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A pre-hospital emergency anaesthesia pre-procedure checklist

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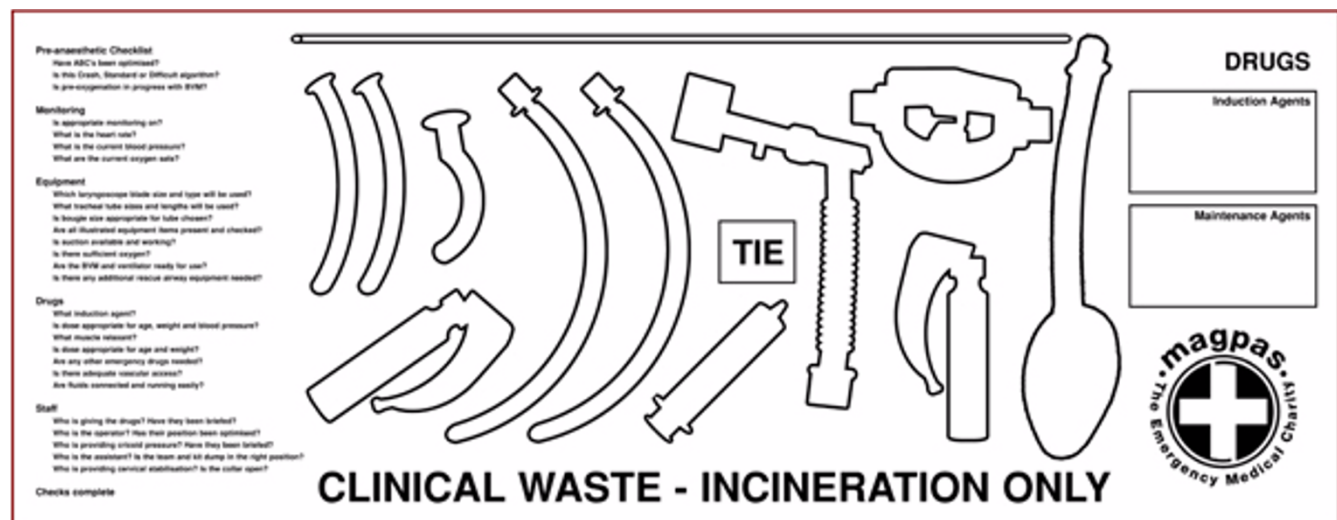
Introduction

Pre-hospital emergency anaesthesia (PHEA) is a high-risk activity. Recent guidelines suggest that providers consider using pre-procedure checklists [1]. We applied the principles of checklist development and design to our PHEA practice, developed a pre-anaesthetic checklist and introduced it to our service.

Methods

An expert group of physicians and paramedics within our service considered:

- Safety critical events (delays, errors or complications associated with PHEA).



The checklist is titled 'Pre-anaesthetic Checklist' and is organized into several sections:

- Pre-anaesthetic Checklist:** Includes questions about ABCs, oxygenation, and pre-emption.
- Monitoring:** Questions about monitoring setup, heart rate, blood pressure, and oxygen saturation.
- Equipment:** Questions about laryngoscope, tracheal tubes, bougie, and ventilator.
- Drugs:** Questions about induction agents, muscle relaxants, and other emergency drugs.
- Staff:** Questions about who is giving drugs, who is operating, who is providing pressure, who is the assistant, and who is providing cervical stabilization.
- Checks complete:** A box to be checked off.

Illustrations of medical equipment include a laryngoscope, tracheal tubes, a bougie, a ventilator, and a TIE (Tensioning Intraosseous) device. A 'DRUGS' section has boxes for 'Induction Agents' and 'Maintenance Agents'. The logo for 'magpas The Emergency Medical Charity' is in the bottom right corner. At the bottom, it says 'CLINICAL WASTE - INCINERATION ONLY'.

Figure 1
PHEA Checklist (full size version will be displayed).



Figure 2
Use of the PHEA checklist (video of checklist in use will be displayed).

- Published guidelines available at the time [2].
- The operational context (i.e. the environment, case mix and clinical practice within the service).
- Criteria for effective checklists (e.g. simplicity, readability).

The group drafted a checklist and tested it in simulated PHEA scenarios. A second version was produced and introduced on our PHEA training programme. Following positive feedback and improved performance with simulated patients [3], we introduced the checklist into our operational service.

Results

The checklist is printed on a large yellow clinical waste bag and incorporates a written challenge-response checklist and an equipment template (Figure 1). Acceptance of the checklist within the service has been universal and no adverse consequences in terms of time to complete the checklist or other delays to treatment have been observed. Conversely, users have reported that it fulfils its role as an aide memoire and focuses them on pre-induction tasks, processes or equipment items that are safety critical (Figure 2).

Conclusion

Standardised pre-procedure checklists reduce the risk of error. They structure complex procedures, improve team dynamics, trap errors associated with human factors (e.g. memory lapses due to task overload) and identify equipment problems [4]. We consider pre-anaesthesia checklists to be essential to the safety of PHEA and recommend that all PHEA providers implement them. We propose a collaborative multi-centre quantitative study if the impact of checklists along the lines of the recently published Safe Surgery Saves Lives campaign [5].

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