POST RESCUSCITATION CARE AND SAFE NEONATAL TRANSPORTATION

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POST-RESCUSCITATION CARE – 6 core elements

- S – Sugar (blood sugar levels)
- T – Temperature
- A – Airway management
- B – Breathing
- L – Laboratory tests
- E – Emotional support
- Do a systematic approach to lookout for any complications

S – Sugar

- Blood glucose levels should be maintained normal after resuscitation.
- Check the RBS of the baby after resuscitation and before transfer to NNU
- Normal RBS in newborns is: 2.6mmol/L – 8mmol/L
- Any newborn who required chest compressions during resuscitation should have an IV line
- Give 10% Dextrose at a rate of 2mls/kg for babies with hypoglycemia and those requiring admission to NNUs followed by maintenance fluids
- Extreme preterm babies (less than 1000gms) require 5% dextrose in first 24 hours

T - Temperature

- Normal temperature for newborn: 36.5。C – 37.5。C
- Important to keep the baby warm right from birth and during transfer to NNU or postnatal unit.
- Hypothermia in newborns increases their risk of death 3 fold!
- Different ways to keep the baby warm include swaddling, electric blankets, warmers, use of polythene etc

A- Airway

- Put the baby in Neutral position to keep airway open
- Avoid hyper extension/flexion of the neck to avoid blockage of the airway
- Suction any visible secretions to keep airway clear
- Listen for any audible stridor/noisy breathing incase of upper airway obstruction
- Alternative airway (ETT) for centers with advanced care if needed

B – Breathing…

- Assess the baby for adequacy of breathing
- Provide oxygen support depending on need (FFO2 or CPAP)
- All preterm babies must be initiated on CPAP immediately afterbirth in the delivery room and transported on the same

L – LABORATORY TESTS

- Any urgent blood samples should betaken off after resuscitation to aid quick intervention
- Such as Blood grouping, CBC, electrolytes, etc

- Quick assessment of required tests should be done.

E – Emotional Support

- Often over-looked and yet so important
- Always keep parents/caretakers in the loop
- Provide emotional support and alley their anxieties and be responsive to their expectations

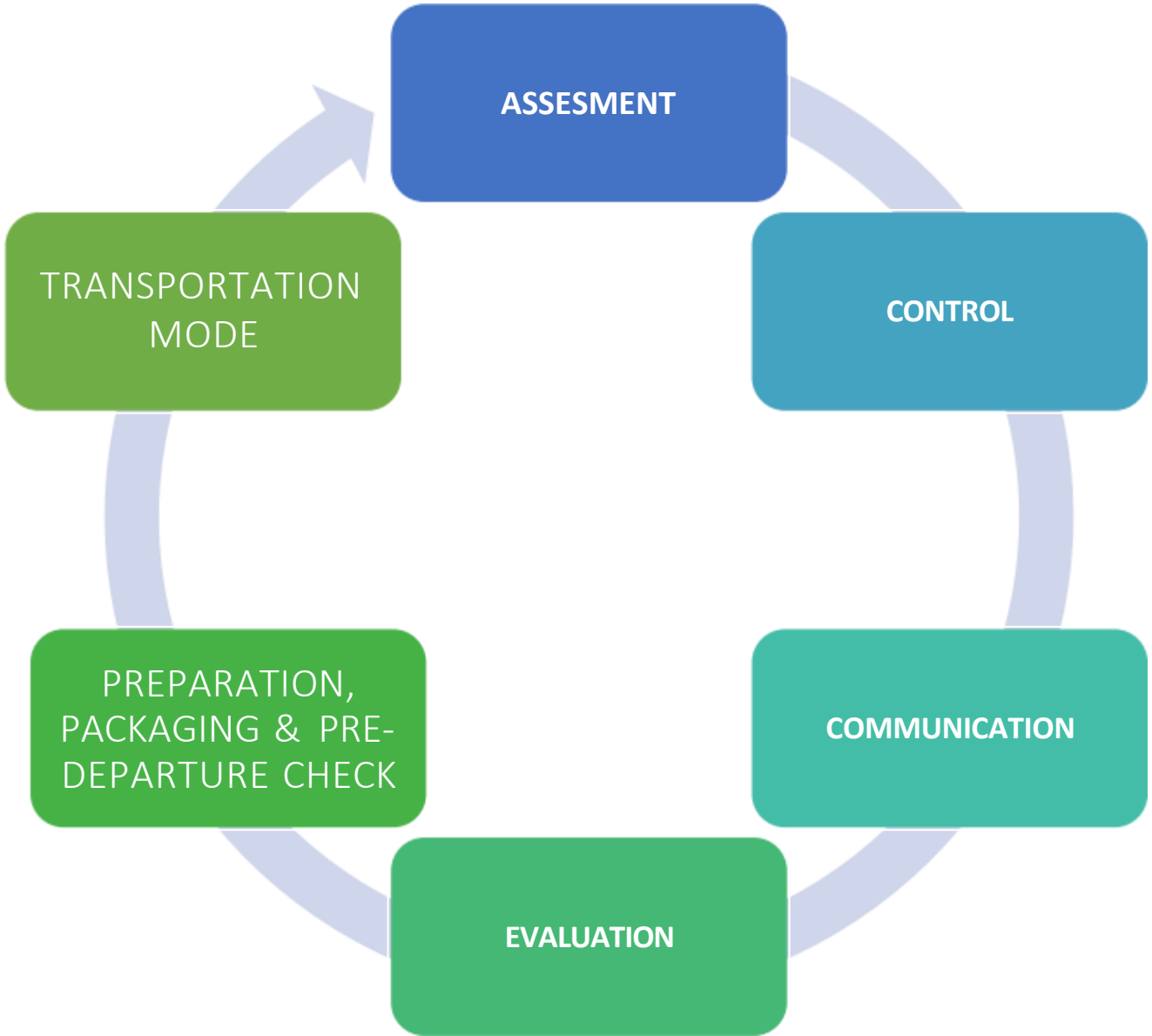
- Holistic management is key in all cases.

