

THE ROLE OF THE ADVANCED PRACTICE PROVIDER IN PEDIATRIC TRANSPLANT

Patti Fredrick, CPNP

Abdominal Transplant Pediatric Nurse Practitioner



No financial disclosures

| Agenda

- Introduction
- Pre-transplant Role of the PNP
- Inpatient (Peri-Transplant) Role
- Post-Transplant Role
- Broader Roles of the PNP
- Education



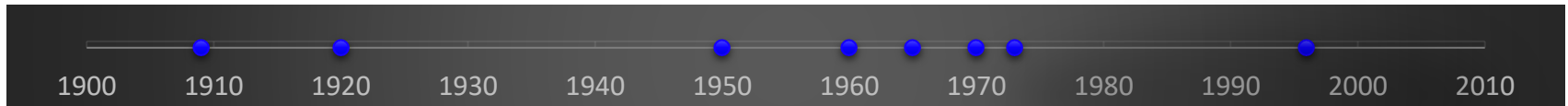


| History of Transplant

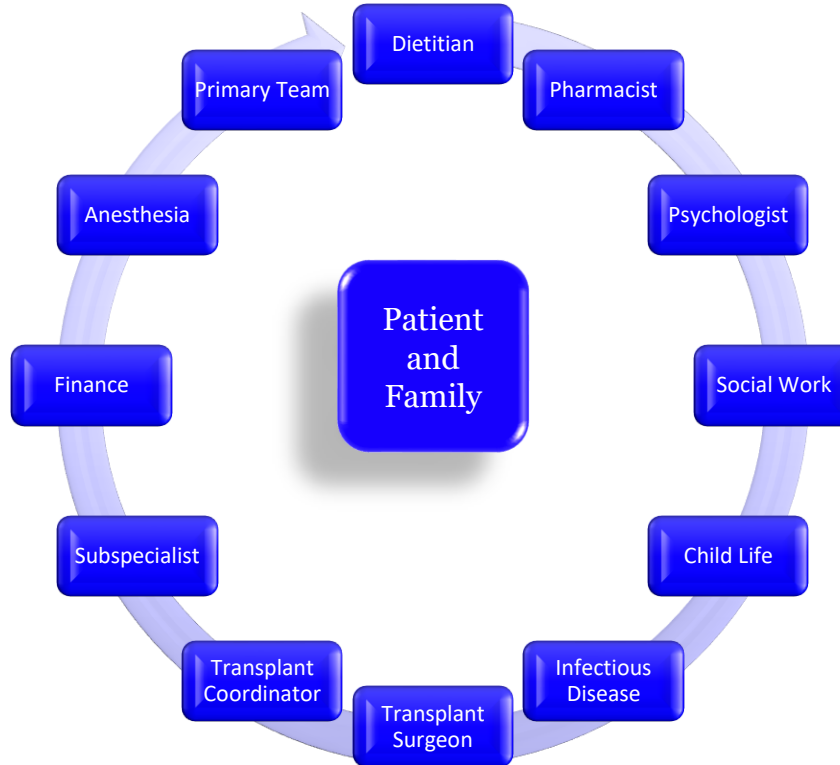
- Kidney, 1952, unsuccessful followed a successful transplant in 1954
 - Pediatrics: 1959
- Liver, 1963, successful by Dr. Thomas Starzl
 - Pediatrics: 1967
- Lung, 1963, successful by Dr. James Hardy
 - Pediatrics: 1987
- Heart, 1967, Dr. Christiaan Barnard
 - Pediatrics: 1967

History of Advanced Practice Nurse

- Advanced practice nurse
 - 1909: First advanced nursing specialty: nurse anesthesia
 - 1920s: Nurse midwifery
 - 1950s: Clinical nurse specialist
- Nurse practitioner
 - Role was created in the 1960s by Dr. Loretta Ford and Dr. Henry Silver¹
 - 1965 Medicare and Medicaid was established²
 - First NP education program was at University of Colorado 1965²
 - The National Association of Pediatric Nurse Practitioners, 1973²
 - 1996 Doctor of Nursing Practice



It Takes a Village



Multidisciplinary Team

Importance in Solid Organ Transplant

Ensures Comprehensive Care

Facilitates Individualized Treatment

Improves Outcomes

Supports Patients and Families

Enhances Communication and Safety

The Role of the Advanced Practice Provider



“ Transplant pediatric nurse practitioners are in a unique position to expand the care for pediatric transplant patients by assuming the role of clinician, educator, administrator, and coordinator”²

