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**UNIVERSITÄT  
BERN**

# Der *Systematic Review Service* (SRS)

## Einblicke in die Unterstützung evidenzbasierter Forschung

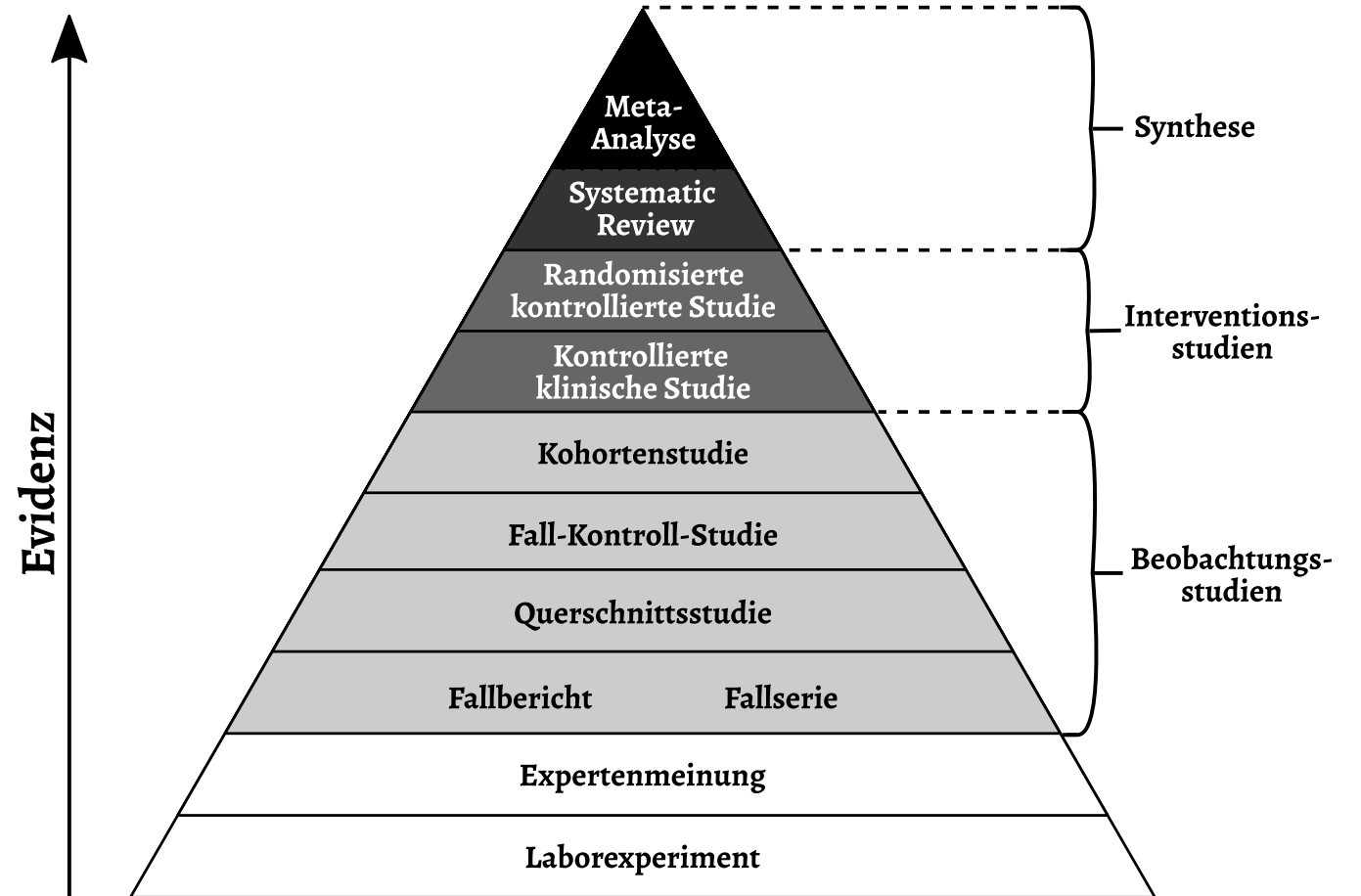
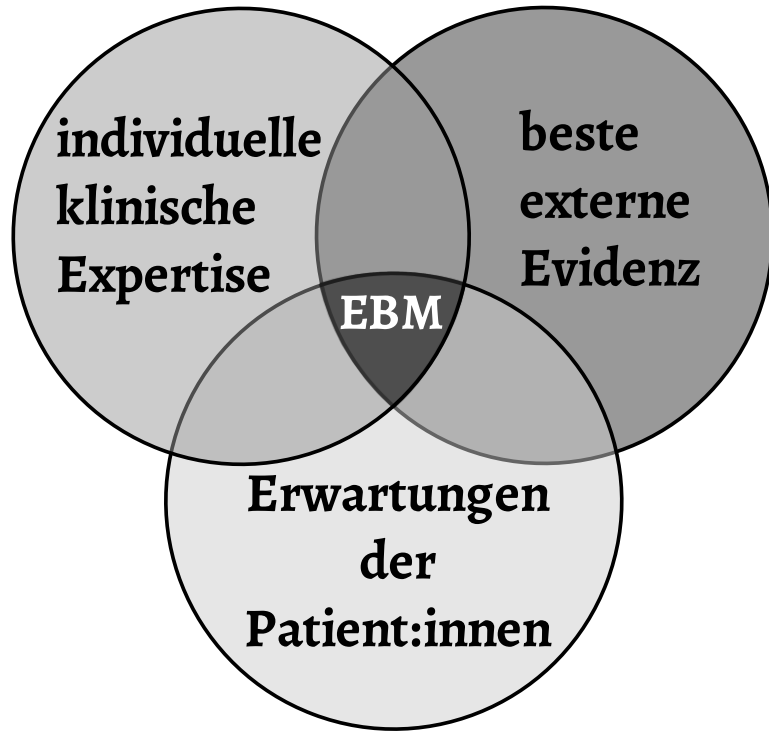
Dr. Marc von Gernler