Preparation for transport (Intra-hospital/Inter facility)

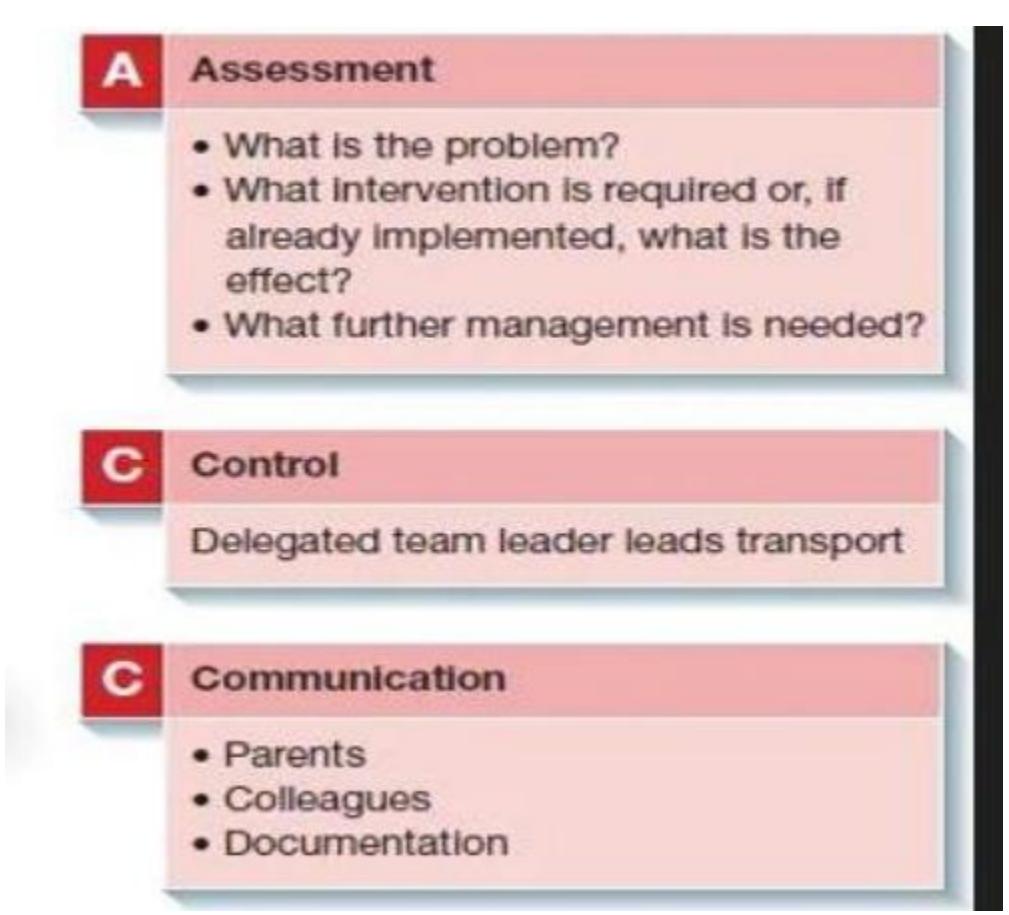
- Prepare baby for transfer after resuscitation
- Can beto NNU within hospital or to another facility with higher level of care

