UF

PHA6791: Systematic Reviews and Meta-Analyses
for Pharmaceutical Interventions
3 credit hours

Note: The final syllabus posted in the course Canvas site is the most current and supersedes the syllabus posted on the internet.

Class Meeting Times
Sundays, 4:00-6:00 pm Eastern
	*There is no class meeting on Sunday, March 31

Class Meeting Location
Class meetings are held in Zoom, which can be accessed via the course Canvas site. If you are having trouble accessing the course Canvas site, please contact Distance Education Support Services at DESS@ahc.ufl.edu.

Instructor
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Office Hours: By appointment, before, or after class meetings
Office Location: via Zoom or phone

Course Description
The purpose of this course is to enable students to be able to participate in and complete systematic reviews for pharmaceutical interventions and to complete meta-analyses. Students will learn how to build a team, formulate research questions and hypotheses, develop search strategies, and abstract, collect and report data. Students who complete this course will understand the importance of systematic reviews in making clinical and policy decisions in health care.

Course Objectives
Upon successful completion of this course, the student will be able to:
1. Differentiate systematic reviews from other types of assessments (e.g., narrative reviews, scoping reviews).

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2. State the role of systematic reviews and meta-analyses in pharmaceutical value assessment and communication.
3. Define appropriate research questions for a systematic review and meta-analysis.
4. Conduct an appropriate search strategy for a systematic review.
5. Apply eligibility (i.e., inclusion and exclusion) criteria, data extraction, and data quality assessment.
6. Explain how to do data synthesis for meta-analysis.
7. Calculate effect sizes and confidence intervals.
8. Identify and quantify heterogeneity.
9. State when to use a fixed versus random-effects model.
10. Develop a plan for data synthesis.
11. Execute a meta-analysis of randomized controlled trials or observational studies.
12. State the importance of and assess for publication bias and other potential sources of bias.
13. State when a meta-analysis should not be done and how to report a systematic review instead of a meta-analysis.
14. Explain the special considerations for applying meta-analyses to economic evidence, patient-reported outcomes, a network of randomized controlled trials (network meta-analysis), or drug safety.

Relationship to Program-level Student Learning Outcomes

This course pertains to the following program outcomes:
1. Identifies and explains concepts and methodologies of systematic review.
2. Assess the value of a pharmaceutical product using meta-analyses.

Required Textbooks and/or Software

Cochrane Handbook for Systematic Reviews of Intervention, Version 6. [Updated July 2019]. The Cochrane Collaboration, 2019. Available from http://handbook.cochrane.org

This course will supplement the required text with timely academic articles and examples of recent meta-analyses, and reporting guidelines (e.g., Preferred Reporting Items for Systematic Reviews and Meta-Analyses, available at http://www.prisma-statement.org/).

The student will use software to do the synthesis for the meta-analysis:
- Covidence (https://www.covidence.org/), an evidence-synthesis cooperative, will be used for the systematic review.
- R program (https://www.r-project.org/), free software for statistical computing and graphics, will be used for the meta-analysis.

- Excel will be used [Neyeloff JL, Fuchs SC, Moreira LB. Meta-analyses and Forest plots using a Microsoft Excel spreadsheet: step-by-step guide focusing on descriptive data analysis. *BMC Research Notes.* 2012;5(52). (https://doi.org/10.1186/1756-0500-5-52) for the data synthesis.
- Neither Covidence nor R requires extensive technical experience or a license fee.

Recommended Materials

The following texts are not required but may provide the student with supplemental background about systematic reviews and meta-analyses.

- Lipsey MW, Wilson DB. Practical Meta-Analysis. Thousand Oaks, CA: Sage. 2000.
- Cooper H. Research Synthesis and Meta-Analysis: A Step-by-Step Approach. 5th Ed. Thousand Oaks, CA. Sage. 2017.
- Borenstein M, Hedges LV, Higgins JPT, Rothstein HR. Introduction to Meta-Analysis, 1st Ed. West Sussex, UK. Wiley. 2009.

