# ILCOR Task Force Scoping Reviews (TFScR): Process

## Background

The International Liaison Committee on Resuscitation (ILCOR) has created a number of processes to assist in the evaluation of the published science for resuscitation and related first aid. The Task Force Based Scoping Review (TFScR) is a rigorous process which follows a strict methodology and is used to present a broad overview of the evidence pertaining to a topic, irrespective of study quality. Scoping reviews are useful to examine the extent, range and nature of research activity, for example when examining areas that are emerging, to clarify key concepts, to identify gaps or to identify topics for future systematic reviews. These reviews tend to start with a broad question, search widely, iteratively focus on key issues and outcomes, and produce a narrative summary of the studies identified, but not an estimate of the magnitude of effect. Scoping reviews can result in a publishable manuscript, but they cannot by themselves support the construction of a Consensus on Science Statement and Treatment Recommendation (CoSTR) without an additional systematic review. The methodology for Scoping Reviews is based on the PRISMA Extension for Scoping Reviews (see <http://www.prisma-statement.org/Extensions/ScopingReviews> and *Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. Ann Intern Med. 2018;169:467–*473). The overall process is coordinated by the Scientific Advisory Committee (SAC) of ILCOR but guided by the task force SAC representatives. All scoping reviews are based on a TF approved PICOST.

## Confirmation of Task Force Scoping Review (TFScR) team

The task force chair with the assistance of a task force SAC representative confirms the membership of the TFScR team. The team is led by the Task Force ScR Team lead who is expected to be a task force member, a member of SAC, and a number of other content experts. The other content experts can be members of the task force (or other task forces), other SAC members, and other invited experts outside of the task force. All members will be required to complete an AHA/ILCOR general conflict of interest statement, as well as make specific declaration of conflicts (both financial and intellectual) that relate to the topic being reviewed.

The TF Chairs must check COI disclosures for the team members and resolve any potential conflicts according to the ILCOR COI policy, usually by replacing those members with potential conflicts. More difficult COI questions can be sent to the COI Co-Chairs.

## Complete the SAC TF review PICOST template (ilcor.org)

The TFScR team leader, under the guidance of the TFScR SAC representative, will be responsible for the completion of the PICOST template for TF reviews (“TFSRScR\_PICOST\_template” on <https://www.ilcor.org/ilcor-documents/continuous-evidence-evaluation/#Docs>), and its submission to SAC for documentation.

The topics to be evaluated need to be converted into the Patient/population, Intervention, Comparison and Outcome (PICO) format. These 4 individual components may be broad and not as specific as a systematic review PICOST.

*Outcomes*

Anticipated key outcomes should be documented, but Scoping Reviews do not require detailed documentation of outcomes at this stage. The list of outcomes remains open to modification and consideration of additional outcomes that are reported in the literature identified.

### Key studies

Existing key studies or scoping reviews that have been published should be recorded on the PICOST template, as these publications will assist in the development of initial search strategies (if needed) and the updating of the search strategies for the future process.

## Develop/Confirm Search Strategies

The complete ILCOR scoping review process (allowing peer reviewed publication of the TFScR) requires searching of Medline, Embase and Cochrane databases. Searching of the “gray” literature is unique to a scoping review but not essential, but if done the strategy used should be documented. An initial search could be performed using a Medline search alone, but this would not be considered sufficient to support publication in the peer reviewed literature for a scoping review. The SAC representative will be able to facilitate the development of these search strategies utilising the skills of contracted Information Specialists (IS) or individual librarians as required.

## Inclusion and exclusion criteria

The inclusion and exclusion criteria that are planned to be used to screen the search results are outlined in the TF approved PICOST. They may need to be altered after initial review of the studies identified by the search, but the updated (final) inclusion and exclusion criteria need to be recorded.

## PROSPERO registration is not required

Scoping reviews are currently not eligible for inclusion in PROSPERO .

