



# EMERGENCY NURSE NEW ZEALAND

The Journal of the College of Emergency Nurses New Zealand (NZNO)  
ISSN 1176-2691



# In this issue

03 / Editorial information

---

03 / Editorial

---

05 / Articles

---

06 / Case Study:  
**The 'hot' topic- when fever matters:  
An ED case study of a febrile neonate**  
– Jenna Hudson

---

16 / Paediatric Patient Management:  
**Regional Overviews**

---

27 / **Managing nausea and vomiting  
in pregnancy: development of  
a clinical pathway proposal in  
an urgent care setting.**  
– Roxana Coman and Sandra Richardson

---

36 / **Paediatric Pearls - Pain Assessment -**  
Bridget Venning

---

38 / **Nurse Practitioner Tips, Tricks and Trips**  
– Paddy Holbrook

---

41 / **Cultural Safety and Te Ao Maori**

44 / **Pae Ora Survey Feedback**  
– Natasha Kemp

---

45 / **Mental Health Presentations  
at Triage. Final thoughts**  
– Stacey Smart

---

48 / **CENNZ Conference 2023**

---

50 / **CENNZ Reports**

---

53 / **Chairperson's Report**

---

54 / **Regional Reports**

---

70 / **College Activities**

---

71 / **College Vacancies**

---

72 / **Education: Webinars**

---

73 / **College Publications & Courses**

---

74 / **Expressions of Interest**

---

75 / **Journal Submission Guidelines**

# Editorial Information

## Subscription:

The journal is available on the CENNZ NZNO College website: [www.cennz.co.nz/journal](http://www.cennz.co.nz/journal)

**Copyright:** This publication is copyright in its entirety. Material may not be printed without the prior permission of CENNZ.

## Editorial Committee:

Emergency Nurse NZ is the official journal of the College of Emergency Nurses of New Zealand (CENNZ) / New Zealand Nurses Organisation (NZNO). The views expressed in this publication are not necessarily those of either organisation. All clinical practice articles are reviewed by a peer review committee. When necessary further expert advice may be sought external to this group.

All articles published in this journal remain the property of Emergency Nurse NZ and may be reprinted in other publications if prior permission is sought and is credited to Emergency Nurse NZ. Emergency Nurse NZ has been published under a variety of names since 1992.

## Editor:

**Dr. Sandra Richardson:**

PhD Senior Lecturer, Faculty of Health Sciences, University of Canterbury.

**Email:** [editor.cennzjournal@gmail.com](mailto:editor.cennzjournal@gmail.com)

## Submission of articles for publication in Emergency Nurse New Zealand.

All articles should be submitted electronically in Microsoft Word, and emailed to: [editor.cennzjournal@gmail.com](mailto:editor.cennzjournal@gmail.com). Articles are peer reviewed and we aim to advise authors of the outcome of their submission within six weeks of our receipt of the article. Brief guidelines for manuscript submission are included on the last page of the journal, and more detailed guidelines are available from the editors: [editor.cennzjournal@gmail.com](mailto:editor.cennzjournal@gmail.com).

## Peer Review Committee:

**Matt Comeskey:** Nurse Practitioner, Auckland City Hospital Emergency Department, ADHB.

**Margaret Colligan:** MHsc. Nurse Practitioner, Auckland City Hospital Emergency Department, ADHB.

**Lucien Cronin:** MN. Nurse Practitioner. Auckland City Hospital Emergency Department, ADHB.

**Prof. Brian Dolan:** OBE, FRSA, MSc(Oxon), MSc(Lond), RMN, RGN. Director of Service Improvement. Canterbury District Health Board.

**Nikki Fair:** MN. Clinical Nurse Specialist. Middlemore Hospital Paediatric Emergency Care, CMDHB.

**Polly Grainger:** MN (Clin), Nurse Coordinator Clinical Projects, Emergency Department, Christchurch Hospital.

**Libby Haskell:** MN. Nurse Practitioner. Children's Emergency Department Starship Children's Health, ADHB.

**Sharon Payne:** MN. Nurse Practitioner. Hawkes Bay Emergency Department, HBDHB.

**Dr. Natalie Anderson:** RN, PhD, Senior Lecturer, University of Auckland. Auckland City Hospital Adult Emergency Department, ADHB.

**Dr. Sandra Richardson:** PhD Senior Lecturer, School of Health Sciences, University of Canterbury.

**Deborah Somerville:** MN. Senior Lecturer. Faculty of Medical and Health Sciences, University of Auckland.

## CENNZ Contacts:

**Chairperson:** Amy Button contact via: [cennzchair@gmail.com](mailto:cennzchair@gmail.com)

**Treasurer:** Keziah Jones contact via: [cennztreasurer@gmail.com](mailto:cennztreasurer@gmail.com)

**Secretary:** Lauren Miller contact via: [cennzsecretary@gmail.com](mailto:cennzsecretary@gmail.com)

## Membership, Grants & Awards:

Lyn Logan contact via either; **Membership:** [cennzmembership@gmail.com](mailto:cennzmembership@gmail.com) or **Awards:** [cennzawards@gmail.com](mailto:cennzawards@gmail.com)

**NZ Triage courses:** Tanya Meldrum contact via: [cennztriage@gmail.com](mailto:cennztriage@gmail.com)

**Professional Nursing Advisor (NZNO):** Suzanne Rolls contact via: [suzanne.rolls@nzno.org.nz](mailto:suzanne.rolls@nzno.org.nz)

## CENNZ NZNO Membership:

Membership is \$25.00 and due annually in April. For membership enquiries please contact: Lyn Logan  
Email: [cennzmembership@gmail.com](mailto:cennzmembership@gmail.com)

## Design / Production:

**Sean McGarry**

Phone: 029 381 8724 | Email: [seanmcgarry@gmail.com](mailto:seanmcgarry@gmail.com)

# Editorial



**Dr Sandra Richardson**  
Editor | Emergency Nurse NZ

There has been a lot happening in health care over the past months, and even more that has particular relevance for Emergency Nursing. The health system is under increasing pressure, and for many within the sector, this has reached the point where the sense of 'we are beyond the point of no return' is increasingly felt. As politicians continue to seek solutions to problems we have been signalling for years, and as we struggle to respond to the increasing presence of 'once in a hundred year' events, our ED staff look for ways to manage the front-line realities.

Since our last edition, the country has seen the effect of further natural and man-made disasters, escalating staffing crises, nursing strikes, and rising levels of societal violence and economic distress. We acknowledge the

anniversaries of the Whakaari/White Island volcanic eruption, the Christchurch, Kaikoura and other earthquake events, and the terror shootings in Christchurch. We recognise the impact of living through an ongoing Covid-19 pandemic and of the rising cost of living and difficulties faced by staff, whānau and communities in making ends meet.

Despite everything, this is not just a catalogue of disasters and lost opportunities. We also take this time to recognise the amazing mahi of our colleagues, the incredible pride that ED staff express in their teams and the ability they have to make a difference in people's lives. We applaud the resilience and fortitude of those nurses across the motu in responding to the cyclone and extreme weather events, managing devastation in their own homes, yet still turning up to work and supporting and comforting patients and their family/whānau. We also applaud the teams who responded to the distressing fire in the Wellington Loafers Lodge hostel. As a profession, and as a community of nurses, we continue to challenge the boundaries and demand the highest standards. In response to the staffing shortages, ED nurses are 'growing their own', bringing on board new graduates and introducing them to our speciality, with respect and enthusiasm. We continue to develop new methods and models of care to maximise our ability to work within the confines of a resource scarce environment. Despite this, we do not sit back and accept this as 'the new normal' – we continue to fight for the standards that are needed, for our patients and for ourselves. We do not meekly accept that this is simply 'the way things are'. Emergency and urgent care nurses are key providers within the health system, and we continue to speak out and raise issues of importance, balancing the need to protect our patients with the recognition that in times of danger, we cannot simply avoid the difficult decisions.

This edition of the journal highlights the work of EDs and urgent care in relation to maternal and child health, providing an overview of the way in which paediatric services are offered through the different EDs in NZ. Core similarities, despite the geographical and service differences are clear. The staff are motivated, caring and keen to develop their knowledge and skills even further in this area. It is also clear that there remain issues in terms of staffing and resource constraints, which impact the ability to develop sustainable programs for education and the development of expertise and embedding this in our areas of work. This is not specific to paediatric nursing in ED, it could equally be identified with any of the other sub-specialties that ED nurses are required to have knowledge of. Emergency nurses are expected (and need) to be 'Jack/Jill of all trades', they need to be patient but also to advocate loudly; to be aware of the latest evidence while knowing the more unlikely zebras in the herd (or at least how to recognise them, and how to maintain the 'index of suspicion'). It is for these reasons, that the CENNZ committee is currently sponsoring the review and update of the Knowledge and Skills Framework, as an ongoing asset to support ED nurses.

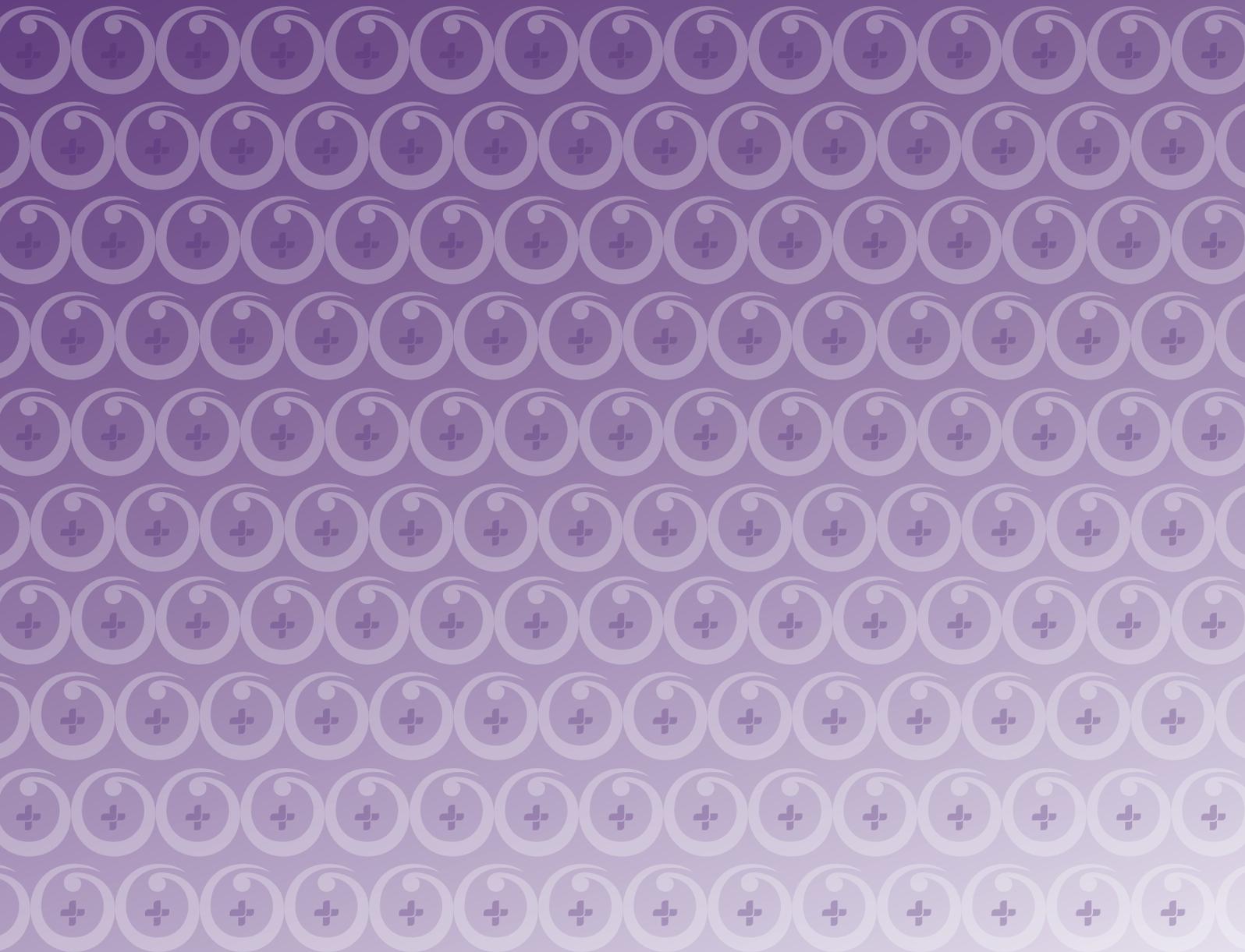
Nurses have faced difficulties over the last few years in accessing quality, discipline specific education opportunities. It is with great pleasure that I remind you all of the forthcoming CENNZ conference, to be held in Christchurch, on the 19-20 October 2023. A welcome return to emergency nursing education and the chance to meet and share experiences and solutions.

Wishing you all the best as you journey through this year.

Mā te wā

**Sandy**

# Articles:



---

## Case Study:

---

# The 'hot' topic- when fever matters: An ED case study of a febrile neonate.

---

Author: Jenna Hudson

Emergency Department Nurse Practitioner, Kidz First Emergency  
Department, Middlemore Hospital, Te Whatu Ora Counties Manukau



---

### Introduction:

Fever phobia has been well researched, and advice on relieving a child's discomfort rather than 'worrying about' temperature reduction has been circulated in the community for many years now (National Institute for Health Care Excellence, 2019). So, when does a fever matter, and when do you need to extensively investigate the underlying cause?

This case study explores the diagnostic reasoning and treatment plan for a 28-day-old Samoan male who presented to the emergency department with a fever.

---

### Acknowledgements:

Alicia Blacker, Annette Beautrais, Debora Anderson, Greg Davies, Jenny Smith, John Carson, Marguerite Watt, Maureen Treston, Renee Marsters, Simon Smith, Stacey Smart.

---

28-day-old Samoan male presents to the Paediatric Emergency Department (ED) with his mother.

- 24 hours history of fever 38.1celsius, 3x vomits and sleepiness
- Vomit - nil blood or bile, not projectile. Nil diarrhoea.
- Exclusively breast fed, feeding normal length of time and frequency.
- Sleeper today; having to wake him for feeds which is unusual.

### Medical and Family History:

Pregnancy/Obstetric:

- P4G3. Nil pregnancy health concerns; nil fevers, infectious illnesses, hypertension, gestational diabetes.
- Normal antenatal anatomy and growth scans.
- Denies drugs, alcohol or smoking during pregnancy.

## Case Study:

# The 'hot' topic- when fever matters: An ED case study of a febrile neonate.

### Birth:

- Normal vaginal delivery at 40+1 weeks gestation. Spontaneous rupture of membranes two hours prior to delivery. Nil meconium exposure.
- Nil fetal distress at birth. Apgar score 8 and 10.
- Birth weight 4210 grams.
- Vitamin K given at birth intramuscularly (IM).

Nil family history of renal or urological abnormalities.

### Medication and allergies:

Nil allergies or medications. Nil over the counter remedies, or traditional medicines given.

### Social History:

Lives with parents and two siblings aged 2 and 4 years. Nil current or recent illnesses.

Lives in a rented three-bedroom house that is cold and damp. Nil insulation, expensive to heat.

Mum- stay at home mum. Dad- currently unemployed, receiving Work and Income support (WINZ).

Under care of midwife. Engaged with a local primary health care provider.

Family has a car and phone at home.

Family speaks both English and Samoan at home. Nil verbal or written language barriers.

Nil cultural preferences identified / expressed.

Nil child protection alerts.

### Health Risk Assessment:

Smoke free home. Nil alcohol or drug use.

Sonny sleeps in bed with mum, she is worried baby will get cold and she does not have a bassinet or wahakura. Dad currently sleeping on couch to 'make it safer'.

Family violence screening – Negative

Uses capsule, rear facing in backseat of car.

### Review of Systems:

**General:** Gaining weight well, tracking on 91st centile since birth, initially lost 3% weight in first week of life, has regained and nil drops in centile. Last weighed by midwife 1-week ago- 4750 grams. Nil

irritability. Nil prior fevers.

**Skin:** Jaundice three days after birth, put in sunlight and resolved after 1-2 weeks. Nil bruising, rashes, or lumps.

**HEENT:** Head circumference tracking on 75th as per Plunket book. Nil discharge from eyes or crusting. Fixing and following with eyes. Nil rhinorrhoea or blocked nose. Normal hearing check at birth, startles at loud noises.

**Neck:** Nil lumps, moving head side to side appropriately.

**Respiratory:** Nil cough or wheeze. Nil apnoea's or increased work of breathing.

**Cardiovascular:** Nil cyanosis, colour change or dyspnea. Nil sweating during feeds, nil swelling, or oedema.

**Gastrointestinal:** Breast feed exclusively, tolerating normal volume and frequency of feeds. Approximately 2-3 hourly during the day and 3-4 hourly overnight. Nil haematemesis. Nil change in bowel motions, yellow and soft consistency, nil red or jelly stools, regular-approximately every four hours.

**Genitourinary:** Uncircumcised. Slightly reduced wet nappies, only two this morning instead of three. Nil haematuria or foul smell.

**Musculoskeletal:** Full range of movement all four limbs, nil joint swelling, or pain noted.

**Neurologic:** Nil seizures. Sleepier today than normal, mum had to wake for feeds.

### Focused Physical Examination:

**Vital Signs:** Temperature- 38.6 degrees Celsius (rectal), Heart Rate- 168 beats per minute, Respiratory Rate- 38 breaths per minute, Oxygen Saturation- 99 percent (%) on room air.

**Weight:** Today- 5150 grams (naked), 400-gram weight gain since midwife 1 week prior, nil weight loss.

**Appearance:** Asleep in mum's arms, easily rousable to voice. Baby appears well nourished.

**Skin:** Nil rashes or petechiae. Nil scars, lumps, or bruising. Nil jaundice. Mongolian spot covering sacrum and left upper buttock.

**HEENT:** Head- Very mild positional plagiocephaly on left side. Anterior and posterior fontanelle open, flat- not sunken or bulging. Eyes- Pupils equal and reactive to light. Size 3 millimetres. Nil conjunctivitis. Nil yellow sclera. Nil strabismus. Ears- Tympanic membrane flat, light reflective, non-bulging, nil erythema, or effusion. Nose: Patent bilaterally, nil rhinorrhoea. Throat and mouth- Nil oral lesions, erythema, or exudate. Soft palate intact. Nil teeth.

## Case Study:

# The 'hot' topic- when fever matters: An ED case study of a febrile neonate.

**Respiratory:** Periodic breathing observed, pauses for maximum five second periods, nil apnoea's, or colour change. Symmetrical chest wall expansion. Nil accessory muscle use- nil subcostal or intercostal indrawing or tracheal tug. On auscultation: Nil wheeze, stridor, fine or focal crackles. Equal air entry bilaterally.

**Cardiovascular:** Heart rate regular, heart sounds dual, nil added, nil murmurs. Strong and equal bilateral femoral pulses. Capillary refill time two seconds centrally. Peripheral capillary refill time three seconds, slightly cool, not mottled. Moist lips and mucosa. Adequately hydrated.

**Abdominal:** Nil abdominal distension, nil bruising, or scars. On auscultation: Active bowel sounds heard in all four quadrants. On palpation: Abdomen soft, non-distressed (nil grimace or crying). Nil organomegaly; liver edge palpable less than two centimetres (cm) below costal margin. Nil palpable pyloric 'olive' in right upper quadrant. Nil sausage shaped mass in the right abdomen or crossing

the midline in the epigastrium or behind umbilicus. Nil phimosis, bilateral descended testes.

**Neurological:** Glasgow Coma Score (GCS) 15/15, nil irritability or distress during examination. Nil photophobia (opening eyes comfortably to light). Brudzinski's and Kernig's sign- both negative. Moving neck without discomfort. Neonatal primitive reflexes intact that includes sucking, grasp, moro, tonic neck reflex and rooting.

### Laboratory Testing:

Nil previous laboratory tests.

### Assessment Statement:

Sonny a 28-day-old unimmunised Samoan baby presents with a fever, vomiting, and lethargy. The history and physical exam did not allude to any particular focus and therefore urinary tract infection (UTI), meningitis and bacteraemia cannot be ruled out.

Differential Diagnosis	Rule-in	Rule-out
UTI	Fever Vomiting Lethargy Uncircumcised male Age < 1 year of age	
Meningitis	Fever Lethargy Vomiting	Nil seizures, normal neurological examination Flat fontanelle Nil irritability Brudzinski's and Kernig's sign- both negative Nil petechial rash <b>Can't rule out with history and physical examination alone, negative CSF culture is definitive.</b>
Bacteraemia	Fever Lethargy Vomiting	<b>Can't rule out with history and physical exam alone, negative blood culture definitive.</b>
Intussusception /bowel obstruction	Vomiting Lethargy	Nil bile-stained vomiting Nil abdominal pain or distension Nil palpable abdominal mass Nil red jelly stools
Pyloric stenosis	Vomiting Age range between 4-6 weeks	Non- projectile vomiting Nil weight loss Nil palpable pyloric 'olive' in right upper quadrant
Gastroenteritis	Fever Vomiting	Nil diarrhoea Nil unwell contacts
Viral respiratory illness	Fever	Nil rhinorrhoea, cough, apnoea's or tachypnoea. Nil unwell contacts

## Case Study:

# The 'hot' topic- when fever matters: An ED case study of a febrile neonate

### Problem List and Plan:

#### 1. Undifferentiated diagnosis- pyrexia of unknown origin in a neonate

- Explain concerns and risks associated with a fever in infants, paying careful attention to not use medical jargon.
- Discussed the laboratory tests required and the rationale for performing them including potential adverse events.
- Advised the results of the laboratory testing are not immediate and therefore highlighted the importance of initiating treatment.
- Consent gained and is in concordance with investigations, treatment, and management.

#### Laboratory Investigations:

- Catheter Specimen of Urine (CSU)
- N.B. The CSU was tested immediately in the point of care urinalysis dipstick machine- result positive for Leucocytes and Nitrates.
- Blood tests and peripheral intravenous catheter insertion- Full blood count (FBC), Urea and Electrolytes (U+E's), Blood glucose level (BGL), blood culture.
- Lumbar puncture- microscopy and culture.
- Nasopharyngeal swab (NPS)- full respiratory panel.
- Chest X-ray.

#### Pharmaceutical interventions:

- Amoxicillin 260 milligrams (mg) (50mg/kg/dose) intravenous (IV) stat than Q8 hourly
- Cefotaxime 260mg (50mg/kg/dose) IV stat than Q8 hourly
- Sucrose syrup 0.2 - 0.5mL per oral (PO) with pacifier two minutes prior to painful procedures (maximum 4 doses in 24hrs).

#### Treatment and Management:

- Discussed with Paediatric Medicine for acute referral and inpatient admission.
- Fluid balance- Breast feeding chart. Monitor for further vomiting and wet nappies.

- Continue broad spectrum IV antibiotics until CSU and LP culture results, then change to a narrow spectrum antibiotic if clinically stable.

- Inpatient renal ultrasound scan (USS) to determine if any underlying structural abnormality.

#### 2. Co-sleeping risks:

- Cold, damp housing leading to co-sleeping and potential for inequitable health outcomes.
  - Explained the risks associated with co-sleeping while validating concerns about baby being cold. Moderate risk for sudden unexplained death syndrome (SUDI).
  - Discussed the benefits of a wahakura pepi pod and explained that if baby placed inside and on top of her mattress this is not considered bed sharing and reduces risk significantly.
  - Social work referral in partnership with whanau to address cold, damp housing and Auckland Wide Healthy Homes Initiative (AWHI) referral.
- No suitable bed for baby; discussed with safe sleep coordinator who will organise Wahakura prior to discharge.

### Discussion and rationale for plan:

#### 1. Urinary Tract Infection:

In infants under three months with a fever, reported rates of UTI are between 7-17% (Greenhow et al., 2014; Ismaili et al., 2011). UTI in infants are however not always easily recognised and can manifest in non-specific and varied symptoms with no pathognomonic indicative physical sign (Desai et al., 2016). Fever may be the only symptoms making early diagnosis and management challenging (Tsai et al., 2016; Tullus, 2013). Other non-specific symptoms of UTI include lethargy, poor feeding, vomiting, haematuria, irritability, prolonged jaundice, failure to thrive, malodorous urine and sepsis (Tsai et al., 2016).

#### Aetiology:

Escherichia coli (E. coli) a Gram-negative bacterium is the most common uropathogen found in 80-90% of UTIs in the paediatric population (Edlin et al., 2013; Tullus, 2019). Other less common bacteria causing UTIs which are more frequently seen in conjunction with renal abnormalities are Staphylococcus saprophyticus, Enterobacter, Proteus, Citrobacter, Enterococcus and Klebsiella

## Case Study:

# The 'hot' topic- when fever matters: An ED case study of a febrile neonate.

(Desai et al., 2016). In infant's, colonisation of faecal flora occurs in the perineum then ascends the urinary tract resulting in pyelonephritis/ upper tract infections (Edlin et al., 2013; Kaufman et al., 2019). To overcome the host defence E. coli have developed specific properties called P-fimbriae to attach to the uroepithelial cell surface and overcome the flow of urine (Tullus, 2019). In the case of infants with their first presentation of acute pyelonephritis 90% of these cases are caused by P-fimbriated E-coli (Tullus, 2019).

Other relevant host factors for this case are age, sex, and circumcision status. Febrile UTIs are overrepresented in the neonatal period from 0-3 months and account for 21% of all children with febrile UTIs with 75% of these then being male (Ismaili et al., 2011). A meta-analysis also suggests that 20% of febrile uncircumcised male infants under 3 months had a UTI. The rate in circumcised males was 2.4% in comparison (Shaikh et al., 2008). Nappy wearing and foreskin surface area are contributing factors (Desai et al., 2016; Kaufman et al., 2019).

### Diagnosis:

Laboratory urine culture is the gold standard for UTI diagnosis with an appropriately obtained urine specimen. Due to the sterility of urine, bacteria presence in sufficient quantity, in conjunction with evidence of infection is suggestive of UTI. A urine microscopy WBC count of greater than 100WBC/uL has high diagnostic specificity and sensitivity for UTI (Kaufman et al., 2019). Dipstick analysis is not sufficiently specific or sensitive but is predictive if leukocyte esterase and nitrates are positive but can also have false negative results in young infants (Desai et al., 2016; Tzimenatos et al., 2018). This is due to frequent voiding flushing out bladder substrates which could lead to a missed diagnosis in this vulnerable age group (Cyriac et al., 2017). Urinalysis is a necessity to identify who should receive antibacterial treatment while cultures are pending and tailoring of appropriate antibiotic therapy can occur (Desai et al., 2016).

