Point of Care Ultrasound for Assessment of Patients with Deep Vein Thrombosis in Emergency Departments: Clinical Utility and Cost-Effectiveness
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Questions or requests for information about this report can be directed to requests@cadth.ca
Research Questions

1. What is the clinical utility of point of care ultrasound for the assessment of patients with deep vein thrombosis in the emergency department?

2. What is the cost effectiveness of point of care ultrasound for the assessment of patients with deep vein thrombosis in the emergency department?

Key Findings

One non-randomized study was identified regarding the clinical utility of point of care ultrasound for the assessment of patients with deep vein thrombosis in the emergency department. No relevant economic evaluations were identified regarding the cost-effectiveness of point of care ultrasound for assessing patients with deep vein thrombosis.

Methods

A limited literature search was conducted by an information specialist on key resources including Medline, Embase, the Cochrane Library, the University of York Centre for Reviews and Dissemination (CRD) databases, the websites of Canadian and major international health technology agencies, as well as a focused Internet search. The search strategy was comprised of both controlled vocabulary, such as the National Library of Medicine’s MeSH (Medical Subject Headings), and keywords. The main search concepts were point-of-care ultrasounds and DVT. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2009 and August 19, 2019. Internet links were provided, where available.

Selection Criteria

One reviewer screened citations and selected studies based on the inclusion criteria presented in Table 1.

Table 1: Selection Criteria

<table>
<thead>
<tr>
<th>Population</th>
<th>Adult patients with deep vein thrombosis (DVT) or suspected DVT in the emergency department</th>
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<tbody>
<tr>
<td>Intervention</td>
<td>Point of care ultrasound (POCUS) in the emergency department</td>
</tr>
<tr>
<td>Comparator</td>
<td>Q1-Q2: Ultrasound performed in the radiology ward (also known as radiology-performed ultrasound)</td>
</tr>
<tr>
<td></td>
<td>No ultrasound/POCUS</td>
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<tr>
<td>Outcomes</td>
<td>Q1: Clinical utility (safety, complications [e.g., venous thromboembolism, major bleeding], mortality, length of stay, time to transfer from ED, harms/benefits)</td>
</tr>
<tr>
<td>Study Designs</td>
<td>Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, economic evaluations</td>
</tr>
</tbody>
</table>
Results

Rapid Response reports are organized so that the higher quality evidence is presented first. Therefore, health technology assessment reports, systematic reviews, and meta-analyses are presented first. These are followed by randomized controlled trials, non-randomized studies, and economic evaluations.

One non-randomized study\(^1\) was identified regarding the clinical utility of point of care ultrasound for the assessment of patients with deep vein thrombosis in the emergency department. No relevant health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, or economic evaluations were identified.

Additional references of potential interest are provided in the appendix.

Overall Summary of Findings

One non-randomized study\(^1\) was identified regarding the clinical utility of point of care ultrasound for the assessment of patients with deep vein thrombosis in the emergency department. The authors aimed to compare emergency physician- and radiologist-performed point-of-care venous compression ultrasound on disposition time of patients with deep vein thrombosis (DVT).\(^1\) The authors found that the median time elapsed from triage to performing ultrasound and the median time elapsed from triage to final disposition were significantly lower in the emergency physician group, than those in the radiology group.\(^1\) The authors concluded that emergency physicians trained in performing point of care venous compression ultrasound in patients suspected of DVT could significantly reduce the time of patient's disposition in the emergency setting, and hence earlier treatment.\(^1\)

References Summarized

Health Technology Assessments

No literature identified.

Systematic Reviews and Meta-analyses

No literature identified.

Randomized Controlled Trials

No literature identified.

Non-Randomized Studies

Economic Evaluations

No literature identified.
Appendix — Further Information

Previous CADTH Reports


Systematic Reviews and Meta-Analyses – Diagnostic Accuracy


Non-Randomized Studies – Diagnostic Accuracy


Economic Evaluations – Population Not Specified


Review Articles