Course Pre-Requisites

PHA 6793 Evidentiary Basis of Pharmaceutical Use (or its equivalent) and prior graduate-level statistics coursework or undergraduate level applied statistics. Students without prior statistics courses may be required to take PHA 6935 Quantitative Methods in Evidence-Based Pharmacy.

Structure and Organization

This course includes both the conduct and critical evaluation of systematic review and meta-analysis studies, applying and integrating previous statistics coursework. This course is delivered through UF's e-Learning system, Canvas in weekly synchronous class meetings utilizing Zoom. Each week, students will be assigned a team project that corresponds to each step of a systematic review study, along with reading assignments to be completed prior to each synchronous class meeting. The course will provide a well-rounded perspective of assessing pharmaceutical interventions based on the evidence from systematic review in the decision-making process.

Course Schedule

Week <Date>	Learning Activities/Topic	Assignments
Course Overview		
Week 1 <March 10>	Course Introduction	Quiz 1 Team project assignment 1 (Introduction/ Problem statement)
	Final Project Overview	
	Working in a Team on a Systematic Review and Meta-Analysis	

Online POP Course Syllabus

Week <Date>	Learning Activities/Topic	Assignments
Module 1: Systematic Review and Meta-Analysis Overview		
Week 2 <March 17>	Fundamentals of a Systematic Review	Quiz 2 Team project assignment 2 (Establishment of Eligible Criteria)
	Fundamentals of a Meta-Analysis	
	Why do a Meta-Analysis?	
	Role in Pharmaceutical Value Assessment and Communication	
	Critical Evaluation of Published Systematic Reviews and Meta-Analyses	
	Determining the Scope and Research Questions (i.e., PICOT)	
Module 2: Methods—Learning How to Do a Systematic Review and Meta-Analysis		
Week 3 <March 24>	Inclusion Criteria and Grouping for Synthesis	Quiz 3 Team project assignment 3 (The Search of the Literature)
	Search Strategy and Study Selection	
	Collecting Data	
	Effect Measures	
	Bias and Conflicts of Interest	
Week 4 <March 31> *Ester*	Risk of Bias in Randomized Trials	Quiz 4
	Risk of Bias in Non-Randomized Trials	
	Preparing for Synthesis	
	Assessing Risk of Bias	
Week 5 <April 7>	Effect Sizes and Confidence Intervals	Quiz 5 Team project assignment 4 (Data Extraction)
	Fixed versus Random Effects	
	Heterogeneity	
	Applying Bias Detection Techniques (e.g., Funnel Plots)	
	Summary of Findings, Tables and, Grading the Certainty of the Evidence	
	Reporting Guidelines	
	Coding Schemes	
	Creating a Risk of Bias Graph	
Module 3: Considerations for Application		
Week 6 <April 14>	Meta-Analyses versus Large Trials: Reasons for Agreement and Disagreement	Quiz 6 Team project assignment 5 (Synthesis of Evidence)
	Limitations of Systematic Reviews for Studying Drug Safety	
	Patient-Reported Outcomes	
	Economic Evidence	
	Performing a Meta-Analysis	
	Creating a Summary of Findings Table	

Week <Date>	Learning Activities/Topic	Assignments
Week 7 <April 21>	What is a Network Meta-Analysis?	Team project assignment 6 (Discussion)
	Advantages of Network Meta-Analyses	
	Performing a Network Meta-Analysis	
	Evaluating Confidence in the Results of a Network Meta-Analysis	
	The Limitations of Network Meta-Analyses	
Week 8 <April 28>	Final project due	Team project assignment 7 (Conclusion)

*Easter: Pre-recorded lectures will be provided. This live session time can be used for the team project.

