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COLLEGE of AIR & SURFACE TRANSPORT NURSES

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COASTN E-MAG

https://www.nzno.org.nz/groups/colleges_sections/colleges/

NEW ZEALAND NURSES ORGANISATION | TŌPŪTANGA TAPUHI KAITIAKI O AOTEAROA

COASTN COMMITTEE 2021

Toni Johnston, the current chair of COASTN.

I have been an ICU nurse in Dunedin for the past 25 + years, and a member of the SDHB Dunedin ICU-based flight team for more than 18 years.

I love my job, and it's a standing family joke that if I'm not at home I am likely to be found running to/from or at work, or at my secondary occupation as a volunteer St John Paramedic (which I have done for the past 35 yrs).

Being part of the COASTN committee has provided me the opportunity to meet flight/transport nurse colleagues from all over NZ, form lasting friendships, learn about how other services may operate, and be part of the national clinical network team that is helping inform the redevelopment of IHT services in NZ.COASTN is a great group of nursing practitioners skilled in caring for people in environments external to healthcare facilities – ensuring the safe transport of these patients within & between hospitals, across the country, and around the world. I'm proud to be a COASTN member

Helen Poole

I am the treasurer for COASTN. I've been in the role for 18months now and love being part of a working group of fabulous ladies. It's awesome to see how other services around New Zealand work, collaborating with the expertise of NZNO to strive for bigger and better for flight nurses in NZ.

I have been working as a flight nurse with the Christchurch Air Retrieval Service for over 4 years and just love it! My background is critical care for over 20 years in NZ and UK, Safe flying guys :)

Avryl Way

My nursing journey started in the UK, a little later in life. I qualified as a paediatric RN in 2006 and started my career in NICU. In 2012 I emigrated to New Zealand with my partner and 2 children. Since then I have worked as an RN on NICU at the Waikato DHB. I joined the Waikato NICU retrieval team in 2013 and completed the COASTN Aeromedical Retrieval course in 2014. I am excited about becoming a member of the committee and look forward to making a positive contribution. Safe flying and Merry Christmas!

Angela Coward

I have been a COASTN committee member for the past 4 years and am the magazine editor. I work for NZAAS in Auckland.

After completing my RN training in NZ, I moved to Australia and enjoyed many years working in emergency, trauma and ICU before moving into remote and rural/outback nursing. I fell into Fight nursing around 12 or so years ago and have enjoyed a full time career in flight nursing since then. I love the variety and unique challenges that present in aeromedical/ transport nursing. Being part of the COASTN committee offers a great insight into services throughout NZ, and an opportunity to improve and standardise flight nursing in NZ.

COASTN COMMITTEE 2021

Patrice Rosengrave, RN, PhD

I have been a flight nurse working for the Christchurch Hospital Air Retrieval service since 2003. My background is primarily Intensive Care Nursing. Before returning to New Zealand in 2000, I worked in Sydney, where I obtained my ICU nursing certificate, then worked in North Queensland, where I got my first taste for Air Retrieval work within Australia. I have also worked in the UK, and in Bermuda, where I use to do air retrievals from the Island to various hospitals in the United States. I am also a Research Fellow working with Otago University, whereby we are finishing up a clinical trial involving IV vitamin C and sepsis patients in the Christchurch ICU. I am now excited to be part of the dynamic COASTN team.

Lynette Will

I have worked in NICU Dunedin for 18 years as a registered nurse, 16 of them as part of the transport team. I joined the COASTN committee after the 2019 Symposium and have enjoyed being a part of a great committee who are passionate about the safe transport of patients and the wellbeing of the flight teams.

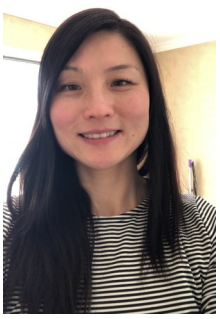
I look forward to the next few years which undoubtably will bring some challenges along the way. PS the Christmas scrub tops were made by the nurses in NICU to brighten up a tough year!

Jo Knight

I've been vice chair and membership for the COASTn committee for the last 4 years. I have been a flight nurse in Whanganui for the last 15 years.

Being part of COASTn allows us the opportunity to network, and understand how other services function around the country, and gives us the chance to work together to achieve better outcomes for our patients.

With current reviews of Air Ambulance transport in New Zealand, we have the opportunity through NZNO to be part of this process, raising the profile of Flight Nurses in the NZ transport environment.



