

# Multi-Disciplinary Care in the NICU

*More than just teamwork and communication*

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# Objectives:

By the end of this course, the learner will be able to:

- State the expectations of each team member
- Describe Developmental Care in the NICU
- Describe a plan to balance Developmental Care and necessary NICU procedures
- Implement the essential skills and knowledge required for effective collaboration and improved patient outcomes.



- In the NICU, a multidisciplinary team, comprising neonatologists, pediatricians, nurses, respiratory therapists, nutritionists, social workers, and allied health professionals, collaborates to address the intricate health challenges of premature or ill newborns.
- The team's primary goal is to provide comprehensive care by integrating diverse expertise and ensuring the well-being of both the newborn and their family. This involves effective communication, collaborative decision-making, and a holistic approach to patient care.
- Each team member contributes specialized knowledge to create a tailored care plan, addressing medical, developmental, and psychosocial aspects. Ultimately, this synergistic collaboration results in the highest standard of care for neonates with complex health issues.



## What is Multi-Disciplinary Care?

# Who is Who?

- Neonatologists, neonatal nurses, respiratory therapists, occupational and physical therapists, pharmacists, nutritionists/ dietary, social workers, psychologists, and other professionals involved in NICU care



- **Neonatologists:**

- *Role:* Neonatologists are specialized pediatricians who focus on the care of newborns, especially those with medical issues.
- *Expectations in NICU:* They lead the medical team, diagnose and manage medical conditions, and oversee the overall care of neonates.

- **Neonatal Nurses:**

- *Role:* Neonatal nurses provide direct patient care to newborns, monitoring vital signs, administering medications, and coordinating with the healthcare team.
- *Expectations in NICU:* They play a crucial role in day-to-day care, ensuring the implementation of care plans, and providing support to families.

- **Respiratory Therapists:**

- *Role:* Respiratory therapists specialize in managing the respiratory needs of patients, including neonates, by administering treatments and managing ventilators.
- *Expectations in NICU:* They are responsible for assessing and managing respiratory conditions in neonates, ensuring adequate oxygenation and ventilation.

# Who is Who?

- In the neonatal intensive care unit (NICU), a multidisciplinary approach is essential to address the complex needs of premature and critically ill infants. Physical Therapists (PT), Occupational Therapists (OT), and Speech-Language Pathologists (SLP) play pivotal roles in optimizing developmental outcomes for these vulnerable patients.



## • **Physical Therapist (PT):**

- *Role:* PTs in the NICU focus on promoting motor development and function. They assess and address issues related to muscle tone, strength, and coordination.
- *Expectations:* PTs collaborate to design individualized interventions that enhance gross motor skills. They work on positioning, facilitate appropriate movement patterns, and provide guidance on developmental exercises.

## • **Occupational Therapist (OT):**

- *Role:* OTs in the NICU concentrate on promoting activities of daily living (ADLs), sensory processing, and fine motor skills.
- *Expectations:* OTs assess and intervene to improve an infant's ability to feed, grasp objects, and engage in age-appropriate activities. They collaborate with families to incorporate therapeutic strategies into daily care routines.

## • **Speech-Language Pathologist (SLP):**

- *Role:* SLPs play a crucial role in addressing feeding and swallowing issues. They assess the infant's oral-motor skills and work to facilitate safe and effective feeding.
- *Expectations:* SLPs collaborate to support infants with difficulty coordinating sucking, swallowing, and breathing during feeding. They may also assess and address future language development.

# Collaborative Practice

## *Interprofessional Collaboration*

### Interprofessional Collaboration

- **Definition:** Interprofessional collaboration involves healthcare professionals *from diverse disciplines* working collectively for integrated and patient-centered NICU care.
- **Importance:** Neonatal complexities demand the combined expertise of neonatologists, nurses, therapists, and specialists for comprehensive care.
- **Facilitation:**
  - Regular team meetings - huddles
  - Shared training sessions
  - Joint care planning



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## Effective Communication

### Collaborative Practice *Effective Communication*

- **Definition:** Clear and open communication among NICU team members ensures seamless information exchange, reducing errors and improving patient outcomes.
- **Importance:** Precise communication is crucial for coordinating care plans, sharing patient updates, and facilitating timely interventions.
- **Implementation:** Key - Utilizing standardized communication tools (e.g., SBAR)
  - Structured patient handovers and discussions