Evaluation Methods

Assignments and Team project (40%):

Each module will have assignments for the student to complete. Students will decide a research topic for a systematic review and meta-analysis. The number of teams and size of each group will be determined by the course coordinated based on enrollment. Proper attribution is mandatory; plagiarism will be assessed using Turnitin. References should be sequentially numbered and listed as a superscript at the end of a sentence and sequentially at the end of the paper. Every week all papers will be due before the live class on Sunday. The final paper of the team project will be due on April 28, and count for 40% of your final grade. Refer to the appendix for a grading rubric.

Team project participation (16%):

Students will peer evaluate the members of their team. Students will assess their team members on the following criteria: contributing to the team's work (up to 20 points), interacting with teammates (up to 20 points), keeping the team on track (up to 20 points), expecting quality (up to 20 points), and having the relevant knowledge, skills, and abilities (up to 20 points). The average of the team members' scores will be used for this assessment. This peer assessment will contribute 16% to your final grade. **The student who does not submit the Peer Evaluation by the due date will receive a zero score.**

Class Participation (24%):

Class participation is mandatory. Class attendance and discussion participation in class will be used to award 24% of the final grade. There are six participation grades; thus, each week will contribute 6% towards your final grade. Each student is expected to post one substantial comment to the discussion board each week. What constitutes a "substantial comment" is described in the Introductory class session. The discussion board post may offer an opinion regarding one of the topics covered, a thoughtful reaction to another student's post, an extension of the concepts covered in readings or lectures, or an addition to the general theme of the week (e.g., Methods).

Online Quizzes (20%):

This course will be a mixture of mandatory readings and pre-recorded lectures that must be reviewed before each weekly quiz. All students must watch and follow the instructions in the pre-recorded lecture and live session. The weekly quiz will be available for at least three days before each class. Quizzes will include ten multiple-choice or short-answer questions over 15 minutes. There will be six quizzes, and the lowest quiz grade will be dropped. The purpose of the quizzes will be to assess readiness for the weekly discussions and understanding of the course materials. The quiz average will contribute 20% towards the final grade in this course (i.e., each quiz will contribute 4% towards your final grade).

Timeline for instructor feedback:
Grades and feedback from the instructor will be posted within 7 calendar days.

Diversity, Equity, and Inclusion

"An inclusive classroom climate refers to an environment where all students feel supported intellectually and academically and are extended a sense of belonging in the classroom regardless of identity, learning preferences, or education." -*Yale Center for Teaching and Learning*

The online Pharmaceutical Outcomes and Policy (POP) graduate program embraces the idea that we all benefit from our individual differences and that our collected diversity is a source of strength. Additionally, as members of the health care community, improving health equity for our patients or others whom we serve, begins with us.

Our instructors are committed to creating course environments that celebrate diversity, honor inclusivity, and ensure equity for all students. It is important that all class-related interactions feel like a safe space for students of all backgrounds and learning styles to feel welcome, heard, and supported.

And, as this is your learning experience, your suggestions to ensure this commitment is fulfilled are encouraged and appreciated. Interactions that do not honor the spirit of this commitment will be addressed as they arise on an as needed basis.

Attendance Policy for this Course

Students are expected to attend the synchronous class meetings. Students who miss 30 minutes or more of the synchronous class meeting are considered absent.

Unexcused absences from a class carry a 5-point (1/2 letter grade) penalty taken off the final grade.

Excused absences require a make-up reflection paper on the module topic to be submitted within 2 weeks of the missed class (unless the class is near the end of the semester and a shorter timeline will be required). Absences are considered excused when the student (not a peer) has emailed the instructor before the synchronous class meeting begins and conveys why the student will miss class, such as illness, job conflict, and

other emergencies. Two or more excused absences will be addressed by the instructor and may result in an incomplete final grade for the course.

Attendance Policy for Online POP

Students are expected to formally drop or withdraw from the course if they no longer wish to participate. See the program's Academic Calendar for applicable deadlines. In some cases, the University may automatically drop students for inactivity and/or for failure to pay tuition. It is crucial for students to communicate with the DESS (DESS@ahc.ufl.edu) about their status in the course, and about any tuition deferments or other special conditions related to their tuition payment. Any student who remains enrolled in the course after the drop/add deadline is considered tuition-liable, unless exempted by University petition. The official UF Attendance Policy can be found here.