Mutian Tait.

I work at the Intensive Care Unit at Waikato Hospital. I have been a transport nurse for three years and absolutely love the challenges and rewards that come with it. One experience that really stood out is the Helicopter Underwater Evacuation Training (HUET). It was one of the scariest things I have ever done, making it a personal and professional accomplishment! In my spare time I love reading. I have also been injecting some stretching exercises into my weekly routine, secretly hoping that one day I will be able to impress people with a front and middle split. It sure is a work in progress. Nice to meet you all.

COASTN PROFESSIONAL NURSING ADVISOR

ANNIE BRADLEY-INGLE.

RGON PGDip (Leadership and Management)

I trained in Wanganui way back when nurses trained in hospitals.

I moved to Hamilton and worked for the Waikato District Health Board mainly in the Coronary Care Unit, Nursing Agency and then Team Leader in the Cath lab. I had a brief period as Nurse Director in a private hospital as I raised my children.

During the mid 1990s I spent six years in the United Kingdom where I worked as a Nurse Adviser (Cardiology) a Primary Care Trusts. This role re-introduced me to my love of District Nursing and also to the Primary sector of healthcare. It allowed me to establish a new Heart Failure Service in the regions and undertake research around pre-cardiac disease screening and management. It provided me with opportunities to work not only with local District and Practice nurses, GPs and Cardiologists but also with members of National Institute of Clinical Excellence (NICE) and even the Governments Chief Adviser for Cardiology.

I returned to New Zealand and between 2009 and 2015 I worked in the Waikato District Health Board Rural and Community Services team as the Rural Nurse Liaison working between Waikato Hospital and it's four satellite hospitals supporting the in-hospital nurses, district nurses and public health nurses and managing inter-hospital transfers. I also completed post graduate studies and a fascinating year in secondment as the Associate Nurse Director for Rural and Community and Older Persons Services.

Early in 2015 I joined the New Zealand Nurses Organisation(NZNO) as a Professional Nurse Adviser covering the Waikato and Bay of Plenty region.

Forty plus years after commencing my nursing journey the vocation of nursing has evolved immensely and with a lifetime in this profession I know I am no less passionate about it, about the nurses I strive to support and the clients they care for. My current role with NZNO continues to grow my passion for nursing. I feel privileged to work with vastly experienced nurses- the wise and strong backbone of the workforce. I am constantly in awe of the many energetic, clever, dedicated new nurses New Zealand continues to produce. The vastly experienced nurses combined with the passionate driven newer nurses make for formidable nursing teams. We all need to work together to support both old and new. When I see this happening it gives me real hope for our (nursing) future.

As my nursing experiences have expanded so has our family. Our four children have become a nurse, physiotherapist and 2 computer geeks ! They have all married and produced nine grandchildren that keep us busy and thoroughly entertained.

COASTN Chair report for 2020 AGM.

Well no-one could have predicted when the first murmurs of a new coronavirus began to surface that 2020 was going to turn out as it has! With the global death toll surpassing 1.2 million people and upwards of 46 million reported as having been infected none of us have ever experienced a pandemic of these proportions. Life has been turned upside down, and as nurses our work lives have also been significantly affected. With borders closed, and grim predictions early into the pandemic of how the NZ healthcare system could be easily overwhelmed if nothing was done to try & contain the spread of the virus. While it appears that - so far – New Zealand has managed to contain the small community outbreaks (with the majority of new cases now being associated with inbound arrivals from countries badly affected overseas) the second wave of Covid-19 causing a new round of havoc across Europe & the UK should remind us all not to be complacent. This is especially relevant for those services & flight nurses who are involved with international repatriation – for these colleagues their work practices along with workloads must have changed immeasurably, and any aspiring flight/transport colleagues would have a timely reminder that our jobs are not always glamourous and fun. In fact, the pandemic has seriously curtailed both personal & professional lives, and forced us all into finding new & innovative ways to achieve day-to-day tasks: such as the rise in the use of virtual meetings like running pared back versions of national conferences and delivering this years AGM via Zoom.