Universitätsbibliothek Bern, Bibliothek Medizin

AGMB-Jahrestagung 2023, Bonn



# Motivation



# Motivation

Problems remain with SR search quality and reporting. SRs with librarian or information specialist co-authors are correlated with significantly higher quality reported search strategies. **To minimize bias in SRs, authors and editors could encourage librarian engagement in SRs including authorship** as a potential way to help improve documentation of the search strategy.

Rethlefsen, M. L., Farrell, A. M., Osterhaus Trzasko, L. C., & Brigham, T. J. (2015). Librarian co-authors correlated with higher quality reported search strategies in general internal medicine systematic reviews. *J Clin Epidemiol*, 68(6), 617-626. [doi:10.1016/j.jclinepi.2014.11.025](https://doi.org/10.1016/j.jclinepi.2014.11.025)

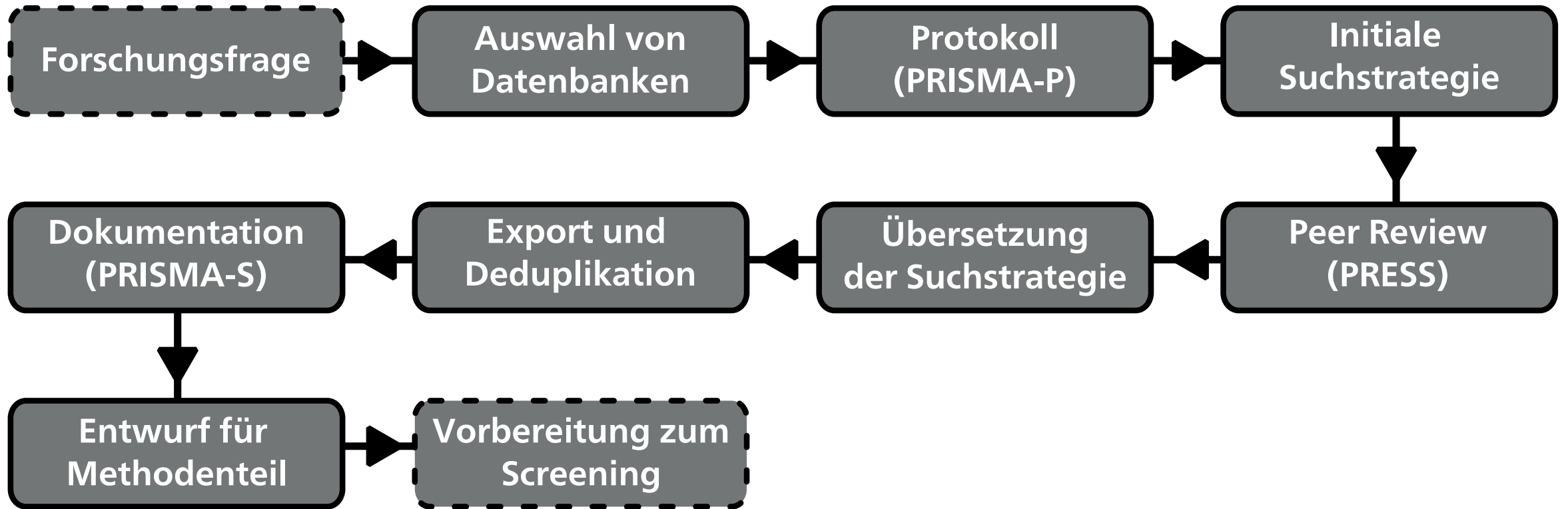
Despite guidance from organizations that produce SR guidelines recommending the inclusion of a librarian or information specialist on the review team, and despite evidence showing that librarians improve the reproducibility of searches and the reporting of methodology in SRs, librarians are not being included in SRs in the field of dental medicine. **The authors of this review recommend the inclusion of a librarian on SR teams in dental medicine and other fields.**