# Collaborative Practice

## IDR, Shared Decision Making, and Conflict

### **Interdisciplinary Rounds and Case Conference**

- Definition: Regular interdisciplinary rounds involve team discussions on patient cases, sharing insights, and collaborative care planning.
- Importance: This approach ensures a holistic understanding of the neonate's condition, promotes collective problem-solving, and strengthens team cohesion.
- Implementation: Structured rounds involving neonatologists, nurses, therapists, and professionals

### **Shared Decision-Making and Family-Centered Care**

- Definition: Shared decision-making involves involving families in care planning, respecting their values and preferences.
- Importance: In the NICU, including families enhances care quality, promotes trust, and contributes to better patient outcomes.
- Implementation:
  - Regular family meetings
  - Transparent communication
  - Providing educational materials

## Recognizing and Addressing Conflicts in the Team

- Definition: Conflicts may arise due to differences in opinions, priorities, or communication styles within the NICU team.
- Importance: Timely recognition and resolution are essential for a positive working environment and uninterrupted patient care.
- Implementation:

Open channels for conflict resolution

Team debriefings

Facilitated discussions

Access to support services



# In Motion

In the Neonatal Intensive Care Unit (NICU), interprofessional collaboration is exemplified in the care of a preterm infant diagnosed with Respiratory Distress Syndrome (RDS). The collaborative efforts of healthcare professionals, effective communication strategies, interdisciplinary rounds, shared decision-making, and conflict resolution contribute to the comprehensive care of the neonate.

- ***Interprofessional Collaboration:*** The neonatologist, respiratory therapist, nurses, and other specialists work together to formulate an integrated care plan. Regular team meetings are conducted to discuss the evolving condition of the infant and adjust treatment strategies collaboratively.
- ***Effective Communication:*** Clear and open communication is maintained among the NICU team members. Using the SBAR (Situation, Background, Assessment, Recommendation) communication tool, the respiratory therapist succinctly conveys changes in the infant's respiratory status, ensuring a shared understanding among the team for prompt and precise interventions.
- ***Interdisciplinary Rounds and Case Conferences:*** Regular interdisciplinary rounds involve discussions on the infant's medical condition, feeding challenges, and potential developmental issues. Structured rounds provide a forum for input from neonatologists, nurses, therapists, and other professionals, fostering a collaborative and informed decision-making process.
- ***Shared Decision-Making and Family-Centered Care:*** The family of the preterm infant is actively involved in the care planning process. Regular family meetings are conducted, where the healthcare team explains the nature of RDS, presents treatment options, and addresses the family's concerns. Transparent communication and the provision of educational materials empower the parents to actively participate in decision-making regarding their baby's care.
- ***Recognizing and Addressing Conflicts in the Team:*** During rounds, a conflict arises among team members regarding the prioritization of interventions for the infant. Through open channels for conflict resolution, such as facilitated discussions, the team addresses the disagreement constructively, ensuring a positive working environment and uninterrupted patient care.

