Clinical Tests for Diagnosis of Scabies: Diagnostic Accuracy, Clinical Effectiveness, Cost-Effectiveness, and Guidelines
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**Acknowledgments:**

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**About CADTH:** CADTH is an independent, not-for-profit organization responsible for providing Canada’s health care decision-makers with objective evidence to help make informed decisions about the optimal use of drugs, medical devices, diagnostics, and procedures in our health care system.
Research Questions
1. What is the diagnostic test accuracy of Burrow ink test compared with skin scraping for scabies?
2. What is the diagnostic test accuracy of Burrow ink test compared with physician diagnosis for scabies?
3. What is the diagnostic test accuracy of skin scraping compared with physician diagnosis for scabies?
4. What is the clinical effectiveness of diagnostic testing for suspected scabies?
5. What is the cost effectiveness of diagnostic testing for suspected scabies?
6. What are the evidence-based guidelines for the diagnosis of scabies?

Key Findings
Two systematic reviews were identified regarding the diagnostic accuracy of various methods used to diagnose scabies. No economic evaluations or evidence-based guidelines were identified.

Methods
A limited literature search was conducted on key resources including PubMed, The Cochrane Library, University of York Centre for Reviews and Dissemination (CRD) databases, Canadian and major international health technology agencies, as well as a focused Internet search. No filters were applied to limit the retrieval by study type. Where possible, retrieval was limited to the human population. The search was also limited to English language documents published between January 1, 2008 and December 6, 2018 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>Patients with suspected scabies (<em>Sarcoptes scabiei</em>) infection</th>
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<tbody>
<tr>
<td>Intervention</td>
<td>Q1-2: Burrow ink test</td>
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<td>Q3: Skin scraping</td>
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<tr>
<td></td>
<td>Q4-6: Clinical tests for diagnosis of scabies (not including dermascope)</td>
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<tr>
<td>Comparators</td>
<td>Q1: Skin scraping; Microscopy</td>
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<td>Q2-3: Physician diagnosis (non-dermatologist – includes visual assessment or examination, symptomatology)</td>
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<td></td>
<td>Q4-5: Control; No diagnostic testing; Other clinical/diagnostic tests for scabies (not including dermascopes)</td>
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<td>Q6: No comparator</td>
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<td>Outcomes</td>
<td>Q1-3: Diagnostic test accuracy (e.g., sensitivity, specificity)</td>
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<td>Q4: Clinical effectiveness (e.g., patients diagnosed, psychological outcomes)</td>
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<td>Q5: Cost-effectiveness outcomes (e.g. QALYs)</td>
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<td>Q6: Guidelines</td>
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<tr>
<td>Study Designs</td>
<td>Health technology assessments, systematic reviews, meta-analyses, randomized controlled trials, non-randomized studies, economic evaluations, evidence-based guidelines</td>
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</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, economic evaluations, and evidence-based guidelines.

Two systematic reviews were identified regarding the diagnostic accuracy of various methods used to diagnose scabies. No relevant health technology assessments, meta-analyses, randomized controlled trials, non-randomized studies, economic evaluations, or evidence-based guidelines were identified.

Additional references of potential interest are provided in the appendix.

Overall Summary of Findings

Two systematic reviews\(^1,\)\(^2\) were identified regarding the diagnostic accuracy of various methods used to diagnose scabies.

The first systematic review\(^1\) examined whether or not there was a consistent diagnostic approach to identifying scabies infection in clinical trials. The authors determined that most methods were poorly described, thus precluding any formal comparison between diagnostic methods.\(^2\) However, the authors did note that the most common clinical methods used for diagnosis were rash, rash distribution, pruritus and mite burrow inks.\(^2\)

The second systematic review\(^2\) focused on the accuracy and precision of history, physical examination, and tests for the diagnosis of scabies infection. The authors noted the failure to detect scabies infection using both history and physical examination and that the accuracy of other diagnostic tests could not be examined from the data in the literature.\(^3\)
Despite these findings, the authors concluded that clinical judgement still remains practical when determining the presence of scabies infection, specifically when using the Burrow ink test and handheld dermoscopetoscopy.²

No relevant economic evaluations or evidence-based guidelines were identified; therefore, no summary can be provided on these study types.

**References Summarized**

**Health Technology Assessments**

No literature identified.

**Systematic Reviews and Meta-analyses**


**Randomized Controlled Trials**

No literature identified.

**Non-Randomized Studies**

No literature identified.

**Economic Evaluations**

No literature identified.

**Guidelines and Recommendations**

No literature identified.
Appendix — Further Information

Non-Randomized Studies

Alternative Comparator


Alternative Intervention - Molecular Methods


Other Diagnostic Methods


Clinical Practice Guidelines

Unspecified Methodology


Expert Opinion


Review Articles


   PubMed: PM22210934

   PubMed: PM19580575

   PubMed: PM19077100

Additional References

   PubMed: PM30068496

   PubMed: PM30480868