Schellinger, J., Sewell, K., Bloss, J. E., Ebron, T., & Forbes, C. (2021). The effect of librarian involvement on the quality of systematic reviews in dental medicine. *PLOS ONE*, 16(9), e0256833. [doi:10.1371/journal.pone.0256833](https://doi.org/10.1371/journal.pone.0256833)

**Librarians play central roles in systematic review teams, including roles that go beyond searching.** This scoping review should encourage librarians who are fulfilling roles that are not captured here to document their roles in journal articles and poster and paper presentations.

Spencer, A. J., & Eldredge, J. D. (2018). Roles for librarians in systematic reviews: a scoping review. *J Med Libr Assoc*, 106(1), 46-56. [doi:10.5195/jmla.2018.82](https://doi.org/10.5195/jmla.2018.82)

# $u^b$ Der Ablauf



## Portal Medizin und Pharmazie

Das Portal Medizin und Pharmazie bietet Unterstützung für Studium, Forschung und Lehre. Hier finden Sie Neuigkeiten, Informationen zu Veranstaltungen und Services der Universitätsbibliothek sowie nützliche Tools für das wissenschaftliche Arbeiten. Quick Links:

[Research Support](#)[Academic Writing Courses](#)[Systematic Searching Courses](#)[Coffee Lectures](#)

### AKTUELL



#### News

Neu lizenzierte Datenbanken, kommende Veranstaltungen. Erfahren Sie, was gerade läuft.

*u<sup>b</sup>*

# Kontaktaufnahme

## Anfrage Forschungsunterstützung Medizin & Pharmazie

Bitte füllen Sie das Formular aus. Wir melden uns baldmöglichst bei Ihnen. Danke.

① Services   ② Personal data   ③ Your project

### What can we do for you?

- Consultation (advice only; free of charge\*)
- Librarian-assisted search (we carry out a search, max. 2 hours are free of charge\*)
- Systematic Review Services / Evidence Synthesis Services (project collaboration, various areas of support; fee-based, Insel free of charge\*)



# Kontaktaufnahme

1 Services   2 Personal data   3 Your project

## Searching services (reviews, evidence synthesis)

### Research question \*

What is the best approach to conduct a systematic literature search?

### Core papers \*

PMID, DOI, digital identifier

### Which areas of support will you and your team require?

- 1. Assistance with the protocol development and registration (PRISMA-P / PROSPERO)
- 2. Peer-Review of team's search strategies (PRESS)
- 3. Refinement of the research question
- 4. Development of an initial search strategy in a database
- 5. Search grey literature
- 6. Develop and execute search strategies for all specified information sources
- 7. Trial registries
- 8. Perform citation searches



# Research Support Request Medical Library



Medical Library, University of Bern <notifications@cognitofirms.com>  
An UB\_Support\_Med



← Antworten

↶ Allen antworten

→ Weiterleiten



Mi 04.01.2023 22:08

**i** Zur Nachverfolgung kennzeichnen. Beginn am Donnerstag, 5. Januar 2023. Fällig am Donnerstag, 5. Januar 2023.  
Wenn Probleme mit der Darstellungsweise dieser Nachricht bestehen, klicken Sie hier, um sie im Webbrowser anzuzeigen.

RESEARCH QUESTION

Patient Blood Management in Pediatric Cardiac Surgery

CORE PAPERS

PMID: 29029990  
PMID: 34217505  
PMID: 35080509  
PMID: 31076306

WHICH AREAS OF SUPPORT WILL YOU AND YOUR TEAM REQUIRE?