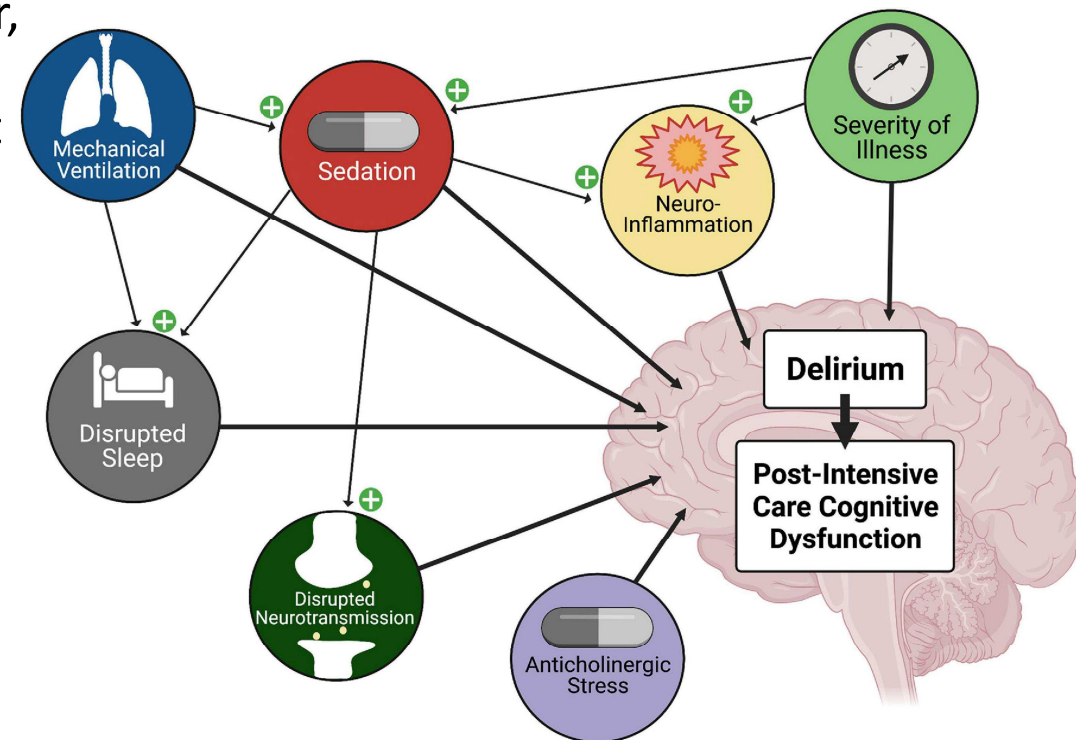
## Multidisciplinary Approaches to Patient Care in the NICU - Assessment

- A detailed exploration of neonatal assessments is key to survival
  - Physical examination
  - Vital signs monitoring
  - Diagnostic imaging modalities
- Integration of standardized scoring systems such as APGAR, PF ratio, and oxygen index.
- Continuous monitoring for early intervention such as for mucus plugging, bronchospasm, and even improved lung function (PCP Ventilation)



# Multidisciplinary Approaches to Patient Care in the NICU - Developmental Care

- The NICU environment is markedly different from the warm, dark comfort of the mother's womb. Some infants, due to illness or difficulty self-soothing, may be unable to be held.
- Neonates and premature infants, in particular, necessitate specialized support to facilitate their continued maturation and development as if they were in their mother's womb.
- Consists of:
  - Meeting infants' comfort needs
  - Fostering a sense of security
  - Assisting in the development of normal sleep patterns
  - Mitigating stimulation from noise, lights, or medical procedures





## Kangaroo Care

Benefits: increased blood oxygen levels, improved sleep, enhanced breastfeeding, and greater weight gain.

Additionally, kangaroo care fosters a strong connection between parents and infants, instilling confidence in parental caregiving abilities. Mothers engaging in kangaroo care often produce more breast milk, attributed to increased oxytocin levels resulting from skin-to-skin contact. Oxytocin, a hormone known for promoting milk release, also induces feelings of relaxation and connection.

