

CARDIOLOGY
2025 

Trends in Cardiac ICU Readmissions

A Quality Improvement Approach

Tasha D. Bryant, APRN

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Pediatric Cardiology



Disclosures: None

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2025 



CASE STUDY



- Full term, now 8 weeks old
- HLHS s/p Norwood- BT shunt
- 8-week ICU stay
- Genetic disorder
- Bloody stool 1 day ago
- G- tube 2 days ago
- Fortified feeds

WHY



- Readmission rates
- Mitigate readmissions
- Modifiable factors
- Compare to other institutions

Risk factors associated with readmission after pediatric cardiothoracic surgery

Brian Kogon ¹, Ashish Jain, Matthew Oster, Kimberly Woodall, Kirk Kanter, Paul Kirshbom

Affiliations + expand

PMID: 22682942 DOI: 10.1016/j.athoracsur.2012.04.025

Abstract

Background: Approximately 10% to 20% of children are readmitted congenital heart surgery. Readmissions are now being viewed by payers as preventable complications of the original surgery or hospitalization, and there have been proposals by insurance agencies to deny coverage of the additional expenses incurred by the readmission. With hopes to reduce the potential impact, we analyzed patients undergoing congenital heart surgery at our institution in order to identify risk factors for readmission.

Unplanned Readmission to the Pediatric Cardiac Intensive Care Unit: Prevalence, Outcomes, and Risk Factors

Marissa A Brunetti ¹, Andrew C Glatz ², Ken McCordle ³, Antonio R Mott ⁴, Chitra Ravishankar ², J William Gaynor ³

Affiliations + expand

PMID: 26467874 DOI: 10.1177/2150135115594854

Abstract

Background: Factors leading to cardiac intensive care unit (CICU) readmission and the impact on mortality have yet to be well delineated. We sought to define the prevalence and outcome for unscheduled CICU readmission. Secondary objectives were to identify indications and risk factors for unscheduled CICU readmission.

Direct Discharge to Home From the Pediatric Cardiovascular ICU

OBJECTIVES: To describe direct discharge to home from the cardiovascular ICU.

DESIGN: Mixed-methods including retrospective Pediatric Cardiac Critical Care Consortium and Pediatric Acute Care Cardiology Collaborative data and survey.

SETTING: Tertiary pediatric heart center.

PATIENTS: Patients less than 25 years old, with a cardiovascular ICU stay of greater than 24 hours and direct discharge to home from January 1, 2016, to December 8, 2020, were included. Select data describing patients discharged from acute care internally and nationally from Pediatric Acute Care Cardiology Collaborative sites were compared with the direct discharge to home cohort.

Dana B. Gal, MD^{1,2}

David M. Kwiatkowski, MD, MS^{1,3}

Camila Cribb Fabersunne, MD, MPH¹

Alaina K. Kipps, MD, MS^{1,3}

This Presentation:

California
Georgia
Philadelphia
Japan

Incidence and risk factors for readmission to a paediatric intensive care unit

Umi Koniishi ¹, Takeshi Hatachi ², Ryo Ikebe ¹, Yu Inata ², Kazumi Takemori ¹, Muneyuki Takeuchi ²

Affiliations + expand

PMID: 31576633 DOI: 10.1111/nicc.12471

Abstract

Background: Unscheduled readmission to a paediatric intensive care unit can lead to unfavourable patient outcomes. Therefore, determining the incidence and risk factors is important. Previous studies on such readmissions have only focused on the first 48 hours after discharge and described the relative risk factors as unmodifiable.

Aim: To identify the incidence and risk factors of unscheduled readmission to a paediatric intensive care unit within 7 days of discharge.

A Decade of Discovery

International Inquiry



Total: 4126 admissions



2012: ATLANTA, GEORGIA

Risk factors associated with readmission after pediatric cardiothoracic surgery

Brian Kogon¹, Ashish Jain, Matthew Oster, Kimberly Woodall, Kirk Kanter, Paul Kirshbom

Affiliations + expand

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Abstract

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Aim: Readmission within 30 days of hospital discharge

Findings: Hispanic ethnicity, LOS>10 days, FTT

Outcomes: Discharge process changes



2015: PHILADELPHIA, PENNSYLVANIA



Unplanned Readmission to the Pediatric Cardiac Intensive Care Unit: Prevalence, Outcomes, and Risk Factors

Marissa A Brunetti¹, Andrew C Glatz², Ken McCardle³, Antonio R Mott⁴, Chitra Ravishankar², J William Gaynor⁵

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Background: Factors leading to cardiac intensive care unit (CICU) readmission and the impact on mortality have yet to be well delineated. We sought to define the prevalence and outcome for unscheduled CICU readmission. Secondary objectives were to identify indications and risk factors for unscheduled CICU readmission.

Aim: Prevalence, outcome, indications, risk factors

Findings: Uncommon but higher mortality rates

Other: Genetic anomaly and LOS important factors



2020: OSAKA, JAPAN



Incidence and risk factors for readmission to a paediatric intensive care unit

Umi Konishi ¹, Takeshi Hatachi ², Ryo Ikebe ¹, Yu Inata ², Kazumi Takemori ¹, Muneyuki Takeuchi ²

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Aim: To identify the incidence and risk factors of unscheduled readmission to a paediatric intensive care unit within 7 days of discharge.

Aim: Incidence and risk factors within 7 days of discharge from ICU

Risk factors: Unscheduled initial admission, admit from general ward, withdrawal syndrome during index stay

Other: Withdrawal potentially modifiable

2022: CALIFORNIA



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- Not associated with increased unplanned readmissions
- Mixed levels of confidence technical aspects and low levels of confidence in logistics of DDH
- May be safe in select patients



CONCLUSION

Decade of Discovery

Unplanned readmissions uncommon

Post-discharge monitoring may increase readmissions
and decrease mortality

Each study had own limitations



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THANK YOU 