Pre transplant role



| Pre-transplant role

Clinical Management

Interdisciplinary Collaboration

Patient/Family Education

Advocacy and Support



Pre-Transplant Role of the APP

Referral

- Receive referral from physicians
- Create the encounter, send to finance
- Responsible for calling family, chart review, placing orders for evaluation

Evaluation

- APP sees the patient with transplant surgery, presents the history to the physician, writes the note
- Presents the patient at MDM

Waitlist

- Collaborates with the team and sees the patient monthly in clinic

Peri-transplant role



| Peri-transplant role (Inpatient)

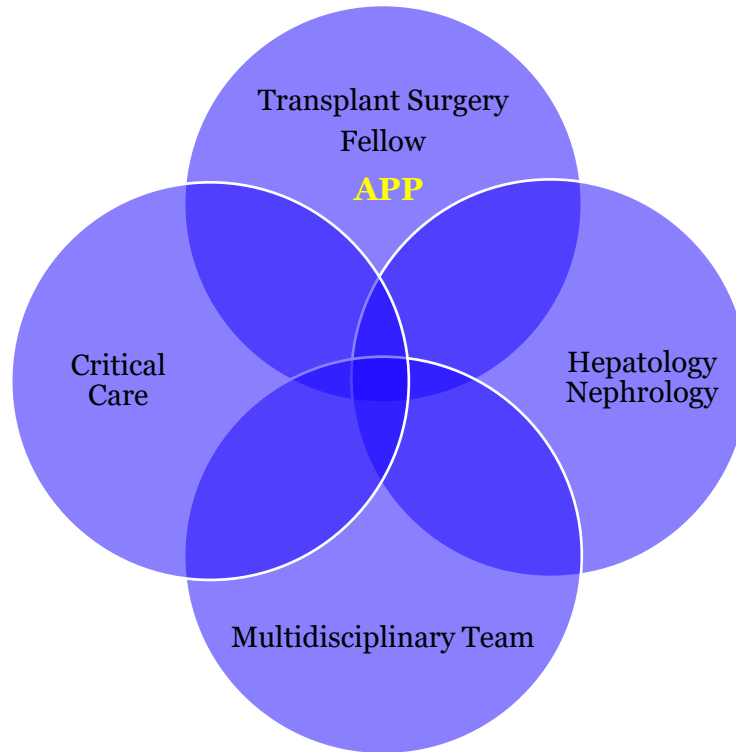
Clinical Management

Interdisciplinary Collaboration

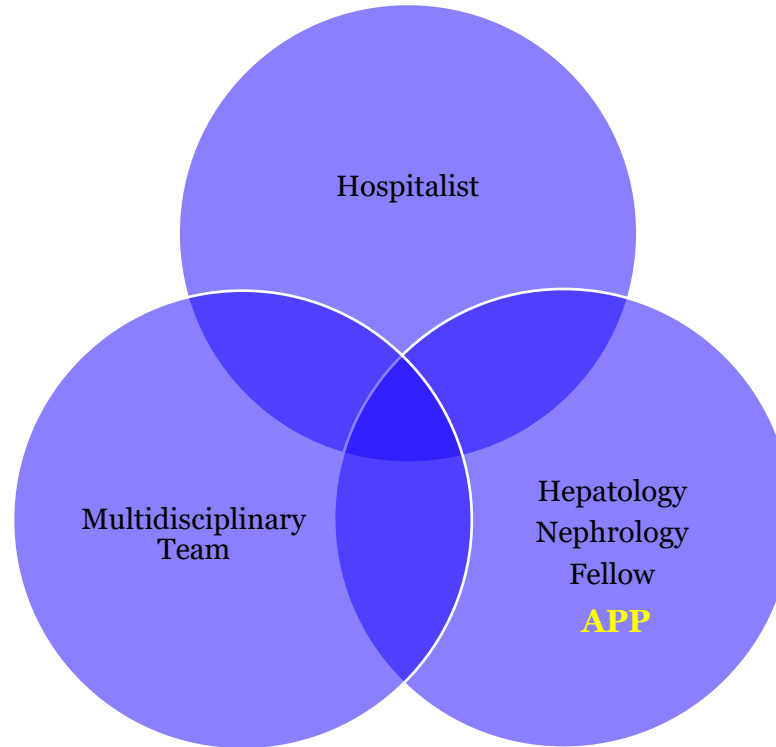
Patient/Family Education

Advocacy and Support

Clinical Care Model-Transplant Admission



Clinical Care Model-Readmission



Transplant

- Admission
 - History and Physical
 - Admission Orders, confirm regulatory labs are sent
 - Consents
- Management
 - MD rounds with ICU
 - Manage fluid status, immunosuppression, lab cadence, prophylaxis, nutrition, imaging, anti-coagulation
 - Once transfer to floor, all care
- Discharge
 - Rooming-In Phases
 - Determine readiness
 - Medication reconciliation
 - Coordination