- The CSU microscopy showed greater than 1000 WBC/uL, the culture will identify the pathogen and antimicrobial susceptibility. The importance of prompt diagnosis of UTI in febrile children is due to the association found in a retrospective cohort study that delays can cause permanent renal scarring (Shaikh et al., 2016).

### Method of collection:

There is ongoing debate around the method of urine collection in pre-continent children regarding accuracy. The gold standard definitive method of urine culture is suprapubic aspiration (SPA) with only 1% contamination rates however it does have a high failure rate at 25% and is the most invasive of all collection methods (McTaggart et al.,

2015; Tosif et al., 2012). CSU sampling is less invasive but has a 10% risk of contamination, however this is accepted in international and local guidelines used in practice (Clark et al., 2020; Finnell et al., 2011; Stein et al., 2015; Subcommittee on Urinary Tract Infection, 2016; The Royal Children's Hospital Melbourne, 2019). However, the National Institute for Health and Clinical Excellence (NICE) guidelines suggest clean catch urine (CCU) is acceptable and non-invasive (Baumer & Jones, 2007; Mori et al., 2007). In a randomised control trial in infants the CCU method was successful however the contamination rates are 27% which is a concern as it can lead to a misdiagnosis (Altuntas et al., 2015). Bag urine specimen are simple and non-invasive but have an unacceptably high contamination rate of 46-63% and should never be sent for culture (Robinson et al., 2014; Tosif et al., 2012).

- In this case CSU was performed.

### Blood tests:

Inflammatory markers such as C-reactive protein (CRP), erythrocyte sedimentation rate (ESR), peripheral white blood count (WBC) and procalcitonin provide guidance but are not diagnostic in acute pyelonephritis as found in a Cochrane review due to low specificity (Shaikh et al., 2020). CRP has a negative predictive value if the level is low to rule out acute pyelonephritis (Tsai et al., 2016). Procalcitonin is sensitive and predictive of renal parenchymal involvement during acute infection which could become a predictor of renal scarring (Shaikh et al., 2020). Procalcitonin is not routinely tested for in my practice area.

Urea and electrolytes are indicated due to vomiting and lethargy to check for hypernatremia, hyperosmolality and hypoglycaemia (Shepherd & Aickin, 2009). This patient did not present with weight loss or significant lethargy and did not appear dehydrated on examination (Newborn Services Clinical Practice Committee, 2019).

Blood sampling in a febrile neonate with a UTI is most beneficial to determine bacteraemia as studies suggest concordance was observed in 6-10% of infants with UTI obtained from the blood culture (Roman et al., 2015; Thomson et al., 2017). Bacteraemic UTI is the most common cause of bacteraemia in infants with the indistinguishable signs and symptoms of febrile UTI and bacteraemia a cause for concern (Roman et al., 2015; Tsai et al., 2016). Failure to identify the extent of the infection especially in this high-risk group may lead to inadequate treatment and poorer outcomes (Downey et al., 2013). Risk factors for bacteraemia include age; those younger than 6 weeks are at highest risk and those who have abnormal urinary imaging results (Roman et al., 2015).

## Case Study:

# The 'hot' topic- when fever matters: An ED case study of a febrile neonate.

### Lumbar Puncture:

Performing a LP can often feel like a difficult decision for clinicians and family due to the invasiveness of the procedure and potential to cause harm. However, the examination of CSF in infants with a fever, with or without UTI diagnosis is crucial for the diagnosis of bacterial meningitis. The risk for coexisting infection is thought to be 1%, however one study found that infants with UTI and concomitant meningitis all had bacteraemia and with bacteraemia rates higher at 6–10% the risk is likely higher (Tebruegge et al., 2011). There is also bias in the research of concomitant meningitis as the youngest infants are often excluded and studies had small sample sizes (Tebruegge et al., 2011; Thomson et al., 2017). Morbidity and mortality are most significant in the very young due to the incompetence of the neonatal immunologic system with hematogenous spread to the CSF across the blood brain barrier while cells are gaining antigenic experience in the first three months of life before their acquired immunity is mature (Thomson et al., 2017; Thomson et al., 2018).

LP is the gold standard for diagnosis of meningitis with CSF culture a definitive diagnosis (Chavez-Bueno & McCracken, 2005). Initial microscopy can give an indication of disease, but results can be misleading as they change at varying points in the illness and should be treated with caution. Typical CSF findings include a raised WBC count (can be normal early in disease) with predominance of polymorphonuclear leukocytes. Polymorphonuclear leukocyte count also increases in the first two days then decreases. Protein concentration usually is elevated and a reduction of absolute CSF glucose concentration is seen (Chavez-Bueno & McCracken, 2005). Typical empirical antibiotics used for UTI have poor CSF penetration and inadequate duration to treat bacterial meningitis (Kaufman et al., 2019). Any signs of raised intracranial pressure such as decreased GCS, focal neurological deficits, recent seizure, abnormal posture are all contraindications for performing LP acutely (Voss, 2018).

### Nasopharyngeal Swab:

A NPS is indicated due to the Covid-19 outbreak as well as a current resurgence of respiratory syncytial virus (RSV) in the community (Schwartz & De Luca, 2021). Typically, children present with signs of respiratory disease however in very young infants' fever may be the sole manifestation (Levine et al., 2004). The nasopharynx is the most common anatomical location for entry of viruses transmitted by aerosol and airborne mechanisms and NPS are a long-accepted method of testing for respiratory viruses (Schwartz & De Luca, 2021). In addition, in a prospective multicentre study they found that febrile infants less than 60 days old had clinically significant rates of UTI, and to a lesser extent bacteraemia who were RSV positive highlighting the need for broad investigations in this age group (Levine et al., 2004).

### Chest X-ray:

Chest radiograph was initially part of the investigation plan to determine the source of fever. However, with a clear focus of UTI found early with the lack of respiratory history and examination findings, and X-ray exposure risk, it was no longer indicated. Studies demonstrating the clinical significance of a chest X-ray in febrile infants found that if they had any respiratory examination findings, or a respiration rate over 50 breaths per minute or a high blood WBC then there is a 33% chance of a positive finding on X-ray (Harper, 2004). In contrast with nil of the criteria above met the chances are less than 1% (Harper, 2004). A chest X-ray can be reconsidered if not responding to treatment.

### Treatment and management:

Children with a UTI under three months of age, should be admitted for empirical IV antibiotics therapy while blood and LP cultures are pending (Chavez-Bueno & McCracken, 2005). The choice of antibiotic treatment and dosing should be broad spectrum, consider local data resistance and be the same as that for neonatal sepsis due to the lack of antigenic experience of the fetal immune system. The guideline used in practice is the Starship guideline suggesting IV amoxicillin and cefotaxime as first line treatment (Clark et al., 2020).

### Amoxicillin:

Amoxicillin is a beta-lactam broad spectrum semi-synthetic aminopenicillin (Medsafe, 2018). It exhibits its bactericidal activity by inhibiting cell wall biosynthesis, leading to bacterial cell lysis and death (New Zealand Formulary for Children, 2021). It is effective against many Gram-negative and Gram-positive organisms, particularly those that may have been maternally acquired such as *Listeria monocytogenes* and Group B streptococcus (Medsafe, 2018). Clinical trials have also demonstrated clinical efficacy against *E. Coli* however acquired resistance has become a problem (Medsafe, 2018). The IV route of administration is indicated as beta-lactam antimicrobials are time dependant and to be effective, need to be over the minimum inhibitory concentration which takes much longer with oral administration. Amoxicillin is widely distributed but unless the meninges are inflamed it scarcely passes the blood brain barrier into the CSF (Medsafe, 2018). The spectrum of activity of amoxicillin does not extend to beta-lactamases due to susceptibility of degradation by these enzyme producing organisms.

In this case due to the risks of bacteraemia and meningitis it is imperative to include a further antimicrobial that distributes more readily into the CSF, acquired resistance is less of a concern and has cover for beta-lactamase degrading organisms. Amoxicillin is used in combination with cefotaxime.

## Case Study:

# The 'hot' topic- when fever matters: An ED case study of a febrile neonate.

### Cefotaxime:

Cefotaxime is a third generation, broad spectrum, semi-synthetic cephalosporin antibiotic (Medsafe, 2016). It has a similar mechanism of action as amoxicillin. Cefotaxime is susceptible to a wider range of micro-organisms including *E. coli*, as well as other potential bacteria associated with UTI and meningitis such as *Proteus*, *Klebsiella*, *Enterobacter*, *Citrobacter*, *Enterococcus* and *Staphylococcus*, *Streptococcus pneumoniae* (Medsafe, 2016). The other benefit is that cefotaxime has a high tissue diffusion and penetrates the CSF more readily. Cefotaxime is however poorly absorbed via oral administration so is only for IV or IM administration (Medsafe, 2016).

For both amoxicillin and cefotaxime there are distinctive pharmacotherapeutics relevant to neonates. In neonates there is a reduction in renal excretion of drugs leading to a prolonged elimination half-life that is not related to immature metabolism. This effects dose frequency which changes from 12 hourly in the first week of life, to 8 hourly aged 7-28 days and 6 hourly thereafter (Clark et al., 2020; Shepherd & Aickin, 2009). Due to lack of pharmacokinetic studies in children dosing regimens are extrapolated from adult data (O'Hara, 2016). The dosing regimen of 50mg/kg for both amoxicillin and cefotaxime is recommended in local guidelines to be efficacious (Clark et al., 2020; Voss, 2018).

Penicillin allergy is not generally a risk in infants as they have not been challenged with penicillin. Gastrointestinal adverse effects are the most common with nausea, vomiting and diarrhoea which can occur with both drugs (New Zealand Formulary for Children, 2021a; New Zealand Formulary for Children, 2021b).

### Alternative treatment regimen:

Ceftriaxone is an alternative third generation cephalosporin to cefotaxime if IV access cannot be obtained. It is 100% bioavailability via IM route (Medsafe, 2020). Ceftriaxone has a longer half-life than Cefotaxime so can be given 100mg/kg every 24 hours (New Zealand Formulary for Children, 2021), this is painful so is not first line treatment (Medsafe, 2020).

If meningitis was excluded then gentamicin could be given as an alternative to cefotaxime due to its activity against a wider range of pathogenic organisms typically involved in UTI (Medsafe, 2019). It does however not cross the blood brain barrier as readily. It should also be used with caution in neonatal infants due to the potential for gentamicin induced toxicity from a prolonged drug half-life due to their renal immaturity (Medsafe, 2019).

### Ongoing antibiotic therapy:

Antibiotic therapy for UTIs has been well studied with a Cochrane

review covering all age groups with severe UTI found no difference between routes of antibiotic administration (Pohl, 2007). However, IV treatment is empiric to cover for meningitis and bacteraemia that cannot be excluded in this case until a negative LP and blood culture (Voss, 2018). This takes approximately 48 hours and if negative and clinically stable a switch to an oral antibiotic susceptible to the organism identified would be appropriate (McMullan et al., 2016). Several studies have found no difference in terms of treatment failure between short courses of IV therapy for 2-4 days followed by oral therapy and four days or more of IV therapy in infants (Bloomfield et al., 2005; Brady et al., 2010; Strohmeier et al., 2014).

Antibiotic resistant UTI caused by *E. coli* is prevalent and commonly prescribed antibiotics are now rendered ineffective as first line treatment (Bryce et al., 2016). This highlights the importance of waiting for the CSU culture prior to discharge so treatment is known to be efficacious. This is particularly important in young infants with immature immune systems in this case. Local guideline used in practice suggests a first-generation cephalosporins such as cephalexin is an appropriate narrow-spectrum antibacterial given its low resistance rates (Clark et al., 2020). Those with moderate to severe infection or neonates should receive a 7-day course (Clark et al., 2020).

Prophylactic antibiotics are not indicated after a first febrile UTI for the prevention of renal scarring in otherwise healthy children (Hewitt et al., 2017; McTaggart et al., 2015).

### Sucrose:

Sucrose is an effective analgesia well studied for reducing procedural pain in neonates (Stevens et al., 2016). Its mechanism to thought to be through endogenous and non-opioid systems. There is no optimal dosing identified in a Cochrane review however also no side effects or harm caused (Stevens et al., 2016). Non-nutritive sucking in combination with sucrose is more effective than sucrose alone, identifying the use of a pacifier (Stevens et al., 2016). Doses of 0.2-0.5mL are used in practice in infants under one month and are given two minutes prior to a painful procedure (Paediatric Pain, 2019). There is no minimum time interval between doses so it can be given prior to the CSU, bloods, and LP, however maximum four doses in 24 hours is recommended (Paediatric Pain, 2019).

### Renal USS:

Renal USS criteria following a first UTI is debated in international guidelines, varying from only in under three-month-olds in Australia to all children in America and Canada with a first UTI (McTaggart et al., 2015; National Institute for Health Care Excellence, 2018; Robinson et al., 2014; Subcommittee on Urinary Tract Infection, 2016;

## Case Study:

# The 'hot' topic- when fever matters: An ED case study of a febrile neonate.

Stein et al., 2015; The Royal Children's Hospital Melbourne, 2019). National guidelines used in practice recommend ultrasound for all children with a first UTI under 12 months and as an inpatient for those under three months (Clark et al., 2020). Around 15-18% of children with a first UTI who have follow-up scanning will have evidence of renal scarring (Shaikh et al., 2014; Shaikh et al., 2010). Long-term morbidity from renal injury and scarring can lead to hypertension and chronic kidney disease (CKD) following upper tract UTIs. However, a systematic review found no cases where UTIs in a child with normal kidneys was the main cause of subsequent CKD (Salo et al., 2011). Renal abnormalities and etiologic organisms other than E. coli have the main risk for renal scarring (Shaikh et al., 2014).

### Alternative treatments:

A Cochrane review found no significant benefit for probiotic use regarding prevention of UTI in comparison with no treatment or placebo. The data was of poor quality but there were no adverse effects reported (Schwenger et al., 2015).

### 2. Inequity concerns:

SUDI is the unexpected and sudden death of an infant, which includes unintentional suffocation from asphyxiation from unsafe sleeping environments. Amongst industrialised nations New Zealand has the highest rate of death from SUDI where approximately sixty infants die each year. Maori and Pacific infants represent well over half of all deaths from SUDI (Ministry of Health, 2020). One of the best ways to prevent SUDI deaths and reduce risk is to have baby in a suitable bed. Maternal antenatal smoking, and bed sharing in combination are the biggest risk factors (Ministry of Health, 2019). One research study suggests a substantial reduction of SUDI rates could be achieved if parents avoid bed sharing, even without smoking risk factors (Carpenter et al., 2013). To determine the risk of SUDI there is a safe sleep calculator available in New Zealand, factoring in the modifiable and non-modifiable risk factors. In this case the current risk of death with bed sharing is 1 in 5914 babies even with protective factors considered such as no smoking, alcohol, drugs, being breast feed and having a safe sleep position on back. However, by sleeping in his own bed or pepi-pod placed on a bed the risk is reduced substantially to 1 in 16677 babies. Working in partnership with our whānau to implement safer sleep practices is one of the ways to substantially reduce the risk for SUDI and protect vulnerable infants and reduce the inequity that exists. Mum is very happy to use the wahakura provided.

### AWHI referral:

The healthy homes initiative (HHI) was originally established to reduced health inequalities by reducing preventable disease in our vulnerable communities (Ministry of Health, 2021). There is well documented evidence both nationally and internationally that warmer and drier homes contribute to improved health outcomes. Māori and Pacific families are over-represented in low-income households in areas with poorer quality of housing (Ministry of Health, 2021). The HHI expanded including more broad criteria which in this case whānau are included to provide comprehensive housing assessments and individualised plans then interventions to create a warmer, drier, and healthier home (Allen & Clarke, 2018). Having equitable outcomes for all population groups in New Zealand requires intervention and collaboration that encompass the whānau in partnership to protect the vulnerable while considering social, environmental and health determinants simultaneously.

### Collaboration, evaluation, and reflection:

Baby was admitted to the ward, where he continued to breast feed well, became afebrile and he stopped vomiting. He received 48 hours of IV amoxicillin and cefotaxime then switched to oral cephalexin after 48 hours of cultures remaining negative.

**Results:** Bloods- WBC 15, neutrophils 8.5, sodium 134, BSL 4.8, CRP 87, culture- no growth after 48 hours. Nil bacteraemia, hypernatremia, hyperosmolality or hypoglycaemia. CSU- greater than 1000 WBC, culture grew isolated E. Coli which was susceptible to cephalexin and resistant to amoxicillin and trimethoprim. UTI diagnosis confirmed, a prescription for a further five days of oral cephalexin given. The CSF- Clear and colourless, no organisms seen, normal protein and glucose. PCR panel negative. Nil meningitis. NPS- nil respiratory viruses identified. USS- nil structural renal abnormalities were identified. Risk factors for renal scarring and morbidity unlikely.

The whānau was connected with social work who provided resources for their transition back to the community, including blankets for baby. An AWHI referral for a healthy home assessment was made. The safe sleep coordinator gave a wahakura and provided education and resources prior to discharge. Collaboration with a primary health care provider was recommended in seven days for clinical review, and to include 6-week vaccinations if he remains well. Red flag return advice given such as fever, lethargy, poor feeding, and vomiting.

## Case Study:

# The 'hot' topic- when fever matters: An ED case study of a febrile neonate.

### References

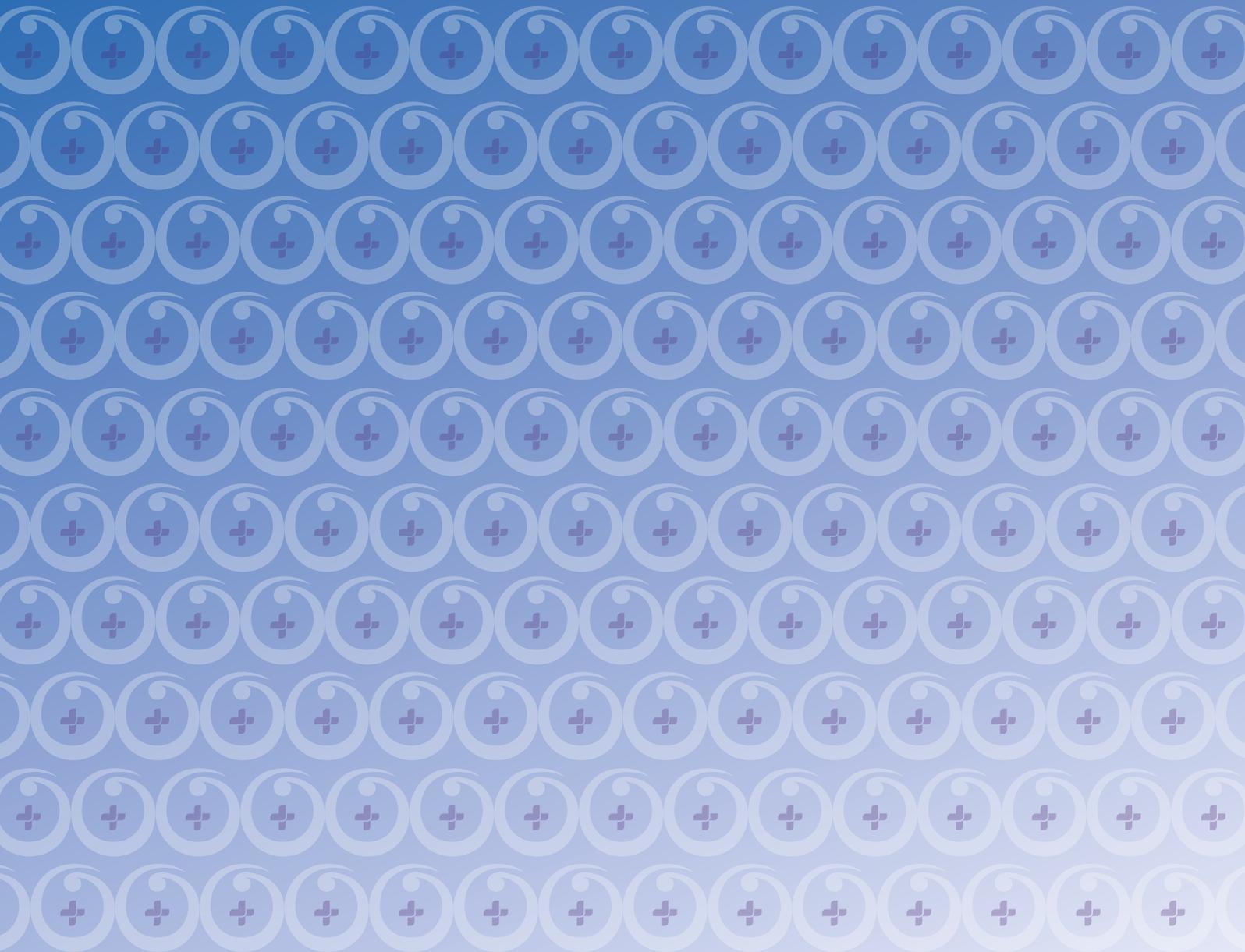
- Allen, & Clarke. (2018). Healthy Homes Initiative Evaluation: Final Report. <https://www.health.govt.nz/system/files/documents/publications/healthy-homes-initiative-evaluation-apr-2018.pdf>
- Altuntas, N., Tayfur, A. C., Kocak, M., Razi, H. C., & Akkurt, S. (2015). Midstream clean-catch urine collection in newborns: a randomized controlled study. *European journal of pediatrics*, 174(5), 577-582. <https://doi.org/10.1007/s00431-014-2434-z>
- Baumer, J., & Jones, R. (2007). Urinary tract infection in children, National Institute for Health and Clinical Excellence. *Archives of Disease in Childhood-Education and Practice*, 92(6), 189-192. <https://doi.org/10.1136/adc.2007.130799>
- Bloomfield, P., Hodson, E. M., & Craig, J. C. (2005). Antibiotics for acute pyelonephritis in children. *Cochrane Database of Systematic Reviews*(1). <https://doi.org/10.1002/14651858.CD003772.pub2>
- Brady, P. W., Conway, P. H., & Goudie, A. (2010). Length of intravenous antibiotic therapy and treatment failure in infants with urinary tract infections. *Pediatrics*, 126(2), 196-203. <https://doi.org/10.1542/peds.2009-2948>
- Bryce, A., Hay, A. D., Lane, I. F., Thornton, H. V., Wootton, M., & Costelloe, C. (2016). Global prevalence of antibiotic resistance in paediatric urinary tract infections caused by Escherichia coli and association with routine use of antibiotics in primary care: systematic review and meta-analysis. *Bmj*, 352. <https://doi.org/10.1136/bmj.i939>
- Carpenter, R., McGarvey, C., Mitchell, E. A., Tappin, D. M., Vennemann, M. M., Smuk, M., & Carpenter, J. R. (2013). Bed sharing when parents do not smoke: is there a risk of SIDS? An individual level analysis of five major case-control studies. *BMJ open*, 3(5), e002299. <https://doi.org/10.1136/bmjopen-2012-002299>
- Chávez-Bueno, S., & McCracken, G. H. (2005). Bacterial meningitis in children. *Pediatric Clinics*, 52(3), 795-810. <https://doi.org/10.1016/j.pcl.2005.02.011>
- Clark, K., Jamison, S., Bell, A., Primhak, S., Williams, G., Wong, W. (2020). Urinary Tract Infection. <https://www.starship.org.nz/guidelines/urinary-tract-infection>
- Cyriac, J., Holden, K., & Tullus, K. (2017). How to use... urine dipsticks. *Archives of Disease in Childhood-Education and Practice*, 102(3), 148-154. <https://doi.org/10.1136/archdis-child-2015-309083>
- Desai, D. J., Gilbert, B., & McBride, C. A. (2016). Paediatric urinary tract infections: Diagnosis and treatment. *Australian family physician*, 45(8), 558-564. <https://www.racgp.org.au/download/Documents/AFP/2016/August/afp-august-clinical-gilbert.pdf>
- Downey, L. C., Benjamin, D., Clark, R. H., Watt, K. M., Hornik, C. P., Laughon, M. M., Cohen-Wolkowicz, M., & Smith, P. B. (2013). Urinary tract infection concordance with positive blood and cerebrospinal fluid cultures in the neonatal intensive care unit. *Journal of Perinatology*, 33(4), 302-306. <https://doi.org/10.1038/jp.2012.111>
- Edlin, R. S., Shapiro, D. J., Hersh, A. L., & Copp, H. L. (2013). Antibiotic resistance patterns of outpatient pediatric urinary tract infections. *The Journal of Urology*, 190(1), 222-227. <https://doi.org/10.1016/j.juro.2013.01.069>
- Finnell, S. M. E., Carroll, A. E., & Downs, S. M. (2011). Diagnosis and management of an initial UTI in febrile infants and young children. *Pediatrics*, 128(3), e749-e770. <https://doi.org/10.1542/peds.2011-1332>
- Greenhow, T. L., Hung, Y.-Y., Herz, A. M., Losada, E., & Pantell, R. H. (2014). The changing epidemiology of serious bacterial infections in young infants. *The Pediatric infectious disease journal*, 33(6), 595-599. <https://doi.org/10.1097/INF.0000000000000225>
- Harper, M. B. (2004). Update on the management of the febrile infant. *Clinical Pediatric Emergency Medicine*, 5(1), 5-12. <https://doi.org/10.1016/j.cpem.2003.11.008>
- Hewitt, I. K., Pennesi, M., Morello, W., Ronfani, L., & Montini, G. (2017). Antibiotic prophylaxis for urinary tract infection-related renal scarring: a systematic review. *Pediatrics*, 139(5). <https://doi.org/10.1542/peds.2016-3145>
- Ismaili, K., Lolin, K., Damry, N., Alexander, M., Lepage, P., & Hall, M. (2011). Febrile urinary tract infections in 0- to 3-month-old infants: a prospective follow-up study. *The Journal of pediatrics*, 158(1), 91-94. <https://doi.org/10.1016/j.jpeds.2010.06.053>
- Kaufman, J., Temple-Smith, M., & Sancu, L. (2019). Urinary tract infections in children: an overview of diagnosis and management. *BMJ paediatrics open*, 3(1). <https://doi.org/10.1136/bmjpo-2019-000487>
- Levine, D. A., Platt, S. L., Dayan, P. S., Macias, C. G., Zorc, J. J., Krief, W., Schor, J., Bank, D., Fefferman, N., & Shaw, K. N. (2004). Risk of serious bacterial infection in young febrile infants with respiratory syncytial virus infections. *Pediatrics*, 113(6), 1728-1734. <https://doi.org/10.1542/peds.113.6.1728>
- McMullan, B. J., Andresen, D., Blyth, C. C., Avent, M. L., Bowen, A. C., Britton, P. N., Clark, J. E., Cooper, C. M., Curtis, N., & Goeman, E. (2016). Antibiotic duration and timing of the switch from intravenous to oral route for bacterial infections in children: systematic review and guidelines. *The Lancet Infectious Diseases*, 16(8), e139-e152. [https://doi.org/10.1016/S1473-3099\(16\)30024-X](https://doi.org/10.1016/S1473-3099(16)30024-X)
- McTaggart, S., Danchin, M., Ditchfield, M., Hewitt, I., Kausman, J., Kennedy, S., Trnka, P., & Williams, G. (2015). KHA-CARI guideline: diagnosis and treatment of urinary tract infection in children. *Nephrology*, 20(2), 55-60. <https://doi.org/10.1111/nep.12349>
- Medsafe. (2016). Cefotaxime sodium. <http://www.medsafe.govt.nz/profs/datasheet/c/Cefotaximeinjft.pdf>
- Medsafe. (2020). Ceftriaxone-AFT powder for injection. <https://www.medsafe.govt.nz/profs/datasheet/c/ceftriaxoneaftinj.pdf>
- Medsafe. (2019). Gentamicin. <http://www.medsafe.govt.nz/profs/datasheet/g/gen-tamicininj.pdf>
- Medsafe. (2018). Ibiamox. <https://www.medsafe.govt.nz/profs/Datasheet/i/ibiamoxinj.pdf>
- Ministry of Health. (2020). Fetal and Infant Deaths web tool. Wellington: Ministry of Health. <https://www.health.govt.nz/publication/fetal-and-infant-deaths-web-tool>
- Ministry of Health. (2021). Healthy Homes Initiative. Wellington: Ministry of Health. <https://www.health.govt.nz/our-work/preventative-health-wellness/healthy-homes-initiative>
- Ministry of Health. (2019). National SUDI Prevention Programme: Needs assessment and care planning guide. Wellington: Ministry of Health. <https://www.health.govt.nz/publication/national-sudi-prevention-programme-needs-assessment-and-care-planning-guide>
- Mori, R., Lakhnarpaul, M., & Verrier-Jones, K. (2007). Diagnosis and management of urinary tract infection in children: summary of NICE guidance. *Bmj*, 335(7616), 395-397.
- National Institute for Health Care Excellence. (2018). Urinary tract infection in under 16s: diagnosis and management. National Institute for Health and Care Excellence (NICE). <https://www.nice.org.uk/guidance/cg54>
- National Institute for Health Care Excellence. (2019). Fever in Under 5s: Assessment and Initial Management. National Institute for Health and Care Excellence (NICE). <https://www.nice.org.uk/guidance/ng143>
- Newborn Services Clinical Practice Committee. (2019). Hypoglycaemia in the neonate. <https://starship.org.nz/guidelines/hypoglycaemia-in-the-neonate/>
- New Zealand Formulary for Children. (2021a). Amoxicillin. NZFC. [https://www.nzfchildren.org.nz/nzf\\_3025](https://www.nzfchildren.org.nz/nzf_3025)
- New Zealand Formulary for Children. (2021b). Cefotaxime. NZFC. [https://nzfchildren.org.nz/nzf\\_3068](https://nzfchildren.org.nz/nzf_3068)
- New Zealand Formulary for Children. (2021c). Ceftriaxone. NZFC. [https://nzfchildren.org.nz/nzf\\_3078](https://nzfchildren.org.nz/nzf_3078)
- New Zealand Formulary for Children. (2021d). Gentamicin. NZFC. [https://nzfchildren.org.nz/nzf\\_3133](https://nzfchildren.org.nz/nzf_3133)
- O'Hara, K. (2016). Paediatric pharmacokinetics and drug doses. *Australian prescriber*, 39(6), 208. <https://doi.org/10.18773/austprescr.2016.071>
- Paediatric Pain. (2019). Sucrose analgesia. <https://starship.org.nz/guidelines/sucrose-analgesia/>
- Pohl, A. (2007). Modes of administration of antibiotics for symptomatic severe urinary tract infections. *Cochrane Database of Systematic Reviews*(4). <https://doi.org/10.1002/14651858.CD003237.pub2>
- Robinson, J. L., Finlay, J. C., Lang, M. E., Bortolussi, R., Society, C. P., Committee, C. P., Diseases, I., & Committee, I. (2014). Urinary tract infection in infants and children: Diagnosis and management. *Paediatrics & child health*, 19(6), 315-319. <https://doi.org/10.1093/pch/19.6.315>
- Roman, H. K., Chang, P. W., & Schroeder, A. R. (2015). Diagnosis and management of bacteremic urinary tract infection in infants. *Hospital pediatrics*, 5(1), 1-8. <https://doi.org/10.1542/hpeds.2014-0051>
- Salo, J., Ikkäheimo, R., Tapiainen, T., & Uhari, M. (2011). Childhood urinary tract infections as a cause of chronic kidney disease. *Pediatrics*, 128(5), 840-847. <https://doi.org/10.1542/peds.2010-3520>
- Schwartz, D. A., & De Luca, D. (2021). The public health and clinical importance of accurate neonatal testing for COVID-19. *Pediatrics*, 147(2). <https://doi.org/10.1542/peds.2020-036871>