## Multidisciplinary Approaches to Patient Care in the NICU – Respiratory Care

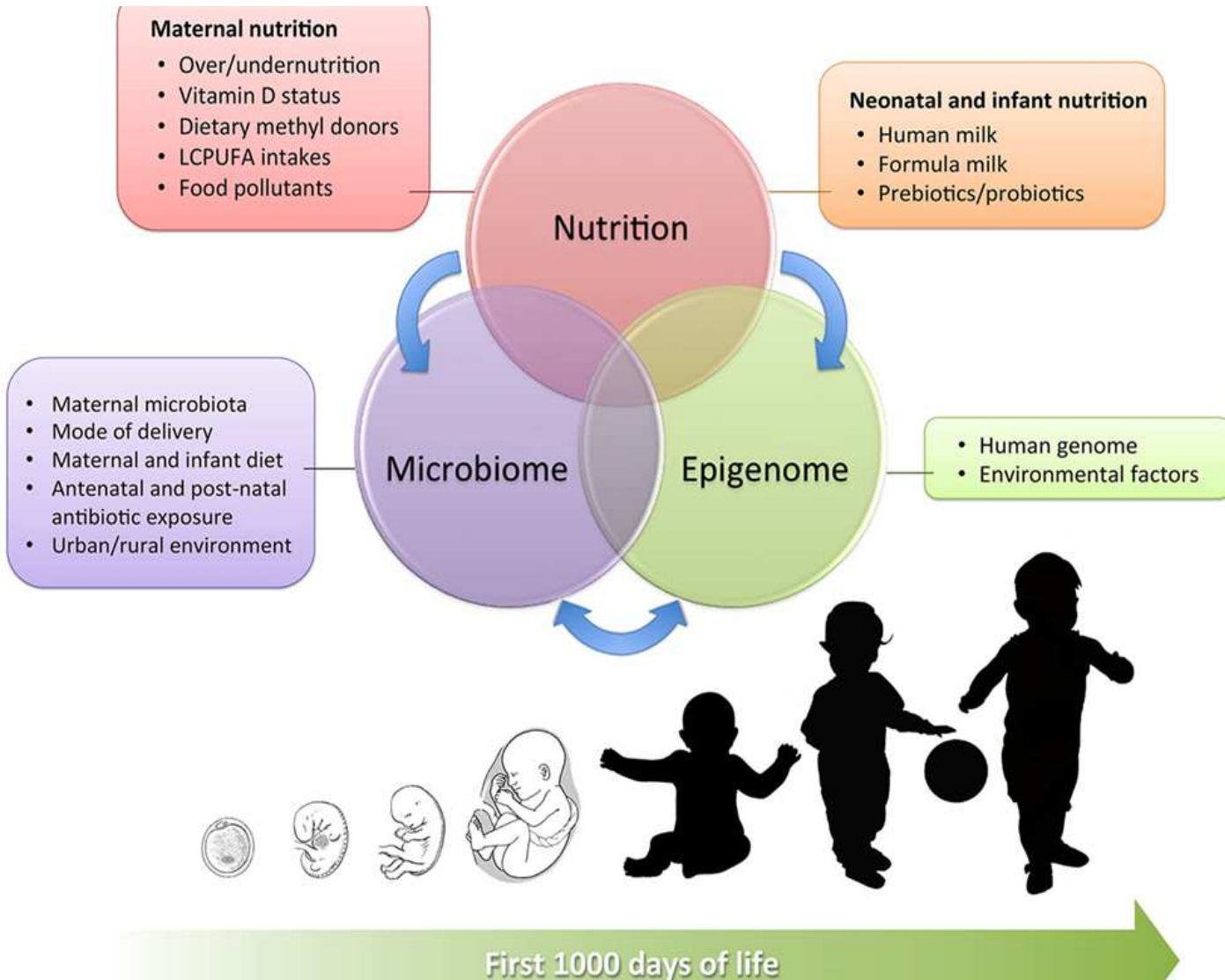
- In the Neonatal Intensive Care Unit (NICU), respiratory support is paramount for the delicate neonates with developing respiratory systems. This support aims to address conditions such as respiratory distress syndrome (RDS), transient tachypnea of the newborn (TTN), and meconium aspiration syndrome (MAS).



## Multidisciplinary Approaches to Patient Care in the NICU – Respiratory Care

- Invasive and Noninvasive mechanical ventilation
- Surfactant Administration: Administered to premature infants with RDS, surfactant replacement therapy improves lung compliance, reducing the risk of atelectasis.
- Oxygen Therapy: Continuous monitoring of oxygen saturation is essential to maintain levels within the target range, avoiding both hypoxemia and hyperoxemia.
- Nebulizers of all kinds.





## Multidisciplinary Approaches to Patient Care in the NICU - Nutrition

In the Neonatal Intensive Care Unit (NICU), the nutrition and feeding strategies play a crucial role in supporting the optimal growth and development of premature and critically ill infants.

The nutritional needs of these infants are distinct due to their physiological immaturity and increased metabolic demands.

- **Macronutrients** such as protein, carbohydrates, and fats are meticulously monitored to ensure proper growth and organ development.
- **Enteral Nutrition:** Early initiation of enteral nutrition, preferably through mother's milk, is advocated. Breast milk provides essential nutrients and supports the development of the infant's immune system. Formula may be needed.
- **Parenteral Nutrition:** In instances where enteral feeding is insufficient or contraindicated, parenteral nutrition is employed to meet caloric and nutritional requirements.
  - Careful monitoring of electrolytes, glucose levels, and liver function is imperative when administering parenteral nutrition.





## Pain Management and Palliation

**Neonatal Sensitivity:** Premature and critically ill infants in the NICU exhibit heightened sensitivity to pain due to the immaturity of their nervous systems.

**Multifaceted Approach:** Pain management involves a multifaceted approach, combining pharmacological and non-pharmacological interventions.