Readmission

- Admission
 - Give sign out to primary team
 - Consulting team with note
- Management
 - Infusion dosing for rejection
 - Schedule IR, procedures
 - Biopsy orders, coordination
 - Inpatient liver transplant evaluation
- Discharge
 - Medicine reconciliation for immunosuppression medications
 - Outpatient follow up with coordination of labs
 - Transplant specific discharge instructions and medication guide

A young child, likely a toddler, is sitting inside a large, open cardboard box. The child is wearing a blue long-sleeved shirt with a yellow and white pattern of dinosaurs and a black pirate hat with a gold skull and crossbones. The child is holding a long, rolled-up piece of cardboard as a telescope, looking through it with a focused expression. The background is a softly blurred bedroom with a white headboard, a yellow crown on a shelf, and a pink piggy bank. The text "Post-transplant role" is overlaid in a large, white, serif font at the bottom of the image.

Post-transplant role

| Post-Transplant Role

Clinical Management

Interdisciplinary Collaboration

Patient/Family Education

Advocacy and Support



Broader Role of the Advanced Practice Provider

The Role of the Advanced Practice Provider in Pediatric Transplant

| Broader Roles of the Advanced Practice Provider



Quality Improvement



Clinical Education

Quality Improvement

“Initiatives provide excellent opportunities for nurse practitioners (NPs) to leverage our clinical expertise as active participants in practice changes that improve outcomes, thereby maximizing our impact and highlighting our valuable role in populations, organizations, and the health care industry” Dunlap & Waldrop³

Quality Improvement Projects

MELD/PELD exception writing: Streamlined documentation of liver disease complications in the liver transplant evaluation note

Progress Notes Encounter Date: 9/13/2023
Signed: _____
Registered Nurse
Specialty: Transplant

Liver Disease Status: abnormal liver synthetic function cholestatic hepatitis

Portal Hypertension: yes
Ascites description: physical exam and CT scan
Ascites complications: hyponatremia
Diuretics: PO furosemide (lasix) 10 mg and spironolactone (aldactone) 50 mg
% of bleeding: no previous episode of bleeding
Therapeutic paracentesis: no
Encephalopathy: Stage 2 Clinical: drowsy; Neurologic: normal reflexes Treatment: lactulose and rifaximin
Lansky score: 55 - lying around much of the day, but gets dressed; no active playing; participates in all quiet play and activities

Growth Assessment: At Risk
Height z score: -3.01

Nutrition Assessment: At Risk
Malnutrition: Moderate z score: -2.09
Nutritional supplement: dietary modular agents such as Ducol, oils and MCT oil and NG tube feeds with Pediasure Peptide, 100 % of caloric need
Mid arm circumference: 12 cm, z score: -3.44

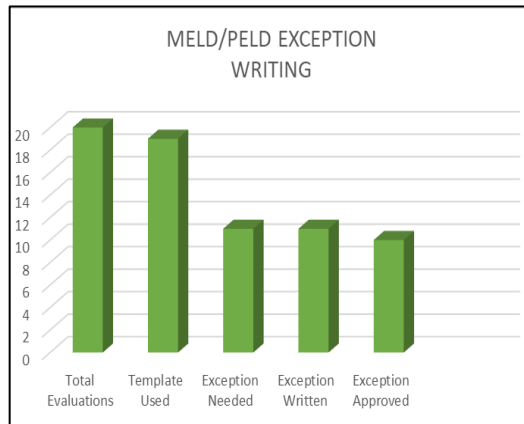
Infection Assessment:
Cholangitis: not identified, however, patient was treated with 14 days of antibiotics 07/2023 for fever with biliary duct dilatation
Hospitalizations for sepsis: no
Episodes of SBP: no

Pruritis: yes
Current treatment: Hydroxyzine pm, rifampin
Response to medications: No, refractory
Evidence of cutaneous mastitis: yes Location: bilateral arms, trunk, buttocks

Metabolic Bone Disease: yes
Vitamin D level: 17
Treatment: 1000 IU of D3 daily
Pathologic fractures: no

Transplant Evaluation Note Template

Transplant evaluation template created that accounts for categories that lead to exception points