## Case Study:

# The 'hot' topic- when fever matters: An ED case study of a febrile neonate.

- Schwenger, E. M., Tejani, A. M., & Loewen, P. S. (2015). Probiotics for preventing urinary tract infections in adults and children. *Cochrane Database of Systematic Reviews*(12). <https://doi.org/10.1002/14651858.CD008772.pub2>
- Shaikh, K. J., Osio, V. A., Leeflang, M. M., & Shaikh, N. (2020). Procalcitonin, C-reactive protein, and erythrocyte sedimentation rate for the diagnosis of acute pyelonephritis in children. *Cochrane Database of Systematic Reviews*(9). <https://doi.org/10.1002/14651858.CD009185.pub3>
- Shaikh, N., Craig, J. C., Rovers, M. M., Da Dalit, L., Gardikis, S., Hoberman, A., Montini, G., Rodrigo, C., Taskinen, S., & Tuerlinckx, D. (2014). Identification of children and adolescents at risk for renal scarring after a first urinary tract infection: a meta-analysis with individual patient data. *JAMA pediatrics*, *168*(10), 893-900. <https://doi.org/10.1001/jamapediatrics.2014.637>
- Shaikh, N., Ewing, A. L., Bhatnagar, S., & Hoberman, A. (2010). Risk of renal scarring in children with a first urinary tract infection: a systematic review. *Pediatrics*, *126*(6), 1084-1091. <https://doi.org/10.1542/peds.2010-0685>
- Shaikh, N., Mattoo, T. K., Keren, R., Ivanova, A., Cui, G., Moxey-Mims, M., Majd, M., Ziessman, H. A., & Hoberman, A. (2016). Early antibiotic treatment for pediatric febrile urinary tract infection and renal scarring. *JAMA pediatrics*, *170*(9), 848-854. <https://doi.org/10.1001/jamapediatrics.2016.1181>
- Shaikh, N., Morone, N. E., Bost, J. E., & Farrell, M. H. (2008). Prevalence of urinary tract infection in childhood: a meta-analysis. *The Pediatric infectious disease journal*, *27*(4), 302-308. <https://doi.org/10.1097/INF.0b013e31815e4122>
- Shepherd, M., & Aickin, R. (2009). *Fever Investigation and Management*. <https://starship.org.nz/guidelines/fever-investigation-and-management/>
- Stein, R., Dogan, H. S., Hoebeke, P., Kočvara, R., Nijman, R. J., Radmayr, C., & Tekgöl, S. (2015). Urinary tract infections in children: EAU/ESPU guidelines. *European urology*, *67*(3), 546-558. <https://doi.org/10.1016/j.eururo.2014.11.007>
- Stevens, B., Yamada, J., Ohlsson, A., Haliburton, S., & Shorkey, A. (2016). Sucrose for analgesia in newborn infants undergoing painful procedures. *Cochrane Database of Systematic Reviews*(7). <https://doi.org/10.1002/14651858.CD001069.pub5>
- Strohmeier, Y., Hodson, E. M., Willis, N. S., Webster, A. C., & Craig, J. C. (2014). Antibiotics for acute pyelonephritis in children. *Cochrane Database of Systematic Reviews*(7). <https://doi.org/10.1002/14651858.CD003772.pub4>
- Subcommittee on Urinary Tract Infection. (2016). Reaffirmation of AAP clinical practice guideline: the diagnosis and management of the initial urinary tract infection in febrile infants and young children 2-24 months of age. *Pediatrics*, *138*(6), e20163026. <https://doi.org/10.1542/peds.2016-3026>
- Tebuegge, M., Pantazidou, A., Clifford, V., Gonis, G., Ritz, N., Connell, T., & Curtis, N. (2011). The age-related risk of co-existing meningitis in children with urinary tract infection. *PLoS One*, *6*(11), e26576. <https://doi.org/10.1371/journal.pone.0026576>
- The Royal Children's Hospital Melbourne. (2019). *Urinary tract infection*. [https://www.rch.org.au/clinicalguide/guideline\\_index/Urinary\\_tract\\_infection/](https://www.rch.org.au/clinicalguide/guideline_index/Urinary_tract_infection/)
- Thomson, J., Cruz, A. T., Nigrovic, L. E., Freedman, S. B., Garro, A. C., Ishimine, P. T., Kulik, D. M., Uspal, N. G., Grether-Jones, K. L., & Miller, A. S. (2017). Concomitant bacterial meningitis in infants with urinary tract infection. *The Pediatric infectious disease journal*, *36*(9), 908-910. <https://doi.org/10.1097/INF.0000000000001626>
- Thomson, J., Sucharew, H., Cruz, A. T., Nigrovic, L. E., Freedman, S. B., Garro, A. C., Balamuth, F., Mistry, R. D., Arms, J. L., & Ishimine, P. T. (2018). Cerebrospinal fluid reference values for young infants undergoing lumbar puncture. *Pediatrics*, *141*(3). <https://doi.org/10.1542/peds.2017-3405>
- Tosif, S., Baker, A., Oakley, E., Donath, S., & Babi, F. E. (2012). Contamination rates of different urine collection methods for the diagnosis of urinary tract infections in young children: an observational cohort study. *Journal of paediatrics and child health*, *48*(8), 659-664. <https://doi.org/10.1111/j.1440-1754.2012.02449.x>
- Tsai, J.-D., Lin, C.-C., & Yang, S. S. (2016). Diagnosis of pediatric urinary tract infections. *Urological Science*, *27*(3), 131-134. <https://doi.org/10.1016/j.urols.2016.10.001>
- Tullus, K. (2013). A review of guidelines for urinary tract infections in children younger than 2 years. *Pediatric annals*, *42*(3), e52-e56. <https://doi.org/10.3928/00904481-20130222-10>
- Tullus, K. (2019). Fifteen-minute consultation: Why and how do children get urinary tract infections? *Archives of Disease in Childhood-Education and Practice*, *104*(5), 244-247. <https://doi.org/10.1136/archdischild-2018-315023>
- Tzimenatos, L., Mahajan, P., Dayan, P. S., Vitale, M., Linakis, J. G., Blumberg, S., Borgianni, D., Ruddy, R. M., Van Buren, J., & Ramilo, O. (2018). Accuracy of the urinalysis for urinary tract infections in febrile infants 60 days and younger. *Pediatrics*, *141*(2). <https://doi.org/10.1542/peds.2017-3068>
- Voss, L. (2018). *Meningitis*. <https://www.starship.org.nz/guidelines/meningitis/>

# Paediatric Patient Management:



---

## Regional Overviews:

---

---

# Management of Paediatric Patients: Te Tai Tokerau Whangarei Emergency Department.

---

### Authors:

Brendon Tampus, ED ACNM, Amanda Harrison, ED CNE, Sue Stebbings, NP

---

### Introduction

The Whangarei District had a population of 90,960 at the 2018 Census, with a median age of 41 years, although this drops to 26 years for Māori. The ethnicity findings showed the majority European ethnic group was 77%, followed by Māori at 30.1% of the population. Like most New Zealand Emergency Departments, Te Tai Tokerau Whangarei ED caters for acute presentations of both adult and paediatric patients, with 41,950 patients being seen through the department in 2022. Of those, 6949 were paediatric patients. Currently there is no separate area for children to be assessed and treated, and they are cared for within the general ED. In preparation for winter, Paediatric Assessment Unit (PAU) will operate for longer hours for acute presentations and this will be staffed by the paediatric ward. The ED has capacity for 32 patient spaces, including three procedure chairs, when fully staffed and is normally operated with 12 RNs per main shift, with fewer overnight. There are currently staggered starting times to manage fluctuations in patient flow, with additional staff commencing at 0930, 1100 and 1730; like most EDs there are issues with high staff turnover.

The effects from Cyclone Gabrielle have been challenging for Northland as we are one of the regions that were badly affected. We have had to utilise motels around the hospital to accommodate staff who had badly damaged homes that were no longer able to be occupied, road closures due to severe flooding, power outage and slips. During the aftermath of the cyclone, army unimogs were used to transport patients from other parts of Northland and back to be seen in ED, while NZ defence force helicopters delivered hospital supplies and medications. Despite such challenges, Whangārei ED has been very resilient and our team work have paved the way to keep patients and whanau safe. So, I'm really proud of my team.

### Management of paediatric presentations

It all starts with Standard Operating Procedures (SOP). The initial process is the standard assessment to determine urgency of need, so First Triage of all patients is undertaken using the Australasian Triage System (ATS). Once this has determined any immediate life-threatening concerns, it is possible to move to a Second Triage phase, which involves a focussed assessment, including obtaining a full set of vital signs which are entered on PEWS (Paediatric Early Warning Score) chart. As well, initiation of appropriate investigations and interventions depending of the reason for presentation take place; this might include providing analgesia, RICE, topical anaesthetic, establishing Nil By Mouth status, or arranging a Nurse Initiated X-Ray. Requests for rapid assessment by a doctor will also occur at this point if needed. Offer EQ if appropriate. Our management of paediatric diseases and trauma is also guided by Starship Children's Hospital protocols and recommendations. If patients are identified as likely for admission the ED doctor will formally refer the patient to the Specialised Paediatric Team for review and admission.

Respiratory illnesses – while still a common presentation in the paediatric population, we were starting to see this trend changing pre-COVID. The season seemed prolonged and the respiratory illness were no longer just a winter issue, with the presentations starting earlier and earlier every year. COVID seems to have made the situation even worse as many children are presenting with recurrent viral infections all year round. Whether it's an effect on their immunity or the fact we were in lock down, isolation and wearing masks for so long, it is clear that viruses have come back with a vengeance.

# Management of Paediatric Patients: Te Tai Tokerau Whangarei Emergency Department.

## Staffing...

A further area of concern for staff is around the need for ongoing education around paediatric emergency nursing, which is currently limited and difficult to access. While ongoing efforts continue to increase the opportunities, this remains difficult, with the ED Clinical Nurse Educator exploring additional options with other education staff. Previous examples of staff exchanges with paediatric wards had limited impact and required considerable effort to achieve, and as rostering increasingly becomes a challenge with staff shortages and sickness, this is no longer a realistic process to pursue.

More formal education such as the Paediatric Life Support and Neonatal Life Support courses are only available to RNs already trained and working in the resuscitation area of the department. In addition, the number of such courses run annually is limited, with only 2 or 3 available, and for which there is considerable competition to access places. Emergency nurses are not a priority to attend, with

this currently given to paediatric nursing staff, paediatric Senior House Officers, staff working in rural hospitals and maternity staff. Given the high need and limited placements available, it is common that only one spot on each course can be allocated to our ED RNs. An additional option being explored is to look at the viability of hosting a regional Emergency Nursing Paediatric Course (ENPC) in Whangarei, with negotiations around this still in progress.

In-hospital study days are held by the paediatric wards several times a year, and ED staff invited to attend these, when possible, and some paediatric topics are included in the ED regular teaching sessions. These cover topics such as paediatric respiratory assessment with introduction to the bronchiolitis pathway, use of humidified high flow nasal prongs (HHFNP), paediatric nasogastric tubes, intravenous line dressings, heel pricks, capillary blood gases, the paediatrics sepsis pathway and the giraffe resuscitaire which are also in the ED Skills Day for new staff. The Te Tai Tokerau ED staff are also invited to the Paediatric Trauma Evenings held in Auckland.



Photo: The ED team at Te Tai Tokerau

---

## Regional Overviews:

---

---

# Management of Paediatrics at Waitemata ED.

---

### Author:

Lydia Moore, ED CNS

---

Te Whatu Ora Waitemata is made up of two hospitals covering a wide population area (~630,000 people), one hospital is based in West Auckland (secondary hospital), and the other is in the North Shore (tertiary hospital). Each hospital has a 24/7 emergency department with nurses based at each site and doctors who work between hospitals. Although it is considered one unit, the departments are run quite differently.

Across both hospitals, paediatric patients initially present to triage, with low acuity presentations redirected to A&E clinics (collegial agreement) and are assessed by an RN before being seen by a medical professional (Doctor, NP or CNS). The current re-direction assessment identifies low acuity patients as those who would be considered to have 'minor' health concerns, likely triage 4 or 5, and either able to see their GP the next day or go to A&E clinic. The A&E clinics are able to manage most minor injury and illness presentations, however they do not manage some aspects of paediatric injury care such as manipulations or suturing requiring more intensive staffing involvement and levels of pain relief. This is ultimately the triage nurse's decision, and a tool to assist in management of workload and avoiding overloading the department. At North Shore, patients are generally triaged to the Paediatric play area unless requiring procedures or having a higher triage; there is a dedicated RN assigned to this area. Whilst at Waitakere low acuity patients (most commonly triage 4's) are triaged to the waiting room, with the remainder being

triaged to the dedicated paediatric area (unless needing resus – there is a dedicated paediatric resus space at Waitakere).

At Waitakere ED ~30% of cases are paediatrics, with the majority of presentations being medical. Waitakere hospital has a dedicated medical paediatrics unit for medical admissions, however if paediatrics need a surgical or specialised admissions, they are transferred to Starship hospital. North Shore ED also see all presentations, however a large number of minor injuries are redirected to the local A&E clinic, and all paediatric patients requiring admissions are referred to Waitakere Hospital for medical admission or Starship for all other specialities.

Waitakere ED have dedicated NP and CNS paediatric specialists who work independently and alongside an ED doctor rostered to the paediatric area, with 2-3 nurses rostered into the paediatric 9 bedded area. Northshore ED have 1 rostered RN and an ED doctor rostered to oversee the paediatric 3 bedded area.

With staff turnover and unexpected events such as covid, flooding and cyclones causing study days to be cancelled, staffing the paediatric area with appropriately trained staff can sometimes be difficult. Currently one paediatric Nurse Educator works across both sites, with set days allocated at each ED. Hopefully with a new year (starting from now), this will be able to be addressed.

---

## Regional Overviews:

---

# Kidz First Emergency Department, Te Tari Rongoaa Ohorere Middlemore Hospital.

---

### Author:

Sarah O’Kane, ED CNM

---

Kidz first is a dedicated children’s Emergency Department (ED) that provides emergency medical care to children and young people up to the age of 17 years, it is part of Middlemore ED. In 2022 Kidz First ED had 28,635 presentations, with the common presentations being respiratory illness and limb injuries. Over the past two years there has been an increase in mental health presentations with approximately 4 a week.

The ED at Kidz First is staffed by a team of experienced medical professionals including emergency physicians, paediatricians, nurse practitioners and clinical nurse specialists. There is a mix of paediatric nurses and dual trained nurses who flex between adults and paediatrics.

Within Kidz First ED there are several nursing roles Charge Nurse Manager, Associate Clinical Nurses managers, clinical nurse specialists, nurse practitioners, paediatric nurse educator and paediatric clinical coaches and research nurses. They work alongside other allied health professionals including child protection and the

play specialist services. A play specialist is based in ED 7 days a week.

Kidz First ED has specialised areas where nurses work, triage, resuscitation, assessment rooms including four monitored rooms, waiting room and a short stay area. Patients are triaged using the Australasian Triage Scoring system (ATS) and the triage nurse will triage patients to the appropriate area in Kidz First ED, where they are assessed. Patients who require admission are either admitted to a paediatric medical ward or to the surgical ward for urgent and elective plastic or orthopaedic surgery including a specialist paediatric burns unit. The Intensive Care Unit at Middlemore will take children but if they require more intensive medical care, they will be transferred to the paediatric Intensive Care Unit at Starship.

Overall, the Kidz First ED works to deliver focused acute care utilising a multidisciplinary team approach to provide timely and specialised emergency medical care to children with a focus on providing high quality care that is both child-centred and family friendly.

## Regional Overviews:

# Management of Paediatric Patients: Taranaki ED.

### Author:

Lauren Miller, ED CNM

Te Whatu Ora Taranaki serves a population of approximately 118,000 people, with a predominately European population (84.8%) and a Māori population at 19.8% higher than the national average and predicted to increase further. While the population overall are ageing and older than the national average, 24% of the Māori population are under the age of 15 years compared to the total population, with 19.6% under the age of 15 (Te Whatu Ora, 2022).



### Taranaki ED

The Taranaki ED is a 23 bed-space department, with two spaces that are identified as "paediatric spaces", although they are not exclusively utilised for children. The ED saw 5,263 Paediatric patients in the 2022 calendar year. The most commonly recorded reason for presentation was shortness of breath (SOB), (n=537), followed by injury of upper limb injury (n=468). Of note, however, the third most

common reason was Cough (n=435). This, when combined with the category of SOB clearly indicated that Respiratory concerns are the most common reason for seeking ED care.

In addition to the two standard bays assigned as paediatric placements, one of the two Resus bay's has additional equipment (monitoring, IV equipment, Broselow Kit) to cater for the paediatric cohort. Additional specialised equipment includes within the ED includes the Resuscitaire for Neonatal/Paed patients. Education of staff is supported with the Paediatric Life Support (PLS) course, a mandatory course required to be completed 2 yearly by all ED staff (we are currently at 74% compliance for this).

### Issues and Strengths

The level of individual staff members comfort and confidence when dealing with paediatric patients varies, as it reasonable considering the degree of staff turnover and the variation of individual experience and paediatric education. There is currently no specific ED Paediatric competence/sign off within the department or on-going education, however, this is something that the educator is actively addressing. Our Paediatric/neonatal departments are VERY responsive and receptive to assisting with unwell paediatric patients. There is currently a working group involving ED, Paediatric and Respiratory specialists who are developing specific Bundles of Care for Respiratory presentations, with the aim of having these in place to trial and utilise this winter. The department will also be part of the national PEWS trial due to start in the coming months.

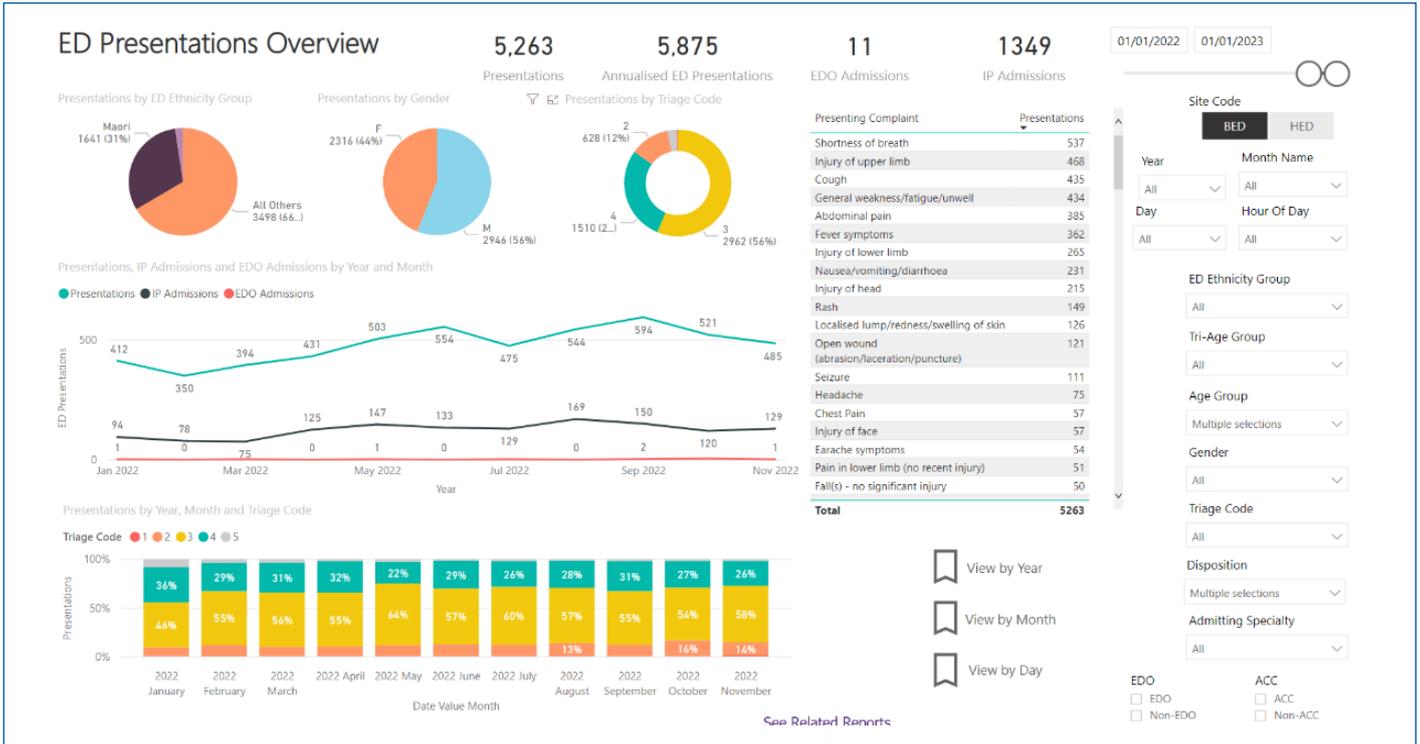
### References

Te Whatu Ora Taranaki (2022) <https://www.tdwb.org.nz/dhb/about.shtml>.