As a committee it has meant the opportunities to accomplish some of the work we had planned was undertaken slightly differently. The sub-committee, ably chaired by Di Fuller, has succeeded in completing the *National Entry, Education, Training & Maintenance Criteria for Aeromedical Nurses in New Zealand* a huge piece of work that has been circulated to COASTN members (& is available on our web page under resources) and, while voluntary criteria/standards service providers have been encouraged to adopt these in a effort to standardize what it means to be a flight/transport nurse in New Zealand. By trying to establish these criteria it is hoped that COASTN can help define what it is to be a flight/transport nurse, inform of our practice and establish where we fit as far as scope of practice (are we best aligned with those in relatively independent/primary are settings, CNS roles, NP roles). Services differ in their staffing models: nurse-only, nurse-paramedic, nurse-doctor teams, specialty retrieval teams, all of which impacts how we as nurses practice (from standing orders, established protocols, to direct supervision/team participation). This has the potential to impact on flight/transport nurse remuneration, as services differ in where on the MECA their nurses may sit. The financial concerns the committee raised at the last AGM continue, and have impacted the sub-committee work in that the thought of creating an app to run the COASTN passport has been shelved as the cost is far too prohibitive given our tenuous fiscal situation. This has not been helped by having to cancel the COASTN national flight nurses course for 2020 as Level IV lockdown was enforced – a sought after course in terms of nationally provided education and a source of college income. Course co-ordinator remuneration and some pro-rata payments were made to course contractors were made as the majority of the planning & organisation had been completed by the time the committee undertook the decision to cancel the course. Discussions are ongoing with the course co-ordinator, AUT & other contractors in

planning & timing the 2021 course, along with consideration of potentially running more than one course per year. Further details can be found in the course co-ordinators report.

The NASO IHT review/restructure also continues, albeit a little overwhelmed/sidelined by the needs of the pandemic. In response to concerns about the lack of clinical input into this process – which appeared to be driven by fiscal needs & NASO/MoH/DHB management concerns – a NZ IHT Clinical network group was established consisting of clinicians from around NZ (both nursing & medical) who have been working together sharing data and meeting with NASO to discuss the national strategy for aeromedical services. There is an ongoing effort to attempt to standardise data collection, look at equipment compatibility, workforce modelling and clinical co-ordination in order to reduce the duplication of some aspects of IHT. Please ensure your voice is heard by your service, and that your services are part of the process – as I have learned over my involvement with COASTN we may all be called flight or transport nurses but our practices may differ vastly.

Annie, our fabulous PNA, continues to ably guide the committee through the process of completing the updated annual plan, along with ensure we meet the requirements set out by NZNO and C&S rules. Without Annie our job as a committee would be a million times harder – as the large C&S handbook is not easy to digest! She serves as a great conduit between the industrial auspices of NZNO & the professional & clinical focus we have as college members. Her PNA report details industrial-focussed work undertaken by NZNO along with some of the challenges the organisation has faced in the past year, coupled with the work the Board of Directors has undertaken in an effort to be more transparent and engage members in how they work in the face of recent internal board upheaval. While we might not be so interested in the industrial and governance side of NZNO it impacts on us a health professionals, hence the effort made to engage membership in board activities.

This AGM we farewell both Di Fuller & Manda Thompson from the committee. Both DI & Manda have brought a wealth of knowledge and enthusiasm along with great secretarial skills (not so much a sought after position Manda) and the drive to achieve national education/training/maintenance criteria (Di). We thank them for generously giving of their time and expertise, their hard work, and wish them well for their future endeavours. Voting will be undertaken to fill the 2 vacancies – many thanks to those members who have put their hands up to become involved at committee level.

As we move into 2021 can I encourage all COASTN members to look at their practice, their services and decide how COASTN can help you achieve what you want within your chosen profession, then let the committee know what work you wish us to undertake/focus on on your behalf. The pandemic isn't over yet – so please ensure you take care of yourselves and your families, and seize the current challenges as an opportunity to come up with new & innovative ways to meet the ongoing issues we continue to face as flight & transport specialty nurses.

Nga mihi

Toni Johnston, COASTN Chair.

Letter from the Editor

Hi everyone,

Welcome to the final edition of the COASTN e-mag for 2020 as I look back and ask where has the year of 2020 gone? To be fair and along with most of my colleagues I have been too busy to really fully comprehend how changed the world is although I continue to see and live it in my work and to a point at home.

As a committee COASTN have managed to hold many of our regular meetings via zoom this year and that included our AGM last month. Thanks to those of you who attended via zoom to meet the required quorum for an AGM. Hopefully in 2021 we will be able to resume our regular meetings, which also serve the important function of forming and maintaining collegial and social relationships—the obvious the missing factor in online meetings and forums, there is nothing quite like meeting and speaking face to face with others over a cup of tea!