## Initial search results

The list of articles from the initial searches of Medline, Embase and the Cochrane Central Register of Controlled Trials (Central) should be collated and stored. Exclusion of duplicate publications can be performed manually (eg. using word or Excel files) or using programs such as Endnote or Covidence. The search results, with the list of articles, need to be forwarded to the TFScR team (usually as an EndNote file and a word file). The number of studies included for initial review may be larger than those for a more narrow PICOST, but will obviously depend on the breadth of the search and the years being searched.

## Review of titles and abstracts

The initial title and abstract screening should be performed by two content experts, these roles will be allocated by the TFScR team lead.

## Review of full text of studies

The next step is for two of the TFScR team content experts to review the full text of the studies identified for further review by the initial “Review of titles and abstracts”.

Disagreements about decisions should be resolved by the TFScR team lead (or SAC representative if the TFScR team lead is one of the two allocated to review the studies).

The articles identified for further review need to be retrieved for data extraction. If the content experts are unable to access any articles, they should contact the SAC representative who will assist with this process or escalate to SAC.

The literature relevant to the PICOST question is then evaluated, and a re-evaluation of the inclusion/exclusion criteria and the selection of outcomes for data extraction can be done at this stage.

### Task force review

At the point that the list of included studies is complete, the list should be provided to the task force to ensure there are no obvious omissions.

### Diverting to a Task Force Systematic Review

If on initial inspection of the included studies, there appears to be **sufficient published data to support a more detailed review**, then this should be flagged to the SAC representative, such that **a systematic review can be initiated**: this could be allocated as a Task Force based, or an ESR or KSU review (SAC representative will be able to advise). The steps up to data extraction can be reviewed but they may well be adequate for the subsequent Systematic Review. Data extraction should be delayed until **after** PROSPERO registration (otherwise the systematic review will not be eligible for registration).

## Evaluation of included studies

The next step involves extracting the data from the studies. No bias assessment or Evidence Profile tables are required for a Scoping Review.

### Extracting data

A member of the TFSR team needs to be delegated to extract the study data. Extracted data from each study needs to be entered into a separate row of a standardised spreadsheet (eg. Excel file) or table (eg. Word file). The data elements extracted should be comprehensive enough to describe the literature identified. Two potential formats are listed below.

1). Firstly, from the BLS Scoping review:

* Reference: Author, year
* Design: Study design, country
* Population
* Intervention/Comparator
* Main findings

The end result may look like this (in either Word or Excel):

**STUDIES OF CHEST WALL RECOIL**

Survival with favourable neurological function (n=2); survival to discharge (n=2); ROSC (n=1)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Supplemental Table 5A: Chest wall recoil and survival with favourable neurological outcome** | | | | | |
| **Author, year** | | **Design, Country** | **Population** | **Intervention / Comparator** | **Main findings** |
| Cheskes et al. 2015 41 | Post-hoc retrospective analysis of prospectively collected data    Canada | | Adults (≥ 18 years) with non-traumatic out-of-hospital cardiac arrest of presumed cardiac aetiology (n=1137) | Compares CCRV  · ≤300 mm/s,  · 301-400 mm/s &  · >400 mm/s | When adjusted for age, bystander witnessed status, response time, public location and presenting rhythm of VF, for each increase of 10mm/second in CCRV  · there was no significant effect on neurologically intact survival to discharge [aOR = 1.02, 95%CI: 0.98 - 1.06] |
| Kovacs et al. 2015 42 | Prospective, before-after, observational cohort study    United States | | Adult (≥18 years) out-of-hospital cardiac arrest of presumed cardiac aetiology (n=711) | Compared CCRV  · slow (<300 mm/s) [Reference]  · moderate (300–399.9 mm/s)  · fast (≥400 mm/s | Compared to slow CCRV (<300 mm/s),  · a fast CCRV (≥400 mm/s) [aOR 5.774, 95%CI 1.907 - 17.477] increased survival with good neurological outcome  · a moderate CCRV (300–399.9 mm/s) [aOR 1.972, 95%CI 0.807 - 4.822] made no difference to survival with good neurological outcome  \* CPC score 1 or 2 |
|  |  | |  |  |  |
|  |  |  |  |  |  |

