7th International Nurse Practitioner/Advanced Practice Nursing Network Conference

Advanced nursing practice: Global vision - global reality
Experiences of advanced nurses working within disaster areas and war zones

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MEDICAL EMERGENCY RESPONSE TEAMS

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MERT NURSE PRACTITIONER

MINISTRY OF DEFENCE HOSPITAL UNIT PETERBOROUGH
Scope

• MERT Overview
• Who are we?
• Team composition/nurse responsibilities
• Aircraft Capability
• Medical Capability
• Does MERT matter?
• Questions
What is MERT?

• Forward Aeromedical Evacuation

• Air Publication 3394 Definition:

“...provides airlift for patients between points within the battlefield, from the battlefield to the initial point of treatment and to subsequent points of treatment within the combat zone.”
Incident Response Team

Other Specialists-
EOD/Fire/MP

Chinook or Merlin (4 crew)

MERT(E) (4 crew)

QRF (4 crew)

AH-64 Apache (2 crew)

=14 personnel
Crew Resource Management

- **Core Capability**
  - 2 RAF Paramedics, 1 RAF Emergency Nurse.
  - 1 Tri – Service Consultant Clinical Lead (Anaesthetist/EM Consultant/Registrar)

- **Flexibility**
  - Team & Individual Capability

- **Robust Medical Chain**
  - Buddy-Buddy /Team Medic- **Fwd AE** (MERT)–R3 – CCAST/Aeromed – R4/UK (RCDM)
Nurse Responsibilities

• Team leader
• Comms between aircraft, medical team and force protection (FP)
• Responsible for passing medical info back to the hospital
• Care of patients/clinical procedures

• Welfare and morale of team including the aircrew and FP
• TRiM Practitioner
• Ensure the smooth running of the medical component i.e medical stores, equip checks, trg etc.
Advantages

• Highly trained practitioners who project the Emergency Department to the casualty

• Carriage of blood and plasma and hypothermia mitigation kit (EN-FLOW, BLIZZARD)

• The ability to Rapid Sequence Induction (RSI)

• A dedicated and highly capable air platform which is well armoured, well protected (M-60 and GPMGs/miniguns) and fast reacting
Aircraft
Chinook CH-47

Crew - 4
Capacity – up to 8 stretchers
Speed - 196 mph
Endurance – 4 hours (approx)
Aircraft
HC3 MERLIN

Crew 4
Capacity – 2-3 stretchers (approx)
Speed – 192 mph (approx)
Endurance – 3 hours (approx)
LIMITATIONS

Tactical Flying Conditions
Noise
In flight communications
Equipment
Vibration
Capacity
Temperature variation
Dust
Dangers

Aircraft and Personnel are a high value EXPECTED target

Mines

Tactical flying

Geographical and Environmental conditions – the only reason why launch maybe delayed.
Aircraft Protection

- Kevlar Armour
- Missile jamming systems
- Chaff and Flare
- Aircraft Mounted Guns (GPMG /Mini-Gun)
- Self-sealing fuel tanks
FORCE PROTECTION

Royal Air Force Regiment x4
Activation and Response
MERT Activation

NATO 9 Liner from Incident location to PECC (Patient Evacuation Control Centre)

Medical asset required?

PECC -> MERT/PEDRO/DUSTOFF

MERT -> Aircraft

MERT updated via secure ac comms

MERT -> Incident
MERT Activation

• 2 Teams working 24 hrs

• Readiness states:
  – Day 15 minutes
  – Night 30 minutes

• Aircraft will launch commonly under 10 mins.
Activation Cont.

- Aircraft will still launch without full medical information (MIST).
- Aircraft will be updated in flight.
Paramedic Handover / Rapid Assessment

Handover – Unsecured = 90 sec
Medical Handover

• AT-MIST used every time.

• Time limited handover – Focus on Mechanism and Injuries.

• Use PRF, Local AT-MIST form or even piece of paper.

• Prepare for rapid and appropriate load (90 sec)
Decide Load Plan
Medical Capability

Projection of the Emergency Department (ED) to point of wounding.
In-Flight Transfer
Key Areas

• Ability to deliver Rapid Sequence Induction (RSI) of Anaesthesia (Oxylog 1000)
Blood Products

RBC (O-) x 4

FFP x 4
HYPOTHERMIA MITIGATION

EN-FLOW

BLIZZARD

ROYAL AIR FORCE
Life Saving Med Kit

- EZ-IO®
- Emergency Bandage
- C.A.T
- CELOX
Key Areas Cont.

- Advanced **Pain Management** - Ketamine, Fentanyl IV / Lollipops
- Tranexamic Acid
- Amputation (for entrapments)
- ALS
- Winching capability
HLS – Hosp Transfer
Handover at Role 3
Pre-Deployment Training

12 Weeks of PDT:

- BATLS – 3/7
- MERT Course – 1/52 (QRF/Aircrew)
- HOSPEX 3/7
- IRT CAT 2 – 2/52
- SERE B CSAR – 3/7
- AE Trg – 6/52
- MIMMS 3/7
- PHEC 3/7
- DUNKER DRILLS 1/7

(This does not include clinical qualifications)
Patient’s Perspective

- Well known capability that must not be taken away.
- Moral and morale component.
Case Study  Christmas Eve 2007

1127 hrs– Call, mine strike, x2 British casualties, no medical information

1138 hrs- Airborne, prep of medical equip

1153 hrs – Arrival at desert grid, x1 walking wounded x1 stretcher casualty

1155 hrs – Airborne with both casualties

1st Casualty – Fragment wounds to left shoulder and elbow, GCS 15

2nd Casualty – Triple amputation to both legs and right arm, deep laceration to left palm, GCS 3, carotid pulse, catastrophic haemorrhage +++ No IV access.
C A B c D approach

- Catastrophic Haemorrhage – Application of combat application tourniquets to prevent further blood loss, pack wounds with haemcon and bandage

- Airway - Maintain airway, give oxygen

- Breathing – Assisted ventilation

- Circulation – Access required, but how/where? Iliac crest IO, first time use in British military trauma, vital fluid given

- Disability - Landed at hospital before consideration could be given, GCS 12 on arrival, femoral pulse
Current Challenges

- Training/Experiences
- Physical Fitness
- Staffing
- Psychological / Emotional (Short & Long Term)
Does MERT Matter?
“The injuries I sustained in Afghanistan changed my life......but they do not define it......The skills and qualities that I have learnt in the military are what got me to where I am today. I hope to use the knowledge and experience I have gained since that fateful day to continue down the path I am on, continue to learn, grow, improve and keep setting and reaching my goals”.

Mark Ormrod 2011
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Advanced nursing practice: Expanding access and improving healthcare outcomes

IMPORTANT DATES: Abstract submission 3 June - 30 September, 2013 • Registration opens 7 January, 2014

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