Health Quality & Safety Commission (2022) Paediatric Early Warning System. <https://www.hqsc.govt.nz/our-work/improved-service-delivery/patient-deterioration/work-streams/paediatric-early-warning-system/>

## Regional Overviews:

# Management of Paediatric Patients: Taranaki ED.



**Presenting Complaint**

Presenting Complaint	Presentations
Shortness of breath	537
Injury of upper limb	468
Cough	435
General weakness/fatigue/unwell	434
Abdominal pain	385
Fever symptoms	362
Injury of lower limb	265
Nausea/vomiting/diarrhoea	231
Injury of head	215
Rash	149
Localised lump/redness/swelling of skin	126
Open wound (abrasion/laceration/puncture)	121
Seizure	111
Headache	75
Chest Pain	57
Injury of face	57
Earache symptoms	54
Pain in lower limb (no recent injury)	51
Fall(s) - no significant injury	50
<b>Total</b>	<b>5263</b>

**Site Code**

BED | HED

**Year**: All | **Month Name**: All

**Day**: All | **Hour Of Day**: All

**ED Ethnicity Group**: All

**Tri-Age Group**: All

**Age Group**: Multiple selections

**Gender**: All

**Triage Code**: All

**Disposition**: Multiple selections

**Admitting Specialty**: All

**EDO**:  EDO  Non-EDO | **ACC**:  ACC  Non-ACC

View by Year | View by Month | View by Day

[See Related Reports](#)



## Regional Overviews:

---

# Management of paediatrics: Waipapa, Te Whatu Ora Children's Emergency Care experience in Christchurch.

---

### Author:

Tamsin Attenburrow, ED NE

---

### Introduction:

The Children's Emergency Care (CEC) area in Waipapa, Christchurch, opened on September 12, 2023, providing a dedicated space for children and young people who require emergent or acute care. Caring for children in this new space is designed to improve outcomes and experiences for patients and their whanau / families by providing specialised care in an environment that is child and family-friendly.

### Background:

Prior to the opening of CEC, children presenting to the Christchurch Emergency Department (ED) were cared for in a mixed-use environment. Emergency nurses managed case workloads involving children and adults in an environment that lacked age-appropriate resources.

Children referred from the GP and those requiring short stay observation were admitted to a 9 bed Children's Acute Assessment area where they would be cared for by a Child Health team of nurses and medical staff until discharge or admission to the paediatric wards.

The CEC area had the design aim to meet the needs of the acutely unwell child, with 23 bed spaces for resuscitation, procedures, assessment, and observation in an environment that is child and whanau/ family-friendly.

CEC had been over a decade in the making, from the initial architectural design of the space with a working group made up of Child health and ED team members strategising the model for care delivery. The collaboration included amalgamating the ED

nursing team with the Child Health nursing team to provide a single dedicated team of Children's Emergency Care nurses.

### Model of Care:

All children under the age of 16 (with some anomalies) who present to Christchurch ED are triaged, with those requiring resuscitation and stabilisation receiving initial care in a resuscitation room in the main ED. Once stabilised, patients are transferred to CEC or to the relevant inpatient area, depending on their needs. Triage 2-5 presentations are triaged directly to the CEC area and do not wait in the main ED waiting room.

A single nursing team provides care in CEC, comprising a mix of child health nurses, remaining under the management of Child Health, and ED nurses, remaining under the management of the ED Nurse Manager. The premise of this model is the shared learning each team brings to enhance the nursing knowledge of both teams. Mental health services are also provided for children and young people who require assessment and care.

### Challenges and outcomes:

The preopening estimates for likely attendances at the CEC were approximately 16,000 children per annum, with 5,000 admissions as inpatients with a 24-hour average of up to 28 presentations. However, daily attendances during the first weeks of opening far outnumbered these estimates, with average numbers of 60 with high presentations of 90+ attendances daily for weeks. (These challenges were encountered nation and system-wide, with Starship and primary care reporting large numbers of child presentations over this period). The high presentations continued stretching the resources

# Management of paediatrics: Waipapa, Te Whatu Ora Children’s Emergency Care experience in Christchurch.

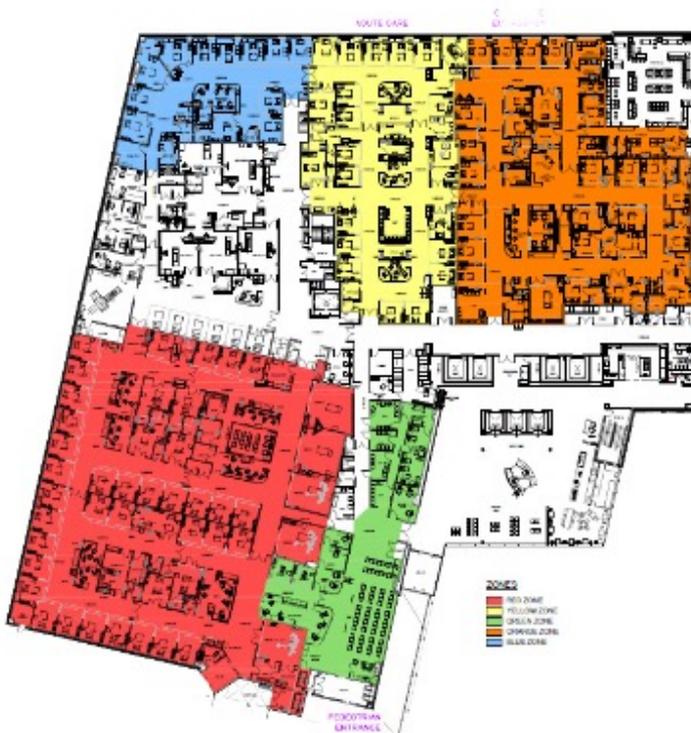
and testing the Model of Care which has remained largely as it was designed.

The creation of a safe, dedicated space for holistic high-quality care for children and young people requiring emergent or acute care has resulted in positive outcomes. The nursing team can now provide care in a child and family-friendly environment with appropriate resources readily available, while also removing children from the unpredictable adult ED where they may be exposed to aggressive/frightening behaviours. This has effectively reduced the risk of children experiencing traumatic encounters and enables nursing and medical professionals to focus solely on delivering optimal care

to their patients, free from the added stress of managing children in a potentially hazardous environment.

### Conclusion:

The Christchurch ED CEC model of care for children seeks to improve outcomes and experiences for patients and their families. Challenges were encountered during the initial weeks of opening, but the CEC area is providing a much-needed safe environment in which to manage the paediatric population group.



**Zones:**

- **Orange:** CEC
- **Red:** Monitored and Resus
- **Yellow:** Acute Care
- **Green:** Triage, Waiting room & Mental Health
- **Blue:** ED Observation (not open)



## Regional Overviews:

# Management of Paediatric Patients: Southern Region.

### Authors:

Michelle Scully, ED CNE

The Southern Region incorporates a wide geographical area, from south of the Waitaki River to Rakiura/Stewart Island. There are around 334,000 people living in the Southern region, with approximately half of these living in Ōtepoti/Dunedin or Waihopai/Invercargill. The remaining half are spread out across the district, many in small, rural or isolated communities. The ethnicity mix in Southern has a higher proportion (90%) NZ European compared to the rest of NZ (72%) and a lower proportion of Māori (10%) compared to a national average of 16%. Within the Māori population, 33% are under the age of 15 compared to 19% in the non-Māori population.

The main Emergency Departments and emergency care services are provided through Te Whatu Ora Southern at Dunedin Hospital, Southland Hospital, and Lakes District Hospital Queenstown.

### Lakes District Hospital ED

Lakes District Hospital Queenstown services all communities in the Queenstown Lakes District, being approximately two and a half hours by road from the base hospital, or 45 minutes by helicopter. There is a permanent population of around 47,000 people, but up to 1 million visitors through the district annually. The ED sees up to 1,200 ED presentations per month leading to approximately 50 transfers to secondary or tertiary hospitals. The hospital capacity includes 10 beds for acute Inpatient care, 5 maternity beds and 10 beds for emergency service for stabilisation and assessment.

Given the size of the hospital, paediatric patients are treated in the same immediate area as other patients, but there is a specific bay designated for paediatrics. There are 2-3 RNs per shift for all of ED, who are ED trained and while most of these will have triage and resuscitation training they will not necessarily have paediatric specific qualifications. All of the medical staff working in this area will have had some paediatric training, but this can vary. Paediatric patients considered to be 'low risk' can remain admitted at Lakes District, including those with bronchiolitis if symptoms have improved from the initial ED presentation. More unwell children will be admitted elsewhere, most commonly to Southland Hospital.

### Southland Hospital (Invercargill) ED

Southland Hospital is a 157+ bed facility built in 2004, situated in Invercargill. As a base hospital servicing a population of over 108,000, the ED has an average annual throughput of more than 30,000 attendances. Difficulties with staffing and patient volume are present, as with other EDs and one response has been the introduction in September of 2022 of the Emergency Q system, as a means to help reduce pressure by diverting some patients to be seen free of charge in general practice on the same day (Te Whatu Ora, 2023).

Paediatric patients are currently treated in the same area as adult patients; while ideally the paediatric patients would be placed into the acute patient bed spaces, there has become a culture of placing children into the FAST Track area which at times is inappropriate. It is difficult to change this practice when faced with constant access block, lack of spaces, and when any bed becomes a good bed space to enable a patient to be examined and assessed.

There are guidelines for the triage of Paediatric patients, including that all paediatric patients arriving at Southland Hospital by ambulance should present to the ED and be seen by the ED triage nurse. If the child is not an expected transfer from a GP /other hospital for the paediatric team then they should be seen by an ED Dr as with all other patients. The ED does not have specialist paediatric staff or a specialist children's ED area, however, Southland hospital does have a 13 bed paediatric ward and a 4 bed paediatric acute assessment unit. Unfortunately, the assessment unit can at times be closed due to staffing shortages.

All ED medical staff have paediatric experience, and several consultants have extensive knowledge and interest in this area. The ED nurses have an opportunity to spend time in the PAAU as part of their orientation to gain additional skills and knowledge from the paediatric nurses. In a similar manner to the medical staff, there are varying degrees of knowledge and previous paediatric experience. Effort is made to identify further educational opportunities, including the ENPC course, but COVID has disrupted the most

# Management of Paediatric Patients: Southern Region.

recent attempts to send staff on this course. Other opportunities have included supporting NETP nurses to attend the Assessment of the Acutely Unwell Child course, offered in Christchurch by Ara Institute of Technology. Working with a paediatric population can feel challenging for staff at times and plans for a joint ED and Paediatric study day are underway, although currently limited by the difficulty releasing staff due to critical shortages.

While there is no designated paediatric resuscitation bay, there is a paediatric resus trolley which can be taken to whichever location is being used. When a more acutely unwell paediatric patient is received, transfer to another facility is at times necessary. This will be determined based on the specific needs of the child, and the context that is involved. As a general rule, paediatric surgical high acuity patients will be transferred to Christchurch, those needing ICU to either Christchurch or Starship, and some paediatric patients may be moved to Dunedin hospital.

## Dunedin ED

Dunedin hospital is a 388-bed tertiary facility, with a catchment area of over 181,500. This is the principal hospital for the lower part of the South Island, including Southland, and as such provides wider services for a combined catchment area of 289,000. This is a University teaching hospital, and operates the regional helicopter retrieval service. There is an average of around 36,000 emergency department presentations per annum.

Dunedin ED has a dedicated zone for the management of paediatric patients, although as with other EDs, the effects from access block and staffing constraints can impact its ability to operate efficiently. Following an initial triage process, current protocols allow for stable paediatric patients to be moved on to the Paediatric assessment unit for more detailed review.

## References

Te Whatu Ora (Jan 31 2023) Emergency Q programme helps people access care sooner. (media release) <https://www.southernhealth.nz/publications/emergency-q-programme-helps-people-access-care-sooner>

Te Whatu Ora Southern (nd) Lakes District Hospital Queenstown Hospital Services. <https://www.southernhealth.nz/services/lakes-district-hospital-queenstown-hospital-services>

Te Whatu Ora Southern (nd) Emergency Department - Southland Hospital | Southern | Te Whatu Ora. <https://www.southernhealth.nz/services/emergency-department-southland-hospital-southern-te-whatu-ora>

Te Whatu Ora Southern (nd) Demography. <https://www.southernhealth.nz/about-us/health-profile/demography>



# Managing nausea and vomiting in pregnancy: development of a clinical pathway proposal in an urgent care setting.



## Authors:

Roxana Mirela Coman, RN, PG Cert Clin Teach.,  
Sandra Kathryn Richardson, RN, PhD

## Abstract

Nausea and vomiting in pregnancy are common, with or without any other associated symptoms, and may be either pregnancy or non-pregnancy induced. Hyperemesis Gravidarum is the most severe form of pregnancy induced nausea and vomiting manifestation.

Pregnant women presenting with these chief complaints are often treated at Urgent Care Clinics or Emergency Departments. Following an audit conducted at an Urgent Care Facility on the management of this group of patients, examples of both effective practice and an opportunity for change in practice were identified. Timely management of pregnant women presenting with NVP is crucial to prevent or minimise complications. As part of a programme of study, a draft nursing pathway for the management of different types and severity of NVP was developed.

**Keywords:** Nausea, vomiting, pregnancy, Hyperemesis Gravidarum, differential diagnosis, Complications, Urgent Care facility, Clinical Pathway.

## Introduction

This article outlines a project undertaken as the initial step towards the development of a nursing care clinical pathway. The question underpinning this project was **"How can early treatment benefit pregnant women presenting with Nausea and Vomiting and Hyperemesis at an Urgent Care facility?"**

The focus of the proposed nursing pathway is to:

- 1) Improve the timelines of service delivery to pregnant women presenting with Nausea and vomiting in pregnancy (NVP)
- 2) Minimize the risk of potential complications associated with severe dehydration

- 3) Contribute to the identification of NVP to enable effective management at an Urgent Care clinic.

The NVP topic suitability for a nursing pathway is due to three factors: NVP is a common presentation, its management is straight forward and there is opportunity for nursing intervention. An initial, detailed audit of presentations at a single site was undertaken using identified parameters, to learn about the current management of this group of patients. The findings demonstrated aspects of good practice as well as opportunities for adjustment of the existing processes. The use of early interventions are discussed, highlighting the benefit of the proposed pathway.

# Managing nausea and vomiting in pregnancy: development of a clinical pathway proposal in an urgent care setting.

## Background

### Urgent Care Surgery

The study location is an urgent care clinic, initially designed to provide care for patients presenting outside normal General Practitioner (GP) clinic hours. However, due to increasing demand this facility now operates 24/7 with the intent to alleviate the pressure on the regional Emergency Department (ED) and General Practices. It is staffed by a mix of Medical Officers (MO), GPs and Nurse Practitioners (NPs) who see and treat patients. These clinicians are supported by highly skilled nurses, receptionists and facility assistants.

The facility is funded to include an Observation Unit, designated for patients needing treatment and observation for longer than two hours, following which a decision is made whether to continue care for either home discharge or hospital transfer. On arrival, patients are seen at reception, then rapid assessment is performed by a Triage Nurse within 10 minutes of their arrival. In order to expedite treatment, and consequently the overall patient journey, a rapid assessment team system has been implemented, comprising a nurse and medical clinician. This service aims to initiate any early interventions needed to optimize patient safety, comfort and time efficiency while waiting for a full clinician assessment. This is most frequently used for injury related presentations and occasionally for medical presentations, which at times can include patients presenting with NVP.

After assessing the patient, clinicians form a treatment plan and delegate nurses to carry out tasks dependent on individual's needs. Patients needing regular monitoring are considered candidates for the observation unit, and their vital signs are recorded following the EWS guidelines. Patients exiting the facility are either discharged home or are transferred to hospital for more definitive care. Patients who are discharged home from the observation unit, receive a follow-up phone call the next day to ensure they are safe at home and further education or reassurance is given regarding their progress. Patients admitted into the Observation Unit can stay for up to six hours until a decision has been made regarding their plan of discharge or hospital transfer. On rare occasions a patient presenting with NVP/HG might remain up to a maximum of 24 hours, as an overnight stay, when needing a longer time to fully recover..

### Ethics approval

Authorisation was obtained from the Urgent Care facility to undertake an academic education project, including a retrospective audit to develop a pathway proposal. Formal ethics application was not deemed necessary to carry out the development of the pathway proposal. The authors acknowledge retraction of an earlier version of this article and the subsequent redaction of some specific audit findings, which are the property of the facility. Acknowledgment was provided by the University of Canterbury Ethics Committee that formal ethics approval was not required.

## Methods

A 4-month audit of existing practice was undertaken to identify the need for a clinical pathway; this focused on the potential for a nurse-led response to NVP and HG. This involved a retrospective quality audit, with anonymised data collected for all patients who presented during a four month period in 2020–2021, with pregnancy related complaints. This included concerns from the beginning of their pregnancy to 4-weeks postpartum.

Data was cleaned so that only those conditions indicative of NVP and HG were included, and then grouped by month of presentation. Additional data collected included: total number of presentations per audit month, triage code assigned, length of time spent in the clinic, treatment (antiemetic, intravenous fluids (I.V.F.) and trial of oral fluids) and multiple presentations.

## Results

The number of maternity presentations during this time represented 0.5% of the total presentations, of which 0.3% are HG/NVP. Within the maternity cases, 60% are HG/NVP cases, (n= 88). While only a small proportion of the overall patient workload seen by this facility, this number of patients per month would still seem sufficient to justify a clinical pathway proposal.

### HG/NVP management

#### Overall presentations

Overall, the data identified 56% of the NVP/HG presentations during the 4-month audit period had waited longer than their target time to be assessed and have treatment initiated. With reference to the Triage codes, 68% of the T3 presentations exceeded the triage time aim, 53min average, (range: 6 – 114 min); 56% of the T4 presentations exceeded their triage time aim by 102 min average, (range: 10–260 min).

The average length of time between treatment received and discharge was 166.3min (under 3 hr), with a range of 0 – 600min, and a median of 155min. Early intervention was provided for 9% of the HG/NVP cases; 6% of these cases were up-triaged due to deterioration. Approximately 44% spent over (240min) 4h in the facility, with 37.5% receiving oral rehydration. In terms of treatment options, 85% received IV Fluids and antiemetics, with Cyclizine (n=40%), Metoclopramide (n=23%) and Ondansetron (23%). All the NVP/HG patients received health education. A sub-set of patients visited the facility with NVP on multiple occasions, presenting between 3–9 times with NVP.

## Discussion

Increasing numbers of patients presenting at emergency departments and acute care facilities have been documented and continue to grow. This impacts directly on waiting times which

# Managing nausea and vomiting in pregnancy: development of a clinical pathway proposal in an urgent care setting.

can often result in patients facing delays before they are seen and treatment commenced. This affects the patient's comfort, satisfaction and potentially their safety, while also increasing the staff's stress levels and frustration. During these waiting times, patients often remain in the waiting room. Patients who present with HG/NVP would potentially benefit from early interventions, which are not always possible.

Nurse initiated interventions promote satisfaction and safety for both patients and staff (Douma et al, 2016; Stauber, 2013). Many urgent care facilities enable early interventions through Nurse Initiated X-Ray (NIXR) or Nurse Standing Orders for analgesia which have proven to improve the patient's journey by maximizing their safety and comfort and reducing the overall time spent here. A similar potential benefit is anticipated for the NVP/HG patients, if assessment and treatment was to be initiated by nursing staff soon after their arrival. Among many processes trialled as part of the response to long waiting times in acute care and emergency facilities, the use of clinical pathways and nurse led protocols have been seen as viable options (Douma, 2016; Stauber, 2013).

Although representing less than 1% of the overall presentations, HG/NVP is a common presentation at the 24HS. Pregnant women arrive either independently or referred by GP's or midwives for oral or intravenous therapy.

## NVP: definitions, diagnosis and complications

In addition to the analysis of the audit findings, knowledge of the characteristics of NVP is necessary to understand why a pathway for the management of this condition is important.

### Definition

Nausea and Vomiting are common symptoms in pregnancy, affecting 50-90% of pregnant women and ranging from mild to moderate to severe. The most severe form is HG with 3% prevalence among all pregnancies (Havnen, 2019; Tan, 2017). HG is characterized by intractable vomiting, weight loss  $\geq$  5% of the pre-pregnancy weight plus electrolyte imbalance (Summers, 2012). Severe HG can cause weight loss of up to 20%, can disrupt foetal growth and even cause foetal and maternal death (Popa et al, 2021). The onset is within 5-6 weeks of the gestational age and usually resolves by week 14 and rarely lasting until week 20 (Sheehan, 2007). The common cause of NVP is linked to increased levels of the human chorionic gonadotropin hormone (HCG) during pregnancy (London, 2017; Summers, 2012). Pregnancy may also contribute to NVP development due to the increase in oestrogen production.

### Differential diagnosis

Commencement of NV symptoms later than 12 weeks of the gestational age is very unlikely to be caused by pregnancy, hence

the need to explore other possible causes (CHP, 2020). Therefore, the inclusion criteria for NVP is symptom onset earlier than 12 weeks (CHP, 2020). Any associated symptoms added to the NV brings into doubt a diagnosis of NVP or HCG, suggesting the need to search for other possibilities. Several common differential diagnoses include urinary tract infection (UTI), gastroenteritis, hepatitis, gestational diabetes and thyrotoxicosis (CHP, 2020; Graves, 2018; Ghouri et al, 2019; Himuro et al, 2014; Johnson et al, 2021; Khan, 2021; Sadiq, 2021). Therefore, beside thorough subjective and objective assessments, additional investigations may be required such as midstream urine (MSU), blood sugar level (BSL), thyroid stimulating hormone (TSH) levels and liver function test (LFT) (Ramin, 2018).

### Complications

The NVP/HG complications can range from minor to life-threatening. The minor ones, and most common, include weight loss, dehydration, hypokalaemia or hyponatraemia. Hypokalaemia can further lead to rhabdomyolysis, while hyponatraemia can lead to cerebral oedema resulting in renal failure (Turner, 2007). Persistent NV can also have negative impact on the psychosocial status of the pregnant women and their whanau (London et al, 2017). This includes risk of depression, negative emotions toward the unborn baby and feelings of guilt for being a burden to their families (London et al, 2017). More serious complications are rare but may include Wernicke's encephalopathy (WE), due to uncorrected low thiamine levels, or oesophageal injury due to forceful vomiting (CHP, 2020; London et al, 2017).

### NVP /HG management

#### Treatment

Hydration therapy and medication should be attempted according to the severity of the NVP/HG, which can be mild, moderate or severe (CHP, 2020). The NVP severity can be determined through the Pregnancy Unique Quantification of Emesis (PUQE) tool, which was developed by the Canadian researchers in 2002 (Koren et al., 2002, 2005). The Motherisk PUQE-24 scoring system is shown in Appendix 3. In addition to the oral fluids (electrolyte sachets, Pedialyte or apple juice mix), oral antiemetics, multivitamins, pyridoxine thiamine supplements and folic acids are medications which should be considered for managing mild NVP (CHP, 2020). For moderate to severe vomiting, I.V. drugs and fluids may be needed.

#### Women's education

Upon discharge from the urgent care facility, women are assessed on their knowledge about the condition and its management and they are offered the Patient Information Sheet (see Appendix 2). Follow-up phone calls are made within 24 hours post discharge from the Observation Unit.

# Managing nausea and vomiting in pregnancy: development of a clinical pathway proposal in an urgent care setting.

## NVP/HG nursing pathway proposal for use in Urgent Care settings

### Rationale

The rationale for establishing a nursing pathway as an early intervention is for standardization of treatment rather than this being based on individual clinician preferences. Increasingly in healthcare there are not only regular clinicians but also temporary or casual staff who may not be confident or aware of colleague's skills sets, and thus unwilling to prescribe IVF before their own assessment occurs, or who are unfamiliar with best practice in regard to this condition. The proposed pathway offers an opportunity for a nurse-led assessment and plan of action formed on a research foundation, with the potential to result in evidence-based practice of direct benefit to patients. There have been criticisms of clinical pathways as a process, with the suggestion that there is a risk of taking a task orientated approach, inhibiting critical thinking and limiting clinical judgment (Barrow et al., 2018). To minimise this risk, emphasis needs to be placed on pathways as an adjuvant to clinical judgement rather than a replacement of it.

### Proposed pathway

#### At Triage

Initial assessment including Presenting Complaint (PC) and History of PC obtained, identifying:

- NV – onset, duration, any interventions, associated symptoms
- Confirmed pregnancy and estimated Gestational age
- Any regular medications, current or previous antiemetics
- Allergies
- PMHx

NVP onset within 12 weeks of the gestational age is very to be likely pregnancy induced.

NVP onset later than 12 weeks of the gestational age may be due to other causes, therefore differential diagnosis should be considered.

In both cases, the following steps should be followed:

- Activate the pathway within 30 minutes of patients' arrival. Rationale: to ensure early interventions occur
- Weight – current and pre-pregnancy. Rationale: Estimate of weight loss will help with the diagnosis of HG.
- Oral hydration to be initiated by the Triage Nurse if time allows, otherwise delegated to RN
- Consider placement to Observation Unit
- Further assessment – HPC– ask about trial of p.o. fluids at home, oral antiemetics taken prior to seeking medical assistance.

- Identify any red flags which can indicate potential differential diagnoses or complications.

Table 5: Red flag indications

	Indication	Potential Problem or Complication
■	decreased level of consciousness (LOC)	can indicate WE
■	high BSL + ketonuria and Kussmaul breathing	can indicate DKA
■	high BP $\geq$ 140/90 plus severe headaches, visual disturbances, upper abdominal pain and NV; usual onset after 20/40	can be a sign of pre-eclampsia
■	high HR	can indicate dehydration
■	abnormal foetal movement (when $\geq$ 20/40)	can indicate foetal compromise

The pathway includes consideration of specific tests and investigations when differentiating the cause of NVP:

- MSU will help determine the level of dehydration (mild-moderate 0–2 ketones in urine, severe with 2+ ketones. It can also differentiate from UTI. The more severe NVP / HG is characterized by ketonuria of more than 2+ (CHP, 2020; Skalley, 2018)
- PUQE tool: level of dehydration. Mild, had antiemetic prior to arrival here– discuss oral antiemetics with clinician, then trial oral rehydration. Moderate– severe: give 1L N. Saline NSO, then discuss I.V. antiemetic options with Clinicians.
- 1h Obs – EWS chart as per Obs Unit protocol. Clinician assessment and reassessment within 4h of patient arrival to decide disposition– Home or Hospital.
- Patient education will be given before their discharge as well as being followed-up the next day by phone contact if discharged home.
- Bloods – to determine electrolyte levels – electrolyte imbalance may indicate HG, LFTs and TSH – monitor and check if they are elevated, then correct after rehydration. Other causes should be suspected if those levels remaining high, e.g. Hyperthyroidism/ thyrotoxicosis, Hepatitis.