Outcomes

Source documentation in one place



Disseminated the Information

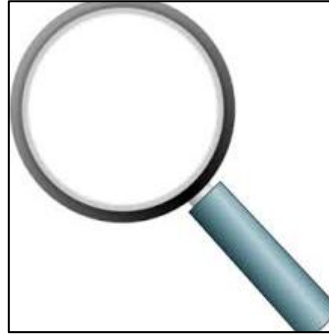
Presented abstract at the 2023 conference in Montreal, CA

Implementation of Transplant Core Nurse Team to Support Interprofessional Discharge Education and Rooming In For Caregivers of Children After Solid Organ Transplant



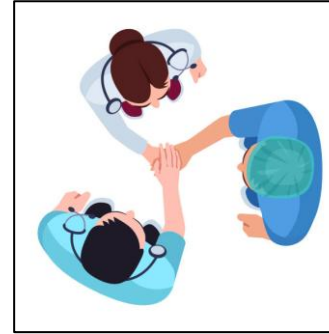
Transplant Core Nurses

- A core nursing team comprised of clinical nurses with demonstrated expertise, accountable to provide specific education to patients and families following a pre-determined timeline with specific educational milestones



Identified Candidates

Needed to already have transplant education, experience in caring for population



Collaboration and Creation

Group of charge RNs met to determine coverage needed. 8-10 nurses were chosen based on interest, experience, and shift worked



Education

Education day provided with mandatory attendance with expectations, importance of role, they fit into the discharge timeline

Progressing from Transplant to Discharge: A generalized Rooming-In process following Pediatric Liver and Kidney Transplantation

Rooming-In

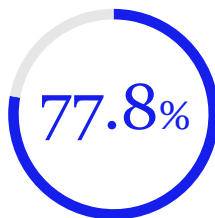
Facilitates the transition of the patient and family from hospital to home prior to discharge with a safety net available to answer questions and troubleshoot challenges (American Academy of Pediatrics, 2008)

Goal

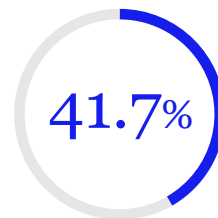
Strengthen and reinforce post-op education, reduce parental anxiety related to transplant care, offer comprehensive medication education, with bidirectional open lines of communication

1 year Infection Rate Outcomes

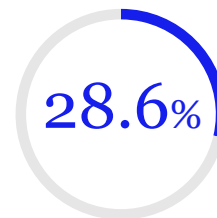
Bacterial infections occur in 59% to 68% of the patients after liver transplantation with half being surgical or blood stream infections occurring within two weeks after transplant (Singh et al., 2015)



