

# Understanding use of a neonatal CRRT machine in the United States through ICONIC: Improving Carpediem™ Outcomes in Neonates and Infants through Collaboration

## AKI & CRRT Conference

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on behalf of the ICONIC Collaborative

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### Background

- Carpediem™ device (CD) is a dedicated infant dialysis device designed to provide continuous renal replacement therapy (CRRT) safely.
- Improving Carpediem Outcomes in Neonates and Infants through Collaboration (ICONIC) is a multicenter multidisciplinary quality improvement and research registry.

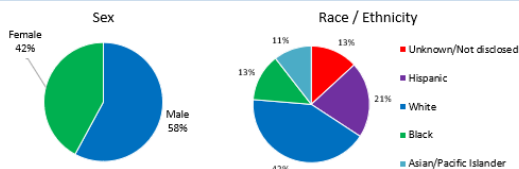
### Methods

- Prospective Registry (NCT05161078) for infants receiving CD Therapy in the United States
- Data including demographics, admission diagnosis, comorbidities, CRRT prescription, filter duration, treatment course outcomes, and hospital outcomes are recorded
- Infants are automatically enrolled for Quality Improvement and eligible for consent for research purposes
- Treatment course is defined as <72 hours between subject CD procedures
- Outcomes include filter life, survival to end of treatment course (survival to 72 hours post CD therapy), intensive care unit discharge, and hospital discharge
- Variables are described as Median [IQR] or fractions (%)

### Results

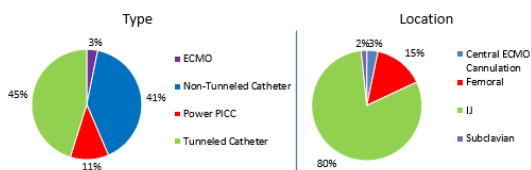
#### Demographic Data (n=38 with complete data)

- 13 of 24 Collaborative Sites currently provide CD Therapy
- 3 sites representing ~80% of patients on CD have subjects qualifying for research through October 2022
- Median Birth Gestational Age: 36 weeks [34, 38 weeks]
- 97% were <1 year of age at admission
- Congenital Anomaly of the Kidney and Urinary Tract is the most common admitting diagnosis (35%), followed by shock (13%)
- Median Admission weight: 3.145 kg [2.605, 3.73 kg]
- 71% were admitted to the Neonatal Intensive Care Unit



#### Vascular Access (n=62 from 37 subjects with complete data)

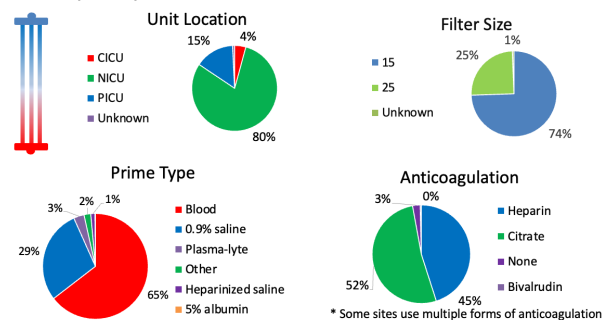
- Mean number of catheters = 2 |



### Results

Characteristics at Treatment Initiation (n=44)	yes
Previous Dialysis	20
• In last 7 days	18
• Chronic dialysis	8
Mechanical Ventilation	33
• Acute	6
• Chronic	27
Presumed or confirmed Infection	8
Coagulopathy	15
Indications ( <i>may have more than 1</i> )	
• CAKUT	17
• Fluid Overload	22
• AKI	16
• Electrolyte Derangement	11
• Metabolic	1
• Other	4

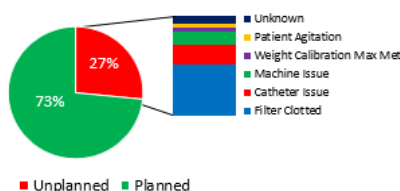
#### Filters (n=776)



- 99.6% use in CVVHD modality
- 191 Circuit to Circuit Primes
- 7 Filters used with ECMO
- Median Effluent Dose: 94 mL/kg/hr [82, 110 mL/kg/hr]
- Median Prescribed Treatment Time: 22 hrs; Delivered Time: 19.5 hrs

#### Outcomes

##### Filters (n=776)



##### Treatments & Hospital

- 80% Survival of Treatment Course
- 14 subjects receiving complete enteral nutrition while on CD
- 20 had hospital outcome data entered with 65% survival to ICU discharge

### Conclusions

Multidisciplinary, multicentered collaboration is critical to understanding Carpediem™ best practices.



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