

Welcome to ECI News



Welcome to the third edition of the Emergency Care Institute (ECI) Newsletter! In this edition we tell you what the ECI has been up to in the past two months. We also keep you up-to-date with some of the latest trends in emergency departments (EDs). Remember to keep us posted on anything that you would like us to investigate or report!

An electronic version of this newsletter (and past issues) is available on our website at www.ecinsw.com.au

ECI Stakeholder survey

The ECI has just launched its **2013 Stakeholder Survey**. Please contribute to make sure your views are heard. The ECI uses the results of the survey to guide its work and priorities.

Please encourage all staff in your ED to complete it. The **survey** is available on the ECI website until Friday 13 September 2013. You can read the results of the 2012 ECI Stakeholder Survey [here](#).

ECI Symposium

Don't forget to register for the ECI symposium. The ECI Emergency Care Symposium is a free event that allows all those working in emergency care in NSW to come together to discuss topics of interest, hear about innovative projects, listen to the latest in emergency care, share experiences and network.

The 2013 Symposium will take place on Friday 8 November 2013 at the Stamford Plaza Sydney Airport. Please click [here](#) to see the program and register.



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Clinical Issues Du Jour

Humidified high-flow nasal prong oxygen – use in emergency departments

Humidified high-flow nasal prong oxygen, in its various forms, is rolling out across many EDs. At ECI we are interested in providing clinical resources in this evolving field.

Respiratory illness is one of the most common, life threatening presentations in adults and childhood. Oxygen supply constitutes the first line therapy. Various modes of respiratory support are used, ranging from oxygen therapy provided by nasal prongs or facemasks to intubation and mechanical ventilation.

But there are several drawbacks such as a limit to the oxygen flow rate, oxygen dilution and tolerance of delivery. Breathing cool dry gases can cause damage to the respiratory tract such as mucosal damage, reduced ciliary motility, decreased mucous production, bronchospasm and nasal discomfort (1).

A new alternative

A new alternative to conventional oxygen therapy is humidified high flow nasal cannula oxygen. The concept started in neonatal ICU as an alternative to nasal CPAP. Here oxygen can be blended with air, heated and humidified and delivered to the patient through a nasal cannula. Oxygen concentration can be titrated by blending the gas mixture or changing the flow rates. It can deliver up to 100% heated and humidified oxygen at a maximum flow of 60L/min (max 25L/min in children) of gas via nasal cannula (2). Humidified high-flow nasal prong oxygen is also referred to as high flow nasal cannula or heated humidified high-flow nasal cannula.

The proposed physiological mechanisms are pharyngeal dead space washout, decreasing WOB by reducing nasopharyngeal resistance, creating PEEP and an increase in end-inspiratory lung volume. It delivers gas under optimal humidification conditions. This emulates the balance of temperature and humidity, maintaining mucociliary clearance (1).

Evidence for use

The evidence for its use is small, with most studies in neonates with small sample sizes. In children it has been shown to have positive effects in those with bronchiolitis. Other studies are showing a positive trend for humidified



high-flow nasal prong oxygen in various settings but current evidence does not definitively demonstrate superiority to other methods of respiratory support. Data suggests that if benefit is going to be seen this should be evident in the first 30-60 minutes. So if no improvement is seen in this time alternative therapies should be considered (3,4). Generation of the positive pressure is dependent on the absence of leak around the nares and mouth. Therefore it is important to choose the appropriate sized nasal cannula.

While the evidence for use is limited, its use in the emergency setting is nevertheless becoming more popular. Benefits include easier setup and monitoring compared to CPAP which may require sedation. One of the other important issues is disposition of the patient. Its use in a hospital requires prior discussion and policy guidance with a clear disposition plan.

- 1) Dysart K, Miller TL, Wolfson MR, Shaffer TH. [Research in high flow therapy: Mechanisms of action](#). Respiratory Medicine. 2009;103(10):1400-5
- 2) Fisher&Paykel. [Product guidelines for Optiflow Junior Respiratory Care System](#). www.fhpcare.com.au
- 3) Ricard JD. [High flow nasal oxygen in acute respiratory failure](#). Minerva Anesthesiol. 2012 Jul;78 (7):836-41
- 4) Lee JH, Rehder KJ, Williford L, Cheifetz IM, Turner DA. [Use of high flow nasal cannula in critically ill infants, children and adults: a critical review of the literature](#). Intensive Care Med. 2013 Feb;39(2):247-57

Multi-lingual ECI factsheets available

The ECI has just completed the translation of 20 patient fact sheets into the Arabic, Chinese (simplified and traditional), Vietnamese, Greek and Korean. They are available on the [ECI website](#).



Latest ED Leadership Forum

On 9 August the ECI held its quarterly Leadership Forum in North Sydney. The Forum was established to bring together ED Leadership Teams to discuss topics of interest relating to emergency care. On the day, presentations included topical and clinical areas such as:

The severe burns patient, initial response and treatment, ICU aspects and the NSW SBIS CPRC

A/Prof David Millis, Director of Intensive Care Services, Concord Hospital

Activity Based Funding: An update on the latest including FAQs and case studies

Ms Susan Dunn, Manager, ABF Workstreams, ABF Taskforce

HARD and Difficult Airway Management: Common airway problems – findings from airway registry at John Hunter Hospital

Dr Ross Kerridge, Director - Perioperative Service, John Hunter Hospital.

To view the presentations and find out more about the Forum click [here](#) or visit www.ecinsw.com.au/ed-leadership-forum. The next ED Leadership Forum will be on **Friday 13 December 2013** – save the date!

NDEC update

The Nurse Delegated Emergency Care (NDEC) project is on track to be implemented in 7 rural and remote EDs by the end of the year. The NDEC Steering Committee and ECI Clinical Advisory Committee have reviewed the Patient Care Documents. These guide the NDEC Registered Nurse (RN) in providing symptom relief to low risk / low acuity patients presenting to rural and remote facilities. The implementation, education, RN accreditation and auditing components are being finalised. The NDEC e-learning modules will be available on the ECI Moodle site in September. Further information can be viewed at www.ecinsw.com.au/ndec. The seven NDEC sites are:

Bellingen (MNCLHD) Coolah (WNSWLHD) Cooma (SNSWLHD)
Nimbin (NNSWLHD) Pambula (SNSWLHD) Milton Ulladulla (ISLHD)
Wilcannia MPS (FWNSWLHD)

ECI Quality Framework update

The first quarterly report for the ED Quality Framework is now available, along with dedicated resources for Standardised Death Reviews and M&Ms in ED and Sensible Test Ordering.

[Click here](#) to find out the latest on this project and find out what initial quality activities the sites are focussing on.

New addition to the ECI team

Jane Senior is our new Registrar funded under the Federal Government STP Scheme working at ECI. If you have a great idea for something, why not give us a ring, send us an email or feedback through the [website](#)

Sally McCarthy *Medical Director*

Vanessa Evans *Network Manager*

Sophie Baugh *Special Projects Manager*

John Mackenzie *Medical Project Officer*

Matthew Murray *Data and Information Manager*

Dwight Robinson *Nursing Project Officer*

Jane Senior *Registrar*

COMMITTEE NEWS: A/Prof Anna Holdgate is the new Research Advisory Committee Co-Chair. To view the latest ECI Committee one page meeting summaries visit the ECI website or click on the links: [Clinical Advisory Committee](#); [Incident Advisory Committee](#); [Research Advisory Committee](#); [Executive Committee](#)