



ELGA Care Team

Extremely Low Gestational Age: < 26 weeks
B. Weverink, BScN, CNeon(C), MNC; B. Read, MHS, RRT;
K. Coughlin, BScH MD MHSc FRCPC; N. Couto, MN, NP



Aim

1. Improve outcomes and increase adherence to our ELGA Bundle recommendations through the development of a dedicated ELGA care team
2. Define and standardize processes involved in resuscitation and management of ELGA infants in first 7 days of life through additional training
3. Identify key metrics to evaluate outcomes (Transitional Care Score)

Importance

- ELGA infants have the highest rate of major morbidity or mortality (92%-CNN data)
- LHSC cares for 35-40 ELGA infants/year, 33% who are < 24 weeks
- Standardizing care has been shown to improve patient outcomes as well as staff and parental satisfaction in ELGA infants¹.

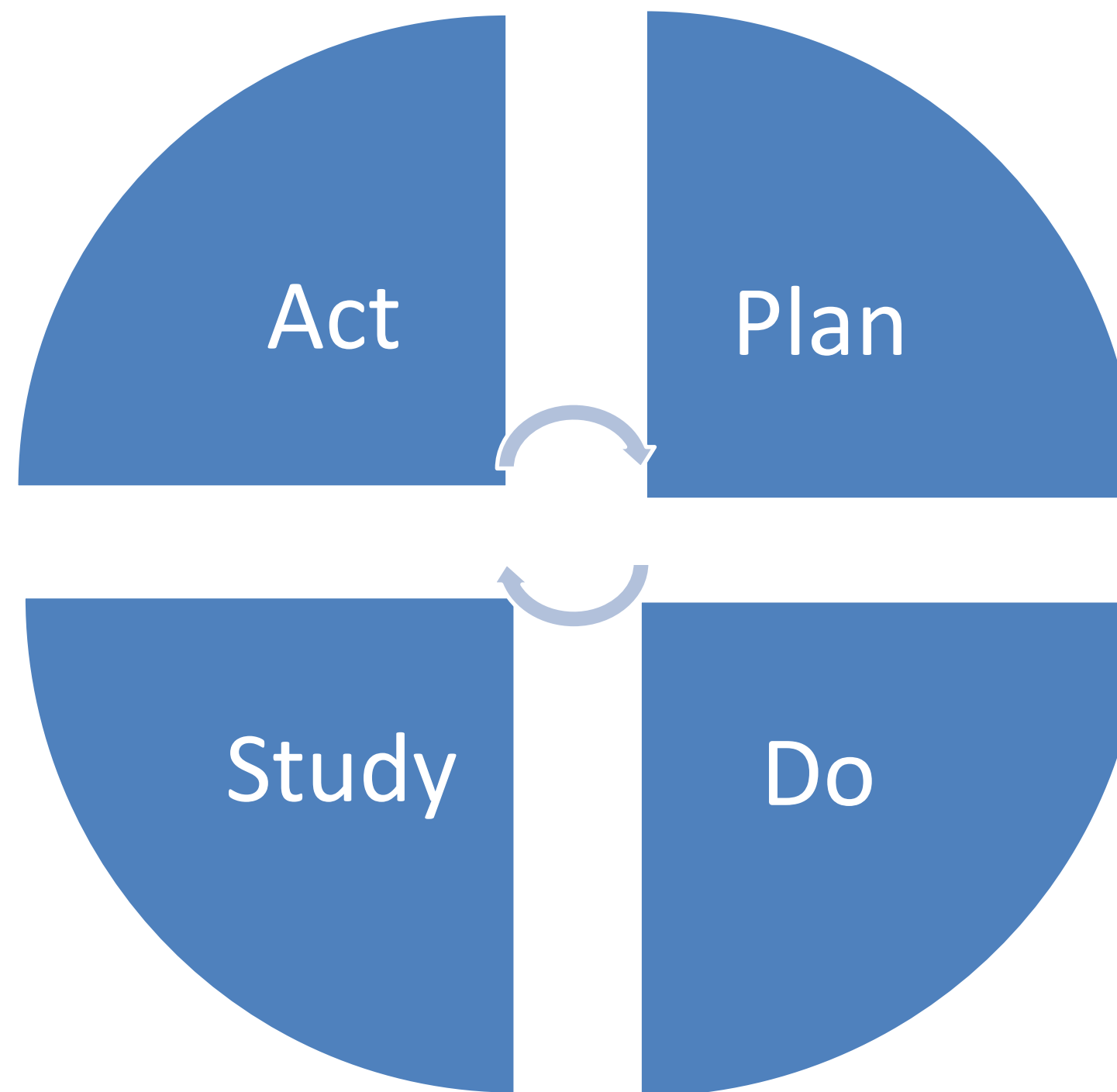
Study

Next Steps

- Improve admission temperature and time to rest
- Define our "Golden Hour"
- "ELGA Resuscitation Station"
- Insertion of umbilical lines in resuscitation room
- Minimal handling x-rays
- Development of an ELGA Fluid Management Guideline

Audits

- Transitional Care Score
- Debrief resuscitations
- Quarterly update on morbidities and outcomes



Plan

- Literature review conducted on implementation of ELGA Team
- Engaged NICU leadership to support QI initiative for ELGA Care Team
- Staff survey sent to gauge interest in team membership and asses perceived barriers for implementation
- **Establish RN Criteria:** 5 years level III NICU experience, Admissions team trained, commitment to additional education and training