1. Assistance with the protocol development and registration (PRISMA-P / PROSPERO)
3. Refinement of the research question
4. Development of an initial search strategy in a database
8. Perform citation searches

IF APPLICABLE, PLEASE UPLOAD YOUR PROTOCOL

FURTHER SERVICES

Deliver documentation pertaining to systematic search strategies  
PRISMA flowchart with totals before screening  
Write the search methodology (in accordance with the PRISMA guidelines and/or the journal author guidelines)  
Review and approval of the completed manuscript before submission to a journal

DEDUPLICATION OF REFERENCES

automated

CITATION FORMAT FOR REFERENCES DELIVERY

EndNote (.enl/.enlx)

SR title	Contact PI (name & email)	Responsibility	Status	Date Initial Meeting	Timelines (project start - project end)
Does peri-/postmenopausal hormone therapy have a preventive impact on depression?		Marc	ongoing - writing methodological section	27.09.2022	
Fertitox 4: gonadotoxic risk of testicular cancer treatment		Tanya	closed		
Fertitox 5: gonadotoxic risk of mesothelioma and soft tissue cancer treatment		Tanya	closed		
Fertitox 6: gonadotoxic risk of eye, brain, and CNS cancer treatment		Tanya	closed		
Is Inefficient Pulmonary Gas Exchange Associated with Postoperative Complications in Patients Undergoing Major Surgery?		Marc	closed	07.12.2022	01.12.2022 -- 01.09.2023
Transmastoid Superior Semicircular Canal Plugging for superior semicircular canal dehiscence: A systematic review and meta-analysis of the postoperative hearing outcomes		Tanya	closed	12.01.2023	Jan - Dec 2023
Was macht eine gute Versorgungsqualität aus Patientensicht aus?		Tania	in planning	07.02.2023	End of April 2023
Lipedema and Hormones/ may go into the direction of diagnostics		Tania	in planning	31.01.2023	
Consensus paper related to Paediatric Cardiovascular Anaesthesia?		Marc	ongoing - initial search strategy	05.01.2023	asap / tentatively: 01.03.2023 -- ?
The effect of digital health interventions (mobile applications, web-based interventions etc.) on pelvic pain and menstrual disorders in women.		Tanya	closed		01.02.2023 Abstract must be ready June 2023 Paper must be ready

# Erstes Gespräch mit den Forschenden

## Vorbereitung:

- Angaben prüfen
- In Thema einlesen
- Ggf. erste naive Suche
- Ggf. Suche nach Protokoll

## Gespräch:

- Ablauf und Zeitrahmen klären
- Forschungsfrage besprechen
- Genug *Core Paper* vorhanden?
- Inhaltliche Lücken schliessen

u<sup>b</sup>

# Protokoll Beratung und Unterstützung

Moher et al. *Systematic Reviews* 2015, 4:1  
<http://www.systematicreviewsjournal.com/content/4/1/1>



RESEARCH

Open Access

## Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement

David Moher<sup>1\*</sup>, Larissa Shamseer<sup>1</sup>, Mike Clarke<sup>2</sup>, Davina Ghera<sup>3</sup>, Alessandro Liberati<sup>4</sup>, Mark Petticrew<sup>4</sup>, Paul Shekelle<sup>5</sup>, Lesley A Stewart<sup>6</sup> and PRISMA-P Group

<https://www.prisma-statement.org>  
doi: [10.1186/2046-4053-4-1](https://doi.org/10.1186/2046-4053-4-1)

Table 3 PRISMA-P 2015 checklist: recommended items to include in a systematic review protocol<sup>3</sup>

Section/topic	Item #	Checklist item
<b>ADMINISTRATIVE INFORMATION</b>		
<b>Title</b>		
Identification	1a	Identify the report as a protocol of a systematic review
Update	1b	If the protocol is for an update of a previous systematic review, identify as such
Registration	2	If registered, provide the name of the registry (e.g., PROSPERO) and registration number
<b>Authors</b>		
Contact	3a	Provide name, institutional affiliation, and e-mail address of all protocol authors; provide physical mailing address of corresponding author
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments
<b>Support</b>		
Sources	5a	Indicate sources of financial or other support for the review
Sponsor	5b	Provide name for the review funder and/or sponsor
Role of sponsor/funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol
<b>INTRODUCTION</b>		
Rationale	6	Describe the rationale for the review in the context of what is already known
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)
<b>METHODS</b>		
Eligibility criteria	8	Specify the study characteristics (e.g., PICO, study design, setting, time frame) and report characteristics (e.g., years considered, language, publication status) to be used as criteria for eligibility for the review
Information sources	9	Describe all intended information sources (e.g., electronic databases, contact with study authors, trial registers, or other grey literature sources) with planned dates of coverage
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated

