

WORKSHEET for Evidence-Based Review of Science for Veterinary CPR

1. Basic Demographics

Worksheet author(s)

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2. Clinical question:

In dogs and cats that are unresponsive (P), are there any factors (I), as apposed to standard assessment (C), that increase the likelihood of diagnosing cardiac arrest (as apposed to non-arrest conditions [eg post seizures, hypoglycemia, intoxication])(O)?

3. Conflict of interest specific to this question:

Do any of the authors listed above have conflict of interest disclosures relevant to this worksheet?

No

4. Search strategy (including electronic databases searched):

4a. Databases

MEDLINE via Pubmed (NLM) (no date restriction) (performed on May 19, 2011) textword search:

1. Cardiac arrest
2. Identification
3. Recognition
4. Detection
5. False

1 and 2: 0 relevant hits out of 606 total hits

1 and 3: 0 relevant hit out of 460 total hits

1 and 4: 0 relevant hits out of 568 total hits

1 and 5: 0 relevant hits out of 16 total hits

Cab Abstracts (1910 to Feb 2011) (performed on August 5, 2011)

- (1) Cardiac arrest
 - (2) Identification
 - (3) Recognition
 - (4) Detection
 - (5) False
- (1) and (2) no relevant hits
 (1) and (3) no relevant hits
 (1) and (4) no relevant hits
 (1) and (5) no relevant hits

4b. Other sources

Part 4: CPR Overview 2010 American Heart Association Guidelines for Cardiopulmonary

Resuscitation and Emergency Cardiovascular Care Science

References used by ILCOR regarding early identification of the deteriorating patient, received by e-mail request from Sarah Mitchell, reference items #513-579.

References from select review articles in the June editions of Current Opinion in Critical Care for years 2003-2011.

No additional relevant hits

4c. State inclusion and exclusion criteria for choosing studies and list number of studies excluded per criterion

Inclusion criteria

Studies evaluating factors, other than standard assessment, that successfully identify cardiac arrest patients.

Exclusion criteria

Articles without a comparison group, non-English language articles, review articles, abstracts only or articles involving out-of-hospital cardiac arrests.

4d. Number of articles/sources meeting criteria for further review:

0

5. Summary of evidence

Evidence Supporting Clinical Question

Good						
Fair						
Poor						
	1	2	3	4	5	6
Level of evidence (P)						

A = Return of spontaneous circulation
 B = Survival of event

C = Survival to hospital discharge
 D = Intact neurological survival

E = Other endpoint
Italics = Non-target species studies

Evidence Neutral to Clinical question

Good						
Fair						
Poor						
	1	2	3	4	5	6
Level of evidence (P)						

A = Return of spontaneous circulation
 B = Survival of event

C = Survival to hospital discharge
 D = Intact neurological survival

E = Other endpoint
Italics = Non-target species studies

Evidence Opposing Clinical Question

Good						
Fair						
Poor						
	1	2	3	4	5	6
Level of evidence (P)						

A = Return of spontaneous circulation
 B = Survival of event

C = Survival to hospital discharge
 D = Intact neurological survival

E = Other endpoint
Italics = Non-target species studies

6. REVIEWER'S FINAL COMMENTS AND ASSESSMENT OF BENEFIT / RISK:

Routine arrest identification consists of identifying a patient that is unconscious and unresponsive, with the absence of respirations or the presence of agonal respirations. Clinical human studies have revealed that improving the ability of first responders to correctly interpret agonal respirations, aids in correctly identifying whether to institute CPR efforts. Clinical studies have also revealed considerable inaccuracy amongst lay rescuers to correctly determine the presence or absence of pulses. Inaccurate assessment may delay initiation of potentially life-saving CPR efforts or activate CPR efforts in a patient that is unlikely to benefit from such therapy. The relevance of this literature to clinical veterinary medicine is questionable given that CPR in animals is almost always initiated by trained veterinary personnel, not lay rescuers.

While many clinical studies in CPR inherently hinge on correctly identifying patients that are experiencing cardiac and/or pulmonary arrest, the vast majority fail to state what criteria were used to make this distinction. The current trend in the literature has focused on identifying patients *at risk* of experiencing cardiopulmonary arrest in an attempt to correctly activate the Rapid Response Team or Emergency Medical Team.

There is currently insufficient evidence to support the use of patient factors, other than standard assessment, to correctly differentiate cardiopulmonary arrest patients from patients that may be unconscious for reasons other than cardiopulmonary arrest (syncope, hypoglycemia, etc.).

7. Conclusion

There is no evidence to address this question so no conclusions can be drawn.

8. Acknowledgement

None

9. Citation list

None