Thank you to those who have contributed to this edition, we have some great case studies to share, happy reading!

Wishing you all a safe and happy festive season.

Best wishes,

Angela

SPRING SUMMARY FROM THE NORTHERN ICU FLIGHT TEAM.

NORTHLAND ICU FLIGHT TEAM

Springtime Summary 2020

Having welcomed our newest flight nurse, Linelle Tee, onto the team a while ago, she has been getting in her fair share of retrievals and transfers around the region. She is rapidly gaining her own collection of “war stories” to compete with the older flight nurses, who have pretty much seen it all over the years!

We are lucky to have some stunning scenery to fly over in Northland and Linelle has enjoyed some spectacular sunrises and sunsets on her way to collect patients from the various smaller health centres around our district. It is great to have some warmer springtime weather to fly around in and to forego our warm jackets, although it can still be a bit chilly at 3am when waiting on the Helipad for the aircraft.

A quick look at September’s statistics show that our patient base has remained pretty consistent with an equal mix of Category One and Category Two flights. Patient ages ranged from a neonatal transfer to an 82 year old with everything in-between giving an average age of 51 years. Male patients outnumbered females by around 2 to 1 and adults outnumbered children (under 16 years) by a factor of 10 to 1.

We transferred just over half of the patients from Whangarei ICU, ED, CCU or Wards to Auckland City Hospital, mostly to their ED or CCU with a few to HDU (Ward 83) and DCCM, one to CVICU and one to Middlemore ED. Retrievals made up just under half of the patients with Kaitaia Hospital being our most frequent referring facility, Rawene and Bay of Islands making up the rest with just one flight from Kaikohe (Broadway Health) and one repatriation from CVICU.

Planning is underway now for our next Study Day in early 2021, aiming to address an equal measure of clinical and safety issues in addition to mandatory certification plus policy/procedures and equipment review. Until then the team will continue to enjoy the warmer weather and embrace the challenges of transferring critically ill and unstable patients around our region.

Credit for the lovely sunset photo over Auckland goes to Flight Nurse Emily Wang.

AUCKLAND—NZAAS

Greetings from NZAAS in Auckland and Skyline Aviation. Our teams in each of our bases around the country are keeping busy and gearing up for Christmas, when as we in the business all know the work doesn't stop. We will be thinking of our staff and other teams around the country who continue to transport the sick and injured between facilities and home over the holiday time while others enjoy a well earned break with friends and family.

At NZAAS we have recently welcomed Martin and Arden who have joined our mission coordination team and Jude, Ryan and Jiten who have joined our Auckland loadmaster team. They are all fitting seamlessly into their various roles and enjoying the unique challenges and that ‘every mission is different’ aspect of our daily work.

Have a safe and happy festive season, and best wishes for 2021 from the teams at NZAAS and Skyline Aviation.

. Photo credit to Willy Neilson—Skyline Aviation Pilot, Napier Base.

Full critical care teams 24/7:

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Whanganui Round up.

Kia ora from Whanganui, as we all settle into our new normal, I hope this finds you all well. Like everywhere we have been out and about, and this photo was taken on a recent trip to Nelson.

I have been fortunate enough to have had a recent catch up with fellow flight co-ordinaters / flight colleagues at a recent meeting, and it brings home the importance of inter regional relationships, and how it can greatly improve both efficiencies between the regions, and improved experiences for the patients that we transport.

After the year that we have had, I hope that everyone has got the opportunity to take a break, and with any luck by the time this comes out, we are experience the start of a booming summer.

Merry Christmas everyone, from the Whanganui Flight Team.

BOPDHB Transport Team Case Study

Patient X (pseudonym) had sustained an estimated 60-70% fire burns predominantly to arms and chest presumed to be from falling asleep with a lit cigarette which set fire to the blanket he was wrapped in. This had occurred at roughly 0330 on a Sunday morning around 90km away from the receiving secondary hospital. Due to the weather a helicopter had been unable to be dispatched so this patient had been brought in by road ambulance at 0530. On arrival he had been intubated by the ED Consultant who had also completed escharotomies on his chest and arms. Femoral central and arterial lines had also been placed.

