

Critical Evacuations: Helicopter Responses in Remote Areas



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Agenda

What is the reality of air support for emergencies in remote areas?

1. How does air evacuation work in practice?
2. What challenges arise in coordinating air support?
3. What lessons can be learned to improve future response?

1. How does air evacuation work in practice?

What we are taught vs the reality...

DISCUSS WITH YOUR NEIGHBOUR/S

1. How does air evacuation work in practice?

Case Study 1 – snake bite at remote campsite

- 2x outdoor educators, WFA qualified + 14 participants (year 10 boys – aged 16yo)
- OBA staff member is bitten by a snake
- Remote campsite – hike in only
- Night-time incident
- Communication via text only – through Garmin Messenger *“I think I may have been bitten by a snake”*

1. How does air evacuation work in practice?

Case Study 1 – snake bite at remote campsite



Challenges

- Staff member is the patient >> staff management + replacement at a remote site
- Limited communication/effective communication with Program Coordinator
- Road on map – however, not accessible without significant effort (chainsaw etc..) >>
this delayed the decision making for a helicopter
- Coordinating the evacuation with National Park + local emergency services
 - Did not use the SOS function on Garmin device...

1. How does air evacuation work in practice?

Case Study 1 – snake bite at remote campsite



Learnings

- Effective use of Garmin and digital tools to aid emergency response
 - The value of relationship with local stakeholder
 - Robust and practiced internal response systems
- In person debrief and support post-incident – staff members and participants.

1. How does air evacuation work in practice?

SUMMARY

- The decision to dispatch a helicopter will only be made once all other options have been both explored and excluded.
- Helicopter dispatch will involve a large number of local, state and federal stakeholders.
- Other options may be enacted on the ground before the helicopter is dispatched.
- Ground response may be necessary/complementary to the helicopter response.

1. How does air evacuation work in practice?

SUMMARY

- Average response time for a helicopter to be on the scene: 2.5 h
 - Average time spent communicating stakeholders: 3+h
 - Average number of stakeholders involved: 9
 - Including but not limited to:*
 - Patient/victim(s)
 - Next of Kin
 - First responder(s)
 - Program Coordinator
 - Ambulance officers
 - Police
 - National Park/State Forest
 - Helicopter crew
 - Fire department
 - SES (State Emergency Services)

2. What challenges arise in coordinating air support?

Case Study 2 – testicular pain at remote site

- 15 yo male complained of testicular pain in the late afternoon. Group is walking off-track and 5km+ from the nearest unsealed 4WD track.
 - Day 5/9, clement weather, alpine environment.
- Group is preparing to summit the peak of the program the next day (full off-track expedition).
 - Pain has been constant and unreported for 12h+
 - No significant MOI
- Communication via Garmin device only – no verbal communication.

WHAT DO YOU DO?



2. What challenges arise in coordinating air support?

Case Study 2 – testicular pain at remote site

- Staff member and accompanying adult perform a visual assessment and thorough SOAP note.
 - Conservative approach >> risk factor and prevalence in this demographic
 - Treated as critical medical situation >> SOS button activated.
 - Garmin call centre supported the coordination of the evacuation.
- Coordination with local National Park and emergency services, Program Coordinator, Garmin call centre.



2. What challenges arise in coordinating air support?

Case Study 2 – testicular pain at remote site



Learnings and Challenges



Outcome: Testicular torsion - patient underwent emergency surgery

Key challenges

- Assessing the severity of an unclear medical issue.
- Making the decision to activate emergency services.
- Coordinating the air evacuation of a minor.

Learnings

- SOS function and associated process
- Medical training and scenario training for time sensitive medical issues
- Decision making protocols

2. What challenges arise in coordinating air support?

*A quick pause and
reset*



2. What challenges arise in coordinating air support?

Case Study 3 – sudden cardiac arrest on riverbank

- 54 yo male attending Swift Water Rescue recertification course.
 - 4 other participants + 1 trainer
- Drops on the river left bank, on rock shelf above a grade 3 rapid during final scenarios.
 - SOS initiated within 10sec of CPR
 - 2x staff members rotating through CPR
 - 2x people coordinate with emergency services
 - Road access 200m from river right bank.
- Communication via Garmin device only – no verbal communication.

WHAT DO YOU DO?



2. What challenges arise in coordinating air support?

Case Study 3 – sudden cardiac arrest on riverbank

- Chance of survival after 2h of continuous CPR
- Cross state response with emergency services coming from 2x different states
- Control burn above the site prevents helicopter access from the closest site
- Helicopter needs to set up for winching, concerned about fuel capacity, lowers the paramedic to stop CPR, then hands over body recovery to ground crew.
- Every emergency response team have different skillsets and knowledge.

2. What challenges arise in coordinating air support?

Case Study 3 – sudden cardiac arrest on riverbank



Learnings and Challenges



Key Challenges:

- Extended casualty management in a wilderness setting.
- Complex body retrieval requiring whitewater techniques.
- Emotional impact and team resilience in responding to a fatality.

Lessons Learned:

- Managing high-stress, prolonged medical responses in remote areas and return to work process.
- Understanding helicopter capabilities and limitations.
- The critical role of local emergency services and their relationships with outdoor organizations.

2. What challenges arise in coordinating air support?

SUMMARY

- Importance of medical training to recognize time-sensitive conditions.
- Decision-making protocols for emergencies in remote settings.
- Best practices for using SOS features on GPS devices/PLB
- The helicopter is not the end of the response – what happens after it leaves with the patient/casualty...

Learnings and actionables for the future...

1. UNDERSTAND and COMMUNICATE the reality of emergency response in remote/wilderness areas

- Advanced communication devices (Garmin, InReach, etc.) are crucial but must be fully integrated into emergency protocols.
- Develop and maintain an organizational understanding of the reality of emergency response in your specific area/s of operation.
- Staff must be trained not only in device operation but in what happens after an SOS is activated.

Learnings and actionables for the future...

2. STRENGTHEN training and preparedness

- Regular drills on remote emergency response with real-world constraints.
- Decision-making frameworks for classifying emergencies and activating air support with or without PLB/SOS devices.
- Mental preparedness and resilience for handling critical incidents during and post incidents.
- Clear process and systems for each level of response of your organization including clear frameworks for escalation and internal responsibilities.

Learnings and actionables for the future...

3. COLLABORATE with local Emergency Services & STAKEHOLDERS

- Building and maintaining relationships with local agencies for more efficient coordination.
- Understanding local response capabilities and limitations.
- Pre-planning for multi-agency and cross-borders incident response, including extended patient care.

Any Questions?

Stay in touch and connect



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