#### Treatment:

Start with fluid therapy (p.o or IV) because dehydration often exacerbates NV symptoms.

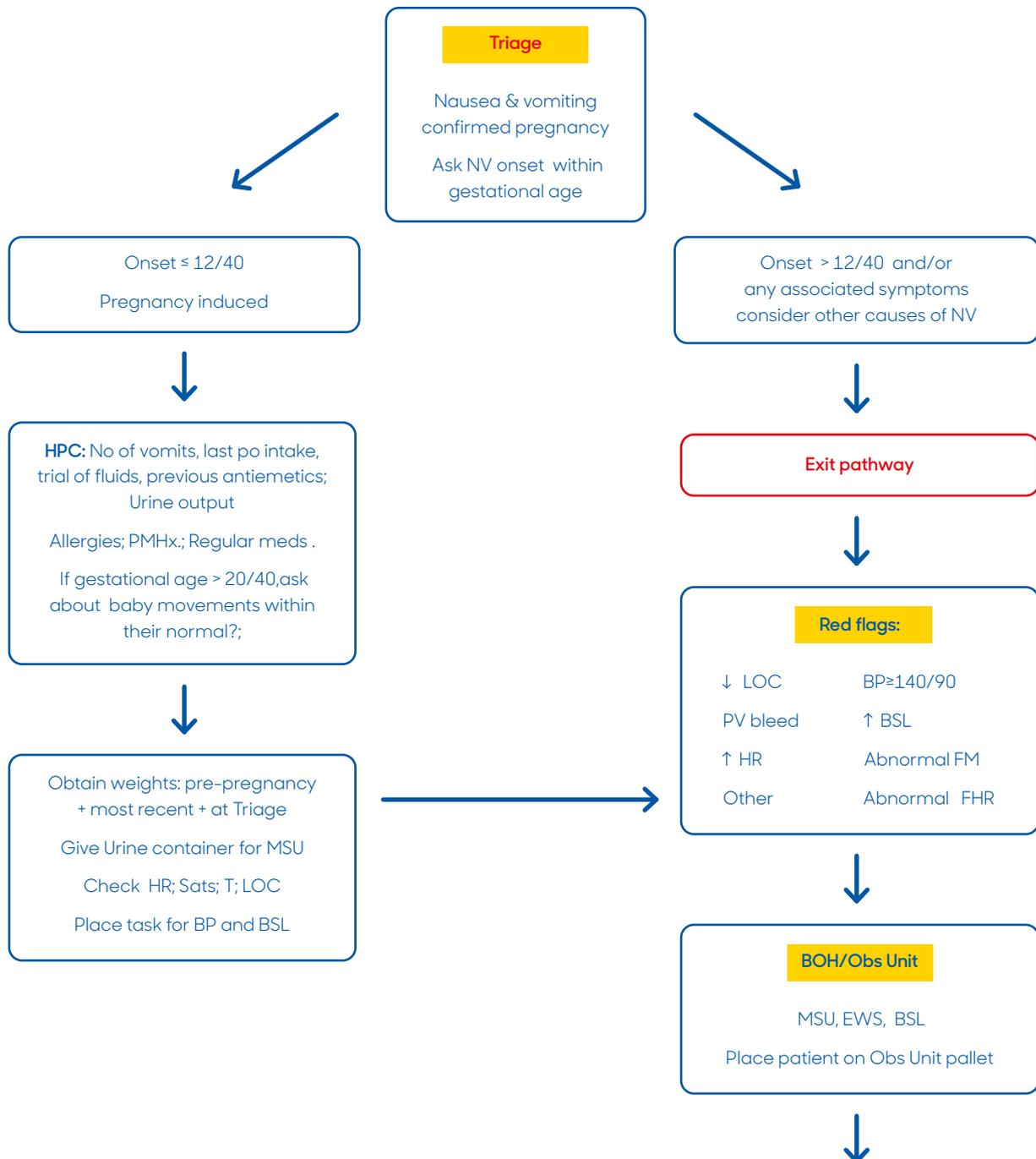
- p.o/IV antiemetics as per the CHP guidelines and/or discuss with Clinician
- After IV therapy, oral rehydration should be attempted as the patient needs to be independent with eating and drinking before discharge home. If unsuccessful, then GAU transfer should be considered.

# Managing nausea and vomiting in pregnancy: development of a clinical pathway proposal in an urgent care setting.

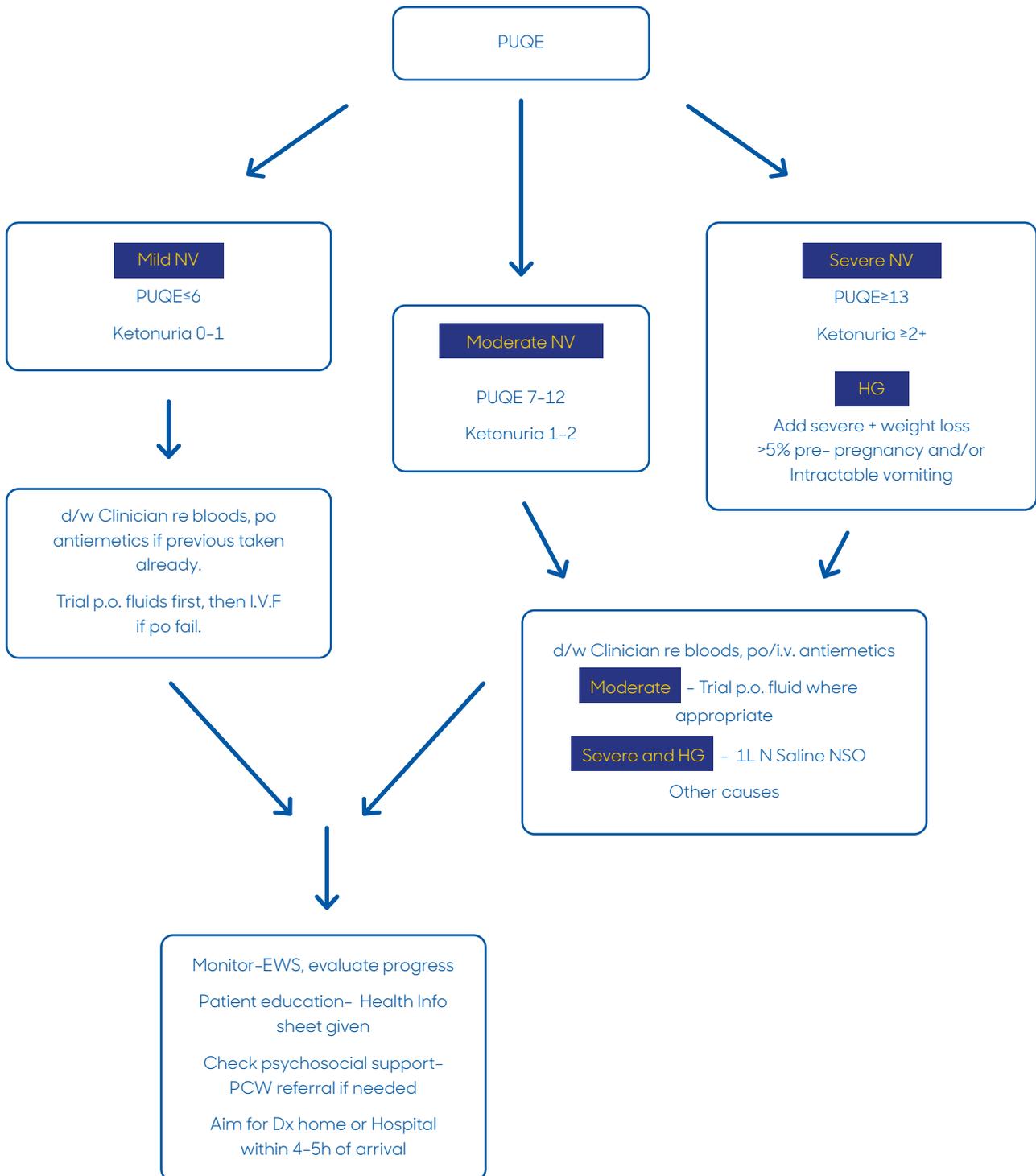
Psychosocial support should be assessed and PCW referral can be made if necessary and after patient consent has been obtained. The patient is advised to liaise with their own GP and midwife on a regular basis.

All NVP/HG patients are classified as Observation Unit patients, therefore EWS charts should be started and regular observations performed. The aim for discharge home or Hospital transfer is within 4-5 hours of arrival.

## The proposed NVP Nursing Pathway



# Managing nausea and vomiting in pregnancy: development of a clinical pathway proposal in an urgent care setting.



# Managing nausea and vomiting in pregnancy: development of a clinical pathway proposal in an urgent care setting.

## Conclusion

Nausea and vomiting as a complication of pregnancy, and the more severe complication of HG remain an issue for many women and lead to presentations at acute care facilities and EDs. It is not always possible to provide timely and effective intervention given the current constraints facing the health service, and the use of tools such as clinical care pathways is one way to address such concerns. The proposed clinical pathway was designed for use in relation to a specific Urgent Care facility, in response to an identified quality improvement opportunity. The NVP/HG data and the resulting flow chart of recommended processes has the potential to guide nurses

and clinicians in managing this patient group in a range of acute and urgent care settings.

The use of an audit shed a light on the current practice setting, highlighting the opportunities for change, and is recommended as an initial process step when identifying a quality improvement issue. Thereafter, the discussions on the findings demonstrated both the efficiency of current practice and the opportunities for further improvement. It is believed that the development of an NVP pathway, could both improve the journey of this patient group and also act as a catalyst in developing other Nurse-led pathways.

## References

- Canterbury District Health Board. (2018). Nausea and vomiting in pregnancy (morning sickness). *HealthInfo*. Retrieved May 20, 2021, from <http://www.healthinfo.org.nz/index.htm?Nausea-vomiting-in-pregnancy.htm>.
- Community Health Pathways. (2020). Pregnancy-related nausea and vomiting. Retrieved May 21, 2021, from <http://www.canterbury.communityhealthpathways.org/25368.htm>.
- American College of Obstetricians and Gynaecologists (ACOG). (2019). Gestational hypertension and preeclampsia. *Practice Bulletin No. 202 Obstet. Gynecol.* 2019 Jan;133(1):1. DOI: 10.1097/AOG.0000000000003019.PMID: 30575668: Obstetrics & Gynaecology.
- Dourma, M. J., Drake, C. A., O' Dochartaigh, D., & Smith, K. E. (2016). A pragmatic randomized evaluation of a nurse-initiated protocol to improve timeliness of care in an urban emergency department. *Annals of Emergency Medicine*, 68(5), 546-552.
- Ghourfi, F., Hollywood, A., & Ryan, K. (2020). 'There is no choice apart from antibiotics...': Qualitative analysis of views on urinary infections in pregnancy and antimicrobial resistance. *Health Expectations*, 23(3), 644-650.
- Graves, N. S. (2013). Acute gastroenteritis. *Primary Care: Clinics in Office Practice*, 40(3), 727-741.
- Havnen, G. C., Truong, M. B. T., Do, M. L. H., Heitmann, K., Holst, L., & Nordeng, H. (2019). Women's perspectives on the management and consequences of hyperemesis gravidarum—a descriptive interview study. *Scandinavian Journal of Primary Health Care*, 37(1), 30-40.
- HealthInfo Canterbury. (2021). Nausea and vomiting in pregnancy (morning sickness). Retrieved June 20, 2021, from <http://healthinfo.org.nz/index.htm?home.htm>
- Himuro, H., Sugiyama, T., Nishigori, H., Saito, M., Nagase, S., Sugawara, J., & Yaegashi, N. (2014). A case of a woman with late-pregnancy-onset DKA who had normal glucose tolerance in the first trimester. *Endocrinology, Diabetes & Metabolism Case Reports*, 2014.
- Johnson, J. (2021). The role of midwives in testing for HIV and hepatitis in early pregnancy. *Australian Nursing and Midwifery Journal*, 27(2), 51.
- Khan, F.H. (2021). Hyperemesis Gravidarum in Emergency Medicine. Retrieved May 25, 2021, from <http://emedicine.medscape.com>
- Koren, G., Boskovic, R., Hard, M., Maltepe, C., Navioz, Y., & Einarson, A. (2002). Motherisk—PUQE (pregnancy-unique quantification of emesis and nausea) scoring system for nausea and vomiting of pregnancy. *American Journal of Obstetrics and Gynaecology*, 186(5), S228-S231.
- Koren, G., Piwko, C., Ahn, E., Boskovic, R., Maltepe, C., Einarson, A., ... & Ungar, W. J. (2005). Validation studies of the Pregnancy Unique-Quantification of Emesis (PUQE) scores. *Journal of Obstetrics and Gynaecology*, 25(3), 241-244.
- London, V., Grube, S., Sherer, D. M., & Abulafia, O. (2017). Hyperemesis gravidarum: a review of recent literature. *Pharmacology*, 100(3-4), 161-171.
- Popa, S.L., Barsan, M., Caziuc, A., Pop, C., Muresan, L., Popa, L.C., & Perju-Dumbrava. (2021) Life-threatening complications of hyperemesis gravidarum. *Experimental and Therapeutic Medicine*. 21(6) <https://doi.org/10.3892/etm.2021.10074>
- Ramin, S. M., Turrentine, M. A., & Zahn, C. M. (2018). ACOG Practice Bulletin 189: nausea and vomiting of pregnancy reply. *Obstetrics and Gynecology*, 131(5), 935-936.
- Sadiq, A. M., & Chamba, N. G. (2021). Challenges in the Management of Thyrotoxicosis Associated with Atrial Fibrillation and Heart Failure: Two Case Reports. *Clinical Medicine Insights: Case Reports*, 14, 1179547621994573.
- Sheehan, P. (2007). Hyperemesis gravidarum: assessment and management. *Australian Family Physician*, 36(9), 698-701.
- Skalley, G., Denny, J., Allen, E., & Rao, S. (2018). Optimisation of hyperemesis gravidarum management through an emergency department setting. *BMJ open quality*, 7(3), e000330.
- Stauber, M. A. (2013). Advanced nursing interventions and length of stay in the emergency department. *Journal of Emergency Nursing*, 39(3), 221-225.
- Summers, A. (2012). Emergency management of hyperemesis gravidarum. *Emergency Nurse*, 20(4).
- Tan, A., Lowe, S., & Henry, A. (2018). Nausea and vomiting of pregnancy: effects on quality of life and day-to-day function. *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 58(3), 278-290.
- Turner, M. (2007). Hyperemesis gravidarum: providing woman-centred care. *British Journal of Midwifery*, 15(9), 540-544.

# Managing nausea and vomiting in pregnancy: development of a clinical pathway proposal in an urgent care setting.

## Appendix 1 – The I.V.F. and antiemetics (as per CHP, 2020)

### Intravenous fluids (I.V.F.):

**nzf** Use Normal Saline or Hartman (avoid Dextrose)

**nzf** Reassess after 1-2 L of I.V.F. Fluid replacement needs to be tailored to electrolyte abnormalities and degree of dehydration.

### Antiemetics:

**nzf** Cyclizine- give 50mg three times daily p.o, i.m., or i.v.

**nzf** Metoclopramide - give 10mg three times daily p.o, i.m., or i.v. Do not use regularly for longer than 5 days.

**nzf** Prochlorperazine (e.g. Stemetil)

- Dose depends on route
- Prochlorperazine comes in buccal, i.m. or p.o

**nzf** Promethazine (e.g. Phenergan)- give 10mg-25mg p.o. or 12.5mg-25mg i.m. Promethazine is good at night due to sedative effect.

**nzf** Ondansetron - give 4mg - 8mg p.o. (wafers) or i.v. twice daily. This is for severe hyperemesis if other antiemetics are not working. Seek Gynaecology advice or request gynaecology assessment.

## Appendix 2 – Health info. Canterbury//Waitaha

### Nausea & vomiting in pregnancy (morning sickness)

The common name for feeling sick (nausea) and vomiting during pregnancy is morning sickness. It's very common and may be the first sign you're pregnant. It usually starts around six weeks after a woman's last period and goes away after 12 to 16 weeks, but it sometimes lasts longer.

Although it's called morning sickness, it can happen at any time of the day or night. Morning sickness doesn't harm your baby.

We don't know exactly what causes nausea and vomiting in pregnancy, but it's probably related to the hormonal changes that happen.

#### What can I do if I get morning sickness?

Although morning sickness usually goes away after a while, it can be difficult to cope with. But there are some things that might help you. Different things work for different women.

- Eat small regular meals or snacks rather than large meals. An empty stomach makes nausea worse for some women.
- Try bland food such as crackers or toast.
- If you feel sick early in the morning, try eating a dry cracker or biscuit before getting out of bed.
- Drink ginger tea, eat ginger biscuits, or take ginger supplements (the recommended dose for ginger supplements is up to 1 g a day, spread throughout the day).



- Take vitamin B6 ([pyridoxine](#)), which may help some women control nausea. The recommended dose for pregnant women is 25 mg three times a day.
- Avoid fatty foods.
- Regularly sip fluids during the day but avoid alcohol and [caffeine](#).
- Eat something salty early in the day.
- Get some fresh air each day.
- Wear acupressure bands on your wrists (you can buy them from pharmacies and online).
- Get as much rest as you can when you feel sick and ask friends and family for help if possible.

#### Severe morning sickness

A few women have more severe nausea and vomiting. If this happens to you, talk to your GP about medicines to help with the nausea, such as [cyclizine](#), [prochlorperazine](#), or [metoclopramide](#). It's important to only use prescribed anti-sickness medicines during pregnancy. Don't take any medicine when you're pregnant unless you've checked with your [GP](#) or [pharmacist](#) that it's safe.

Some women have very severe symptoms, become dehydrated and lose weight. This is called hyperemesis gravidarum (hi-per-em-is-is grav-i-dar-um). If this happens to you, you'll need care that includes intravenous fluids and medications.

#### When should I see my GP or midwife?

You should see your GP or midwife if you:

- are struggling with morning sickness

# Managing nausea and vomiting in pregnancy: development of a clinical pathway proposal in an urgent care setting.

- have more than 24 hours when you can't keep down fluids
- have noticed that your urine is darker (more concentrated) than usual
- are feeling dizzy.

HealthInfo recommends the following pages

- [Patient.info – Morning sickness in pregnancy](#)

More information about morning sickness, who gets it, and how to manage it.

Written by HealthInfo [clinical advisers](#). Endorsed by midwife liaison, Canterbury DHB. Last reviewed June 2018. Last updated October 2018.

## Sources

Page reference: 47502

## Canterbury

District Health Board  
Te Poari Hauora o Waitaha

## Appendix 3 – The Motherisk 24h PUQE tool

Question 1: In the last 24h, how long have you felt nauseated or sick to your stomach?

Scores: 1 (not at all); 2 (1h or less); 3 (2-3h); 4 (4-6h); 5 (more than 6h)

Question 2: In the last 24h, have you vomited or thrown up?

Scores: 1 (I did not throw up); 2 (1-2); 3 (3-4); 4 (5-6); 5 (7 or more times)

Question 3: In the last 24h, how many times have you had retching or dry heaves without throwing up?

Scores: 1 (none); 2 (1-2); 3 (3-4); 4 (5-6); 5 (7 or more times)

Total score: mild ≤ 6; moderate 7-12; severe ≥ 13"

# Paediatric Pearl: Pain Assessment

## Author:

**Bridget Venning**

**Clinical Nurse Specialist, KidzFirst ED at Middlemore Hospital. Email: [bridget.venning@gmail.com](mailto:bridget.venning@gmail.com)**

Pain is a common presenting complaint for adults and children visiting the emergency department. Despite this, pain is often inadequately managed and is associated with negative physiological and psychological sequelae (Drendal et al., 2006). Children have been identified as being at particularly high risk of inadequate pain relief, and this is often due to a poor pain assessment (Todd, 2017). It can be difficult for clinicians to firstly recognise pain in children and secondly, quantify pain (Drendal et al., 2006). This overview aims to provide a summary of commonly used validated pain assessment tools in a bid to make them more accessible to emergency nurses caring for children.

## Tool #1: FLACC

When to use: An infant or a non-verbal child

	0	1	2
<b>Face</b>	No particular expression or smile	Occasional grimace or frown, withdrawn, disinterested	Frequent to constant frown, clenched jaw, quivering chin
<b>Legs</b>	Normal position or relaxed	Uneasy, restless, tense	Kicking, or legs drawn up
<b>Activity</b>	Lying quietly, normal position, moves easily	Squirming, shifting back and forth, tense	Arched, rigid, or jerking
<b>Cry</b>	No cry (awake or asleep)	Moans or whimpers, occasional complaints	Crying steadily, screams or sobs, frequent complaints
<b>Consolability</b>	Content, relaxed	Reassured by occasional touching, hugging or "talking to". Distractible	Difficult to console or comfort

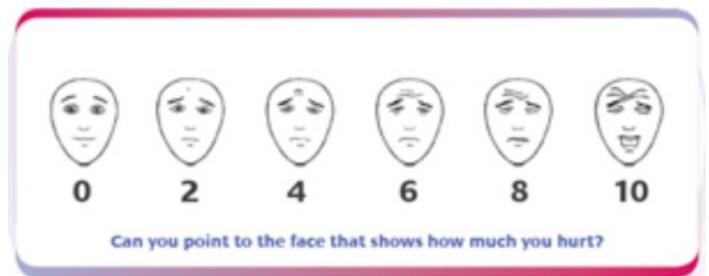
(Image: RCH, 2022)

FLACC is a great tool for the infant or non verbal child. The nurse observes the child briefly, and then scores five behaviours a 0, 1 or a 2 based on descriptions supplied. The behaviours are Face, Legs, Activity, Cry and Consolability. This gives a total pain score out of 10. The FLACC

tool can also be useful in older children who have a developmental disability or are cognitively impaired –with assistance from carers/parents who can assist in explaining their child's pain behaviour.

## Tool #2: FACES

When to use: Children 3 years and above



(Image: Starship Clinical Guidelines, 2019)

This tool is used by asking the child to point at the face that shows how much they hurt. It is a self report tool and is NOT designed for the nurse to look at the child's face and correlate it to a number based on objective assessment of pain. This tool is often preferable to the Wong-Baker face scale as it gives a score out of 10, similar to the numerical rating scale, and no tears or smiles are depicted.

## Tool #3: NUMERICAL RATING SCALE

When to use: Children 6 years and above

This self reporting tool has been shown to be valid and reliable for children aged 6-17 years (Tsze et al., 2018). The nurse asks the child to rate the pain: "On a Scale of 0-10, with 0 being no pain and 10 being the worst pain you can imagine, what are you feeling right now on movement and at rest?".

## Key points:

- Select appropriate pain scale for age and development level
- Pain is subjective and therefore self reporting tools are the most useful
- In paediatric patients, cognitive ability, developmental age and clinical condition can make self reporting difficult

# Paediatric Pearl: Pain Assessment

- A child's behaviour, physiological signs -including increase in heart rate, increase in blood pressure, altered respiratory rate- and caregiver, are all other valuable resources in pain assessment
- Ensure a pain assessment is documented and reassessment occurs after an intervention

## References

- Tsze, D., von Baeyer, C., Pahalyants, V., & Dayan, P. (2018). Validity and Reliability of the Verbal Numerical Rating Scale for Children Aged 4 to 17 Years With Acute Pain. *Annals of Emergency Medicine*, 71(6), 691-702. <https://doi.org/10.1016/j.annemergmed.2017.09.009>.
- Drendel, A. L., Brousseau, D. C., & Gorelick, M. H. (2006). Pain assessment for pediatric patients in the emergency department. *Pediatrics*, 117(5). <https://link-gale-com.ezproxy.auckland.ac.nz/apps/doc/A146122726/AONE?u=learn&sid=bookmark-AONE&x-id=e1981c71>
- Starship Clinical Guidelines (2019). Paediatric Pain Assessment. Retrieved from <https://starship.org.nz/guidelines/paediatric-pain-assessment/>
- Todd, K. H. (2017). A Review of Current and Emerging Approaches to Pain Management in the Emergency Department. *Pain and Therapy*, 6(2), 193-202. <https://doi.org/10.1007/s40122-017-0090-5>
- The Royal Childrens Hospital (2022). Pain assessment and management. Retrieved from [https://www.rch.org.au/rchcpg/hospital\\_clinical\\_guideline\\_index/Pain\\_assessment\\_and\\_measurement](https://www.rch.org.au/rchcpg/hospital_clinical_guideline_index/Pain_assessment_and_measurement)

# NP tips, tricks and trips

## Author:

**Paddy Holbrook Nurse Practitioner, Acute Care. Email:** [paddy.holbrook@otago.ac.nz](mailto:paddy.holbrook@otago.ac.nz)



## So it comes to my attention whooping cough is around again. Three deaths this year in NZ, too many.

**Relevance:** triage and acute care nurses, all nurses and parents really.

Would you recognise it?

Pertussis Aka Whooping cough

Or 100 day cough.

"Whooping cough (pertussis) is a highly infectious disease that is spread by coughing and sneezing. It's a serious infection that causes a long coughing illness and can be life threatening."

"A highly contagious respiratory tract infection that is easily preventable by vaccine."

Let's set the scene: Apparently I had the 100 day cough, sigh.... I coughed and coughed, couldn't catch my breath. I tried all sorts of remedies, rubs, syrups, and the constant headache from coughing. I was getting rather over it.

I had some scheduled time off on pre-planned holiday, went for a walk, but couldn't amble up a small hill, no breath – still coughing and it had been 4 weeks, give or take. I finally had to actually go and see

my GP! (I know right – I must have been ill) **Pertussis** (sorry NZ, spread it all over the country) and then pneumonia. I was really sick, for a pretty healthy fit active person.... At the time.

I never considered it was anything more than a cough – so if I missed it, so can you!

But wait there is more, 5 years later; coughing again, the whole coughing and coughing then the long pause – anxious looks on spouse's face waiting to see if I take the breath or fall off my chair. And he says "do you have whooping cough again?"... I thought No way! but it was present at the school... I hadn't been there, but I've had it...YIP you guessed – again, GP and a positive test, he didn't think it was pertussis either... So even with vaccines you can get it, and getting it doesn't give you immunity; it will usually be milder, but is still contagious.

