

PREHOSPITAL EVIDENCE BASED PRACTICE PROGRAM

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On behalf of the PEP Editorial Team
NAEMSP 2018

  @DalDivEMS 

Conflict of Interest

- Jen Greene is the paid coordinator of PEP
- PEP is grateful for the financial and in-kind support from EHS (Nova Scotia Department of Health and Wellness) and the Dalhousie University Division of EMS

Objectives

- After this session you will be able to:
 - Find best EMS evidence using the PEP website
 - Understand the evidence grading and synthesis used in PEP
 - Apply EMS best evidence to clinical questions arising in practice

Why use PEP?



You get pulled aside on your shift to talk about a recent case.....

- A cardiac arrest was worked in the field by advanced care paramedics
- They intubated the patient, using a bougie and laryngeal manipulation
- Your colleague was under the impression that out of hospital intubation is not supported by the evidence



I wonder if the evidence supports intubation for out of hospital cardiac arrest?



1966: Accidental Death & Disability: The Neglected Disease

1960 1980 2000 The Future

1970 1990 2010

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1997: Prehospital Emergency Care

1960 1980 2000 The Future

1990 2010

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A call to arms

Quantifying the Scanty Science of Prehospital Emergency Care

TOP ISSUES IN EMS
NAEMSP BOARD OF DIRECTORS
Baltimore, Maryland 2001

Science:

there is more solid evidence for acupuncture, hives and constipation than there is for the entire practice of EMS, which treats tens of millions patients a year at a cost of billions of dollars.

There is a lack of quality research addressing important EMS questions. The challenge is to generate evidence to identify effects of, improve, and understand the care provided by EMS.

1960 1980 2000 The Future

1990 2010

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Evidence matters...

- Do what works to make patients better
- Allocate limited financial resources
- Serve health care needs of diverse population/geography
- Paramedics emerging health profession with unique abilities to enhance system
 - Not all 9-1-1 calls require transport to ED



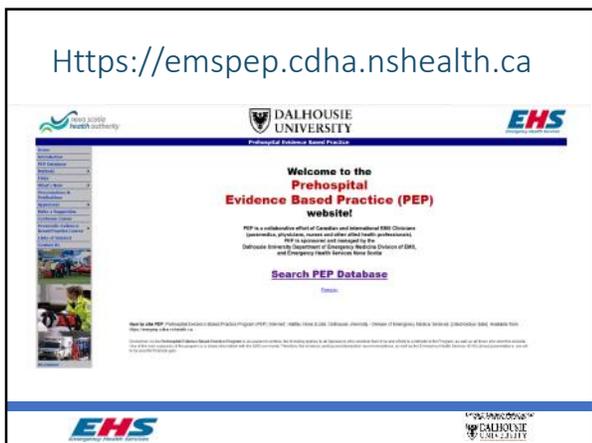
1997: PEP starts in Nova Scotia

Prehospital Evidence-based Practice Program



What is PEP?





Prehospital Evidence Based Practice Program

- Online, free access
- Literature pertaining to all EMS interventions (“North American” /paramedic based EMS)
- Continuously updated

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A Vision for PEP

- PEP is an internationally recognized source for evidence based decision making in EMS
- <https://emspep.cdha.nshealth.ca/Default.aspx>

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Monthly literature searches

- Structured, systematic literature search in Pubmed
- One clinical topic area per month



Inclusion criteria

- Primary literature
- Formal systematic reviews
- Investigating any PEP intervention
 - Any clinical outcome
 - Any modern setting
 - Including simulation



Exclusion criteria

- Animal studies
- Narrative reviews
- Editorials
- Expert opinion pieces



Critical appraisal

- Strength/quality of evidence
- Direction
- Primary outcome
- Setting
- Methods




Second party appraisal

- All studies are reviewed again by a senior appraisal team
- Senior team
 - Jan Jensen ACP
 - Dr. Judah Goldstein PCP
 - Janel Swain ACP
 - Dana Fidgen RN
 - Dr. Yves Leroux
 - Dr. Jolene Cook
 - Dr. Alix Carter
 - Jen Greene ACP






Referenced in Canadian EMS guidelines



6200.05: ADULT AIRWAY MANAGEMENT

ADULT AIRWAY MANAGEMENT

Right hand under neck:

- By controlling the patient's head with the right hand, it allows the clinician to perform an exaggerated neck motion and reduces airway obstruction and unnecessary force.

Backwards Upwards Rightward Pressure (BURP)

- Manipulating the thyroid cartilage back, upwards and to the patient's right will help bring the glottis opening back into anatomical alignment (PEP 2 supportive).

Both hands on laryngoscope handle

- This improves control and reduces intubation time.

After two unsuccessful attempts at intubation, alternative airway management strategies should be employed including:

- ECG
- IM (PEP 2 supportive)
- IP (PEP 2 supportive)

Supine Airway:

The purpose of a surgical airway is to provide oxygenation and ventilation to patients who otherwise would die as a result of hypoxia (PEP 3 optional). It is reserved for the infrequent situation where the clinician is unable to intubate and unable to oxygenate with the patient's oral airway.




International Users

1764 page views in month of November

Pageviews



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PEP referenced internationally



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Prehospital Evidence Based Practice Program

Knowledge to Practice

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I wonder if the evidence supports intubation for out of hospital cardiac arrest?

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How to use PEP

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Search the Database

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Prehospital Evidence Based Practice

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Welcome to the Prehospital Evidence Based Practice (PEP) website!

PEP is a collaboration effort of Canadian and International EMS Educators (ambulance, police, nurses and other allied health professionals).
PEP is sponsored and managed by the Dalhousie University Department of Emergency Medicine Division of EMS, and Emergency Health Services New Brunswick.

Search PEP Database

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PEP 2.0: Structure updates

- Appraisal to include indirectness and risk of bias
- Separate Patient-Oriented from Process outcomes

Level	Direction	Priority	Outcomes	Resources
I	Strongly	High	Survival	Therrell J, Fontana J, Tomlin C, Piloni P, D'Agostino RB, Ostler AG. Use of an AI-based prognostic model to predict a patient's 30-day mortality risk. <i>CMAJ</i> 2017; 189(16):1685-91.
I	Strongly	High	Quality of care	Leung AL, D'Agostino RB, et al. (2017) Impact of patient engagement on quality of care: a systematic review. <i>BMJ</i> 2017; 355:g1241.
I	Strongly	High	Quality of care	Yip A, Hsu C, et al. (2017) The impact of patient engagement on quality of care: a systematic review. <i>BMJ</i> 2017; 355:g1241.
I	Strongly	High	Quality of care	Leung AL, D'Agostino RB, et al. (2017) Impact of patient engagement on quality of care: a systematic review. <i>BMJ</i> 2017; 355:g1241.
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PEP 2.0: User interface updates

- GRADE appraisal of key PICO questions for each clinical complaint area, as requested by end users
- Searchable by certain data fields eg outcome=survival
- Mobile-friendly



EMS Key Points

- PEP is freely available to practitioners, decision makers, the public, to better understand the evidence that underpins EMS practice
- PEP uses 3-tier Level and Direction of evidence to score each article, and synthesize an overall summary of evidence for interventions
- Body of direct evidence guiding EMS practice is growing
 - Use it!



To find out more or get involved

EMS@Dal.ca