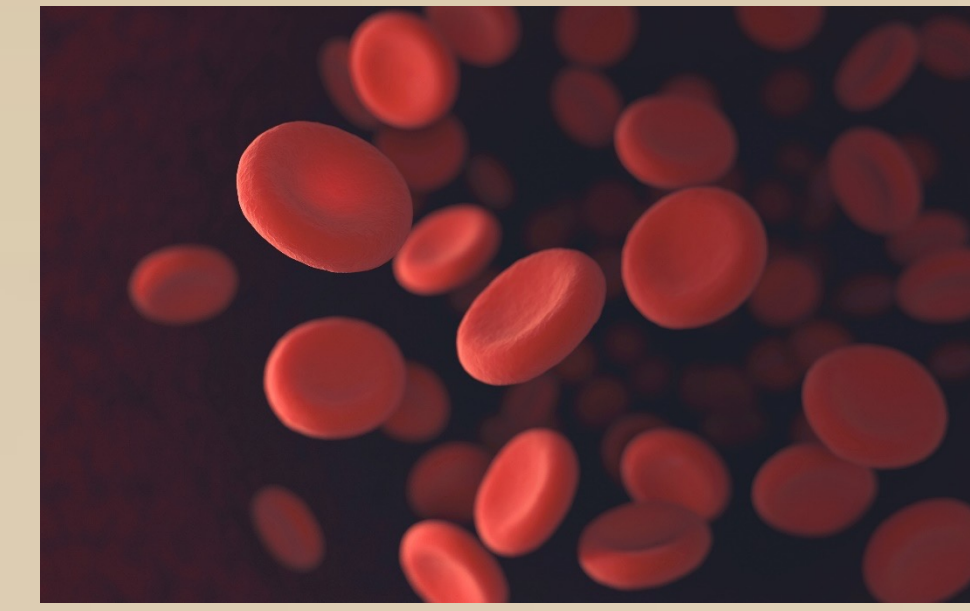


# Activated Clotting Times and Rebleed Rates in Pediatric Patients Post Cardiac Catheterization: A Pilot Project Proposal



Stacey Carey, MSN, APRN, FNP-C

Dr. Ruth Chavez, DNP, APRN, FNP-C, Adviser

Dr. Chai Sribanditmongkol, PhD, RN, IBCLC, CNS, Project Team Member

Dr. Joy Shoemaker, DNP, APRN, FNP-BC, CNE, Project Team Member

Otterbein University, Westerville, Ohio

## Background

- ♥ Pediatric patients aged 1 month-17 years of age undergoing a cardiac catheterization and receiving heparin.
- ♥ Target population is located at a large pediatric hospital located in Central Ohio.
- ♥ Cardiac catheterization (CC) procedure is a minimally invasive procedure that requires arterial and/or venous access.
- ♥ Activated clotting time (ACT) is a point of care test used to measure the heparin anticoagulation effect throughout the CC.

## Why is Activated Clotting Time a Concern?

- ♥ Post CC care requires patients to lie flat for several hours, to ensure bleeding will not occur at the punctured vessel site.
- ♥ Currently no standard protocol exists for an appropriate ACT for sheath removal post CC within Ohio. Variations in practice exist.
- ♥ The American College of Cardiology states that higher ACT is associated with increased risk of access site bleeding.
- ♥ The American College Cardiology provides guidelines for the adult population regarding ACT levels for sheath removal. Further indication for pediatrics is needed.

## Significance

- ♥ Within Ohio no standard exists for ACT levels upon sheath removal.
- ♥ The American College of Cardiology recommends for the adult population that the ACT is less than 180 seconds before sheath removal.
- ♥ Increased efficiency in healthcare delivery by reducing bedrest post CC.
- ♥ Improved bed utilization
- ♥ Reduced cost
- ♥ Reduced length of stay
- ♥ This proposed project will help improve nursing practice efficiency based on patient care data for standardized care.

## Research

- ♥ The literature regarding ACT and post-procedure bleeding is adult focused after percutaneous coronary intervention (PCI).
- ♥ Adult population studies have found a correlation between bleeding frequency and high
- ♥ The American College of Cardiology (ACC) and the American Heart Association (AHA) collaborate to provide guideline and recommendations for heart disease.
- ♥ The ACC protocol recommends that patients who receive heparin that the ACT is less than 180 seconds prior to sheath removal

## Project Purpose

- ♥ Identify a safe ACT range for pulling sheaths post procedure to prevent rebleeding events for pediatric patients undergoing a cardiac catheterization.

## Project Objectives

- ♥ Decrease post procedure CC rebleed rates.
- ♥ Decrease variation in practice within the pediatric cardiac catheterization lab by providing evidenced based appropriate ACT level for sheath removal

## Population and Sample

- ♥ Pediatric patients with congenital heart disease undergoing cardiac catheterization and receiving heparin for a diagnostic or interventional procedure.
- ♥ Age 1 month-17 years of age
- ♥ Convenience sample
- ♥ Inclusion criteria: Age, baseline and post procedure ACT, and post procedure follow up documented.