Of note; possibly due to notifications and hospitalizations and laboratory findings, the New Zealand incidence rate of pertussis is about 3x higher than our Australian and US counterparts.

## Red Flags

### Consider

- ▶ Take a really good history
- ▶ Visual acuity – in all eye patients.
- ▶ Analgesia

### Presentation

What does a patient with whooping cough look like?

- Appears like a simple cough at first.
- Low grade fever, cough, runny nose
- Prolonged coughing fits start after about 5 days but sometimes not for 1-2 weeks...
- Children/babies may become cyanosed or apneic during an extended coughing fit.

- May finish with a "whoop"
- May vomit due thick sputum or phlegm.
- May appear quite well between coughing fits.

The "whooping" refers to the sound made after a prolonged coughing episode, as the child inhales a large breath it makes a "whoop" sound. Sometimes rather than the whoop the patient may vomit. Personally, I would cough until I thought I would faint as I had no air left, could feel dizzy and then at last a long inhalation. Adults do not normally "whoop" but can in fact collapse – then they breathe.

The clinical case definition used in New Zealand is:

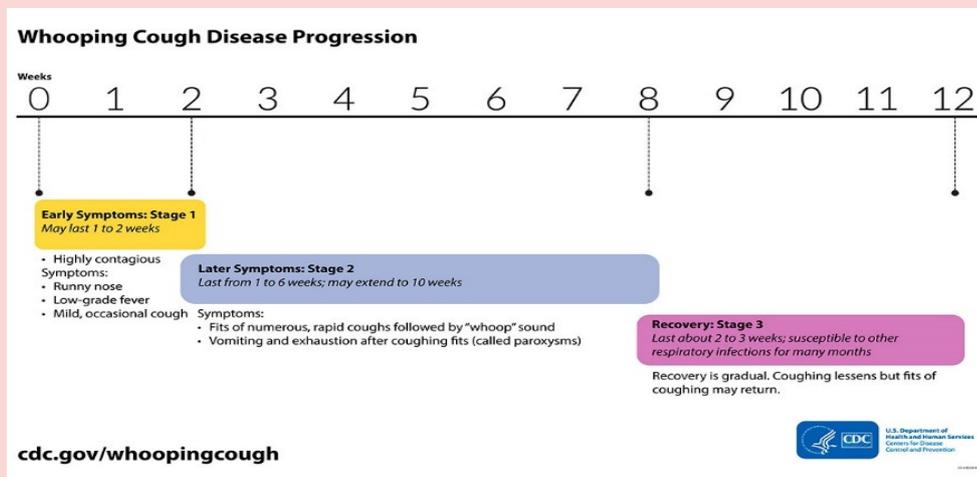
- cough for 14 days or more PLUS
- one or more of:

- whoop
- cyanosis
- post-tussive vomiting or
- apnoea for which there is no other cause.

Confirmation of infection is by one of these methods:

- Culture of *B. pertussis* from a nasopharyngeal swab
- Identification of *B. pertussis* specific DNA from a nasopharyngeal swab or aspirate using PCR
- Paired serology.

Starship guideline



## Complications

For babies under 1 year, a third will need admission, the younger the infant, the more likely the need for admission.

Of those babies younger than 1 year old who are treated in the hospital with whooping cough, about:

- 2 in 3 (68%) will have apnea (life-threatening pauses in breathing)
- 1 in 5 (22%) get pneumonia (lung infection)
- 1 in 50 (2%) will have convulsions (violent, uncontrolled shaking)
- 1 in 150 (0.6%) will have encephalopathy (disease of the brain)
- 1 in 100 (1%) will die

## Older patients e.g. adults and teenagers;

Can have complications like pneumonia, pass out, break a rib, experience weight loss.

Often less serious in these age groups, and less so if vaccinated.

## How is it contracted?

- Airborne respiratory droplets (coughs or sneezes).
- Saliva (kissing or shared drinks).
- Skin-to-skin contact (handshakes or hugs).

The incubation period ranges from 6 to 20 days, and is usually from 7 to 10 days

Untreated patients are infectious from the early catarrhal stage to 21 days after the onset of cough.

After this, communicability is negligible.

## Treatment;

Can be treated with antibiotics if commenced within days, azithromycin, erythromycin or alternative Trimethoprim + sulfamethoxazole.

This will stop you being infectious after 5 days of commencement.

Can be shortened to 2 days if azithromycin used.

Without antibiotics up to three-week contagious periods.

Antibiotics do not decrease the length of time the cough is present.

## Pertussis is a Notifiable Disease.

### Prevention;

Better than cure!

Immunisation;

When considered and confirmed,

- Specific isolation
- Check for at risk contacts
- Household contacts

Babies often contract this condition via their parents, older siblings, and close family members.

If you can recognise and treat in the first week, this can limit the contagious period.

Many babies catch whooping cough from their older siblings or parents – often before they're old enough to be vaccinated.

Vigilance is required to decrease the spread, if diagnosed with whooping cough, avoid pregnant woman, young babies, immunocompromised, those who have not been vaccinated.

### Vaccinations

National immunisation coverage – three-month reporting period ending 31 December 2022

6 month = 68.7%

8 month = 84.4%

1 year = 88.0%

18 month = 67.6%

2 years = 82.4%

4.5 years = 64.9%

5 year = 80.8%

### Current vaccination schedule for pertussis;

- Babies at 6 weeks, 3 months and 5 months old.
- Booster doses are given to children when they're 4 and 11 years old.
- Pregnant women should get a whooping cough booster vaccination from 16 weeks' gestation onwards. (this will pass immunity to babies)

- At age 45, and 65 adults are eligible for combined tetanus, diphtheria and whooping cough vaccine if they have not previously received four doses of tetanus vaccine.

The vaccines used are INFANRIX- hexa, INFANRIX-IPV and Boostrix.

### Take Home;

Things to think about whilst we have an outbreak.

Hard to recognise early.

Have it as a differential

Assess, hydration, oxygen saturations, perfusion, HR, LOC, urine output, skin and mucous membranes. You know the normal pediatric stuff.

Bordello pertussis PCR to confirm

Isolate and check contacts

Supportive cares, hydration,

### References and readings

Canterbury health pathways,

<https://canterbury.communityhealthpathways.org/13614.htm>

Communicable disease center.

<https://www.cdc.gov/pertussis/about/signs-symptoms.html#:~:text=These%20coughing%20fits%20usually%20last,end%20of%20a%20coughing%20fit>

Ministry of Health

<https://www.health.govt.nz/your-health/conditions-and-treatments/diseases-and-illnesses/whooping-cough>

<https://www.health.govt.nz/our-work/preventative-health-wellness/immunisation/immunisation-coverage/national-and-regional-immunisation-data>

Starship

<https://starship.org.nz/guidelines/pertussis>

# Cultural Safety and Te Ao Māori

## Cultural Safety and Te Ao Māori Snippets

Incorporating aspects of culture and operationalising Cultural Safety are key elements with New Zealand nursing, that have the potential to make our practice unique. Within Emergency Nursing, we can impact health care, raise awareness around issues of equity and access, and challenge aspects of power and its misuse.

The Health System has specific responsibility and accountability to Māori, and as representatives of the wider health system, emergency service providers need to understand the implications of their actions (and inactions). One way of developing our responsiveness to Māori is the wider understanding of Te Ao Māori – the Māori world view – and use of Te Reo – Maori language.

## Te Reo Māori

As we work to introduce (or remind) ourselves of some of the different models of health which can be used, it seems like a good time to review some of the core language and concepts associated with these. The model being outlined in this edition of the journal is one that will be familiar to most, Sir Mason Durie's Te Whare Tapu Whā. With this in mind, the following kupu (words) are provided as tools for understanding and incorporating the model into ED practice.

"Ki te wātea te hinengaro me te rere kaha o te wairua, ka taea e koe ngā mea katoa." When the mind is free and the spirit is willing, all things are possible.

## Rārangi Kupu (vocabulary list)

Hauora / Health, wellbeing	Kare ā-roto / emotions
Mauri / life force, life principle	Mamae / pain, injury
Toiora / Well-being	Mauri roa / Balanced, Long term health
Oranga / Life, Health, healthy	Oranga Wairua / Spiritual health
Wairuatanga / Spirituality	Whareniui / Meeting house

## Te Whare Tapa Whā

The model as we know it today was built on a presentation given at a Māori Women's Welfare League hui in 1982, followed by a publication in 1985 by Mason Durie, *A Māori perspective of health*. The model was developed to provide a more holistic response to managing health needs, one that represented a Māori perspective of well-being. It challenged the existing biomedical model, which was seen by many Māori as reductionist, and only able to respond to the physical (tinana) needs of an individual (Durie, 2011; Rochford, 2004).

While the idea of including the multidimensional aspects needed for wellness, represented in the form of the whareniui (meeting house) as taha tinana (physical health), taha hinengaro (mind), taha whānau (family) and taha wairua (the spiritual dimension) are no longer seen as controversial, this was initially seen as a very challenging and 'different' way of looking at health. In addition to providing a means to introduce specific cultural knowledge, the model is significant in providing Māori a distinctive voice in the health process, an opportunity where indigenous philosophies and knowledge could be recognised and articulated. This also created the space for developing more personalised and patient centred approaches to health care, and greater recognition to environmental contexts (Durie, 2011).

The four walls of the whareniui hold equal importance; if any one is missing, damaged or compromised in some way, then the person as a whole may become unbalanced, and subsequently unwell, with all other dimensions potentially affected.

## Taha Wairua

This is the essential requirement for health and well-being, and involves a sense of spiritual awareness and conscious care of one's wairua / spirit, soul, the life force. This includes acknowledging the healing effects of grounding oneself in times of crisis, of replenishment which can include reconnecting with the natural environment (te taiao), for Māori this may be through returning to one's maunga / mountains, moana / ocean, awa / rivers or waters, and whenua / land. It is also about connectedness with people, heritage and culture, who you are, what you believe and where you belong. The idea of spiritual health is also strongly connected with resilience, having a sense of meaning and purpose, balance and emotional regulation. A traditional Māori analysis of physical manifestations of illness will focus on the wairua to determine whether damage or imbalance here could be a contributing factor (Durie, 2011; EP, 2023; Government Health & Safety Lead, 2020; MoH, 2017; Taurewa, 2014).

# Cultural Safety and Te Ao Māori Cont.

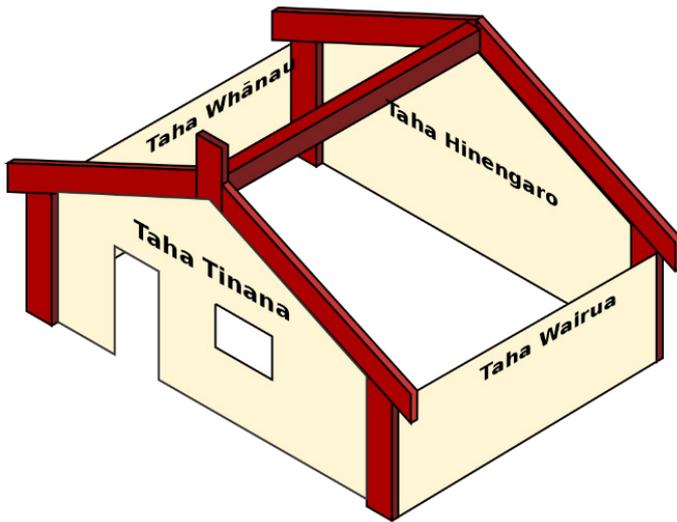


Figure 1: Te Whare Tapa Whā Image from Evan Mason, CC BY-SA 4.0 <https://creativecommons.org/licenses/by-sa/4.0/>, via Wikimedia Commons

## Taha Hinengaro

Taha hinengaro (mental and emotional wellbeing) involves the mind, heart, conscience, thoughts and feelings. It's about how you feel, how you communicate and think. It is sometimes described as being mental or psychological health, but includes acknowledgment that the mind and body are inseparable, with thoughts, feelings and emotions being integral to both body and soul.

## Taha Tinana

This relates to the physical body, how it grows, moves and develops. The interaction of the physical with the mind, spirit and family aspects is emphasised – all impact each other, and are necessary components to wellness.

## Taha Whānau

Taha whānau relates to the social relationships, sense of belonging, engagement and links a person has with their family, friends and colleagues. The concept of whānau or family is particularly important in Māori culture, and definitions of who is part of the whānau may vary, as with any family group. When one member of the whānau unit is unwell, this impacts the wider group. Taha whānau includes the capacity of individuals to belong to something bigger than themselves, to care and to share as part of wider social systems and networks.

Whānau is described as the source of strength to be who we are, as the link to our ancestors, providing ties with the past, the present and the future. Understanding the importance of whānau and how whānau (family) can contribute to illness and assist in curing illness is fundamental to understanding Māori health issues (MoH, 2017)

## Whenua

Ko te whenua ko au, ko au ko te whenua. I am the land and the land is me.

The core metaphor used within Te Whare Tapu Whā, is that of the whare. This is sometimes described as the wharenui (meeting house), whare tūpuna (house of the ancestors) or simply whare (house). In addition to the holistic elements represented by the four walls or pillars (pou), the whare rests on the land (whenua), which has significance from a spiritual and symbolic perspective. Whenua is described as 'the place where we stand and our foundation', as a place of belonging. It represents the source of strength, connection and nourishment. Whenua is also the term used for placenta, and as such symbolises a source of life, protection, and wellbeing.

Whenua includes soil, rocks, plants, animals and people – tangata whenua. People are linked physically and spiritually to the land, and it is through the earth, (the ancestor Papatūānuku / Earth Mother) that we are connected to our tūpuna (ancestors) and all the generations that will come after us (Moeke-Maxwell et. al. 2020;

## Implications for practice

The Te Whare Tapu Whā model has been hugely influential within New Zealand health care, underpinning policy and systems delivery. It has been applied in all field and specialties within health and has been incorporated into education and other government departments. The original model has formed the basis for subsequent expansion of theory, with further health models incorporating the same core features but adding additional aspects. These include the Meihana model (Pitama, 2007), Te Wheki (Pere, 1984), and Te Whetu (Mark & Lyons, 2010).

The use of an indigenous health model in the emergency care setting (as in any health setting) is first that it increases visibility and normalises aspects of te Ao Māori. In doing so, it has the potential to create a more familiar and less stressful environment, which may positively impact access and issues of equity. The use of such models has to involve more than a tick box mentality, however, to be meaningful and to create any form of change. This model encourages health practitioners to acknowledge all aspects of wellbeing, and to recognise the importance of a holistic approach.



# Cultural Safety and Te Ao Māori Cont.

## References:

- Cram, F. (2014). Measuring Māori wellbeing. *Mai Journal* 3(1) 18–32.
- Durie, M.H. (1985). A Māori perspective of health. *Social Science Medicine*, 20(5), pp. 483–486
- Durie, M. (1994). *Whaiora: Maori health development*. Auckland: Oxford University Press
- Durie, M. (2006). *Measuring Māori wellbeing*. Wellington: New Zealand Treasury
- Durie, M. (2011). Indigenizing mental health services: New Zealand experience. *Transcultural Psychiatry* 48(1–2) 24–36. DOI: 10.1177/1363461510383182
- Education Perfect [EP]. (2023) Te Whare Tapa Whā: Māori Health Model. <https://app.educationperfect.com/app/M%C4%81ori/8058615/5735252/activity-start-er?task=8119581>
- File:Hauora.svg. (2022, April 6). Wikimedia Commons. Retrieved 21:33, May 18, 2023 from <https://commons.wikimedia.org/w/index.php?title=File:Hauora.svg&oldid=647035861>.
- Government Health & Safety Lead (2020). *Mental Health Facilitation Guide*. Module 4: Wairua – mental and spiritual health and resilience. Retrieved 19/05/2023 <https://www.healthandsafety.govt.nz/a-z-topics/mentally-healthy-work/resources/mental-health-facilitation-guides/>
- Mark, G.T. & Lyons, A.C. (2010). Māori healers' views on wellbeing: The importance of mind, body, spirit and land. *Social Science and Medicine* 70 1756–1764.
- Ministry of Health [MoH]. (2017). Māori health models – Te Whare Tapa Whā. Retrieved 19/05/2023 <https://www.health.govt.nz/our-work/populations/maori-health/maori-health-models/maori-health-models-te-whare-tapa-wha>
- Moeke-Maxwell, T., Collier, A., Wiles, J., Williams, L., Black, S., & Gott, M. (2020). Bereaved Families' Perspectives of End-of-Life Care. Towards a Bicultural Whare Tapa Whā Older person's Palliative Care Model. *Journal of Cross-Cultural Gerontology* 35:177–193 <https://doi.org/10.1007/s10823-020-09397-6>
- Pere, R. R. (1984, March). *Te taha whānau (family health)*. Paper presented at the Hui Whakaoranga: Māori Health Planning Workshop, Auckland, New Zealand.
- Pitama, S., Robertson, P., Cram, F., Gillies, M., Huria, T., & Dallas-Katoa, W. (2007). Meihana Model: A clinical assessment framework. *New Zealand Journal of Psychology*, 36, 118–125.
- Rochford, T. (2004). Whare Tapa Whā: A Māori Model of a Unified Theory of Health. *The Journal of Primary Prevention*, 25(1), 41–57.
- Taurewa, R. (2014). Te Ao Māori, Te Ao Hauora: A Student Nurse's Reflection. *Whitireia Nursing and Health Journal* 21 43–47.

# Pae Ora Survey Feedback

Author: Natasha Kemp



A survey based on a Pae Ora framework was distributed to CENNZ members in September of 2022. The purpose was to engage with members and invite comments on what a healthy future, that is 'Pae Ora', looks like in emergency nursing within Aotearoa. This is particularly timely in view of the changes and transfer of health care services to Te Whatu Ora and Te Aka Whai Ora. There is a growing awareness of the need to be inclusive of Hauora

Māori and respond to addressing inequities in healthcare for Māori. This process was undertaken to support CENNZ in their ability to respond and adapt to a change in approach for healthcare delivery for Māori and supporting the Māori workforce.

The survey included four questions that invited members to give feedback; these were:

- Wai Ora: or what makes a culturally inclusive environment?
- Whanau Ora: which asks nurses do they feel supported within their ED whanau?.
- Mauri Ora: what can be done to support your wellbeing as an ED nurse?
- And finally, how can CENNZ support their members?

The survey also allows ethnic views and data to be captured and expressed; this is important for a workforce that is culturally diverse, and where we recognize a current paucity of data exists. Approval for this survey was provided by the CENNZ committee and NZNO.

After reviewing the responses from the survey, these are the results. The survey attracted more than 300 responses, well done! This reflects a strong response and for the continued work in this space. These results are a motivator for change and growth. The responses also provide direction for the CENNZ committee to advocate for, on behalf of their members and our patients entering Emergency care in Aotearoa.

After reviewing the responses, the main themes repeated included:

- 1) **Staffing support**, the need for increasing staff numbers. Highlighting the staffing gaps, reflected in Trend care and CCDM models.
- 2) **Increasing Education** and clinical support on the floor.
- 3) **Increasing Cultural responsiveness** by including Te Reo within departments, providing more support to Māori patients and whanau, networking with Kaupapa Māori services, promoting growth of Māori nurses and inclusion of Hauora models of care.

The CENNZ committee are listening to their members and are

responding by supporting the following actions:

Regular hui to discuss Pae Ora in the short term and long-term stages.

In regard to the particular themes identified in feedback:

## 1) Staffing support:

- Several requests have been made to the Minister of Health to join CENNZ meetings to engage in discussions with the Emergency nurses directly – to date these invitations have not been accepted.
- Supporting Maranga Mai campaigns nationally.

## 2) Increasing Education:

- Updating the Knowledge & Skills framework: this includes strengthening of Te Tiriti o Waitangi principles and Hauora values.
- Updating the Triage Manual.
- Sharing Pae Ora approach within the Nurse Educator network to support transfer on to the clinical floor to our workforce.
- Supporting national emergency nurse networks, such as the Advanced Emergency Nurses Network, Nurse Educators Network and Clinical Nurse Manager's network.
- Providing a CENNZ Conference "Kia Mataara-Ready to Respond", 19-20th October 2023 in Christchurch.
- Providing Webinars via the CENNZ network.
- Providing financial grants to support members growth and education.

## 3) Increasing Cultural responsiveness

- CENNZ Māori Health Strategy created and supported into core practice.
- Ethnicity data of CENNZ members captured and provides indicators of growth.
- Ongoing Te Ao segments in the CENNZ Journal.
- Ongoing discussions to identify inequities within Emergency care in order to identify the root causes and work towards removing these.

There is ongoing mahi by CENNZ Committee members throughout the rohe to provide growth and support to our patients, whanau and workforce accessing emergency care throughout Aotearoa. We are motivated to provide a Culturally safe and responsive environment that upholds Pae Ora-healthy futures for all.

Mauri Ora

Natasha Kemp

CENNZ Committee.

---

## Mental Health Insights

---

---

# Mental Health Presentations at Triage. Final thoughts.

---

### Author:

Stacey Smart

---

As I wrap up my time here in Christchurch ED I would like to take the opportunity to share my views one last time on an ED specific topic. I have spent a lot of time around the triage front desk, observing and supporting as required, in the role of mental health nurse coach. My mission has been to support the nursing team in developing more confidence and competence working supportively with people presenting with mental health concerns. The research behind this pilot of nurse coaching roles showed there were some negative attitudes and feelings about working with Mental health clients in ED, and a view that mental health clients took away from 'real' ED work. Correctly or incorrectly, one of the very first impressions I had when starting this work in ED was that there was some misunderstanding of each other between ED and Specialty Mental Health Services (SMHS). What I quickly noticed was snippets of frustration on both sides between ED and SMHS. I suppose the knock-on effect is ED staff feeling a bit anxious and annoyed when they look after a MH client...not because they do not like MH patients, but because of the challenges they anticipate in navigating systems they are not entirely sure about and don't understand, and because they perceive that they going to have trouble getting help or support or explanations they understand from SMHS. And there's probably frustration from SMHS nurses who may not understand what happens in ED or triage in regard to the complex processes, bed demands, and waiting room management. I certainly had no idea before I started here. Be that as it may, I would say hand on heart ED nurses are the best at just cracking on and doing a great job with whoever they are working with, without a fuss or drama. I have truly appreciated how many of you have been quick to ask questions and enthusiastic to learn and do well by our mental health visitors. You have been brave in sharing your good and bad experiences, and what aspects of the mental health triage process are scary for you. There is so much integrity and opportunity to grow with that attitude, it's been a real joy to work with you all here in Christchurch ED. I hope my little chats and big chats have helped widen your view of mental health and given you more confidence, more understanding and that it has been interesting for you. I will certainly miss the place and the team, so I have a few pointers and ideas I want to leave with you.

I think when you work in the monitored areas in ED, you might begin to think most of the mental health presentations that come to ED are individuals who have taken significant overdoses, are emotionally dysregulated or self-injurious people, often one's who are rude, maybe even aggressive towards you. However, when you spend enough time working in triage, you will quickly discover that many people who present with mental health concerns never make it through the ED doors beyond the waiting room. Many have been directed by their GP or Healthline to present to ED to see someone about their mental health. Reasons someone may present to ED for their mental health are a varied as they are for anyone presenting for physical health issues. I've seen people standing in triage who walked in looking like they are literally about to collapse, while others came in with a week old sprained thumb, a mild head cold, or the near amputation of a limb! Similarly, there are all sorts of reason that people will choose to come to ED for mental health support, some are life threatening, some are not. But, who are we to judge? The statistics indicate this is increasing each year (along with increases in people accessing mental health services, and people diagnosed as having mental illnesses). Emergency Departments are in the perfect position to provide brief interventions that can significantly help people presenting with mental health issues. And triage is where this starts. The ED triage process is a brief screen/assessment that helps to categorise the patient into acuity streams based on broad measures. The mental health triage tool will not produce a comprehensive assessment of mental state or perfect risk evaluation in the amount of time available, but it is very good at identifying basic issues, the immediacy of concern and the appropriate category/pathway for the patient.

I think it's useful to remember that often, the person presenting in this situation is completely naïve to both the mental service processes, and to the ED processes, and may be feeling vulnerable, easily scared off or anxious. Therefore, at the triage desk it is important to warmly greet and reassure the person that they have done the right thing in coming in, and gently explain all the steps in the process. All patient types who present to ED are likely to be anxious; feeling confused and not knowing how things work can increase someone's anxiety,

## Mental Health Insights

# Mental Health Presentations at Triage. Final thoughts.

fight/flight which can then increase agitation, or lose confidence or engagement....and it just all unravels from there. So a few seconds to explain the steps is highly valuable for everybody (eg: I am taking your details and will pass this on to our mental health nurse who is based here. They will see you and discuss what's going on in more detail and then support you to get whatever help is needed next, you will wait in the waiting room until then).

When you are triaging-in someone asking for mental health assessment or support, stay as open minded and curious as you would about any other person and type of condition.. When someone presents saying "I want to get an xray" we don't just stop the conversation there, we ask a few more questions. It should be the same with mental health. What was your GPs concern? What is worrying you most today? How long have you not been sleeping? A few extra questions can add a lot to your ability to make a broad clinical decision about triage category and what the immediate risks are. If someone is evasive and not wanting to answer your questions, you can always ask them why they don't want to answer! Your entire conversation and the person's demeanour and affect (outwardly expressed mood) is part of the assessment, not just what the person says. Putting your interpretation (AKA your brief objective assessment) in the triage note for the mental health team to see is really useful for them (the mental health nurses) and their triage system.

It is also useful for the triage nurse to remember that here in Christchurch the PCL is usually just one nurse, on their own, covering the ENTIRE hospital with other wards/departments also asking for assessments and support, so they have to triage their waiting list too. Or they may already be in the middle of something with someone else at the time you want them. This is unlikely to be unique to Christchurch hospital - all services (including mental health) are facing increasing pressures and struggling to meet the demands placed on them. As psychiatric assessment is protected time, once the MH nurse has started an assessment, it would be highly unlikely and unusual for that to stop midway through to attend to a new referral from ED. If you are concerned, state that you are concerned. If there is a risk, state what it is (of what, to whom? - which you will know, because you have asked, of course). More is more!