I began my shift at 0800 where I was informed of the patient who had been accepted by the national burns unit which is usually a 40 minute helicopter flight away. The Tauranga helicopter which is a VFR aircraft was unable to fly due to the weather and the Waikato helicopter which is IFR was also unable to fly. The weather was so poor that the fixed wing was also unlikely to be able to land at the local airport. There was talk of a “weather window” which may open up in 2-3 hours’ time to allow a flight but this was only a possibility. A discussion was had between myself and the ICU Consultant who was available to do the transport and we decided the fastest way to get the patient to the Burns Unit was to road ambulance with a drive time of around two hours 45 minutes.

Because of the length of time the road transfer took I needed to consider many things that with a usually short flight time I would not have been so worried about. I made sure the ambulance had full oxygen tanks, we took 10 bags of PL148 with us and had begun numbering them when we put them up so we could keep close track of how much fluid we gave. We took 4 bags of FFP with us and made sure we had large quantities of ketamine and Fentanyl for pain relief and large amounts of calcium as the ABG prior to leaving had shown low calcium levels. The patient was on a noradrenaline infusion and propofol for sedation so ensuring I had enough stocks of this for the trip was also important. We were also worried about the patient cooling down significantly during the trip and I ended up being able to take the bair hugger machine with us which we had running the whole trip due to their being multiple power outlets in the ambulance. I was also able to connect the ventilator and monitor to power supply to ensure we did not run out of battery.

The doctor and I had also discussed resus and we had decided that if the patient was to arrest, we would not shock nor do CPR so I did not need to attempt to place defib pads. The only ECG monitoring I was able to get was from a dot placed on the patient’s forehead and what we could make out from the arterial waveform. We also had some difficulty getting sp02 as the only place we could get a trace from was his earlobe and the transport monitor did not have this connection. The patient had a history of PVD and had a BKA on one side and I was unable to get a reading from his 5 available toes. To get around this we took a handheld sp02 monitor which had the earlobe adaption.

The transport ran relatively smoothly aside from driving through very heavy rain with a visibility of about 2m ahead of the ambulance for the poor ambulance officer and we were buffeted around by strong wind. We stopped a few times to loosen the patients ETT ties as he continued to swell, and I also had a scalpel handy for the doctor should she need to perform any further escharotomies. The patient did change from sinus tach to a bigeminy around halfway through the trip which was worrying but this resolved with a bolus of calcium. The patients systolic did not drop below 110mmhg throughout the trip and we were able to give fluids and blood products which meant we achieved the parkland formula fluid requirements.

In conclusion whilst the ambulance trip was significantly longer than the flight there was clear pros and cons for both. We were able to provide more intervention and complete more assessments during the road transfer than we would have been able to do during a flight and being able to take the bair hugger meant we were able to prevent the patient becoming too hypothermic during the trip (they were 36.0 degrees Celsius when we arrived at the burns unit). The patient was handed over to the burns unit successfully and the long return ambulance trip allowed lots of time for the Doctor, the ambulance officer and I to debrief.

BOPDHB Transport
Team Case Study

Photo taken of Wairere Falls on a day when the weather for flying was better

Bariatric patient transport

Written by Alexandra Batchelor Wellington ICU Flight Nurse.

Transport of the bariatric patient has many challenges that require careful thought and consideration to maintain patient and crew safety as well as patient dignity. Important considerations such as communication and preparation by the flight team, bariatric patient factors including differences in physiological function, crew and environmental factors play key roles in determining how transport will be carried out. This article will briefly touch upon the preparation and logistics undertaken for the transport of a bariatric patient including crew, aircraft and equipment selection.

New Zealand (NZ) ranks third highest in adult obesity in the Organisation of Economic Co-operation and Development (Capital and Coast District Health Board [CCDHB], 2018). Approximately 31% of NZ adults are classified as obese with higher prevalence amongst Maori and Pacific Island populations (Hales et al., 2018). Obesity is an unhealthy epidemic that is continuing to grow worldwide (De Jong et al., 2019). Bariatrics is defined as the science of providing healthcare for obese patients (CCDHB, 2018). A patient is considered obese when their body mass index is greater than 30% of their calculated healthy weight range (Holleran et al., 2018). Obesity is associated with increased short and long term health consequences and increases risk during interhospital transport.

Crew selection is determined by the clinical needs of the patient and the mode of transport. It is essential that crew are familiar with safe bariatric manual handling techniques and procedures as well as the utilisation of specialist bariatric equipment such as a Hovermatt and the bariatric equalising abdominal restraint (BEAR) air device. Crew must also be familiar with the comorbidities associated with bariatric patients and how these are potentiated by the stressors of flight. Multiple personnel are needed to assist with the safe movement of a bariatric patient including the flight nurse +/- doctor, flight crew person, pilots of the aircraft, fire-rescue personnel at the airports, road ambulance crew and hospital orderlies. This will ensure patient and crew safety are maintained and prevent potential injury and harm from occurring during patient movement.