## Project Design

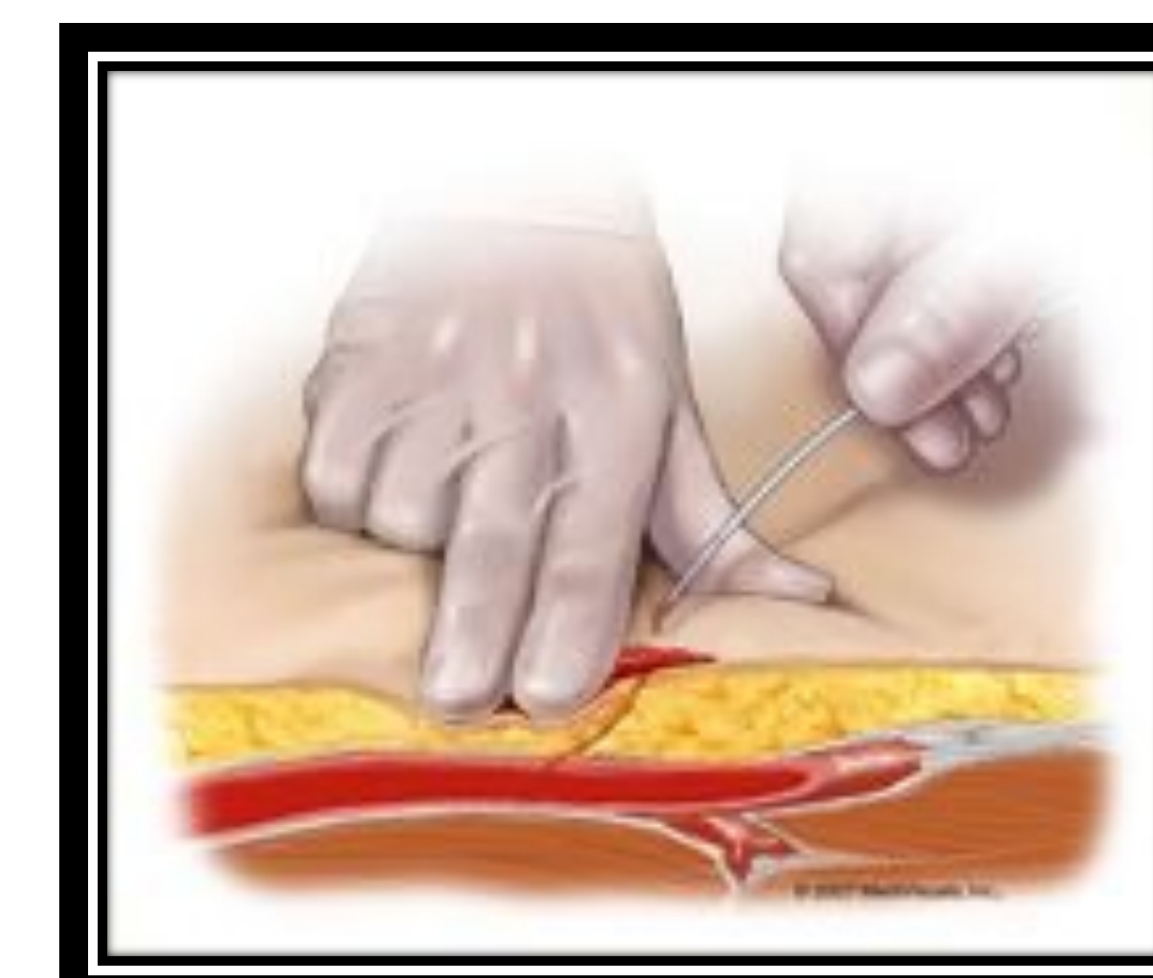
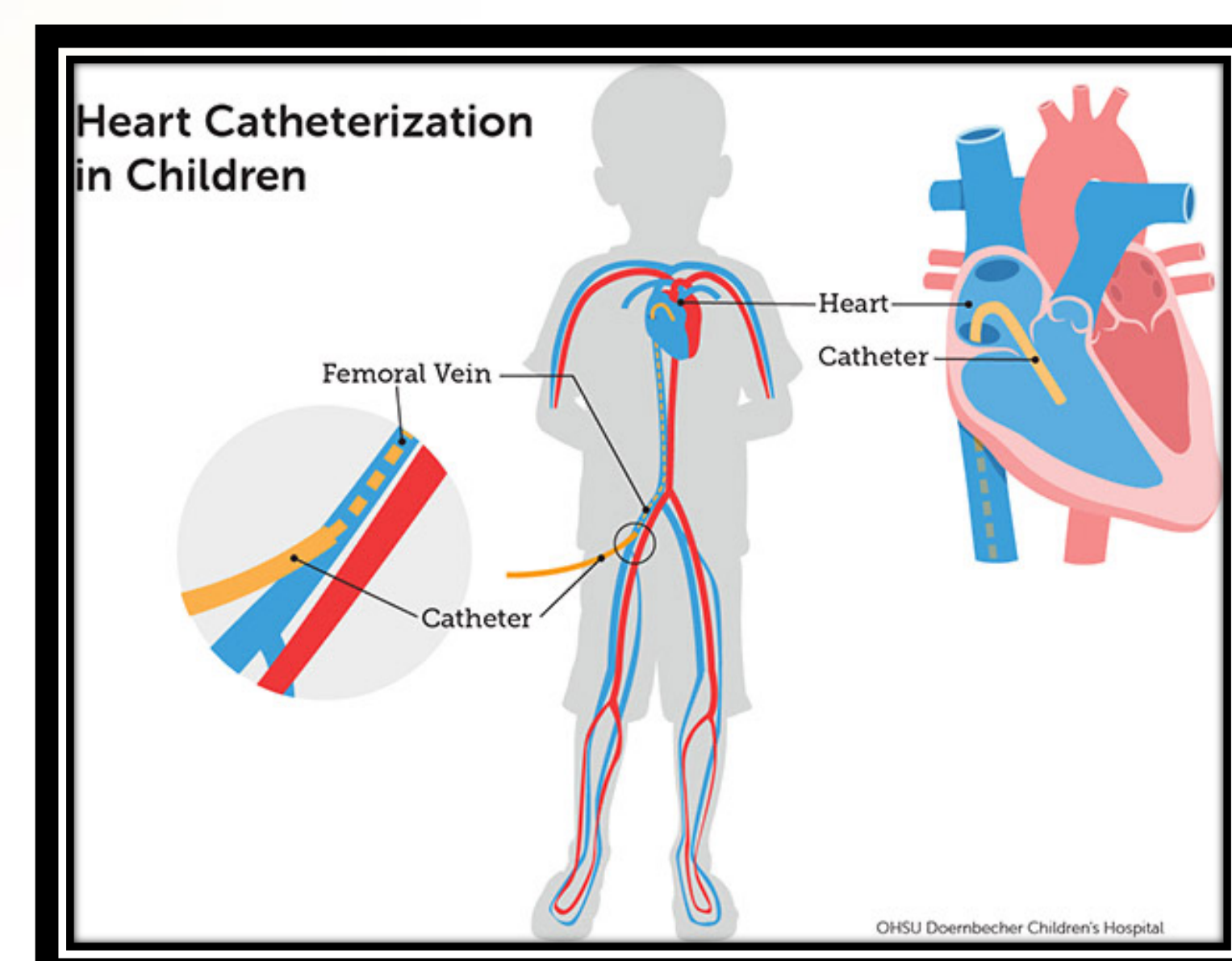
- ♥ Mixed study method- Qualitative and Quantitative data
- ♥ Root Cause Analysis- to decrease the repetition of the variation in practice in ACT and sheath removal.
- ♥ A retrospective chart review will be used to identify ACT levels and rebleeding post CC, and if a correlation exists a proposed policy to implement safe ACT level upon sheath removal will be recommended utilizing the highest level of evidence from the literature
- ♥ Theoretical framework focus on Imogene King's Theory of Goal Attainment.
- ♥ King's theory was chosen to guide this project based on the holistic approach of the person with a focus on improving patient outcomes.

