

## PROSPERO International prospective register of systematic reviews

### Review title and timescale

- 1 **Review title**  
Give the working title of the review. This must be in English. Ideally it should state succinctly the interventions or exposures being reviewed and the associated health or social problem being addressed in the review.  
**Point-of-care ultrasonography for the diagnosis of abscess in patients presenting with skin and soft tissue infections to the emergency department.**
- 2 **Original language title**  
For reviews in languages other than English, this field should be used to enter the title in the language of the review. This will be displayed together with the English language title.
- 3 **Anticipated or actual start date**  
Give the date when the systematic review commenced, or is expected to commence.  
**01/02/2015**
- 4 **Anticipated completion date**  
Give the date by which the review is expected to be completed.  
**01/02/2016**
- 5 **Stage of review at time of this submission**  
Indicate the stage of progress of the review by ticking the relevant boxes. Reviews that have progressed beyond the point of completing data extraction at the time of initial registration are not eligible for inclusion in PROSPERO. This field should be updated when any amendments are made to a published record.

The review has not yet started **x**

Review stage	Started	Completed
Preliminary searches	Yes	Yes
Piloting of the study selection process	Yes	No
Formal screening of search results against eligibility criteria	Yes	No
Data extraction	No	No
Risk of bias (quality) assessment	No	No
Data analysis	No	No

Provide any other relevant information about the stage of the review here.

### Review team details

- 6 **Named contact**  
The named contact acts as the guarantor for the accuracy of the information presented in the register record.  
**David Barbic**
- 7 **Named contact email**  
Enter the electronic mail address of the named contact.  
**david.barbic@ubc.ca**
- 8 **Named contact address**  
Enter the full postal address for the named contact.  
**Emergency Department St Paul's Hospital 1081 Burrard St Vancouver, BC CANADA V6Z 1Y6**
- 9 **Named contact phone number**  
Enter the telephone number for the named contact, including international dialing code.  
**604-682-2344**
- 10 **Organisational affiliation of the review**  
Full title of the organisational affiliations for this review, and website address if available. This field may be completed as 'None' if the review is not affiliated to any organisation.

University of British Columbia & St Paul's Hospital

Website address:  
<http://sphemerq.ca/>

# 11 Review team members and their organisational affiliations

Give the title, first name and last name of all members of the team working directly on the review. Give the organisational affiliations of each member of the review team.

Title	First name	Last name	Affiliation
Dr	David	Barbic	University of British Columbia
Dr	Jordan	Chenkin	University of Toronto
Dr	Dennis	Cho	University of Toronto
Dr	Tomislav	Jelic	University of Toronto

# 12 Funding sources/sponsors

Give details of the individuals, organizations, groups or other legal entities who take responsibility for initiating, managing, sponsoring and/or financing the review. Any unique identification numbers assigned to the review by the individuals or bodies listed should be included.

No funding

# 13 Conflicts of interest

List any conditions that could lead to actual or perceived undue influence on judgements concerning the main topic investigated in the review.

Are there any actual or potential conflicts of interest?

None known

# 14 Collaborators

Give the name, affiliation and role of any individuals or organisations who are working on the review but who are not listed as review team members.

Title	First name	Last name	Organisation details
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## Review methods

# 15 Review question(s)

State the question(s) to be addressed / review objectives. Please complete a separate box for each question.

To investigate the sensitivity and specificity of bedside ultrasonography for the diagnosis of abscess in patients presenting with skin and soft tissue infections in patients presenting to the emergency department.

# 16 Searches

Give details of the sources to be searched, and any restrictions (e.g. language or publication period). The full search strategy is not required, but may be supplied as a link or attachment.

Investigators will search Ovid MEDLINE, Ovid Embase, and Cochrane Library for journal articles and conference proceedings. An experienced health sciences librarian will develop a preliminary search strategy in Ovid MEDLINE based on the research question: What is the accuracy of bedside of ultrasound for diagnosing abscess in the emergency department? The search strategy will be independently reviewed by two librarians and validated against a sample result set of twenty-one studies identified by the primary investigator. We will use Science Citation Index to retrieve reports citing the relevant articles identified from our search in MEDLINE and EMBASE and then we will enter relevant studies identifies into PUBMED and then use the Related articles feature as suggested by Sampson and colleagues [13]. We will conduct online bibliographic searches of the table of contents for Critical Ultrasound Journal, done in the past 5 years. We will search manually the bibliographies of all potential articles (including review articles) to identify articles not identified by our primary search.

# 17 URL to search strategy

If you have one, give the link to your search strategy here. Alternatively you can e-mail this to PROSPERO and we will store and link to it.