**Pharmacological Interventions:** Carefully dosed analgesics and anesthetics are administered, considering the infant's gestational age, weight, and overall health. Pain assessment scales, designed for neonates, help gauge their discomfort levels.

**Non-Pharmacological Techniques:** Non-pharmacological approaches, such as gentle handling, swaddling, and the use of pacifiers, are employed to provide comfort and alleviate pain.



# Palliative Care

- **Definition:** Palliative care in the NICU focuses on enhancing the quality of life for infants facing life-limiting conditions and their families.
- **Holistic Support:** It is a holistic approach that addresses not only physical symptoms but also emotional, psychosocial, and spiritual needs.
- **Communication and Decision-Making:** Open communication with parents is crucial in palliative care. It involves discussing prognosis, treatment options, and guiding parents through decision-making processes, respecting their values and preferences.
- **End-of-Life Care:** In cases where curative measures are not feasible, palliative care ensures a compassionate and supportive environment for both the infant and their family during end-of-life stages.

## Palliative Care cont.

- Integration of Pain Management and Palliative Care:
- Collaborative Approach: Pain management and palliative care often overlap, requiring a collaborative approach among healthcare professionals, including neonatologists, nurses, respiratory therapists, and palliative care specialists.
- Family-Centered Care: Both pain management and palliative care emphasize family-centered care, involving parents in decision-making and providing emotional support.

## Multidisciplinary Approaches to Patient Care in the NICU – Long Term and Developmental Care

- **Respiratory Care:** Respiratory therapists optimize pulmonary function through interventions like surfactant therapy and mechanical ventilation.
  - Meticulous neonatal respiratory care minimizes the risk of chronic lung disease in the long term.
- Nurses implement developmental care strategies, minimizing stress and promoting positive neurobehavioral outcomes.
  - Environmental control, developmental positioning, and breastfeeding support contribute to long-term developmental well-being.
- **Neonatology and Neurodevelopmental Follow-up:** Neonatologists conduct neurodevelopmental assessments, addressing cognitive, motor, and sensory development.
  - Early intervention services are integrated to promote optimal outcomes for potential developmental challenges.
- **Multidisciplinary Communication:**
  - Effective communication and coordination among team members ensure a cohesive approach to patient care.
  - Shared decision-making with active parental involvement enhances family-centered care tailored to each neonate's unique needs.
- **Educational Initiatives:** Medical educators contribute to family and provider education on long-term outcomes and developmental milestones.
  - Continuous education programs foster evidence-based practices for ongoing improvement in neonatal care.



# Ethical and Legal Issues

## **Informed Consent and Decision-Making for Newborns in NICU:**

- **Shared Decision-Making Model:** Utilizing a collaborative approach with healthcare providers and parents.
- **Educational Resources:** Providing educational materials to enhance parental understanding of treatment options.
- **Cultural Sensitivity:** Recognizing and respecting diverse cultural beliefs and values in decision-making.
- **Documentation:** Thoroughly documenting discussions and decisions in the medical records.

## **End-of-Life Care and Ethical Dilemmas:**

- **Palliative Care Integration:** Incorporating palliative care principles for enhanced comfort and support.
- **Ethics Committee Consultation:** Seeking guidance from ethics committees for complex ethical considerations.
- **Grief Support Services:** Offering grief support services to parents and families during difficult times.
- **Regular Team Meetings:** Facilitating regular team meetings to discuss ethical challenges and ensure a unified approach.

# Ethical and Legal Issues

## **Confidentiality and Privacy Concerns:**

- **HIPAA Compliance:** Ensuring compliance with the Health Insurance Portability and Accountability Act.
- **Secure Communication Channels:** Using secure communication channels for discussing patient information.
- **Consent for Information Sharing:** Obtaining explicit consent for sharing information with other healthcare providers.
- **Patient and Family Education:** Educating parents on the importance of confidentiality and privacy.

## **Legal Aspects of Caring for Critically Ill Newborns:**

- **Advance Directives:** Assisting parents in creating advance directives when appropriate.
- **Legal Consultation:** Seeking legal consultation for complex legal issues related to neonatal care.
- **Documentation Accuracy:** Ensuring accurate and comprehensive documentation to support legal compliance.
- **Continuing Education:** Staying informed about updates in laws and regulations relevant to neonatal care.