Do

- Three RN/RRT education days held
- Two medical rounds education sessions
- Transitional Care (TC) Score Sheet and Fluid Calculation Worksheet created
- Team Implemented in August 2023

Process: ELGA Resuscitation Station and Golden Hour

GOLDEN HOUR

ELGAs (<26⁰) & Any High-Risk Infants Requiring Non-Emergency Umbilical Lines after Birth

BEFORE Birth

- Consultation if anticipated birth: NP/ Fellow/ Neonatologist
- **PAUSE** facilitated by Lead
- **Equipment Check and Preparation** ISC to 37.0 °C for ELGA

AFTER Birth

- Place infant in plastic bag (<33 weeks), DCC 60 seconds if no contraindications
- Establish effective ventilation: Intubate/ NIPPV
- Prepare for non-emergency sterile umbilical line insertion by medical team
- If intubated, X-Ray (1-view AP; use isotope tray) prior to surfactant administration
- RRT to manage Ventilation on Drager with TCO2 monitoring
- Insert OG/NG tube and ELGA temperature check

- Experienced Medical staff to insert umbilical lines with one learner (goal 10-15 min)
- Call X-ray while umbilical lines are being sutured & reposition lines if necessary & re X-ray
- Admission RN to prime IV lines for UVC/UAC and connect to patient (if good blood backflow from UVC/UAC may infuse fluid in lines while waiting for x-rays)

NICU Admission

- Follow ELGA Bundle for less than 26⁰ weeks for the first week of life
- All staff involved in resuscitation to review and sign resuscitation record
- ELGA RN 1:1 patient ratio
- Complete TC score
- Debrief Resuscitation



Dedicated ELGA Resuscitation Station (Drager Ventilator, TcPCO₂, IV Pumps)