Aircraft selection is determined by the patient's weight and measurements as well as urgency, distance, geographic limitations, weather and availability of various aircraft (Blumen et al., 2015). Both fixed wing and rotary wing aircraft are capable of transporting bariatric patients however this is dependent upon certain model specifications and patient measurements. The Beechcraft King Air B200 is one of the most appropriate aircraft to request as it has a cargo door that accommodates the safe loading and unloading of bariatric sized patients with specifications shown in Table 1.

Table 1.

Beechcraft King Air B200 Specifications	
Maximum Payload	4,030 lbs/ 1,828 kg
Maximum Take-off/Landing Weight	12,500 lbs/ 5,670 kg
Maximum operating altitude	35,000 feet
Main cargo door dimensions	68x131 cm
Loading ramp maximum	450 lbs/ 204 kg
Maximum Range	1,720 nm/ 3,185 km

(Textron Aviation, 2020)

Monitoring equipment encompasses a large blood pressure (BP) cuff for accurate BP recordings however an arterial line may provide more reliable measurements. Several syringe drivers would be needed to administer medication. Equipment considerations should encompass the safe transfer of the patient to the stretcher using devices such as a Hovermatt or large sliding sheets and safe restraining using a BEAR air device once on the stretcher. Hovermatts and sliding sheets prevent shearing force injuries to patients' skin and reduce injury potential in personnel utilising these. The stretcher must be able to safely hold the patient's weight without collapsing and the patient should be transferred on to the stretcher from a standing height to prevent potential injury to crew. Stryker and Ferno have patented stretchers to withstand certain bariatric weights (See appendix 1). The electric Stryker stretcher can take a maximum load of 318kg and is ideal for bariatric patient transfers within NZ (Stryker, 2020). A tail-lift ambulance would also be required to move the patient safely on the stretcher and reduce the risk of injury to crew by avoiding manual handling.

Physiological considerations:

Bariatric patients experience anatomical and physiological changes secondary to an increase in adipose tissue affecting airway access and patency, decreased functional residual capacity (FRC), increased upper airway resistance and increased chest wall resistance. Excess fat around the abdomen impairs respiratory function displacing the diaphragm upwards and may increase pleural pressure. These negative effects are further exacerbated by supine positioning and mechanical ventilation (De Jong et al., 2019). Intubation and ventilation of a bariatric patient often leads to lung de-recruitment and atelectasis. Reduced FRC and lung compliance also result in atelectasis, ventilation perfusion mismatch and hypoxaemia (De Jong et al., 2019).

Co-morbidities resulting from changes in the respiratory system include obstructive sleep apnoea and obesity hypoventilation syndrome (OHS), occurring in approximately 30-50% of bariatric patients (The Society for Obesity and Bariatric Anaesthesia, 2020). OHS is severe nocturnal hypoventilation where unresolved hypercapnia and hypoxia result in type two respiratory failure. This causes carbon dioxide (CO2) desensitisation with this effect heightened by medications such as anaesthetics and analgesics (CCDHB, 2018). CO2 desensitisation is also caused by leptin resistance, a hormone produced by adipose tissue. Leptin resistance is commonly seen in obesity and affects insulin levels and hypothalamic control of sodium and water retention (CCDHB, 2018).

Another key consideration is the differing cardiovascular state of bariatric patients. Increased adipose tissue results in higher blood volume to meet perfusion needs. The heart compensates increasing stroke volume causing increased cardiac output, left ventricular workload, oxygen consumption and CO2 production (Jones et al., 2010; Holleran et al., 2018). This increase in demand leads to cardiovascular disorders such as hypertension, left ventricular hypertrophy, congestive heart failure and cardiac dysrhythmias (Holleran et al., 2018). Pulmonary hypertension and right heart failure are other associated co-morbidities to watch for. An arterial line will be inserted prior to departing the referring facility to ensure continuous BP monitoring.

Gastro-oesophageal reflux disease is a common bariatric ailment. Gastric volumes are increased by up to 75% with high intra-abdominal pressure increasing aspiration risk (Binks & Pyke, 2008; CCDHB, 2018). A nasogastric tube would be beneficial, assisting with decompression of stomach contents and reducing potential regurgitation, aspiration and respiratory compromise during flight. The flight team should position the patient with head elevated to prevent aspiration and ease respiratory effort.