# EBP and Quality Improvement

## **Evidence-Based Practice and Clinical Guidelines:**

- Literature Review: Conducting regular literature reviews to stay informed about the latest evidence.
- Critical Appraisal: Evaluating the quality and relevance of research studies for clinical application.
- Guideline Implementation: Integrating evidence-based clinical guidelines into practice for standardized care.
- Continuing Education: Engaging in ongoing education to enhance proficiency in evidence-based practices.



- **Implementation Science:** The study of methods to promote the systematic uptake of research findings and evidence-based practices into routine healthcare.
- **PICO(T):** A structured approach to formulating clinical questions, considering Patient/Population, Intervention, Comparison, Outcome, and sometimes Time.
- **Levels of Evidence:** A hierarchy that categorizes the strength and quality of research evidence, ranging from systematic reviews and meta-analyses to expert opinions.
- **Continuous Quality Improvement (CQI):** Ongoing efforts to systematically and incrementally improve processes and outcomes in healthcare based on data-driven decision-making.



# EBP and Quality Improvement

## Quality Improvement Initiatives in the NICU:

- **Data Collection and Analysis:** Collecting and analyzing data to identify areas for improvement.
- **Interdisciplinary Collaboration:** Collaborating with healthcare professionals from different disciplines for holistic improvement.
- **Benchmarking:** Comparing NICU practices with established benchmarks for quality assessment.
- **Feedback Mechanisms:** Implementing feedback mechanisms to involve the entire healthcare team in quality improvement processes.



# EBP and Quality Improvement


## Collaboration with Research Teams and Participation in Clinical Trials:

- **Research Integration:** Integrating evidence from research studies into daily clinical practice.
- **Research Team Collaboration:** Actively collaborating with research teams to contribute to ongoing studies.
- **Clinical Trial Participation:** Engaging in clinical trials to advance knowledge and improve neonatal care.
- **Ethical Considerations:** Ensuring adherence to ethical guidelines in all research collaborations and clinical trial participation.

- Collaborative teamwork is fundamental in healthcare, fostering synergy among diverse professionals to address complex patient needs. This approach optimizes resource utilization, improves communication, and enhances overall healthcare outcomes.
- Navigating complex decisions, particularly in palliative care, demands a nuanced understanding of ethical principles. Healthcare professionals prioritize transparency, respect patient autonomy, and uphold ethical standards to ensure compassionate treatment in end-of-life situations.
- The integration of evidence-based practice (EBP) is crucial in healthcare, guiding clinical decisions with the latest research. Embracing a culture of continuous improvement, healthcare professionals stay current with evolving medical knowledge, ultimately enhancing the quality of patient care.
- Healthcare is a synthesis of scientific expertise, compassion, and collaborative efforts. Professionals contribute technical proficiency, ensuring precise interventions and optimizing patient health. This holistic approach addresses the intricacies of medicine with a profound understanding of both the scientific and humanistic dimensions.

# Quiz


Your assignment for the shift is one HFNC and one ventilator in NICU. The shift lead also assigned you a few treatments on the adult floor. NICU policy prohibits mixing of workloads, but the RT department was short. Upon arrival, you notice on the NICU board that there are 2 sets of 28 week twins being monitored in OB. How can you best handle this situation?



In managing conflicting assignments in the NICU and adult floor, prioritize patient safety and adhere to policies. Communicate concerns to the shift lead, proposing NICU-compliant solutions. Given the complexities of neonatal care, as the specialist, consider prioritizing neonates. However, ensure coverage for adult patients by coordinating with professionals trained in ACLS and PALS to prevent any breach of care.

# Quiz

Attendance at weekly bedside NICU rounds is mandatory for the RT, and it's your lucky day. During rounds, alarms are requiring your attention and the eye surgery team arrives and is ready to take one of your babies to the OR and need your help transporting. The Medical Director writes you up for not attending rounds. What are your best options?



In the scenario where mandatory NICU rounds clash with responding to urgent alarms and assisting the eye surgery team, prioritize immediate patient needs. Promptly communicate the situation to the Medical Director, explaining the urgency and maintaining transparent documentation. Request a follow-up meeting to discuss potential solutions and collaborate with colleagues to ensure coverage during rounds. Propose enhancements to the process for handling urgent situations while maintaining commitment to professional responsibilities.