CCRV = chest compression release velocity; VF = ventricular fibrillation; aOR = adjusted odds ratio

2). The second format could be the same as that used for Systematic Reviews:

* **Reference:** eg. Aufderheide 2005, 734
* **Methods:** eg. Randomised Controlled Trial
* **Participants:** eg. 230 OOHCA (presumed ≥ 21 years), presumed cardiac, ventilatable with facemask, then intubated with ETT. Milwaukee, WI, USA
* **Interventions:** eg. Impedance threshold device (facemask then ETT) plus standard CPR
* **Comparisons:** eg. Sham ITD (facemask then ETT) plus standard CPR
* **Outcomes:** eg. Primary: survival to ICU admission I 29/114 (25.4%) vs C 20/116 (17.2%) NS. Secondary: 24 hr survival I 19/114 (16.7%) vs C 14/116 (12.1%) NS; 1-year survival I 4/114 vs C 2/116. No hospital discharge data.
* **Notes:** eg. Enrolled over 8 months. 15:2 (2000 guidelines). Similar adverse effects. Discontinued early. Concern about ventilation rates. Subgroup analysis: better ICU admission with PEA

The end result may look like this (in either Word or Excel):

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Reference | Methods | Participants | Interventions | Comparisons | Outcomes | Notes |
| Aufderheide 2005, 734 | Randomised Controlled Trial | 230 OOHCA (presumed ≥ 21 years), presumed cardiac, ventilatable with facemask, then intubate with ETT. Milwaukee, WI, USA | Impedance threshold device (facemask then ETT) plus standard CPR | Sham ITD (facemask then ETT) plus standard CPR | Primary: survival to ICU admission I 29/114 (25.4%) vs C 20/116 (17.2%) NS  Secondary: 24 hr survival I 19/114 (16.7%) vs C 14/116 (12.1%) NS; 1 year survival I 4/114 vs C 2/116. No hospital discharge data. | Enrolled over 8 months. 15:2 (2000 guidelines). Similar adverse effects. Discontinued early. Concern about ventilation rates. Subgroup analysis: better ICU admission with PEA |

### Further data analysis

At the point of data extraction, this is the time that the extracted data could also be grouped (eg. in tables or text) into identified sub-groups. It is not appropriate to directly combine and perform an analysis or a meta-analyses during a Scoping Review, as only a narrative description of the results is required.

## Preparation of the summary of the review

The scoping review reporting template should be used.

The summary outcome of the TFScR cannot be a new CoSTR, but it could be:

* a “Task force Insight”
* a confirmation of a previously existing CoSTR, as well as a “Task force Insight”.

In all cases, a draft summary is provided by the TFScR team, but the final summary product is a result of taskforce discussions. The categories of the GRADE Evidence To Decision table do not apply to a Scoping Review.

### Confirmation of an existing CoSTR

In the situation where a CoSTR exists the result of the task force discussions could be to recommend restating the CoSTR. A specific statement should be included such as the following:

* *“This scoping review was unable to identify any studies that needed to be added to the previous systematic review. In light of this we believe that the existing CoSTR does not need to be modified.”*

This statement needs to be accompanied by a “Task force insights” section.

### Task Force Insights

Task force Insights should be provided in all circumstances.

The format for the “Task force Insights” is designed to represent the key components of the deliberations of the taskforce.

