Use of Histogram and a Guideline for Oxygen Administration island health Victoria General Hospital

lssue

Oxygen is a drug with potentially dangerous side effects for the neonatal patient population. It is essential for clinicians to appreciate inappropriate control of administered oxygen may lead to irreversible damage for the premature infant. VGH VS. CNN BPD @ 36 WEEKS (SITE SPECIFIC CRUDE RATES)

→→VGH BPD @ 36 wks → CNN BPD @ 36 wks

Results

• The NICU team was able to increase the

35

Our aim is to achieve adequate oxygen tissue delivery without causing oxygen toxicity and oxidative stress in neonates.



- amount of time patients spent within the target oxygen saturation level.
- The team reported the histogram tools as an effective objective measure for communicating patient status and assessment across disciplines.



- Oxygen targeting is possible for this patient population and more work is required to meet our target goal.
- Application of a tool (histogram grading tool) with an objective and common language can
 acsist the multidisciplinary team to

Context

- Victoria General Hospital's (VGH) Neonatal Intensive Care Unit (NICU) admits approximately 500 infants/year.
- The VGH NICU is a 22 bed tertiary care unit serviced by a multidisciplinary team.
- Bronchopulmonary Disease (BPD) rates for our unit remain higher according to the Canadian Neonatal Network (CNN) data.
 Our current performance in the appropriate management of oxygen (saturation targeting) is unknown.

Change Plan

The Neonatal Intensive Care Unit (NICU) team at Victoria General Hospital planned to use oxygen histograms to monitor patient oxygenation trends and provide a communication tool for the multidisciplinary team to report objective data on patient oxygenation and respiratory status. These

• VGH site specific crude rate for infants born less than 33 weeks is 9.1 (CNN, 2018).

efforts led to the creation of an oxygen use and management guideline to better support oxygen administration and management.

> Procedure and Guideline Development



assist the multidisciplinary team to communicate respiratory status.

- Involve bedside team members in the process.
- Give credit where credit is due.
- Always focus on doing better.
- Create a culture of no blame.



Drivers





	d the two numbers f	rom your analys	is to determine the	e type;
		Histogram Type	# of bars between 10% & 90% intervals	% of time SpO2 less than or equal to 80%
		1	<5	
		2	6 to 10	
		3	11-15	<5
		4	>15	6 to 9.9
		5	>15	10 and up
•	A patient is respon	ding well to treatm	nent if the bars are r	nore closely packed within the t
•	A patient is respond between the 10 to 9 A patient is not resp of acceptable range	ding well to treat 90% range. ponding well to tre s. These findings	nent if the bars are n eatment if the range would support escal	nore closely packed within the t is very wide and spending signit ation of treatment.
•	A patient is response between the 10 to 9 A patient is not resp of acceptable range Type 1 histograms I the infants SpO ₂ flu	ding well to treat 90% range. ponding well to tre is. These findings have very tightly g ctuates 5% or less	nent if the bars are r eatment if the range would support escal prouped SpO ₂ measu	nore closely packed within the t is very wide and spending signi ation of treatment. rements. This means that 10 to 9

Next Steps

- To continue the examination of oxygen trends and histogram grading at daily rounds.
- Continue to educate point of care clinicians on interpretation and use of histogram as a tool for







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