Dedicated Umbilical Line Insertion Table



Minimal Handling X-ray Procedures

Transitional Care Score- ELGA (Inborn Infants)				
To be completed by 6 hrs of life Place at CN Desk				
Baby's Name/Hospital ID	0	1	2	Comments
Daily Huddle & Pre-Delivery Checklist	No Daily Huddle or Pre-delivery Checklist Completed	Only one of Huddle or Pre-Delivery Checklist (circle which one complete)	Both Completed with entire team	Lead: RRT; RN; Linen:
Antenatal Considerations	No steroids and No/Incomplete MgSO4 (< 4 hours)	Incomplete steroids or MgSO4 (circle which are incomplete)	Complete and MgSO4 given (min 4 hr)	*See info on back for steroid course considerations*
Delayed Cord Clamping	None	20-59 secs	≥60 secs	Was plastic bag used: Y/N DCC Contraindicated: Y/N If yes, Reason:
Skin	Moist under leads, tan, etc. and BP with clothes 2% alcohol free wash sticks for ant sepsis	Some completed	All completed	Comments:
Developmental Care (DC) @ Birth	None	Some DC completed	All completed	Comments:
Blood Culture	Drawn from infant	Drawn from cord	N/A (score 2)	Comments:
Initial Temp (post resuscitation)	<36 or ≥38	36-36.4 or 37.6-37.9	36.5-37.5	Maternal temp ≥38: Y/N Bully Temp: _____ Type of Access: FW/UVC/Arterial: PW, UVC, _____
Vascular Access (Drawn since birth)	≥ 2 hrs	Obtained at 1-2 hrs	<1 hr	Comments:
Parent Involvement (Signed by team, photos taken, CST kit given, consent obtained)	No parental involvement	Some completed	All completed	Comments:
Surfactant Timing (Drawn since birth)	≥ 2 hrs	1-2 hrs	< 1 hr	Circle one: MD/ EIT Time given: _____ Was TXCO2 used at time of blood gas: Y/N
CO2 Levels (on first blood gas)	>40 or <60	40-45 or 55-60	45-55	Alarms set on TXCO2 @ 40/60: Y/N
Respiratory Severity Score (RSS) (At 2 hours of life)	RSS > 3	RSS 2-3	RSS < 2	What mode used: _____ To Calculate: FIO2 x MAP Ex. MAP 7, FIO2 30 → 2.1 MAP ____ FIO2 ____ # Intubation attempts: _____
Hemodynamic Status At 2 hours of life (Based on BP nomograms on Day 1 of life)	Mean, Systolic or Diastolic BP <5 th CI AND Cap refill > 3 sec	Mean, Systolic or Diastolic BP <5 th CI OR Cap refill < 3 sec (Circle which one)	BP acceptable (5 th CI) AND BP at 2 hours: _____ Any intropes: Y/N If yes, which ones: _____	# of bolus given: _____ Over _____ mins TPN began infusing: _____ miss of life
First Glucose Level @ 2 hrs	<2	2-2.6	>2.6	1 st Glucose: _____ TPN began infusing: _____ miss of life
Developmental Care At 2 hours of life (WNL, Nestled, eye/eye closed and covered)	None	Some DC completed	All completed	Time to rest (incubator closed, all tasks done): _____ minutes of life
Caffeine Administration	Infusing by 2-3+ hrs	Infusing by 1-2 hrs	Infusing by <1 hr	N/A (score 2)
Antibiotic Administration	Infusing by 2-3+ hrs	Infusing by 1-2 hrs	Infusing by <1 hr	N/A (score 2)
Temperature Instability (first 6 hrs, post result)	<36 or ≥38	36-36.4 or 37.6-37.9	36.5-37.5	Comments/Interventions:
Total Score: ____ / 36				

ELGA Daily Fluid Worksheet			
Name:	Fluid changes made today:		
Birth Day	0200-0800	0800-1400	1400-2000
Day Shift RN	TPN: SMOF; HEPARIN; MEDS; FLUSHES; INFUSIONS; ENTERAL:	TPN: SMOF; HEPARIN; MEDS; FLUSHES; INFUSIONS; ENTERAL:	TPN: SMOF; HEPARIN; MEDS; FLUSHES; INFUSIONS; ENTERAL:
Day Shift RN	TPN: SMOF; HEPARIN; MEDS; FLUSHES; INFUSIONS; ENTERAL:	TPN: SMOF; HEPARIN; MEDS; FLUSHES; INFUSIONS; ENTERAL:	TPN: SMOF; HEPARIN; MEDS; FLUSHES; INFUSIONS; ENTERAL:
Night Shift RN	TPN: SMOF; HEPARIN; MEDS; FLUSHES; INFUSIONS; ENTERAL:	TPN: SMOF; HEPARIN; MEDS; FLUSHES; INFUSIONS; ENTERAL:	TPN: SMOF; HEPARIN; MEDS; FLUSHES; INFUSIONS; ENTERAL:
Night Shift RN	TPN: SMOF; HEPARIN; MEDS; FLUSHES; INFUSIONS; ENTERAL:	TPN: SMOF; HEPARIN; MEDS; FLUSHES; INFUSIONS; ENTERAL:	TPN: SMOF; HEPARIN; MEDS; FLUSHES; INFUSIONS; ENTERAL:
24 hr Calculations (0200-0200): Total Fluid Intake: _____ ml/kg/day Without meds/flushes: _____ ml/kg/day			
24 hr Fluid Balance: _____ Urine Output: _____ ml/kg/day			
Blood products:			