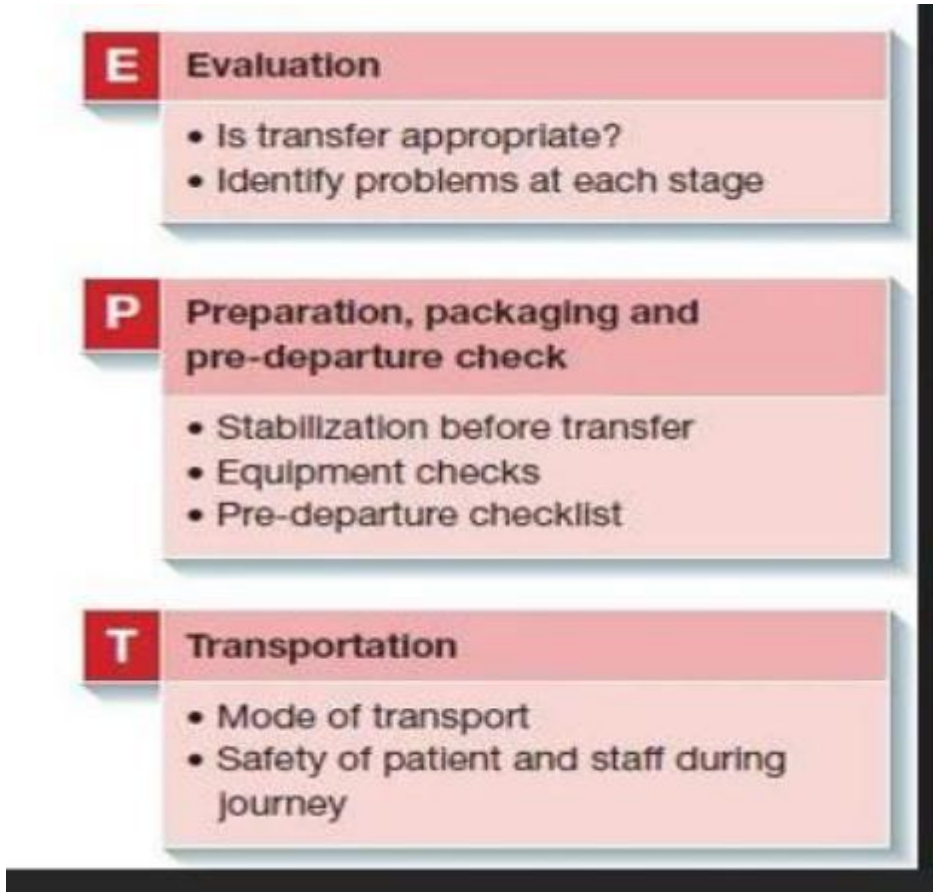
- Ensure all the 6 core elements are taken care of before and during transportation (STABLE).

Principles of safe neonatal transport (ACCEPT)



PRINCIPLES OF SAFE NEONATAL TRANSPORT





SAFE NEONATAL TRANSPORT MEANS…

IN-UTERO TRANSPORTATION…….

- In- Utero transfer – is the safest and best mode of Neonatal transfer

- When a high risk delivery is anticipated and adequate neonatal care facilities not available at the institution, the mother should be transferred to a tertiary care facility for delivery.

- Mother's uterus is an ideal 'transport incubator' …….complete with all amenities for the baby during transportation.

Indications for Neonatal Transport

- When In-utero transfer cannot be safely accomplished
- Management of the sick neonate exceeds the ability of the level I or II facility
- Transport of baby within hospital from delivery room to NNU
- Parental choice on moving baby to a different facility

Problems encountered during transport

- Apnea
- Hypothermia
- Hypoglycemia
- Hypotension
- Challenges with giving positive pressure ventilation during transport
- ……..Babies become most unstable during transportation and thus the need for pre-transport stabilization and continuous assessment during transit!

Transport Protocol/Requirements

- Informed consent from the parents
- Confirm availability of vacancy at the receiving facility and inform them of approximate time of arrival
- Ensure that the neonate is STABLE before and during transfer
- Transport team – must have two members skilled in neonatal critical care (preferably a nurse and a doctor)
- Customized infant/neonatal ambulance system

Equipment requirements

- Transport incubator/ transport warmer
- Resuscitation equipment – ambu bag, appropriate size masks, laryngoscope, endotracheal tubes.
- Stethoscope
- Thermometer
- Suction device (bulb syringe), syringes and needles
- Monitors for HR, SPO2,and temperature
- Battery operated infusion pump
- Oxygen Cylinders/ cpap device

STABLE before, during and after transport

- Sugar – Glucometer/ Dextrostix

Monitor the blood sugar every 30 min – 1 hour

- Temperature – transport incubator is the ideal

- Cover baby with warm clothes, socks and cap

- Use pre-warmed baby sheets

-Transport warmer (non-electric) like Embrace bags or Warmilu

- Kangaroo mother care for stable babies

- Polythene wrap can be used for the preterm babies

Check temperature every 30 minutes

Medications required during transportation

- Adrenaline 1:10,000 mixture and Dopamine
- 10% Dextrose
- Normal saline
- Phenobarbital/Phenytoin
- Keep all the medications ready to use (pre-filled syringes)

