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Prehospital Emergency Services Current Awareness Update.

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*This Current Awareness Update was commissioned by the National Ambulance Research Steering Group comprising of research leads from ambulance trusts in England, Scotland and Wales and other experts and groups supporting prehospital research. The aim of the group is to support the strategic development of ambulance and prehospital research whether leading, collaborating in or using research.*

*Prehospital Emergency Services Current Awareness Update – Issue 80, February 2020*

## Research and Best Practice

The following research papers have been published in the last couple of months.

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## Helicopter Emergency Medical Services (HEMS) and Air Medical

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## Diagnosis and Triage

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## Further Research Needed – studies where further research is called for

Dagnell, A. J. (2020) **Teamwork and leadership in out-of-hospital cardiac arrest – do these non-technical skills require attention?**, *Australasian Journal of Paramedicine*, 17(1). doi: [10.33151/ajp.17.748](https://doi.org/10.33151/ajp.17.748). [Open Access](#)

The science of cardiopulmonary resuscitation (CPR) is now well established and incorporated into training programs to maximise patient survival. There is an increased understanding that non-technical skills such as teamwork and leadership can play a vital role in improving CPR quality, patient outcomes and clinician occupational health. Despite this, these non-technical skills remain somewhat neglected in the context of out-of-hospital cardiac arrest. With reference to the literature this commentary provides a discussion to reinforce the need for a greater focus to this area of practice and **build a case for further research and training**.

Mars, B. *et al.* (2020) **Suicide among ambulance service staff: a review of coroner and employment records**, *British Paramedic Journal*, 4(4), pp. 10–15. doi: [10.29045/14784726.2020.12.4.4.10](https://doi.org/10.29045/14784726.2020.12.4.4.10). [Open Access](#)

**Conclusion:** Identifying characteristics of suicide among this high-risk group is important to inform the development of suicide prevention initiatives. **Additional research is needed** with an adequate control group to further explore the risk factors identified in this study.

Johnson, L. (2020) **Paramedics working in a prison-based healthcare setting: an exploratory mixed methods study**, *British Paramedic Journal*, 4(4), pp. 1–9. doi: [10.29045/14784726.2020.12.4.4.1](https://doi.org/10.29045/14784726.2020.12.4.4.1).

**Conclusion:** In a small exploratory study, it is suggested that paramedics possess the relevant skills and training to offer a meaningful contribution to the provision of prison healthcare; however, **further research is required** to explore the full scope of their contribution in this setting.

**Reducing ambulance handover delays: key lines of enquiry. NHS Improvement'** (2020). Available at: <https://improvement.nhs.uk/resources/reducing-ambulance-handover-delays-kloes/>. [Open Access](#)

The key lines of enquiry (KLOE) for ambulance handover cover six domains. Their **purpose is to invite critical review of relevant aspects of ambulance handover**, and to identify opportunities to improve care at the interface of the emergency department (ED) or other hospital acute pathway and ambulance service.

1. Ambulance Handover Standards
2. Fit2Sit
3. Healthcare professional referred ambulance arrivals who are expected

4. Senior review
5. Site escalation
6. System Risk

Sobieraj, D. M. *et al.* (2020) 'Comparative Effectiveness of Analgesics to Reduce Acute Pain in the Prehospital Setting', *Prehospital Emergency Care*, 24(2), pp. 163–174.  
doi: [10.1080/10903127.2019.1657213](https://doi.org/10.1080/10903127.2019.1657213).

**Conclusions:** As initial analgesia, opioids are no different than ketamine, APAP, and NSAIDs in reducing acute pain in the prehospital setting. Opioids may cause fewer total side effects than ketamine, but more than APAP or NSAIDs. Combining an opioid and ketamine may reduce acute pain more than an opioid alone but comparative harms are uncertain. When initial morphine is inadequate, giving ketamine may provide greater and quicker acute pain relief than giving additional morphine, although comparative harms are uncertain. Due to indirectness, strength of evidence is generally low, and **future research in the prehospital setting is needed.**

Delardes, B. *et al.* (2020) 'What is the effect of electronic clinical handovers on patient outcomes? A systematic review', *Health Informatics Journal*, pp. 146045822090516–146045822090516.  
doi: [10.1177/1460458220905162](https://doi.org/10.1177/1460458220905162). [Open Access](#)

**Summary:** This review suggests that e-handover may improve the handover completeness; however, it is unclear at this time if that translates to an improvement in patient care. The lack of reliable evidence highlights the need for **further research exploring the effect** of e-handovers on patient care.

McDonald, N. *et al.* (2020) 'Head-neck motion in prehospital trauma patients under spinal motion restriction: a pilot study', *Prehospital Emergency Care*, pp. 1–12. doi: [10.1080/10903127.2020.1727591](https://doi.org/10.1080/10903127.2020.1727591).

**Conclusion:** Among actual patients, movement appears to be greater than previously recorded in simulation studies, and to be associated with patient behavior. Miniature IMUs [inertial measurement units] are a feasible approach to field-based measurement of H-N kinematics in trauma patients. **Future research should evaluate the effects** of patient compliance, treatment and phase of care using larger samples.

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