I give permission for this file to be made publicly available

Yes

- 18 Condition or domain being studied  
Give a short description of the disease, condition or healthcare domain being studied. This could include health and wellbeing outcomes.  
*Skin and soft tissue infections*
- 19 Participants/population  
Give summary criteria for the participants or populations being studied by the review. The preferred format includes details of both inclusion and exclusion criteria.  
*Patients presenting to the emergency department*
- 20 Intervention(s), exposure(s)  
Give full and clear descriptions of the nature of the interventions or the exposures to be reviewed  
*Point-of-care ultrasonography for the differentiation of cellulitis and abscess*
- 21 Comparator(s)/control  
Where relevant, give details of the alternatives against which the main subject/topic of the review will be compared (e.g. another intervention or a non-exposed control group).  
*Computed tomography, results from incision and drainage, or final diagnosis from clinical follow-up will be accepted as reference standards.*
- 22 Types of study to be included initially  
Give details of the study designs to be included in the review. If there are no restrictions on the types of study design eligible for inclusion, this should be stated.  
*Prospective cohorts, case controls, and randomized controlled trials*
- 23 Context  
Give summary details of the setting and other relevant characteristics which help define the inclusion or exclusion criteria.  
*All patients presenting to the emergency department with suspected skin and soft tissue infections*
- 24 Primary outcome(s)  
Give the most important outcomes.  
*Diagnosis of abscess vs cellulitis*  
  
Give information on timing and effect measures, as appropriate.
- 25 Secondary outcomes  
List any additional outcomes that will be addressed. If there are no secondary outcomes enter None.  
*Time to conduct point-of-care ultrasonography*  
  
Give information on timing and effect measures, as appropriate.
- 26 Data extraction, (selection and coding)  
Give the procedure for selecting studies for the review and extracting data, including the number of researchers involved and how discrepancies will be resolved. List the data to be extracted.  
*Two review authors will independently identify potential articles for inclusion by scanning the titles and abstracts of articles. Any disagreement will be resolved by consensus or by involvement of a third reviewer. Two review authors will independently extract data from the selected articles using prepared data extraction sheets. Any disagreement will be resolved by consensus or by involvement of a third reviewer. No attempt will be made to mask the author's name or the journal's name during data extraction and management. We will extract information on: author, title, journal name, year of publication, study design (prospective cohort, case-control), setting in which the study was conducted, protocol of ultrasonography used, reference standard chosen, QUADAS-2 items{Whiting:2011hx}, and data on sensitivity and specificity or data for 2x2 table if possible. We will also adhere to guidelines for systematic reviews and meta-analyses of DTA set forth previously.*
- 27 Risk of bias (quality) assessment  
State whether and how risk of bias will be assessed, how the quality of individual studies will be assessed, and whether and how this will influence the planned synthesis.  
*Two review authors will independently assess the methodological quality of each selected article using the QUADAS-*

list{Whiting:2011hx}. Any disagreement will be resolved by consensus or involvement of a third reviewer.

- 28 Strategy for data synthesis  
Give the planned general approach to be used, for example whether the data to be used will be aggregate or at the level of individual participants, and whether a quantitative or narrative (descriptive) synthesis is planned. Where appropriate a brief outline of analytic approach should be given.  
We will present individual study results graphically by plotting sensitivity and specificity estimates on a forest plot, to visually assess for heterogeneity, and on the ROC space to visually assess for the presence of a threshold effect. We will meta-analyze, if appropriate using the HSROC model to obtain summary estimates of the pairs of sensitivity and specificity and a summary line.
- 29 Analysis of subgroups or subsets  
Give any planned exploration of subgroups or subsets within the review. 'None planned' is a valid response if no subgroup analyses are planned.  
We will explore possible sources of heterogeneity related to spectrum, design characteristics and method of ultrasound used, specifically: Patient population: We hypothesize that no difference in test accuracy will exist between ultrasound studies performed in adult and child patients. We will formally explore sources of variation in the HSROC model, by adding covariates indicating patient, method of ultrasound used or design features. This will enable us to explore whether, on average, studies that differ with respect to these features result in different estimates of diagnostic accuracy.

## Review general information

- 30 Type of review  
Select the type of review from the drop down list.  
Diagnostic
- 31 Language  
Select the language(s) in which the review is being written and will be made available, from the drop down list. Use the control key to select more than one language.  
English
- Will a summary/abstract be made available in English?  
Yes
- 32 Country  
Select the country in which the review is being carried out from the drop down list. For multi-national collaborations select all the countries involved. Use the control key to select more than one country.  
Canada
- 33 Other registration details  
List places where the systematic review title or protocol is registered (such as with the Campbell Collaboration, or The Joanna Briggs Institute). The name of the organisation and any unique identification number assigned to the review by that organization should be included.
- 34 Reference and/or URL for published protocol  
Give the citation for the published protocol, if there is one.  
Give the link to the published protocol, if there is one. This may be to an external site or to a protocol deposited with CRD in pdf format.
- I give permission for this file to be made publicly available  
Yes
- 35 Dissemination plans  
Give brief details of plans for communicating essential messages from the review to the appropriate audiences.  
Presentation at scientific meetings for emergency medicine and publication in emergency medicine journal(s)
- Do you intend to publish the review on completion?  
Yes

- 36    Keywords  
Give words or phrases that best describe the review. (One word per box, create a new box for each term)
- ultrasound
- skin and soft tissue infection
- cellulitis
- abscess
- emergency medicine
- 37    Details of any existing review of the same topic by the same authors  
Give details of earlier versions of the systematic review if an update of an existing review is being registered, including full bibliographic reference if possible.
- 38    Current review status  
Review status should be updated when the review is completed and when it is published.
- Ongoing
- 39    Any additional information  
Provide any further information the review team consider relevant to the registration of the review.
- 40    Details of final report/publication(s)  
This field should be left empty until details of the completed review are available.  
Give the full citation for the final report or publication of the systematic review.  
Give the URL where available.