BestBETs for Vets

Supporting veterinary clinicians in making evidence-based decisions

The University of Nottingham
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Length of *in situ* time of IV catheters and risk of phlebitis

Clinical Scenario

You work as a veterinary nurse in a busy referral hospital. About a week ago, you had 3 dogs admitted on the same day that all had peripheral IV catheters positioned in the cephalic vein by the same nurse using the same skin preparation method. All of the IV catheters were managed and maintained in the same manner. One of the patients developed phlebitis after three days, and the IV catheter was removed and replaced. Another patient began to demonstrate clinical signs of phlebitis at day five, and the third patient showed no signs of phlebitis at all by day five. You wonder whether having IV catheters in place for 4 days or longer increases the risk of phlebitis and warrants automatic replacement before day 4.....

3-Part Question (PICO)

In [dogs with peripheral IV catheters in place] does [having the catheter *in situ* for less than 4 days versus 4 days or longer] result in [a greater risk of phlebitis]?

Search Strategy

MEDLINE(R) In-Process & Other Non-Indexed Citations and MEDLINE(R) 1946 to Present using the OVID interface

(dog.mp. or dogs.mp. OR canine.mp. OR canines.mp. OR canis.mp. OR exp dogs/)

AND

(cannula.mp. OR cannulas.mp. OR cannulae.mp. OR cannulation.mp. OR catheter.mp. OR catheters.mp. OR catheterisation.mp. OR catheterization.mp. OR intravenous catheter.mp. OR intravenous catheters.mp. OR intravenous catheterisation.mp. OR intravenous catheterization.mp. OR venous catheter.mp. OR venous catheters.mp. OR venous catheterisation.mp. OR venous catheterization.mp. OR peripheral catheterisation.mp. OR peripheral catheterization.mp. OR exp Cannula/ OR exp Catheters/ OR exp Catheterization/ OR exp Catheterization, Peripheral/)

AND

(phlebitis.mp. OR thrombophlebitis.mp. OR exp Phlebitis/ OR exp Thrombophlebitis/)

CAB Abstracts 1910 to Present using the OVID interface

(dog.mp. or dogs.mp. OR canine.mp. OR canines.mp. OR canis.mp. OR exp dogs/)

AND

(cannula.mp. OR cannulas.mp. OR cannulae.mp. OR cannulation.mp. OR exp cannulae/ OR exp cannulation/ OR catheter.mp. OR catheters.mp. OR catheterisation.mp. OR catheterization.mp. OR intravenous catheter.mp. OR intravenous catheterisation.mp. OR intravenous catheterization.mp. OR venous catheter.mp. OR venous catheters.mp. OR venous catheterisation.mp. OR venous catheterization.mp. OR peripheral catheterisation.mp. OR peripheral catheterization.mp. OR exp catheters/ OR exp catheterization/)

AND

(phlebitis.mp. OR thrombophlebitis.mp. OR exp phlebitis/ OR exp thrombophlebitis/)

Search Outcome

MEDLINE

- **33** papers found in MEDLINE search
- **33** papers excluded as they don't meet the PICO question
- **0** papers excluded as they are in a non-English language
- **0** papers excluded as they are review articles/in vitro research/conference proceedings
- **0 total relevant papers from MEDLINE**

CAB Abstracts

- **16** papers found in CAB search
- **16** papers excluded as they don't meet the PICO question
- **0** papers excluded as they are in a non-English language
- **0** papers excluded as they are review articles/in vitro research/conference proceedings
- **0 total relevant papers from CAB**

Total relevant papers

0 relevant papers from both MEDLINE and CAB Abstracts

Comments

No citations have been included in this BET as none of the papers found directly compared the intervention and comparator (ie. they did not answer the PICO question) or the individual analyses for these comparison groups were not available. Therefore, the table of evidence below has been left blank.

Summary of Evidence

No Summary of Evidence yet.

Comments

None of the articles found directly compared the intervention and comparator of interest in this BET.

Narrative reviews and expert opinion pieces along with other information sources such as textbooks and online resources (e.g. *Vetstream* or *The Merck Veterinary Manual*), can be used when deciding which technique to employ. However, an awareness of the strengths and limitations of all of these evidence sources in relation to decision-making is important, as is discussing them with owners.

There is a need for further research to directly compare the risk of phlebitis from IV catheters indwelling for a variety of time periods, in order to improve the strength of the evidence base in this area.

Bottom line

At the present time there is no comparative peer reviewed evidence that answers the PICO question in this BET. Therefore, choice of technique should be based on the veterinary professional's preferred approach, individual practice guidelines and patient considerations.

References

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