# $u^b$ Initiale Suche

1. Forschungsfrage in Konzepte zerlegen
2. Suchbegriffe finden (Core Paper, Thesauri)
3. Initiale Suchstrategie erstellen (z.B. MEDLINE)
4. Suchstrategie testen (Wiederfindung der Core Paper)
5. Rücksprache mit Forschenden
6. Modifikation der Suche

```
1 exp Blood Transfusion/ or Blood Loss, Surgical/  
2 (blood adj3 (transfusion or loss*)).ti,ab,kw.  
3 1 or 2  
4 exp Cardiac Surgical Procedures/  
5 ((cardiac or heart) adj3 (surger* or surgical*  
or operation?)).ti,ab,kw.  
6 4 or 5  
7 3 and 6
```

# Iteratives Vorgehen





# Übersetzung der Suchstrategie


## Schlagwörter und Syntax

MeSH   [Create alert](#) [Limits](#) [Advanced](#)


Full ▾

**Blood Transfusion, Autologous**  
 Reinfusion of blood or blood products derived from the patient's own circulation. (Dorland, 27th ed)  
 Year introduced: 1971

Search Emtree Journals Results My tools  

 Sprache an

Term information Query builder

blood autotransfusion 

reinfusion of blood or blood products derived from the patient's own circulation. Called also autologous transfusion.

**Tabelle 10:** *Syntax verschiedener Suchoberflächen im Vergleich*

PubMed	"ocular hypertension"[tiab]
Embase	'ocular hypertension':ti,ab
Ovid	"ocular hypertension".ti,ab.
Cochrane Library	"ocular hypertension":ti,ab
Scopus	TITLE-ABS({ocular hypertension})
Web of Science	TI=("ocular hypertension") OR AB=("ocular hypertension")
CINAHL	(TI "ocular hypertension") OR (AB "ocular hypertension")

u<sup>b</sup>

# Übersetzung der Suchstrategie

## Bsp.: Ovid Embase vs. Cochrane Library

46	1	preoperative care/	44988	95	#1	[mh ^"preoperative care"]	4455
47	2	preoperative period/	68304	96	#2	[mh ^"preoperative period"]	359
48	3	preoperative evaluation/	161818	97	#3	[mh ^"Predictive Value of Tests"]	7381
49	4	(major surgery/ or surgical risk/) and exp		98	#4	[mh ^"Risk assessment"]	9412
		risk assessment/	9382	99	#5	(preop or "pre-op" or "pre-oper*" or	
50	5	predictive value/	231218			"pre-surgery" or "pre-surgical" or preoper* or	
51	6	(preop or "pre-op" or pre-oper* or				presurgery or presurgical or "before surger*" or	
		pre-surgery or pre-surgical or preoper* or				"before operation*" or operability or operable or	
		presurgery or presurgical or before surger* or				"surgical clearance" or "risk assessment*" or	
		before operation* or operability or operable or				"risk stratification" or "risk factor*" or	
		surgical clearance or risk assessment or risk				"predictive value" or "prognostic value"):ti,ab	
		stratification or risk factor? or predictive				80859	
		value? or prognostic value?).ti,ab,kf.	2064405	100	#6	("surgical clearance" or "risk assessment*"	
52	7	or/1-6	2233689			or "risk stratification" or "risk factor*" or	
53	8	exercise test/	62683			"predictive value"):kw	58881
54	9	cardiopulmonary exercise test/ or bicycle		101	#7	{OR #1-#6}	128308
		exercise test/ or treadmill exercise/	30546	102	#8	[mh ^"exercise test"]	8705
55	10	ventilatory efficiency/	37	103	#9	((cardiopul* NEAR/2 test*) or CPET or CPEX or	
56	11	ventilatory equivalent for carbon dioxide/	10			(ventilatory NEAR/2 (efficien* or inefficien* or	
57	12	((cardiopul* adj2 test*) or CPET or CPEX or				equivalent)):ti,ab,kw	2813
		(ventilatory adj2 (efficien* or inefficien* or				equivalent)):ti,ab,kw	14713
58	13	(vevCO2 or "vevCO 2" or "ve vCO2" or "ve vCO		104	#10	(vevCO2 or "vevCO 2" or "ve vCO2" or "ve vCO	
		2" or petCO2 or "petCO 2" or "pet CO2" or "pet CO				2" or petCO2 or "petCO 2" or "pet CO2" or "pet CO	
		2" or etCO2 or "etCO 2" or "et-CO2" or "et-CO 2"				2" or etCO2 or "etCO 2" or "et-CO2" or "et-CO 2"	
		or ((endtidal* or end-tidal*) adj2 ("carbon				or ((endtidal* or end-tidal*) NEAR/2 ("carbon	
		dioxide" or "CO2" or "CO 2"))).ti,ab,kf.	13972			dioxide" or "CO2" or "CO 2"))):ti,ab,kw	3643
				105	#11	(ventil* equiv* NEAR/3 ("carbon dioxide" or	
						CO2 or "CO 2"))):ti,ab,kw	98