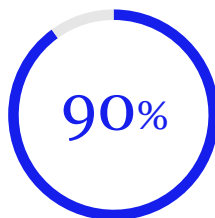
Liver 2023



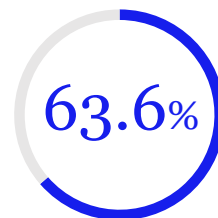
Liver 2024



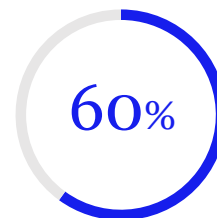
Liver 2025



Kidney 2023



Kidney 2024



Kidney 2025

| Discharge Video Project

Chapter 1: Welcome

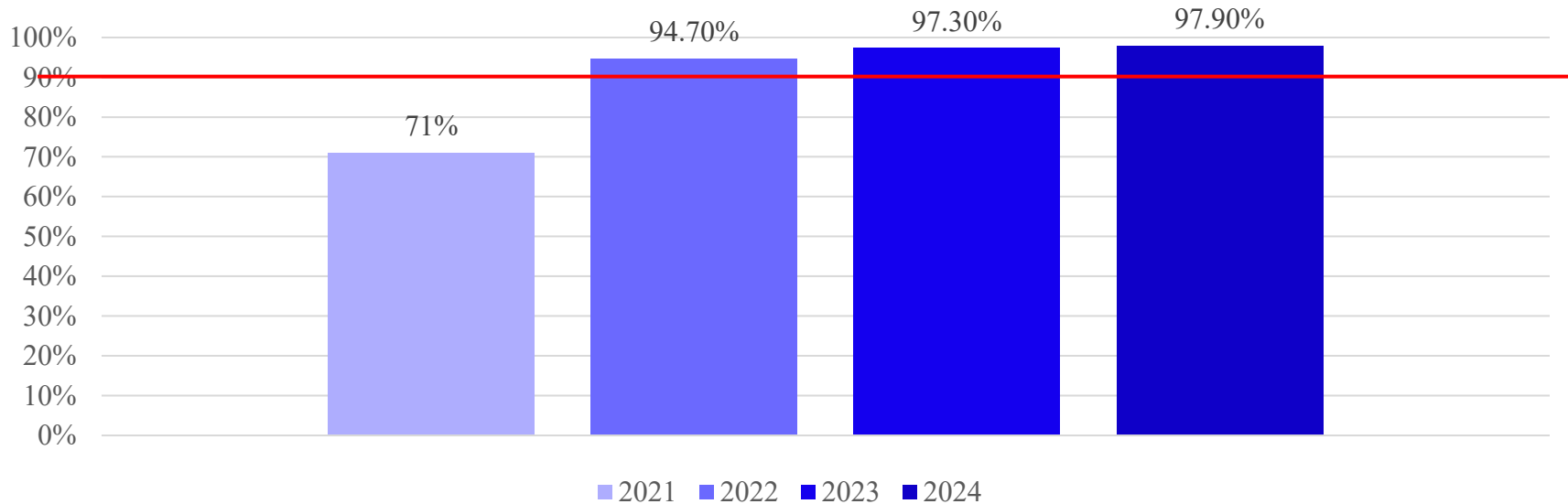
| Flu Vaccine Initiative

- Low vaccination rates observed in 2021
- Hospitalization risk for pediatric transplant recipients is 87 times higher



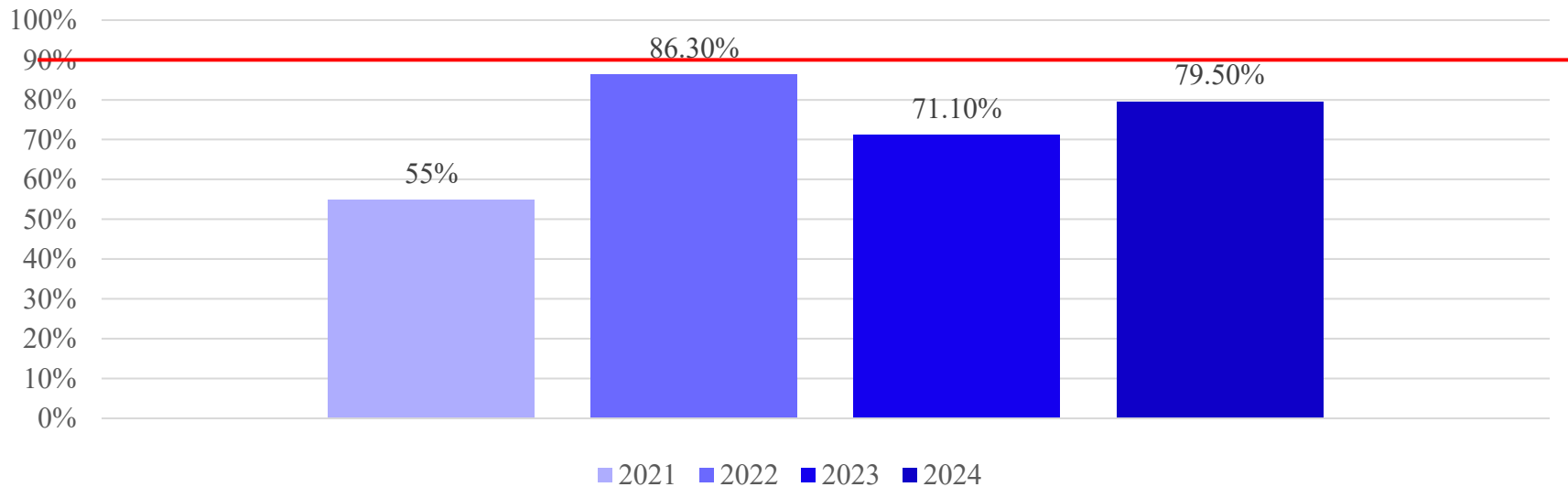
Results

Influenza Vaccination Rates Kidney Transplant 2021-2024



Results

Influenza Vaccination Rates Liver Transplant 2021-2024



Education

Passing on the knowledge



Advanced Practice Provider Involvement

- New Nurse Education
- Transplant Core Nurse Education
 - Bootcamp
 - Lunch and Learns
 - Fellow education
 - Ongoing education



“

Transplant isn't just about replacing an organ—it's about restoring a life. As a nurse practitioner, I have the privilege of walking with the patients through their most fragile moments and witnessing their strength rise again”

-Unknown

Questions:

Patti Fredrick, CPNP patrica.fredrick@bjc.org



Citations

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