Temperature management methods during transportation

Kangaroo care/ skin to skin in situations where no warm transport blanket is availale

Use of polythene wrap for preterm babies during resuscitation and transfer

Non-electric transport warmers

Warmilu Incublanket

Embrace transport warmer

Transport Incubator

- Ideal for Inter-facility/long distance transportation especially for preterm babies

- Keeps baby warm during transportation

During transportation

- Airway – keep the airway patent during transportation

- Give oxygen and Ventilatory support as required

- All preterm babies must be transported on cpap (such as neopuff)

- Monitor the baby on a Pulsi oximeter

- Blood Pressure – ensure adequate circulation

- Keep vascular access in place

-Dopamine if required

During transportation

- Laboratory Investigations – should betaken off if necessary before transportation and Radiological exams

- Emotional support to the family – is very critical before, during and after transportation
- Send details of the maternal and neonatal history along with Investigation reports
- Ensure thorough asepsis during all procedures

- Preferably transfer mother and baby together

On arrival at the NICU

- Handover the baby with complete transfer summary to the receiving health worker

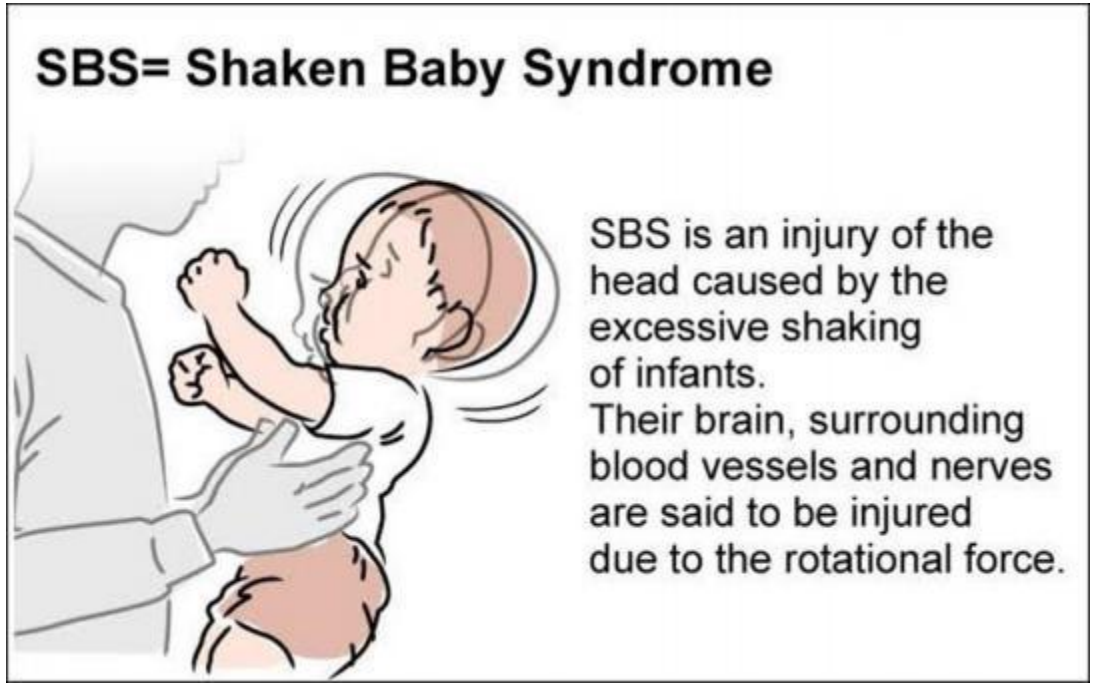
- Give contact numbers to the attending doctors incase more information is required.

Caution during transportation….

Secure baby

- Baby should be well secured during transportation to avoid sudden movements of the head which can lead to concussion and shaken baby syndrome

SBS….



Ethics and End of life Care…

What if the resuscitation does not yield positive results……..

- All the ethical principles still apply
- Primary consideration for life-sustaining treatment decisions is what is best for the newborn
- The responsible physician should make a rational decision on whether prolonging resuscitation will offer additional benefit to the newborn or does not need to be initiated.
- Parents are the primary surrogate decision makers for their newborn and share in decision making
- **Compassionate, culturally sensitive palliative care should be provided for all newborns when resuscitation is not initiated or successful**.
- Team debrief is also important after every rescuscitation.


thank you

Test Questions

- 1. What is the normal temperature range for a newborn?

- What are the 6 core components to be considered during post resuscitation care?
- What is the safest means of transferring a high risk newborn from one facility to another?
- A baby is born at 33 weeks by SVD following preterm labour: is the following statement true or False…

The baby should be put on Free flow oxygen till signs of distress appear and then can be changed to CPAP. T or F