If the person is presenting as risk of suicide or aggression/confusion, disorganised, psychotic and needs observation while they wait, it is also really important to let the person know that security are going to be with them as a support, and why (eg: "We are worried about your risk to yourself, so just want you to have the support of someone while you wait/ we think it's really important you stay and be seen by our mental health team, so we have asked someone to sit with you and help you while you wait"). If/when you do get security/a patient watch/special/observer, remember to tell the patient about it, but

also, tell security too: what the watch is for, what do you want them to do, what do you want them to let you know about. They are not mental health clinicians, they are not trained in health care or care of a suicidal person or de-escalation, yet they are often spending long periods of time observing people with disturbed or agitated or impulsive behaviour. A bit of context and clarity about what you want them to do makes it better for patient, for the security and for you, as the RN responsible for the direction and delegation of the security personnel. On the point of security, please keep in mind that sitting in a big public area being watched by someone often clearly identifiable as a member of the security team and getting side eye from everyone else in the waiting room is not pleasant and is not ideal. If it can be done, it is nice (as well as compassionate and respectful) to look for ways we can make that more pleasant/less stigmatising. Hospital helpers might offer a cup of tea (especially if they are going to be waiting an hour or two), making sure when we ask security to do a watch we use the person's name (not just "that lady in the grey over there") and we phone and let mental health know what is happening too.

Back to the person presenting at triage. If you have someone standing at triage saying they are hearing voices, you could try to ascertain if this is a new symptom for the person/sudden onset. A young person may be having their first psychotic episode, equally it could be the result of a brain tumour or any manner of things. The pathway for someone presenting with a dramatic change such as suddenly hearing voices is different from that for someone who hears voices more or less most of the time and is a normal part of their life. Someone who has long term voices may present to ED for this symptom if there is a change in the nature of the voices, or there is an increase in voices or the distress related to voices. In this situation the changes are most likely (but not always) part of the persons early warning signs of relapse of chronic mental illness, and can be sorted out with the person and their whanau and a mental health team. So, don't feel weird asking about voices, just ask away! What are the nature of the voices (Funny? Derogatory? Commanding?) if they are commanding, does the person feel like they have to act on the direction they are being given, or are they worried they are going to act on them? Where are the voices coming from (in your head, outside your head? Are these voices or intrusive thoughts?). It can be difficult to establish if the person presenting at triage has delusions because it is such a brief conversation/screen, but then again, in my experience in ED, people who have delusions usually declare them quite earnestly throughout the initial triage screen or assessment.

Use the mental health pathway to help prompt your questions if you get stuck with what to ask or say next. Sometimes, out of anxiety or politeness the triage nurse may say "sorry for asking" or "You don't have to tell me, but.." I would urge you to try and be mindful when you

## Mental Health Insights

# Mental Health Presentations at Triage. Final thoughts.

find yourself wanting to say that, and instead switch your approach and language to something with less implied discomfort. Take a deep breath, gather your thoughts then start asking the questions. Create the impression you are confident and accepting and calmly in charge. Think about how you might try asking questions, and use the same manner you would to ask about chest pain or a facial droop. Suicidality and self harm can be confronting and trigger reactions in the nurses looking after the person. It can be scary. No one wants anyone to kill them self and no one wants to feel at risk of making a mistake that ends up with a person not alive. Feelings of anxiety and insecurity in our own ability to manage this sort of presentation can lead to us feeling agitated about the mental health service ("why can't they just be here right now and take this anxiety off my hands?") or irritation at the patient ("why have they come here and not gone to the mental health clinic?"). I will remind you here of two points: **One:** knowledge is everything. Knowledge informs good decisions. The more you ask, the more you will know. **Two:** that you are a triage nurse because you are experienced, you can make excellent rapid assessments and have sound clinical judgment and people skills. You can absolutely work very effectively with someone presenting with mental concerns, and you will make good decisions. I have seen enough in my time in ED to believe in you! ASK the questions. ASK ASK ASK. Then you will know you have the information you need to make a comfortable clinical decision.

Sometimes someone will present who will not be able to fit or follow our process or pathway. The tricky thing is, if someone is thought disordered, they are going to likely have disturbed to behaviour too. We have to be willing to hear what is being asked for and said, which may not tie neatly into what we want to know. I recall a person presenting at ED who was elevated in mood, highly agitated, unable to follow process to even line up at triage. They smashed the toilet and ended up in the car park roaring and shouting and threatening. Many police, equipped with tasers arrived. But this person only wanted some p.r.n. Olanzapine as they knew they were getting elevated and labile in mood and was too disorganised and impulsive to follow the right process. An assessment occurred in the parking lot. The medication was arranged, the person deescalated and was able to come up with a plan moving forward. The person avoided arrest, no one got hurt, and we met the persons needs, where they were at. Insisting this person come inside, line up and follow the rules would have exacerbated the situation and created adverse outcomes in that moment. We must be flexible and open minded, acknowledging sometimes there are different ways of getting the result we all want.

Language is important. How we describe things creates bias and atmosphere. Be aware of how you talk about mental health and your

mental health colleagues. Our language will inform our attitudes and behaviour. If you can see room to try something new, try switching your language to more positive or empowering language. It will change how you feel. Truth. ED isn't the ambulance at the bottom of the cliff for a failing MH service. ED is often the first point of contact for someone who has reached the point of needing MH help and doesn't know where else or how else to start the process. It is a step towards health. The sign on the door does not read "Physical Health Emergency Department", it is an open door, free, public service that is the one place where people know they can come to get help no matter what the issue is. Whether it is a physical health emergency or a severe mental health issue by MH standards is irrelevant to the 'deservingness' or quality of care someone presenting receives. Everyone deserves a fair chance. You are part of that. To Joe Public we are all part of the healthcare service and our speciality lines are of no significance to the person coming in. ED is for everyone. And mental health is everyone's business.

Mental health does not discriminate. It's beautiful and terrifying in that regard. Anyone can develop an addiction, a mood disorder, have a psychotic break. You're never too old, too young, or too anything. It can happen to anyone. When people are unwell (mental health) they may not be their shiniest best self when you meet them in triage, in fact they may be straight up unlikeable at times. It's the illness, not the person. Do try and remember that. I have also met some of the most inspiring, brave, tenacious, talented and colourful people I have ever known through mental health issues. You may also have had mental issues or may experience them in future. You or someone you love may need to come to ED for mental health care. Maybe I will! I know from my time here with you all, that I would happily take my chances here.

There are some exceptional, outstanding, gold-standard talented nurses here in Christchurch ED, and at the triage desk. As there are all around the country. I have seen triage nurses conduct flawless mental health triage and navigate some challenging and confronting MH situations with skill and compassion. So keep talking to each other about mental health presentations to keep that clinical reflection and opportunity to learn going. If you can please avoid making the conversation about the mental health service per se, and more about how you interviewed the person, what went well, what felt awkward, or how things were managed from the ED end, then we will keep growing our standard and getting stronger and stronger in our capability.

**Stacey**

19-20 October 2023 | Christchurch

# CENNZ Conference 2023



## CENNZ CONFERENCE 2023

19-20 October 2023 | Christchurch

It is with great pleasure that I can report the 29th College of Emergency Nurses New Zealand (CENNZ) conference is approaching fast. It will be held at Rydges Latimer, Christchurch on Thursday 19 to Friday 20 October 2023.

Our theme is 'Ready to Respond – Kia Mataara' since, let's face it, preparedness for everything is the definition of an emergency nurse – we need to be ready to face whatever comes through the door. The day before (Wednesday October 18) is dedicated to the Advanced Emergency Nurses Network (AENN) study day, with the theme of 'Putting Research in to Your Practice'. Also featuring on October 18, are the National Nurse Managers Network and National Nurse Educators Network Meetings.

We are excited to report that we are almost at capacity and are taking people on a waiting list. All who have applied to attend and haven't yet paid need to do so before the end of June or their place will be allocated to the next person on the waiting list. You can register to attend here: <https://au.eventscloud.com/website/1024/home/>

Our programme is complete, and we have an amazing line up of presenters, some of whom are well-known personalities seen in the media, others are team members from our local emergency departments, acute care facilities and Te Pūkenga – the NZ Institute of Skills and Technology (AKA our polytechnic institutes). Our programme features keynote presentations on:

- The positive side to Covid: how we've learnt, changed, and developed – and what we can still learn (Prof Michael Baker)
- The science advice including advice to support the responses to the Christchurch mosque shootings, the response to the Whakaari / White Island eruption, the cannabis referendum, rheumatic fever, and the Covid-19 pandemic (Dame Juliet Gerrard)
- The Christchurch mass shooting and nurses as frontline responders (Sandra Richardson)
- The Whakaari / White Island Eruption – the pre-hospital response and the Whakātane hospital response (Craig Ellis and Colleen MacGregor respectively)
- Safe Staffing (Hilary Graham-Smith)
- Managing mass casualty incidents from the prehospital perspective (Dean Brown), and
- Gaps and opportunities for equitable mental health care in ED

Our concurrent sessions are themed according to simulations, equity, research, and innovation, and our panel discusses how to care and support our familiar patients who repeatedly return for care – particularly considering the inequities in healthcare. You can see all the abstracts and the biographies of our speakers on our website.

Socially, we are proud to have secured the evening dinner in the Christchurch Transitional Cathedral, also known as the 'Cardboard Cathedral'. The theme for the night is the Great Gatsby, so pack your sequins and feathers and dress up for a night of fun.

19-20 October 2023 | Christchurch

# CENNZ Conference 2023



Celebration! During the evening, the following awards will be presented:

- Kirsty Morton Award – recognition of the outstanding student on the national triage course
- AENN Award – recognition of the contribution to the advanced emergency nursing role
- Novice Journal Article Publication Award – to acknowledge novice writers who have been published in the CENNZ-NZNO journal
- Honorary Life Membership Award – a rare and unusual award in recognition of a nurse's contribution to emergency nursing in New Zealand
- Foundation Award – an award to acknowledge the individual emergency nurse who has enhanced the profile of, and or shown excellence in emergency nursing in New Zealand
- Making a difference award – nominated by colleagues
- Conference abstract award – automatic entry when submitting a conference abstract, and
- Poster abstract award – automatic when submitting a poster

CENNZ members will have received emails offering them the opportunity to nominate nurses for the Honorary life membership and the Foundation award. You can also find the nomination forms for these awards and the Making a difference award on the Conference website under the Awards tab. Please do nominate nurses you think meet the criteria and deserve recognition for their work.

Finally, we would like to thank our sponsors (alongside CENNZ) who are funding us to allow us to make this all happen:

- Abbott
- BD
- Cepheid
- Connected Healthcare
- Cubro
- Douglas Pharmaceuticals
- Healthcare Australia
- Howard Wright Limited
- Intermed
- Medtronic
- Siemens Healthineers
- Stryker
- ZOLL Medical

We look forward to seeing you in October – please see our website for more information.

Noho ora mai rā – Look after yourself / All the best,

Nā Polly

Polly Grainger, Chair of the 2023 CENNZ-NZNO Conference Organising Committee.

# CENNZ Reports



Northland/Te Taitokerau | Auckland  
Midland | Hawkes Bay/Tarawhiti | Mid  
Central | Wellington | Top of the South  
Canterbury/Westland | Southern.

# Committee Roles

## CENNZ Mission Statement

We believe that emergency nursing is a speciality within a profession. We aim to promote excellence in Emergency Nursing within New Zealand / Aotearoa, through the development of frameworks for clinical practice, education and research.

CENNZ Committee Roles		
Role / portfolio	Portfolio holder	Location and Link
Chairperson	Amy Button	<a href="mailto:cennzchair@gmail.com">cennzchair@gmail.com</a>
Secretary	Lauren Miller	<a href="mailto:cennzsecretary@gmail.com">cennzsecretary@gmail.com</a>
Treasurer	Keziah Jones	<a href="mailto:cennztreasurer@gmail.com">cennztreasurer@gmail.com</a>
Membership	Lyn Logan	<a href="mailto:cennzmembership@gmail.com">cennzmembership@gmail.com</a>
Grants and Awards	Lyn Logan	<a href="mailto:cennzawards@gmail.com">cennzawards@gmail.com</a>
Staffing Repository	Vicki Bijl	<a href="mailto:cennzrepository@gmail.com">cennzrepository@gmail.com</a>
NZ Triage courses	Tanya Meldrum	<a href="mailto:cennztriage@gmail.com">cennztriage@gmail.com</a>
Professional Nursing Advisor (NZNO)	Suzanne Rolls	<a href="mailto:suzanne.rolls@nzno.org.nz">suzanne.rolls@nzno.org.nz</a>
Te Rūnanga Representative		
Knowledge and Skills Framework	Lauren Miller	
Website and Social Media	Shannon Gibbs	
Networks	Name	
Clinical Nurse Educator Network	Lauren Miller	
Charge Nurse Managers Network	Vicki Bijl	
Advanced Emergency Nurses Network	Shannon Gibbs	
Emergency Nurse Practitioner Network	Shannon Gibbs	

# Committee Regional Representatives

## Committee Regional Representatives

Region	Name	Daily Role
Te Rūnanga		
Northland / Te Tai Tokerau	Brendan Tampas	Associate Clinical Nurse Manager, Te Tai Tokerau Emergency Department
Auckland	Anna-Marie Grace	Clinical Nurse Specialist, Waitakere Emergency Department
Auckland	Lydia Moore	Registered Nurse, Professional Teaching Fellow – Auckland City Hospital
Midlands / Bay of Plenty	Wendy Sundgren	Associate Clinical Nurse Manager, Middlemore Hospital, Professional Teaching Fellow, Auckland University
Hawkes Bay / Tairāwhiti	Amy Button	Registered Nurse – Hawkes Bay Fallen Soldiers' Memorial Hospital
Mid Central Region	Lauren Miller	Clinical Nurse Educator – Taranaki Emergency Department
Wellington	Shannon Gibbs	Nurse Practitioner – Wairarapa Emergency Department
Top of South	Vicki Bijl	Clinical Nurse Manager – Nelson Hospital
Canterbury / Westland	Keziah Jones	Registered Nurse – Christchurch Hospital
Otago / Southland	Michelle Scully	Associate Charge Nurse Manager – Southland Hospital Emergency Department

# Outgoing Chairperson's Report



**Sue Stebbeings**  
CENNZ Chairperson

**Contact:**  
[cennzchair@gmail.com](mailto:cennzchair@gmail.com)

## Ngā mihi tatou katoa.

I first began writing this report before Cyclone Gabrielle, thinking that the beginning of a new year was a good time to reflect on progress and look forward to the year ahead. Things have now changed majorly for many people around the country, but it is still good to highlight CENNZ's priorities and positive steps forward.

The national committee changed to a two-day zoom meeting in February. Hand over to Amy Button from Te Matau a Māui / Hawkes Bay and Vice Chair / Secretary Lauren Miller from Taranaki is now scheduled for early March. Your regional representatives continue to promote and support emergency nursing and emergency nurses. Two priorities for this year are our ongoing involvement in

safe staffing and Pae Ora projects, which fit well with the NZNO Maranga Mai strategic directions.

This time last year, we were deferring the national conference due to a new Covid surge. Planning for the conference this year is back on track. The Christchurch conference planning committee are refreshing the programme and updating details. The theme of readiness to respond continues to be highly relevant, given recent events. We are looking forward to being together, sharing experiences, supporting each other, and the energy we find through connection. Those already registered will be contacted for an update in details and plans. More information is found in this journal issue. Maybe you would consider developing a poster as a way to share positive local initiatives.

The Advanced Emergency Nurse Network and Clinical Nurse Managers and Clinical Nurse Educators Networks are meeting on October 18th, before the conference on the 19th & 20th October.

The committee welcomes Natasha Kemp onto the national committee to lead our Pae Ora journey. Natasha is reviewing the information provided in the survey last year on supporting equity in Emergency Departments as one of the starting points.

Tauranga will be hosting an Advanced Emergency Nurse Network Study Day on June 16th. Further information will be circulated closer to the time, but save the date for planning your rosters. A forum for the Emergency Nurse Practitioner Network will be arranged later this year, with potential working group meetings on a professional development roadmap also likely to be scheduled.

Several CENNZ committee members are on the CCDMED National Advisory Group looking to make progress on the recommendations of the Nursing Safe Staffing Review released in February 2022. Workstreams are being developed, and communications will be available once we regroup post-Cyclone Gabrielle.

Plans for the next stage of our national triage course workbook refresh are underway. This will focus on reviewing and updating the content to ensure it aligns with current triage needs and changes in practice. We welcome new triage instructors Natalie Clarke and Tanya McKay. We anticipate that there may be further opportunities to join the instructor team later in the year.

Another refresh project is for our Knowledge and Skills Framework. The working group is planning to meet in the next couple of months.

Please remember the CENNZ grants that are available once you have been a member for 2 years, especially our newest grant - He Puawai Tapuhi Māori.

The last four years have been challenging in many ways. I have truly appreciated all of the enthusiasm and expertise of the committee members as we have worked together to advocate for emergency nurses and make a positive difference. I know the committee will continue this mahi.

We welcome your input and feedback so that we can achieve the best results possible. Teamwork is our strength

**Ka kite ano**  
**Ngā mihi nui**

**Sue**

## Northland/Te Taitokerau Region



### Brendon Tampus

#### Associate Clinical Nurse Manager

Whangārei Base Hospital Emergency Department

Te Whatu Ora Te Tai Tokerau

#### **Ko Brendon Tampus tōku ingoa.**

My name is Brendon Tampus. I am the regional representative for Te Tai Tokerau Northland and the Associate Clinical Nurse Manager of Whangārei Base Hospital Emergency Department.

As I reflect over the past three months, significant issues have impacted our mahi in the emergency departments of Te Tai Tokerau: particularly the ongoing staffing shortages and high turnover of nurses. Common reasons for this are long-term sick leave, maternity leave and colleagues migrating overseas. There has also been an increasing number of presentations to the ED due to the impact of Covid-19. On top of that, in Hokianga, Rawene Hospital's after-hours service remains closed, and White Cross has been operating at reduced hours due to staff shortages.

These challenges resulted in the initiative "Give it a go in ED", wherein registered nurses from other specialties in Northland hospitals were encouraged to work in Whangārei Hospital ED for a day. The acute care nursing directorate, nurse educators and I provided experience and skill training to RN

participants, such as applying trauma equipment such as pelvic binders, limb tourniquets, sager splints, intraosseous lines and many more. Once trained, the RNs were supervised while working in clinical areas of the ED and got a glimpse of our working environment. The outcome was satisfactory, with 50% of RN participants keen to work in the ED. Albeit, half of the nurses did not enjoy the nature and pressure of the job. Understanding this is the initial step and trial stage of recruitment; we believe that this project will be a success in the future.

Ontop of that, I would like to acknowledge Daniel Rito and Francesca Peacey for creating the first-ever pediatric sepsis protocol in Whangārei Hospital. Dani Martin and Amanda Harrison for making the MTP poster guideline clear and easy to use (especially when trauma cases arrive in ED on a night shift). Lastly, thank you, amazing Sue, for demonstrating exemplary mahi for CENNZ as Chair and Representative for Te Tai Tokerau over the last three years.

**Nga mihi,  
Brendon**

# Tāmaki Makaurau | Greater Auckland Region



**Lydia Moore**  
Clinical Nurse Specialist

Waitakere Hospital Emergency  
Department

Te Whatu Ora Waitematā



**Wendy Sundgren**  
Associate Charge Nurse  
Manager

Te Tari Rongoaa Ohorere | Middlemore  
Hospital Emergency Department

Te Whatu Ora Counties Manukau

Professional Teaching Fellow

School of Nursing

Waipapa Taumata Rau | The University  
of Auckland

## Waitākere and North Shore Hospital Emergency Departments.

### Kia Ora from the Waitematā EDs.

Waitematā serves the largest district in New Zealand, with ~630,000 people. It's two hospitals, North Shore and Waitākere, serve the communities in Waitākere, North Shore and Rodney. RNs are location-based, and doctors work between the EDs.

Much like everyone, our (wet) "summer" lull has not occurred, with high presentations, corridor patients and bed blocks, along with high staff turnover from staff going overseas or into other specialties. However, our amazing staff have helped by extending or picking up extra shifts throughout the trying times.

Over the last few months, we have welcomed many new staff, including RNs, NP interns, and an adult and paediatric NE. More recently, Waitākere's CNM has been seconded to NSH ED for one year, with an ACCN stepping up as a CNM; this will give a new perspective to both departments.

Our new NE is looking at the structure and delivery of education in the ED, how to improve it, and its delivery model, e.g. online.

Both sites continue to have weekly SIM sessions, which have been invaluable in providing continuous education in what has been a disruptive two years. Near the end of 2022, the new Massive Haemorrhage Pathway and Paediatric Minor Head Injury Best Care Bundle were rolled out; these have been going well. Across both sites, a paramedic pilot has been trialled for the last few years, where paramedics in both EDs assist with transits, resus codes and on the floor. Additionally, Waitākere ED has been trialling a new urgent care referral for low acuity patients; this has been well accepted by the community. Both trials are almost due for review.

We look forward to the coming year and are excited to see what exciting changes will occur across both EDs.

**Lydia Moore,**  
Clinical Nurse Specialist.

## Auckland Region cont.

---

### **Starship Children's Emergency Department.**

The end of 2022, August through to December, saw a sustained period of increased presentations to CED. Challenging access to primary health continues to be a driver of this. January saw some relief as Tāmaki Makaurau left on mass to try and get sun. Unfortunately, there has not been a lot of this. For the last six months, CED has been recruiting and has managed to fill our vacancy with a mix of overseas and local nurses. Parental leave is one of the biggest drivers of recruitment for us, with a record-breaking eight RNs (close to 20% of our RN FTE) about to be on parental leave. The skill mix was challenging by October, with over 50% of staff having worked in CED for less than 14 months, but we have managed to focus on progressing staff safely through study days or buddied skill development. The overseas nurses from Singapore, the UK and Ireland have paediatric ED experience. We have also just had three New Graduate Nurses start in February.

**Anna-Marie Grace,**  
Nurse Unit Manager.

### **Middlemore Hospital Emergency Department.**

The summer of 22-23 has been unusual at Middlemore in that we have not seen the usual reduction of patient presentation numbers that we have come to expect from previous years. As with many regions, this has been compounded by high hospital capacity and reflected in larger patient numbers who spend more time in the ED. A positive result of this has been establishing a hospital-wide program of work, engaging key stakeholders and working with external consultants from Deloits and the Fraser group to develop and trial strategies to enhance both capacity and flow.

Staffing, particularly for nursing, remains a challenge, and a senior nurse has been seconded to focus on streamlining our recruitment and onboarding processes. We are also working with the organisation to develop an internally run individualised competency assessment programme to better utilise the skills of overseas-trained nurses with emergency experience.

Facilities improvement works have aimed to improve our infection control capabilities, including the installation of six negative flow spaces in the acute assessment and monitoring areas. Also underway is a refurbishment of the existing resuscitation area, which includes a negative pressure resuscitation space.

**Chris Chu,**  
Nurse Unit Manager.

## Midland / Bay of Plenty Region



**Linda (Lyn) Logan**

**Associate Clinical Nurse  
Manager (ACNM)**

**Rotorua Emergency Department  
Te Whatu Ora Lakes**

### **Rotorua Emergency Department.**

Rotorua ED has had a difficult few months since before Christmas when our CNM resigned. We have had a transitional Acting CNM in position, Joan Teddy, who has now become our permanent CNM. Her main aim has been recruitment, like so many other EDs. We have even made a recruitment video of how cool our community and team are:

<https://www.lakesdhb.govt.nz/for-health-professionals/recruitment/emergency-department/>

Similar to other EDs, we are in the process of implementing TrendCare, with our training starting in the middle of the month. It will be interesting to see the data once we have undertaken six months of use.

Our presentations seem to be on the rise, with a particular increase in the amount of status two patients. These are both adult and paediatric patients; these have stretched our team at times. We have four paediatric bays in our department, with a resuscitaire in one of our monitored rooms. We had dedicated Paediatric Liaison Nurses from July to October which supported our junior team with education and learning.

It was great to have this resource, and we only wish we could have dedicated support like this all year round for our new and junior nurses.

The CNS team have been busy and have become a multifaceted resource. While they work in their role as CNSs they have also been supporting the local police station and their custody suite with any medical needs clients in custody may have. This initiative has helped reduce the need for the police to send clients to our ED with their valuable resources. The CNS team have also been supporting the ED in other ways by acting as a resource/float nurse and working in triage and resus when we are short-staffed.

Finally, similar to Waikato, we also have comparable issues such as bed block and increasing fatigue by staff due to the verbal abuse we have experienced at times. Therefore, our resolutions for this year are for our department to be fully recruited, for ongoing education and support for new and junior staff, for better clinical flow initiatives and for the safety and well-being of all our staff within the department to be addressed.

**Lyn Logan,**

**Associate Clinical Nurse Manager.**

## Midland / Bay of Plenty Region cont.

### Waikato Emergency Department.

A new year and getting back to our new (old) way of working with our dedicated children's area being returned from a COVID isolation zone. Five beds are still allocated for (potentially or confirmed) positive patients, and three additional isolation rooms are available as required.

Our ACNM team is growing, with a team of 8.5 FTE fully recruited. The NP team is at three, with one on the NP pathway as well as seven CNSs. Staffing (as of February 2nd) is at maximum for the budget and fully recruited to 105 FTE. However, the gaps in the rosters are still there but are now largely a result of sick leave. We are currently trialling a transition in shift start times – removing the unpopular and difficult-to-cover shifts (1800-0230) and reallocating these to pm and night shifts.

The number of presentations continues to climb, with Waikato seeing, on average, between 13-15,000 monthly.

Current challenges include:

- Recurrent bed-block as either the hospital struggles to find beds for patients or the numbers presenting exceed our capacity to keep up.

- TrendCare – trying to get interrater reliability testing completed.
- Ongoing abuse of staff by patients and their families.
- Orientating the many awesome new staff that we have managed to attract.
- Acute surgical and medical units with insufficient capacity to take GP presentations or referrals, and not operating 24 hours

Current challenges in primary healthcare and the rural hospitals are impacting patient presentations with their lack of GP, Nursing and Medical support and/or a lack of access to simple, affordable options. While EmergencyQ offers opportunities to get some low-acuity patients to more appropriate facilities, Waikato hospital remains the only 24-hour radiology and laboratory service for a significant rural, and metropolitan catchment area. After 2200 hours, there are very limited alternatives.