Intubation and ventilation:

Moderate to high positive end expiratory pressure (PEEP) will improve ventilation and reduce atelectasis in bariatric patients and may aid titration of fraction of inspired oxygen (FiO2) (De Jong et al., 2019). PEEP can adversely affect cardiac output and oxygen delivery in bariatric patients therefore should be titrated carefully (Lombardi & Stephenson, 2012). Tidal volumes should be calculated from ideal body weight versus adjusted body weight to prevent excess volumes delivered causing barotrauma to the lungs and worsening hypoxaemia.

Variations in medication distribution, absorption and clearance affects and alters medication dosing in bariatric patients (Schweickert, 2017).

Peripheral intravenous access in bariatric patients is often difficult due to increased adipose tissue and loss of landmarks. A central venous line (CVL) would be an appropriate measure and should be inserted, if able, prior to the flight team's arrival. An intraosseous needle is another option with consideration of needle length necessary. A CVL can provide multiple lumens allowing the administration of infusions and medications including sedatives, paralysis agents, vasopressors and opiates. Special consideration needs to be taken when administering sedatives secondary to the rapid distribution in adipose tissue (De Jong et al., 2019).

Skin integrity is of high importance for bariatric transport as risk of pressure injury is increased. A BEAR air device will provide extra support around the patient's abdomen keeping them secure and maintaining centre of gravity on the stretcher bridge (Beariatrics, 2020). Once loaded on to the aircraft, it is important to ensure that the stretcher isn't up against any internal walls of the aircraft. This prevents and reduces vibration experienced during flight and subsequent increased metabolism and oxygen consumption.

Oxygen requirements will need to be accurately calculated ensuring there is double the volume available on the aircraft (See appendix 2).

Bariatric patients are susceptible to barobariatrauma when exposed to barometric changes. Adipose tissue contains a high concentration of nitrogen and when exposed to changes in barometric pressure, can release nitrogen into the blood stream (Blumen et al., 2015). Symptoms of barobariatrauma include severe dyspnoea, chest pain, petechial rash, joint aches and dizziness. Preventative treatment involves placing the bariatric patient on high flow oxygen, approximately 15L/minute, for 20 minutes prior to flight. This helps to remove nitrogen from the lungs and optimises oxygen reserves.

In summary; transport of the bariatric patient has many challenges. Appropriate crew, aircraft and specialist equipment selection make for a smooth and efficient transport that maintains patient and crew safety and patient dignity. The physiological differences in bariatric patients require careful consideration when planning care and interventions for flight. The stressors of flight can have an adverse effect on unwell bariatric patients, necessitating early recognition, and careful monitoring and treatment by the ICU flight nurse and doctor. Stabilisation of the patient should be achieved prior to departing the referring hospital, reducing risk of deterioration and need for intervention in flight. Ensuring retrieval is completed in a safe and efficient manner, while meeting the needs of the patient, is the ultimate goal of aeromedical transport. This is achieved through careful pre-flight planning, expert care, teamwork and communication.

Becoming a new flight nurse - Rebekah Plant. Christchurch

Before I applied for the job, I was lucky enough to go on a buddy flight or two and saw first hand the autonomy but also all the preparation and responsibility of being out or up there on your own with a patient. Luckily it wasn't enough to put me off applying for the coveted job!

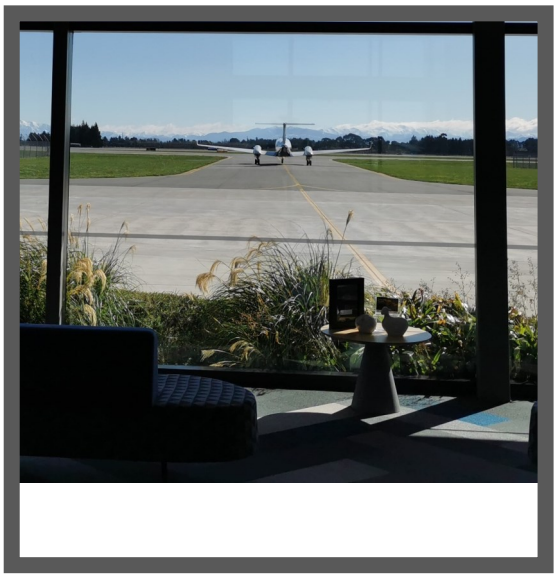
I have come to realise that the reality is that there is always someone at the end of a phone, people to ask and help problem solve from the Doc, paramedics and pilots. Not to mention the co-ordinator and SMO. Despite being physically on my own at times I feel very encompassed with support.