# $u^b$ Finale Suche und Export

The image shows a complex interface for exporting search results, with several overlapping dialog boxes:

- Export selected citation(s)**: A main window at the top left showing "674 citation(s) selected for download" and a note that "RIS (EndNote) can be imported into Mendeley, RefWorks, Zotero, Sciwheel". It includes a "Select the format" section with "Plain text" and "RIS" options, and a "Preview of format" section showing a sample citation.
- Export Citation(s)**: A smaller dialog box in the center with "Selected: 1-1000" and "Total: 1000". It has a "Format:" dropdown set to "EndNote" and a "Fields:" dropdown set to "Complete Reference". It also has "Include:" checkboxes for "Link to External Resolver" and "URL", and "Cancel" and "Export" buttons.
- E-mail a link to a file with citations in:**: A dialog box at the bottom center with radio button options: "RIS Format (e.g. CITAVI, EasyBib, EndNote, ...)", "Generic bibliographic management format", "Citations in XML format", "Citations in BibTeX format", and "Citations in MARC21 format".
- Download the search results for:**: A dialog box in the center right for "blood management | cardiac surgery (286 records)". It shows "Number of Studies: 286 Found" and "Download Table Contents" options. It has a "Select table columns:" dropdown set to "All Available Columns" and a "Select file format:" dropdown set to "Plain text". It includes a "Download" button.
- Export Records to EndNote Desktop**: A dialog box on the right with "Record Options" (radio buttons for "You have selected 50 results for export", "All records on page", and "Records from: 1 to 1000"), a note "No more than 1000 records at a time", and a "Record Content:" dropdown set to "Full Record". It has "Export" and "Cancel" buttons.

# Deduplikation

EndNote 20  
File Edit References Groups Library Tools Window Help

All References +

Sync Configuration

All References 13.187

Retractions 2

Recently Added

Unfiled

Trash

MY GROUPS

My Groups

- 1\_MEDLINE 3.441
- 2\_Embase 5.345
- 3\_CINAHL 3.587
- 4\_Cochrane 496
- 5\_ClinicalTrials.... 285
- 6\_ICTRP 33

All References  
13.187 References

Author

- Zurauskas, A.; ...
- Zoghbi, G. J.; P...
- Zisman-Ilani, Y...
- Zientara, A.; Sc...
- Zielinski, T.; Po...
- Zielinski, T.; Ko...
- Ziarnik, E.; Gro...

RISKCLICK<sup>®</sup>

Search deduplication Update search deduplication <sup>Beta</sup> Results

search here

No	Project Name	Name	Status	Date	Original	Deduplicated File
1	-	20230123 [blurred]	COMPLETE	2023-01-23 15:43	Download	Download
2	-	20230123 [blurred]	COMPLETE	2023-01-23 10:44	Download	Download
3	-	20230116 [blurred]	COMPLETE	2023-01-16 19:48	Download	Download

*u*<sup>b</sup>

# Dokumentation nach PRISMA-S

Rethlefsen *et al.* *Systematic Reviews* (2021) 10:39  
<https://doi.org/10.1186/s13643-020-01542-z>