**Tracy Chisholm,**  
Staff Nurse.

## Te Matau-a-Māui | Hawke's Bay-Tairāwhiti Region

---



**Amy Button**

Nurse Manager (ACNM)

Hawke's Bay Fallen Soldiers' Memorial  
Hospital Emergency Department

Te Whatu Ora Te Matau a Māui,  
Hawke's Bay

Our thoughts are with our whānau in the Hawke's Bay-Tairāwhiti Region at this time.

Due to changing circumstances, the regional representative position for

the Hawkes Bay-Tairāwhiti Region is coming vacant. Please see the vacancy advertised later in the journal.

# Mid Central Region

---



**Lauren Miller**

**Clinical Nurse Manager**

Taranaki Emergency Department

Te Whatu Ora Taranaki

## **Taranaki Base Hospital Emergency Department.**

**Kia ora,**

Taranaki Base Hospital has had a busy start to the year. In fact, we broke our attendance record two days in a row in the new year, seeing 150 patients in 24 hours on January 3rd. This was certainly a challenge for a 24 bedded department and easily beat the previous record of 133 patients, which was only set last year.

We have finally gone live with TrendCare, after having it running in the "background" for a number of months while we got used to it. It has been challenging getting all staff to understand the importance of utilising it. Still, it is certainly a positive having it in place to be able to justify how hard we are working as a department.

One of the challenges we have been facing, which I'm sure is reflected across the board, is around staffing. Ongoing challenges with sickness, skill mix and

holding FTE for New Graduates until February has left gaps over the busy festive period. For a short moment, towards the end of the year, we were fully recruited but we have received a few resignations in the new year. It is great to have enough members on our team to feel safe and supported to come to work every day.

The building of a new acute services block is well underway, which includes a brand new emergency department. We are VERY much looking forward to a new build, with increased capacity; it is due for completion in 2025.

On a positive note, over the last few months, several RNs have celebrated their 10, 20 and even 30-year anniversaries working for Taranaki Base Hospital. This is undoubtedly a great thing to celebrate, and we really value having such experience in our team.

**Therese Manning,**

Clinical Nurse Manager.

## Mid Central Region cont.

---

### Midcentral Emergency Department.

Like most of our colleagues around New Zealand, we are still managing large patient volumes and high-acuity presentations. Challenges with bed block, flow, access to care, and high admission rates, perpetuate a vicious cycle of large numbers of patients presenting and remaining in ED. These challenges are not isolated to our ED, and they do not look like they are changing any time soon.

Our dept is currently challenged with reasonably high attrition rates, with staff leaving the department to take up other nursing roles or reducing their FTE hours to enable self-care and a better work-life balance to manage the work. Recruitment is an ongoing challenge, as well as managing the skill mix on the floor to ensure patient safety and flow. These challenges have seen our department and staff continue to go above and beyond, picking up shifts, working extra hours, staying longer, and often working through breaks. There is ongoing recruitment, and we have welcomed many new staff members in the last few months.

On the positive side, funding has been approved for postgraduate nursing education, as well as the development of our next Nurse Practitioner candidate and the welcoming of our third Nurse Practitioner to the team. With this pathway working well, we have also welcomed another two CNSs to the advanced nursing practice team in 2023.

Changes to the senior nursing team have also seen opportunities for new ACNs to be appointed, and we wish those staff well with the new positions. We have welcomed new educators to their role – seeing two educators and a clinical coach appointed. This has seen an increase in regular education sessions for RN staff and increased clinical training on the floor.

CENNZ provided a bespoke NZ Triage course for our region in January, which saw a large number of our staff able to attend and successfully complete the training. Ongoing opportunities to attend external courses such as TNCC and ENPC continue to be well supported.

We received a generous donation from the Rotary Club of Awapuni recently, and this enabled us to provide a beautiful renovation to our Whānau room within the department. This is now a very beautiful room for people to solace in the middle of potentially traumatic situations.

Our thoughts go out to our friends, whānau and colleagues affected by the latest weather event. We are all thinking of you.

**Take care of yourselves and each other,**

**Katie Smith,**

Nurse Practitioner

Acting Charge Nurse.

# Te Upoko o te Ika a Maui | Greater Wellington Region



**Shannon Gibbs**

**Mātanga tapuhi | Nurse Practitioner**

Masterton Emergency Department  
Te Whatu Ora Wairarapa

## **Masterton Emergency Department.**

The last few months have seen an influx of staff, with nine new RNs orientated this year and more on the way; this is significant in a permanent roster of approximately 50 nurses. With a varied experience and skill mix, the challenge remains to support this new crew, keeping our department safe for patients and staff as rates of presentations remain high.

While the grit and enthusiasm of our new team members in the controlled chaos is really heartening, the value of our senior staff has been super evident, and we appreciate the additional pressures placed on them.

In response to concerns around burnout and well-being, EAP joined us in the department for several afternoons allowing staff to pop out and have a chat, familiarise themselves with the process and normalise accessing support.

The whole hospital looks to benefit from the PAR service, which is set to launch

very soon. Developed by CNM Corrina Rooderkirk, staffed and run out of our department, it provides an avenue for career development for some of our senior nurses who will support the rest of the hospital to hone their assessment and care of patients at risk.

We welcome one of our ACNs Di Sigvertsen, into the new role of Trauma CNS with support from an NP with a special interest.

In regards to Care Capacity Demand Management (CCDM), a massive commitment from nursing leadership in the department drove the completion of IRR testing within a tight timeframe. This drive enabled the TrendCare data from the previous six months to be utilised for CCDM FTE calculations... we are awaiting the release of these figures and have our fingers crossed for ongoing successful recruitment.

**Shannon Gibbs,**

Mātanga Tapuhi | Nurse Practitioner.

# Te Upoko o te Ika a Maui | Greater Wellington Cont.

## Hutt Valley Emergency Department.

The team is working hard with the department seeing an average of 170 patients per 24-hour period. They are contending with winter levels of presentations without the characteristic waves of illness yet. Increasing numbers of failed discharges and limited availability of after-hours healthcare are currently driving some of those numbers.

There is evidence of burnout within the dedicated team, and the inability to fill shifts has seen the management team picking up night shifts recently.

While there is successful recruitment happening, there are staff losses occurring at a similar rate. The inability to hire into the CCDM FTE calculation has led to a new approach to recruitment and staff development.

Where previously, several years of experience were necessary before stepping into triage and resus, necessity has seen new recruits in those roles with the resulting requirement to then support a green team.

This support is coming from five new clinical coaches and five new ACNs (with five new NETPs to balance out the new senior support!). The department now has four NPs, with one in a training role. The CNS pathway is well established in the Hutt Valley, and work is now happening to formalise that pathway with HR. Staffing changes extend into upper management, with an additional layer of staff turnover occurring along the management line.

**Shannon Gibbs, on behalf of Charly Gibson,**

Charge Nurse Manager.

## Te Pae Tiaki | Wellington Emergency Department.

Our struggles are the same as many large ED's around the country, and the media attention has had an impact on our staff.

The positives we have experienced are the merging of the ED Observation Unit and the main ED, increasing our ED footprint and combining our rosters into one, and the opening of a new building to accommodate minor injuries and illnesses. Unfortunately, this build did not come with a staffing budget, so it is currently managed by our CNS and NP workforce. The upshot of this is that it is unable to be serviced for the hours we want -0800-2400 hours, seven days per week. We are optimistic that we will be able to staff it in the near future.

Our FTE vacancies fluctuate from month to month, but we have gone from 27 FTE of vacancies in November 2022 to 12.5 FTE at present. This reduction in vacant FTE has been a big achievement for our team. It is important to note that this increase in FTE won't have an immediate impact, as many of the candidates are coming from overseas and will take a few months to arrive in New Zealand. We have also started taking on CAP students for clinical placements, which leads to recruitment opportunities. We utilise these placements as an extended orientation and support for the candidate who is new to New Zealand.

In regards to TrendCare, we have done a full 12-month campaign (mainly driven by my ACNMs and myself) to increase compliance with utilisation (steadily 60%).

## Te Upoko o te Ika a Maui | Greater Wellington Cont.

---

We are currently going through our IRR testing for our first FTE calculation since we started a few years ago, which is exciting.

There are no specific horrific patient presentation trends; it is just the length of ED stay that heavily impacts our ability to provide an emergency service. The main specialty blocking ED is the medical specialty. The hospital's medical capacity is very limited and needs to be expanded to accommodate our increased medical admissions.

Wellington ED team culture and vibes are very positive despite the struggles

and challenges we are facing. We have a group of seven NETP RNs that have joined our team and are settling in well. We have doubled the number of NETPs we normally take. We are looking at developing a CNS/NP pathway and connecting with Hutt. The light at the end of the tunnel is that our recruitment, although slow, is improving, and the plans for a bigger ED through the Front of Whare Project.

**Mel Taankink (She/Her),**

Tari Kaiwhakahaere Tapuhi | Nurse Manager.

## Te Tau Ihu | Top of the South Region



**Vicki Bijl**

Charge Nurse Manager

Nelson Emergency Department

Te Whatu Ora Te Tau Ihu

### **Nelson Emergency Department.**

Kia ora from Te Tau Ihu – I have recently been selected to represent Te Tau Ihu for the CENNZ committee. I have been nursing in Nelson Emergency department for the past 9 years, and am currently in an interim CNM role, which I have been doing for the past 18 months. 2023 has kicked off to be a busy start to the year, with our average presentations trending up. We would normally see a difference between Summer and the months prior to Winter, however, they are merging – with Winter looking like it will be busy.

In response to COVID, we were able to increase our footprint from 17 to 23 beds, creating dedicated isolation rooms. However, like most EDs, we have also been met with workforce challenges along the way, struggling to have the resource to match the increase in capacity. We are only now looking like we are getting close to meeting our base FTE.

Nelson ED has been able to add an additional 1.4FTE CNS positions on fixed term contracts for the next 12 months. With having both a CNS and NP on each day, this has allowed for further support for the ED team, with this recruitment all being relatively new to the ED.

Our team has recently introduced Trendcare and we are currently going through IRR testing. The preliminary data is looking positive and we are all very eager to see the data and how it reflects what we already know; the need for extra FTE.

Nelson ED has appointed a new Clinical Nurse Educator, starting late last year, and with this we have seen some real positive energy go into the team and she is creating many opportunities for learning. We have commenced ED specific study days; including just recently an introduction to ED. We are also installing a culture of having regular SIM trainings, with these being scheduled once a month. Network Z were able to run a morning of inter-departmental SIMs in our department – such a great opportunity for our team to work together with other parts of hospital.

I am really proud to be an emergency nurse and to lead our team through such challenging times over the past 18 months. Our team have remained positive and kept going through the adversity.

**Vicki Bijl,**

CNM.

# Waitaha | Canterbury and Te Tai o Poutini West Coast Region



**Keziah Jones**

Staff Nurse

Christchurch Emergency Department  
Te Whatu Ora Waitaha Canterbury

## Christchurch Waipapa ED.

### Kia ora from the Canterbury Region.

Much like everyone, Christchurch ED is busy, running shifts with never quite enough nurses, increasing patient numbers, and not much let-up over the summer. However, we are optimistic that as we recruit into our newly approved CCDM FTE, these challenges will gradually ease, and we will have the nursing resources to meet demand.

Average daily presentations in Jan were 318, up by 12 patients per day at the same time last year. Patients are spending longer in ED, with the 6-hour target only being met 73% of the time in 2022 and, worryingly, an increase in patients leaving without being seen.

CCDM TrendCare data has provided a significant FTE increase for Christchurch ED, with 37 FTE nursing resources approved. This data illustrates that we are working under-resourced with increased demand and high patient presentations. With this in mind, our next major priority is recruitment. We are running a recruitment campaign and have had some success in beginning to fill our vacancy, welcoming many new nurses to the Christchurch ED team.

#### New Initiatives:

Our dedicated Children's Emergency Care (CEC) provides a child-friendly environment for our paediatric patient group. ED nurses and Child Health

nurses collaborate and work together. We are all still adjusting as we settle into new ways of working and learning new skills and models of care in this area.

Icare-Faster Project rollout has started in Christchurch ED. These are Rapid high sensitive Point of Care (POC) troponin tests that aim to safely reduce patients' length of stay who are under investigation for possible heart attack or chest pain presentations. Staff have been initially using the POC troponin alongside normal laboratory troponin testing but will soon rely entirely on POC troponin results for medical disposition.

The ED team continue to keep spirits up with great activities and ED days out. ED Ministry of Fun keep our social calendars full; our next event is an ED Ceilidh.

Christchurch looks forward to hosting you at the National CENNZ conference this year in October.

We want to extend a warm invitation to all our ED colleagues across the country and welcome you to join us for a long overdue get-together. Save the date, 19-20th October! Dust off your sparkles and feathers for a Gatsby-style Awards Dinner and Dance on Thursday night.

Find more information online at [www.cennz2023.co.nz](http://www.cennz2023.co.nz) Register now.

**Keziah Jones,**  
Staff Nurse.



# Waitaha | Canterbury and Te Tai o Poutini West Coast Region Cont.

---

## **Te Nikau Grey Emergency Department.**

Te Nikau ED is currently seeing around 240 presentations per week. The triage 4 and 5 presentations are seen in the urgent care facility during weekdays which are not included in these numbers. There has been a small increase in our presentations over the last 24 months. Anecdotal evidence suggests that the acuity of patient presentations has risen with often acute exacerbations of chronic conditions.

Due to our unique geographical location, Te Nikau ED accepts referrals from up and down the Coast from Karamea to Haast. The lack of services in these more remote regions due to staffing challenges places extra pressure on our department.

### **New Initiatives:**

We have changed to the Hamilton T1 ventilators in order to standardise equipment; this allows familiarity with one ventilator that delivers three modes invasive, non-invasive and high-flow nasal prong therapy. Further, this helps to streamline the ordering of consumables. We are currently trialling the Fresenius Kabi syringe pumps. With the aim to standardise equipment so staff are familiar with their use. We have also implemented an ED PDF link page to controlled documents, ensuring

we use the most up-to-date policies, procedures and guidelines.

### **Challenges:**

Our major challenge is recruitment and retention. We have seen a reduction in the RN workforce, down to 50% of our required FTE since November 2022. Our nursing team are often picking up extra shifts and working above their contracted hours. The senior nursing management team are also working shifts on the floor to manage the staffing shortfall. Fortunately, we have some new recruits, 5.9FTE, commencing from February through April to help ease this situation. Our medical colleagues are also struggling with challenges around decreased staffing levels.

### **Successes:**

We continue to have a fantastic team culture which enables our workforce to remain positive, even during challenging times. Our team constantly strives for a shared vision of providing excellence in patient care, which is always encouraging. We continue to be able to train nurses in triage. As our nurses gain confidence and competence, we enable them to attend the CENNZ Triage course and other courses such as TNCC and ENPC.

**Sharon Gamble,**  
Charge Nurse Manager.

## Southern Region



### Michelle Scully

#### Clinical Nurse Educator/Staff Nurse

Invercargill Emergency Department  
Te Whatu Ora Southern

#### Invercargill Emergency Department.

In discussion with the Nurse Manager, Matt Flutey, Invercargill ED had a busy Christmas-New Year period. Between December 24th and January 8th, our presentations were the same as the previous year. However, the percentage of triage category three, two and one patients was much higher than last year, particularly for triage category two.

In relation to recruitment, Flutey explains that Invercargill ED is barely ahead compared to the same time last year, with in-flow only almost matching outflow. The department is looking at further creative ways to attract nurses to the region; we hope to be able to share some initiatives next time. At this point, the ED is between five and six FTE down, but keep in mind that 3.6 of this FTE is a new budget increase from during the year. In addition to recruitment, Invercargill ED faces another challenge: the inability to work on quality projects and initiatives, as the department is in survival mode.

A hospital escalation plan has been ratified and is in action. The hospital is working on a VRM resource pool to be able to respond appropriately. Regarding TrendCare, an education session is planned with the vendor for Southern EDs this month. Invercargill ED is also planning to go and visit other EDs with TrendCare in place.

Acting CNM Leigh-Anne Fearn reports that Invercargill ED has taken on three NETP RNs, stating they are an excellent addition to the department. Fearn highlights several other celebrations for the department regarding education. With several members of the team in the process of completing postgraduate education, the opportunity for staff to attend a local TNCC and triage course, and the implementation of protected

nursing education time. Fearn states that the protected education time, Monday through Friday, 1430-1500 hours, has had positive feedback and is capturing and ensuring all staff have the opportunity for education.

Protected education time for nurses transpired after reflecting on the amount and regularity of medical education provided for House Officers and Registrars. In contrast, Nurse Educators were frequently called out onto the floor to fill staffing gaps, with nursing education being cancelled. Using change theory, a gap analysis was conducted, and protected nursing education was introduced. There continue to be some challenges, and room for improvement has been identified. However, it is an exciting, positive initiative and one which will be further developed.

Recently, the Dunedin and Invercargill Clinical Nurse Educators met up, providing a space for some invaluable learning and networking. It is energising to share ideas and success stories. The National Clinical Nurse Educator Forum takes place in Wellington on May 5th.

It has become apparent that nurses across the Southern Region want a triage refresher course. This will be raised with the National Committee.

Being a member of the College of Emergency Nurses New Zealand has many benefits, so go on and join. It is through standing together and supporting each other that we can survive.

Finally, to our colleagues affected by Cyclone Gabrielle... our thoughts are with you and yours.

#### Michelle Scully,

Clinical Nurse Educator,  
Staff Nurse.

# Southern Region

---

## **Dunedin Emergency Department.**

December and January have been exceptionally busy, with the daily presentation average increasing by 10. Acuity and complexity have increased. Length of stay has blown out with access block, and often there have been 50-68 patients in the department. There has been an increase in trauma presentations. As CNM I have been in full recruitment mode, and survival is the aim. Education and non-clinical hours have been cancelled. Two NETPs have joined the team. On some days there are more trainees than staff (trainers).

This period has seen many resignations, and the process is made more difficult when HR are on holiday, with the recruitment process slowing down.

On a positive note, weekly insitu simulations are occurring, with the entire team taking part. Simulation occurring within the department has so many benefits. Another positive is a focus on Mass Casualty Planning.

Staff well-being is at the forefront. Teams have been established, and there are some healthy team dynamics encompassing some positive and competitive activities.

There are some more positive proposals being worked on, such as protected education for nurses which can hopefully be reported on next month.

**Janet Andrews,**  
Charge Nurse Manager.

# College Activities:



# College Vacancies

## Vacancy for Hawke's Bay Region Representative on CENNZ National Committee

The committee invites nominations for a regional representative from the Hawke's Bay CENNZ members to join the national committee.

This is a rewarding, challenging role representing your region, promoting emergency nursing nationally, and meeting like-minded emergency nurses. A strong commitment and interest in the development of emergency nursing is essential.

By becoming a committee member for CENNZ you will be involved in:

- strategic planning
- governmental dialogue
- collaboration with national agencies
- development of education for emergency nurses, and
- networking with other emergency nurses nationally and internationally

Each committee member writes a short journal report four times per year. The role also involves other committee and portfolio responsibilities between meetings as well as disseminating information back to your region.

The term of office is for 2 years (maximum of 4 years) and requires a moderate time commitment. There are four face-to-face meetings per year (2-day meetings) and a monthly zoom (or teleconference).

The nomination form is available at on the CENNZ website and should be sent to: [emergency@nzno.org.nz](mailto:emergency@nzno.org.nz).

Both nominees and nominators must be current CENNZ members according to college rules.

Any questions or enquiries welcome to: [cennzchair@gmail.com](mailto:cennzchair@gmail.com)

Ngā mihi nui

Amy Button

Chairperson

# Education: Webinars

## Webinars;

A reminder to all emergency nurse's and those interested in on-going health care education about the series of webinars offered by CENNZ via the Mobile Health MyHealth Hub platform. These webinars are presented by highly qualified and experienced emergency nurses, doctors or other health professionals. The sessions are recorded and available post the live feed for additional viewing if you unable to attend the original presentation. There is no cost to view these. The link to the index page for the CENNZ specific presentations is: <https://myhealthhub.co.nz/coming-soon/cennz/>

Previously recorded CENNZ webinars		
Original presentation date	Topic	Presenter
16th May 2023	Bronchiolitis don't just do something, stand there	Libby Haskell, PhD, Paed. NP
23rd March 2023	The importance of pausing in the ED	Demi Du Toit, RN
21st Feb 2023	Suicidal or not reviewing risk with the Columbia suicide scale – CSS-6 version	Debra Anderson, RN, MN, CNE
28th Nov 2022	The Impact of long-term mental health conditions on physical health	Cath Allwood, Mental Health Educator
14th June 2022	Violence and Aggression in the emergency nursing workplace	Sandy Richardson, PhD, RN

# College Publications

- A list of all the current college position statements are on the CENNZ website at [https://www.nzno.org.nz/groups/colleges\\_sections/colleges/college\\_of\\_emergency\\_nurses/resources/publications](https://www.nzno.org.nz/groups/colleges_sections/colleges/college_of_emergency_nurses/resources/publications).
- Previous copies (where digitised) of Emergency Nurse NZ are available on the CENNZ website at: [https://www.nzno.org.nz/groups/colleges\\_sections/colleges/college\\_of\\_emergency\\_nurses/journal](https://www.nzno.org.nz/groups/colleges_sections/colleges/college_of_emergency_nurses/journal).

## College Activities: Courses

The CENNZ webpage keeps ongoing updates and details of courses that are administered by CENNZ and others that are run externally. These include:

- Triage Course
- Trauma Nursing Core Course (TNCC)
- Emergency Nurse Paediatric Course (ENPC)
- International Trauma Life Support Course (ITLS)
- Paediatric Trauma Life Support Course (PTLS)
- Course in Applied Physiology in Emergency Nursing (CAPEN)
- AENN training days

For the details see the CENNZ websites at: [https://www.nzno.org.nz/groups/colleges\\_sections/colleges/college\\_of\\_emergency\\_nurses/courses](https://www.nzno.org.nz/groups/colleges_sections/colleges/college_of_emergency_nurses/courses) and [https://www.nzno.org.nz/groups/colleges\\_sections/colleges/college\\_of\\_emergency\\_nurses/resources/advanced\\_emergency\\_nurses\\_network\\_aenn](https://www.nzno.org.nz/groups/colleges_sections/colleges/college_of_emergency_nurses/resources/advanced_emergency_nurses_network_aenn)

- Any questions on triage course, content or holding a course in your area, contact your nurse educator where available then the Triage Course Director – Tanya Meldrum, email: [cennztriage@gmail.com](mailto:cennztriage@gmail.com)
- For any enquiries or bookings for TNCC, ITLS, PTLS, ENPC or CAPEN contact the Programme Coordinator – Sharon Payne, email: [sharon.acen2014@gmail.com](mailto:sharon.acen2014@gmail.com), Phone: 027 245 7031

Expressions of interest

# Triage Nurse Applications

Do you have a passion and flair for teaching emergency nurses?  
Expressions of interest invited to become a CENNZ triage instructor.

Expressions of interest are invited for the position of Triage Instructor for the New Zealand Triage Course. This role offers an opportunity to diversify within the teaching arena and be involved in the delivery and shaping of the New Zealand Triage course. The instructor term is for an initial period of three years, with potential to extend this period.

## Candidates must hold Registered Nurse credentials:

- with a current NZ practicing certificate,
- have been a financial member of CENNZ for the two years prior to application.
- be currently working in a NZ emergency department.
- successfully completed the NZ Triage course themselves,
- have evidence of post graduate study and have verified experience teaching adults.

The successful applicant(s) will be expected to teach a minimum of three NZ Triage courses a year, maintain regular communication with the National Triage Director and adhere to the Instructor Code of Conduct. Remuneration is on a course-by-course basis.

We would particularly like expressions of interest from the Canterbury Region.

Should you wish to be considered for this role, please provide 2 referees with an endorsement regarding teaching experience and indicate your ability to take part in zoom interview.

Please forward your covering letter, CV and references to **Tanya Meldrum** at [cennztriage@gmail.com](mailto:cennztriage@gmail.com)

**Deadline for applications is Monday 7 August 2023 at 5pm.**

Nga mihi,

Tanya Meldrum

CENNZ Triage Director

College of Emergency Nurses NZ

NZNO - Tōpūtanga Tapuhi Kaitiaki o Aotearoa.

## Submissions Guidelines - (Brief)

# Journal Submissions

Emergency Nurse New Zealand welcomes submission of projects and research, case studies, literature review papers, viewpoint / opinion pieces, reflections, short reports, reviews and letters.

Manuscripts submitted to Emergency Nurse New Zealand are expected to conform to the journal style and not to have been previously published or currently submitted elsewhere. See the CENNZ Journal website for full details including the submission checklist at: [https://www.nzno.org.nz/groups/colleges\\_sections/colleges/college\\_of\\_emergency\\_nurses/journal](https://www.nzno.org.nz/groups/colleges_sections/colleges/college_of_emergency_nurses/journal)

### Category of manuscripts

**Research papers** – These should describe improvement projects and research undertaken: up to 4000 words (including references but excluding title page, abstract and tables, figures and graphs).

**Format:**

Title page: title, authors, abstract and keywords

Body: introduction, methods, results, discussion

References: limited to 30

**Review articles** – These should describe the current literature on a given topic: up to 5000 words (excluding title page, abstract, references and tables, figures and graphs)

**Format:**

Integrative, scoping or systematic literature reviews are preferred

Use of JBI for integrative or scoping reviews recommended

Use of PRISMA for systematic reviews recommended

**Case studies** – These should describe a detailed examination of a patient case or cases, within a real-world context: approximately 2000 words

**Format:**

**Introduction:** brief overview context / problem

**Case:** patient description, case history, examination, investigations, treatment plan, outcome

**Discussion:** summarises existing literature, identifies sources of confusion or challenges in present case.

**Conclusion:** summary of key points or recommendations

## Submissions Guidelines - (Brief)

# Journal Submissions

Acknowledgement that consent has been obtained from the patient plus any ethical issues identified

References: limited to 20

Opinion/Viewpoint – These should be on a topic of interest to emergency and acute care nurses

Approximately 2000–3000 words

### **Format: free-text**

References: limited to 20

Profiles – These should be on a role within emergency or acute care that makes a difference to patients and staff activities:

Approximately 600–1000 words

Format: free-text, may include describing a typical day or arrange as a question/answer interview.

### **Reference style**

Emergency Nurse New Zealand uses APA 7th edition. It is the authors responsibility to ensure that references are accurate.

# EMERGENCY NURSE NEW ZEALAND

---

The Journal of the College of Emergency Nurses New Zealand (NZNO)  
ISSN 1176-2691