I was very lucky to have a busy orientation and had lots of exposure, from a paediatric, obstetric, nurse only, ICU tubed transfers and one of them was even in the helicopter!

I have now had three shifts on my own off orientation and loving it all, the new challenge, all the learning and new experiences despite the butterflies that become more noticeable the closer I get to the hanger.

I am looking forward to gaining more experience (and getting the first bean bag job out of the way….) and getting some more jobs under my belt and quite literally spreading my wings.

I feel very privileged to have been welcomed into the amazing team that is the Christchurch Air retrieval Service.



Aeromedical Retrieval Course 2021

Due to the global pandemic affectionately called COVID 19, COASTN sadly had to cancel the 2020 course. As a result of all of this we are needing to make some changes to the 2021 COASTN Aeromedical Retrieval Course. We hope to be able to continue with a face to face interactive course that has been run in the past.

Behind the scenes we are busy making plans to present the usual amazing and informative course for you all. With times so uncertain there are a few things for us to work on. As with everything else in the world right now this is an ever evolving and changing situation.

At present we are aiming to run the course in October/ November 2021 rather than the usual March/April time. Dates will be confirmed closer to the time, so keep an eye in here and also on the website for more details as they come.

This will enable us to have a better understanding of where

32nd ASA+COASTN Conference Rescheduled

NEW DATE

Dear Colleagues,

Our ASA+COASTN 2020 Organising Committee and Conference Managers have been closely monitoring the constantly evolving situation in relation to COVID-19. Our primary concern is for the safety, health and wellbeing of our participants, many who are currently working tirelessly on the front line in our health systems around the world. In the current climate, it would not be feasible to proceed as we had planned, therefore we have made the decision to reschedule this year's conference to the same time next year.

The ASA+COASTN Conference will now be held from **Monday 30 August – Wednesday 1 September 2021** at the Museum of New Zealand Te Papa Tongarewa, Wellington, New Zealand.

Many of you will be disappointed, as are we. The conference organising committee has put together a wonderful program and we very much look forward to sharing this with you in early 2021.

We thank you for your understanding during this challenging time, and we hope that you will consider being a part of our rescheduled conference in 2021.

David Waters
President | Aeromedical Society of Australasia

Critical Care in the Air

ASA + COASTN CONFERENCE
30 August - 1 September 2021

The Museum of New Zealand Te Papa Tongarewa
Wellington, New Zealand

AeroMed AUSTRALASIA

coastn NZNO
COLLEGE of AIR & SURFACE TRANSPORT NURSES

www.aeromedconference.com

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Busy People's Bread courtesy of Annabel Langbein and The Free Range Cook.

Ingredients:

Makes 2 loaves, can be halved for just one loaf.

2 Cups Boiling water

4 Tsp Honey

2 Cups Cold water

7 Tsp dry yeast granules

2 3/4 Cups high grade white flour.

2 3/4 Cups wholemeal flour

3 tsp salt

2 Cups sunflower seeds

4 TBSP pumpkin seeds

Directions:

Preheat oven to 80C and grease and line two 25x10cm loaf tins with baking paper. In a large bowl, mix the boiling water with the honey to dissolve. Add the cold water and yeast and put to one side for 10 minutes.

Whisk the yeast mixture and then add the white and wholemeal flour, salt and sunflower seeds and mix with a large spoon until evenly combined. It will be a loose, wet batter.

Divide the mixture between prepared loaf tins, spread evenly and sprinkle 2 tbsp of the pumpkin seeds over the top of each loaf and run a sharp knife through the top of each loaf in at least 3 or 4 places so that it rises evenly without splitting.

Bake for 20 minutes at 80C and then turn the oven up to 210C and bake for a futrher 30-40 minutes. When cooked the loaves will sound hollow when tapped. Turn out of the tins while still hot and leave to cool.

This bread will keep for a few days and toasts well.

Shout out to the lovely folk at Whangarei airport and their great selection of food. It can't be easy for them in these difficult times. Looking forward to my next flight there

Thank you to everyone who has contributed to this last e-mag for 2020.