Steps to Building an Effective Newborn Resuscitation Team: the Gemba Walk and Beyond

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CONCLUSION

• Newborns can enjoy extraordinary care regardless of place of birth
• Going to GEMBA allows Level III NICU teams to strengthen relationships and support standardized team and task training
• Low cost telecommunication systems support the relationships and training developed on GEMBA WALK

WHY

• We passionately believe all babies born in our region deserve the same level of extraordinary care regardless of place of birth.

DRMC Level III Neonatal Intensive Care Unit serves southwest Utah, Eastern Nevada, and Northern Arizona
- 4500 births per year
- 10% = 450 newborns requiring some assistance to begin breathing
- 1% = 45 newborns requiring extensive resuscitation to survive

• Definitive resuscitative measures are required within the first minutes of life
  - Example: Parenchymal Lung Disease complicated by Tension Pneumothorax

DRMC Neonatal Transport Team travel time range:
- 1.5 minutes/mile (Rotor)
- 3.5 minutes/mile (Ground)

• Delays in provision of optimized resuscitative measures results in significant morbidity

BACKGROUND

• Remote birth hospital staff trained in Neonatal Resuscitation every 2 years
• Limited opportunity for high-fidelity simulation in routine and complex neonatal resuscitations
  - Low frequency, High Risk Skills
  - Emergent Air Leak Drainage
  - Emergent Airway Management
  - Emergent Central Venous Access
  - Team Training
  - Crew Resource Management

• Scheduled low fidelity team training and low cost telecommunication equipment improve teamwork and communication within our region

HOW

• By going to Gemba we identified opportunities to realize our “Why”

Team Training:
  - Standardization
  - Leadership Behavior
  - Followership
  - Situational Awareness

Task Trainers
  - Emergent Airway
  - Emergent Central Venous Access
  - Emergent Air leak

• We needed to be at Gemba within 90 seconds of birth to realize our “WHY”

“Tele-Mentoring”
  - Available Network and Software
    - MS Communicator
  - Standardized Process and Communication
    - Rapidly deployable
    - Low Cost
    - Secure
    - Scalable

• Next Steps: Our program served as the model for the current state Service now provided across 18 Hospitals throughout Southern Idaho, Utah, and Eastern Nevada from 4 Regional Hospitals
  - 54 Avoided LifeFlight Air Transports ($18,000 - $30,000/transport)

REFERENCES


CONCLUSION

• Babies and caregivers experience standardized/extraordinary care - best in world outcomes, communication, and cost

WHAT

Before
Minutes
After

Length of Stay (hrs)
(GEMBA)

0
1.25
2.5
3.75
5

NonTransfers

0
1.36
2.5
3.75

Transfers

0
1.36
2.5
3.75

8-fold reduction in risk of mortality with implementation of TeleMentoring (OR 0.13)

• Next Steps: Our program served as the model for the current state Service now provided across 18 Hospitals throughout Southern Idaho, Utah, and Eastern Nevada from 4 Regional Hospitals

• Communication: Strengthened relationship between Level III Neonatal Intensive Care Unit and referring hospitals: Scheduled Training Events and Daily Face-to-Face communication = Subjective Improvement in Communication and sense of regionalization/teamwork

ACKNOWLEDGEMENTS

• We take seriously the gift families give our team in allowing us to care for them and their newborns.

CONTACT INFORMATION

• https://intermountainhealthcare.org/health-information/telehealth/