Systematic Reviews

RESEARCH

Open Access

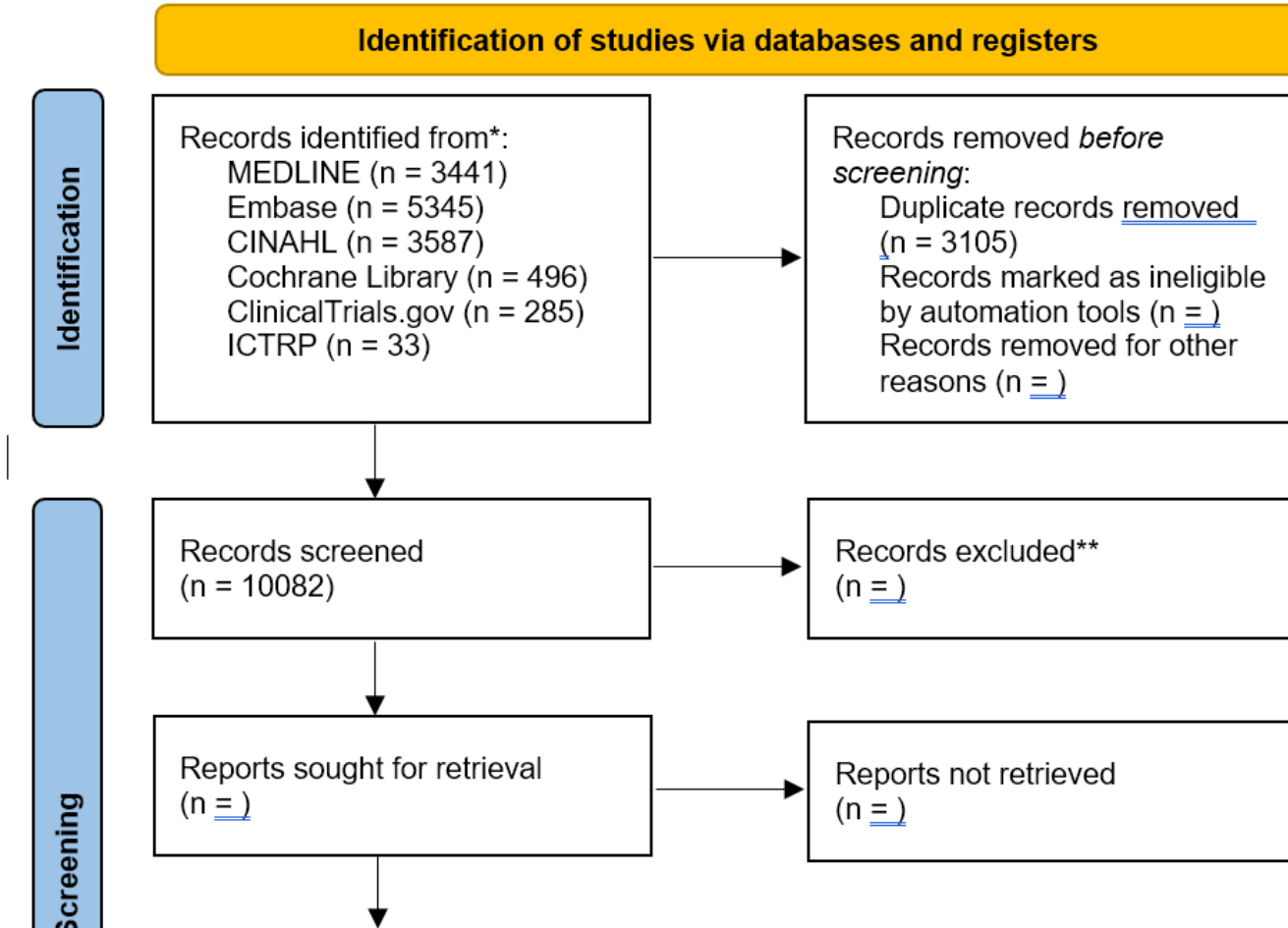
## PRISMA-S: an extension to the PRISMA Statement for Reporting Literature Searches in Systematic Reviews



Melissa L. Rethlefsen<sup>1\*</sup> , Shona Kirtley<sup>2</sup> , Siw Waffenschmidt<sup>3</sup> , Ana Patricia Ayala<sup>4</sup> , David Moher<sup>5</sup> ,  
Matthew J. Page<sup>6</sup> , Jonathan B. Koffel<sup>7</sup>  and PRISMA-S Group

# Dokumentation

PRISMA 2020 flow diagram for new systematic reviews which included searches of databases and registers only



# Dokumentation

## Methodenteil

```
1 # Methods Section:
2
3 ## Information Sources and Search Methods ##
4
5 ### Electronic searches ###
6 To identify all potentially relevant documents on the topic, complex literature searches were designed
7 and executed for the following information sources:
8
9 • MEDLINE (Ovid) (Ovid MEDLINE(R) ALL (1946 -- 20/01/2023))
10 • Embase (Ovid) (1974 -- 20/01/2023)
11 • Cochrane Library (Wiley) (1996 -- Present)
12 • CINAHL (EBSCO) (CINAHL with Full Text (1981 -- Present))
13 • ClinicalTrials.gov (NLM)
14 • ICTRP (WHO)
15
16 An initial search strategy was developed in MEDLINE by a medical information specialist and tested
17 against a list of core references to see if they were included in the search result. After refinement
18 and consultation with the researchers, complex search strategies were set up by the information
19 specialist for each information source based on database-specific controlled vocabulary (index terms /
20 subject headings) and free-text terms. Synonyms, acronyms and similar terms were included in the
21 free-text search. No database-provided limits have been applied in any of the sources considering study
22 types, languages, publication years or any other formal criteria. All searches were run on 23 December
23 2023.
```

