BLOOD ON BOARD

PRE HOSPITAL TRANSFUSION SERVICE IN NSW NORTHERN REGION

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INTRODUCTION

- Background - Westpac Rescue Helicopter Service- LPRS
- Pre-Hospital transfusion
- NSW health policy.
- Credo shippers
- Data loggers
- Up and running
- Outcomes
- Reflection/ conclusion
- Acknowledgements
THE WESTPAC LIFESAVER RESCUE HELICOPTER SERVICE.

Commenced 1973 One base – Newcastle - One helicopter

NOW- National, 13 bases
16 helicopters, Boat in the NT

NSW Northern region
• Based in Lismore
• Started in 1985
• Two aircraft
• 18 crew
• Over 7200 missions.
• 7 missions /week.
• Cover area shown in map
• Extended transfers to JHH in Newcastle and Brisbane Hospitals
Evidence – military - civilian settings, contributing factor to the survival of many trauma patients.

1998-study

Prehospital Blood Transfusion in Prolonged Evacuation

Barkana, Yaniv MD; Stein, Michael MD; Maor, Ron MD; Lynn, Mauricio MD; Eldad, Arieh MD

**Conclusion:** Prehospital blood transfusion is justified in certain trauma patients, especially when long prehospital transport is required.

Journal of Trauma-Injury Infection & Critical Care: [January 1999 - Volume 46 - Issue 1 - pp 176-180](#)

Article: Presented At The 58Th Annual Meeting Of The American Association For The Surgery Of Trauma, September 24-26, 1998, Baltimore, Maryland
Prehospital blood transfusion: 5-year experience of an Australian helicopter emergency medical service

PB Sherren and B Burns

All Greater Sydney Area HEMS (GSA-HEMS) prehospital missions involving a blood transfusion over a 66-month period were identified and reviewed.

Total number of PRBC units transfused = 382.

Total number of PRBC units wasted = 66.

Pronounced life extinct on scene = 22 (15%)
Conclusion

Despite the controversies over the role of fluids in the prehospital environment, the carriage and use of blood is both feasible and safe in a physician-led helicopter emergency medical service.
March 2014, NSW health introduced a policy recommending the availability of blood on the helicopters used for primary retrieval services in NSW.

In late 2014, the Director of the Lismore Primary Retrieval Service approached Pathology North in Lismore and the Lismore Local Health District to discuss the policy and setting up the service in the North Coast.
THE BEGINNING
GETTING STARTED

1. Documents- SOPs. Lack of consistent SOPs- adapt HAPs SOPs
2. What do we need? Shippers, logger, log reader?
3. How many to purchase?
4. Who was to pay for the equipment?
5. Validation studies- who will perform? HAPS compare to current shippers?
6. What blood products will be supplied? Auckland Use a unit of whole blood- Australia mostly 2 to 3 units packed cells.
7. Staff training? as required.
8. Set up IT e-blood for issue and traceability
CREDO SHIPPERS.

Three shippers
Purchased by the Lismore Primary Retrieval Service.

Validation performed by HAPS Newcastle.

Cube placed in
  • freezer at -30C for 24hrs
  • In situ for 24 hours
  • Valid for 72 hours at 2-8C
LogTag
TEMPERATURE
RECORDERS
AND READERS

Six Temp recorders were donated by PN PoC testing as they were excess to needs.

Reader / cradle was purchased by LPRS

Set up tested by PN staff in Lismore.
Monday 29th June 2015 not really but if you don’t give it a go you will never, never know.
If this was a novel, this chapter would start with.

“All was perfect but in a few hours many lives would be change for ever.
OUTCOMES

MO on chopper-stated - have used the blood. What do we do now.
Pathology staff- Come and get more
MO- Will drop patient at Gold Coast and collect on return

?? We were not really prepared for this ???

Other staff member – there has been a shark attack at Ballina.
“OUR BLOOD” IN THE PIC.
NEWS UPDATE

The 32-year-old bodyboarder is currently undergoing surgery at Gold Coast University Hospital after he was mauled on both legs by the shark, estimated to be 4m long.

NSW police and ambulance crews were called to the North Wall break at Lighthouse Beach at about 10am this morning after reports the local man had been bitten while he was bodyboarding with two friends.

The man’s friends helped him to shore and performed CPR while using surfboard leg ropes as tourniquets to help stem the blood loss before paramedics arrived.

Ballina retiree called emergency services. When walking along the beach with his grandchildren he heard a surfer yell out waving his arms.

The former council employee and surfer stayed on the line with paramedics for almost an hour.
HOW HELICOPTER'S NEW PROCEDURE HELPED SAVE HIS LIFE.

**UPDATE 11.40am:** A NEW procedure introduced this week into the Westpac Life Saver Rescue Helicopter may have played a big part in the saving of a Ballina body boarder’s life yesterday.

Paramedics at the scene of the attack off Lighthouse Beach administered two units of emergency blood supply in an attempt to stabilise the patient after he went into cardiac arrest.

Miraculously, the helicopter only started carrying emergency blood on missions in recent days.

Westpac Life Save Rescue Helicopter spokesman said it had taken about six months for local doctors to trial methods of carrying the blood suitably on board the aircraft.

The blood is kept in a special refrigerated unit to keep it cool.

As a result of the successful trials, it's now mandated in all aeromedical services across the entire state.

"Thankfully it was on board to assist the gentleman yesterday," the spokesman said.
WHAT SAVED HIS LIFE

Apr. 8, 2008: 16 year old, Ballina attacked and killed by a great white shark while bodyboarding at Ballina’s Lighthouse Beach.

Feb. 8, 2015: 41 year old, Ballina. Japanese national killed by 4m great white shark while surfing at Shelly Beach at Ballina.

1. Quick action of his companion- return to shore,
2. Stemming the blood flow- using leg ropes
3. Performing CPR
5. Blood on board the helicopter
6. Timely transfer to hospital.
OUTCOMES TO SEPTEMBER

Transfused on 5 occasions- total 10 units

- Shark attack at Ballina, - patient transferred to GCH- discharged
- MVA at Broadwater – patient transferred to GCH – discharged
- MVA at Macksville – transferred to JHH – recovering – (JW)
- Shark attack at Evans Head- transferred to LBH, GCH now discharged.
- Penetrating wound to neck- transferred to LBH – remains in LBH

Wasted units-

4 units all in first week - blood became too cold- temp <1C for prolonged period

Now 24 hours at -20 C not -30.C
CONCLUSION

Lack of consistent SOP

- Discuss at the PN transfusion group
- Forwarded to NSW Health Pathology.

Hopefully the outcome will be to standardise procedures for the provision of blood for pre-hospital transfusions in NSW.
UPON REFLECTION

Staff PN Lismore
- Morale booster.
- Felt they were a part of the clinical team.
- Saving living service
- Worth the effect.
- Rapport with MO, LPRS

MO LPRS
- Appreciate work of PN staff
- See PN as “able to get things done”.
LIKE TO ACKNOWLEDGE AND THANK

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ARCBS

THANK YOU.