## Barriers to Project Completion

- ♥ Principal investigator requirements:
  - Application for principal investigator
  - Employed by the hospital

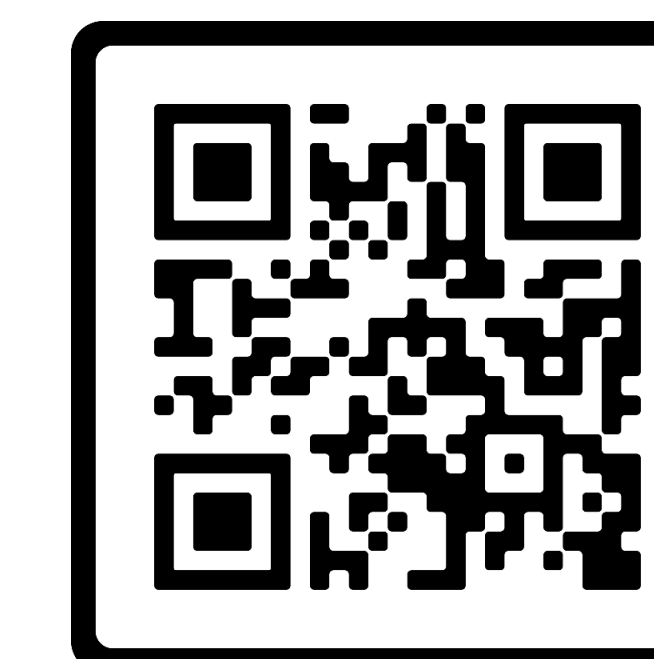
## Conclusion and Recommendations

- ♥ Create Doctor of Nursing Practice liaison to help navigate IRB process within the hospital.
- ♥ Begin IRB application process 2-3 months earlier.
- ♥ DNP programs establish, develop and strengthen relationships with clinical practice sites to finish DNP students' final scholarly projects.
- ♥ Large teaching hospitals should establish a streamline approach to determining QI project vs human subjects research to avoid prolonged review times



Manual removal of femoral arterial sheath and digital compression. Hemcon.com

## References



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