*u<sup>b</sup>*

# Dokumentation

## Suchstrategien als Appendix

```
5
6 Ovid MEDLINE(R) ALL <1946 to January 20, 2023>
7
8 1 Preoperative care/ 65147
9 2 preoperative period/ 9425
10 3 Predictive Value of Tests/ 222114
11 4 Risk assessment/ 303457
12 5 (preop or "pre-op" or pre-oper* or pre-surgery or pre-surgical or preoper* or presurgery or
presurgical or before surger* or before operation* or operability or operable or surgical clearance or
risk assessment or risk stratification or risk factor? or predictive value? or prognostic
value?).ti,ab,kf. 1419313
13 6 or/1-5 1792460
14 7 Exercise Test/ 68179
15 8 ((cardiopul* adj2 test*) or CPET or CPEX or (ventilatory adj2 (efficien* or inefficien* or
equivalent))).ti,ab,kf. 7734
16 9 (vevcO2 or "vevcO 2" or "ve vCO2" or "ve vCO 2" or petCO2 or "petCO 2" or "pet CO2" or "pet CO 2" or
etcO2 or "etcO 2" or "et-CO2" or "et-CO 2" or ((endtidal* or end-tidal*) adj2 ("carbon dioxide" or "CO2"
or "CO 2"))).ti,ab,kf. 8968
17 10 (ventil* equiv* adj3 ("carbon dioxide" or "CO2" or "CO 2")).ti,ab,kf. 351
18 11 (spiroergometr* or spiro-ergometr* or ergospiometr* or ergo-spiometr*).ti,ab,kf. 905
19 12 ("minute ventilation" and ("carbon dioxide" or "CO2" or "CO 2")).ti,ab. 2655
20 13 minute ventilation.kf. 93
21 14 or/7-13 81076
22 15 exp postoperative period/ 61554
```

# Dokumentation

## Suchstrategien via searchRxiv.org

 | Search Strategy |   | 26 January 2023

### Preoperative determination of the ventilatory efficiency (VE/VCO2) as a predictor for postoperative complications after major surgery [MEDLINE].

Authors: [Marc von Gernler](#)  , [Thomas Vetsch](#)   | [AUTHORS INFO & AFFILIATIONS](#)

Publication: searchRxiv • 2023 • <https://doi.org/10.1079/searchRxiv.2023.00110>

#### Type of Search

Search strategy

#### Database Searched

MEDLINE

#### Platform

Ovid

#### Search

1. Preoperative care/
2. preoperative period/
3. Predictive Value of Tests/
4. Risk assessment/
5. (preop or "pre-op" or pre-oper\* or pre-surgery or pre-surgical or preoper\* or presurgery or presurgical or before surger\* or before operation\* or operability or operable or surgical clearance or risk assessment or risk stratification or risk factor? or predictive value? or prognostic value?).ti,ab,kf.

# Vorbereitung des Screenings

**covidence** Search studies MV

Review Summary Settings PRISMA Export

^ Import references 0 total duplicates removed Import

IMPORT HISTORY

03 MAY 2023	3315 studies added to Title and abstract screening	<a href="#">1 duplicate was removed</a>
-------------	--	---

[VIEW DETAILS](#)

^ Title and abstract screening 0 irrelevant [3316 studies to screen](#)

TEAM PROGRESS

0 ● DONE 0 ● CONFLICTS

67 ● ONE VOTE 3249 ● NO VOTES

Team settings

**MARC, YOU CAN STILL SCREEN 3316**

Continue

You've screened 0 studies so far

^ Full text review 0 excluded [0 studies to screen](#)

^ Extraction 0 extracted [0 studies to extract](#)

Need help?



# Kontakt

**Dr. Marc von Gernler**

Universitätsbibliothek Bern

Bibliothek Medizin

Team Wissenschaftliche Dienstleistungen

[marc.vongernler@unibe.ch](mailto:marc.vongernler@unibe.ch)

<https://www.unibe.ch/ub/medresearch>