The suggested format includes 3 components:

#### 1. Statement about why this topic was reviewed.

Examples of these statements are:

* *“This topic was chosen for review by the ALS Task Force because of ongoing controversies in the published literature.”*
* *“This topic was re-evaluated by the BLS taskforce because it had not been reviewed by ILCOR since 2010.”*

#### 2. Narrative summary of evidence identified

Examples of these statements are:

* *“There were insufficient studies identified to support a more specific systematic review.”*
* *“Three observational studies were identified that were published since 2009. They compare the use of “intervention X” with “comparator Y” in “population Z” in “1234 patients”.”*
* *“The identified studies were from diverse geographical areas, and there were large differences in the interventions used.”*
* *“No published studies reported survival with good neurological outcome . . .“*
* *“The only outcomes that were reported were surrogate outcomes or short-term outcomes of limited importance.”*
* *“The published literature identified by this scoping review fell into three main themes/subgroups . . .”*
* *“In one specific area, XYZ in ABC, a number of relevant studies were identified, so this specific topic was referred for consideration of a systematic review.”*

#### 3. Narrative Reporting of the task force discussions

The task force should document the key issues that were considered in their deliberations, including gaps and deficiencies in the literature, to provide more transparency about the complexity of the discussions.

Examples of these statements are:

* *“We identified many gaps in the published literature. These included . . .”*
* *“The majority of the studies identified in this review were focused on out-of-hospital cardiac arrest highlighting a major gap in research in the in-hospital context.”*
* *“The task force identified that no studies addressed . . .”*
* *“No Randomised Controlled Trials were identified that met our inclusion criteria.”*
* *“No study addressed the interaction between X and Y . . .”*
* *“This scoping review demonstrated that the majority of studies focused on a single CC component, whereas a number of studies suggest the presence of confounding interactions that prompt caution when evaluating any CC component in isolation.”*

### Consider re-running the search

If the time since last running of the search was more than 6 months, or if the task force is aware of new publications, the search should be rerun, and the Task force insights be updated if necessary. The SAC representative can advise.

### Prepare manuscript for peer reviewed publication

If the TFScR team consider that the work completed should be submitted for peer reviewed publication, the manuscript and a completed ScR checklist should be submitted for review and approval by the SAC representative on the TF ScR writing team. The SAC representative follows the Scoping Review checklist instructions and submits the manuscript and the checklist to the SAC chair.

## Posting of the “draft” task force summary for public comment

The summary scoping review reporting template for posting on ILCOR.org needs to be approved by the TF and the SAC representative on the TF ScR team. The SAC representative follows the Scoping Review checklist instructions and submits the completed scoping review reporting template for website posting and the checklist to the SAC chair. The header and the hyperlink in the template be removed prior to submission for posting.

## Final document prepared for posting on ILCOR.org and annual ILCOR publication of consensus on science

The task force will incorporate the information obtained from public comments into their final summary documents (scoping review reporting template) for posting on ILCOR.org. There is a guidance document for how to address public comments on ilcor.org. The final version of the summary documents (scoping review reporting template) will then be able to be incorporated into the relevant annual ILCOR publication of consensus on science.

## References

Methodological references with hyperlink

* [Peters MD, Godfrey CM, Khalil H, McInerney P, Parker D, Soares CB. Guidance for conducting systematic scoping reviews. Int J Evid Based Healthc. 2015 Sep;13(3):141-6](https://pubmed.ncbi.nlm.nih.gov/26134548/).
* [Colquhoun HL, Levac D, O'Brien KK, Straus S, Tricco AC, Perrier L, Kastner M, Moher D. Scoping reviews: time for clarity in definition, methods, and reporting. J Clin Epidemiol. 2014 Dec;67(12):1291-4.](https://pubmed.ncbi.nlm.nih.gov/25034198/)
* Levac D, Colquhoun H, O'Brien KK. Scoping studies: advancing the methodology. Implement Sci. 2010 Sep 20;5:69.
* [Arksey H, O’Malley L (2005) Scoping Studies: Towards a methodological Framework. Int. J. Social Research Methodology Vol.8 No.1, 23 February 2007 pp 19-32](https://www.tandfonline.com/doi/abs/10.1080/1364557032000119616)
* [Paez A. Gray Literature: An important resource in systematic reviews J Evid Based Med 2019: 10 pp 233-240](https://pubmed.ncbi.nlm.nih.gov/28857505/)

## Key websites

http://www.prisma-statement.org/Extensions/ScopingReviews