Make-up Policy:

Each assignment is posted with a clear due date. **Assignments that are not submitted by the due date will be given a zero.** The instructor will consider extenuating circumstances on a case-by-case basis – if she is contacted by the student in advance of the due date. No other makeup assignments are offered. Contact the instructor for any concerns.

Grading Policy

The only passing grades for graduate students are A, A-, B+, B, B-, C+, C, and S. Grades of B-, C+ or C count toward a graduate degree if an equal number of credits in courses numbered 5000 or higher have been earned with grades of B+, A- and A, respectively. Grade points are not given for S and U grades; S and U grades are not used to calculate grade point averages. All letter-graded courses eligible to count toward the graduate degree, except 1000- and 2000-level courses, are used to calculate the cumulative grade-point average. Letter grades of C-, D+, D, D- or E are not considered passing at the graduate level, although the grade points associated with these letter grades are included in grade point average calculations. See the UF graduate academic regulations for more information.

A	>92.500%
A-	89.500–92.499%
B+	86.500–89.499%
B	82.500–86.499%

B-	79.500–82.499%
C+	76.500–79.499%
C	72.500–76.499%
C-	69.500–72.499%
D+	66.500–69.499%
D	62.500–66.499%
D-	59.500–62.499%
E	<59.499%

Course Technology Support

Your instructor is not able to handle technological issues or answer questions related to computer issues.

- **Assistance accessing course Canvas page:** Contact Distance Education Support Services at DESS@ahc.ufl.edu
- **IT Support:** Contact UF Computing Help Desk at 352-392-HELP (4357) or helpdesk@ufl.edu or submit an online request form. If a technical problem causes you to miss an assignment, you must report the problem to the Help Desk and then email your instructor your Help Desk ticket number to the instructor in order to receive an extension.

Students Requiring Academic Accommodations

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Course technologies meet online learning accessibility standards for sight and hearing-impaired learners. Likewise, course materials are developed in accordance with accessibility standards. Course documents and webpages are formatted for screen-reader accessibility with the use of headings, styles, or alternative text tagging for images. Accessibility design tools in Microsoft Office products and in Canvas are used to evaluate and update accessibility issues detected in the instructional materials. Synchronous class sessions in Zoom are recorded. These recordings are posted to the course site to accommodate students unable to attend.

- Canvas Accessibility

- [Zoom Accessibility](#)

Course Evaluations

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. [Click here for guidance on how to give feedback in a professional and respectful manner](#). Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via [ufl.bluera.com/ufl/](#).

University Honesty Policy and Academic Integrity

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Honor Code specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Regarding academic integrity, students in the program are strongly encouraged to be mindful of what constitutes plagiarism. Written assignments that contain the research or other original published work of someone else must be properly quoted, cited, paraphrased, or referenced appropriately. A software (TurnItIn) that is integrated with Canvas Assignments may be utilized to help students determine if a written submission meets the criteria for a properly referenced research paper. Please ask for help, utilize resource materials and take advantage of opportunities like creating a draft of your paper to test, ensuring you have addressed any errors prior to the final submission.

Please watch these short videos about this topic:
- [Understanding and Avoiding Plagiarism: Types of Plagiarism](#)
- [Avoiding Plagiarism](#)

Software Use and Course Technology

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

The University policy on use of ChatGPT is available [here](#).

Educational technology in the program is primarily the Canvas Learning Management System (LMS) and Zoom web conferencing software. These tools firmly support learning objectives and course goals. Writing with communication tools, reading articles from digital collections, and viewing video presentations in high-quality, accessible formats are essential to facilitate meaningful learning experiences. These experiences expand knowledge and influence professional work habits and skills such as information-gathering techniques and evidence-based practice. Synchronous class sessions in Zoom provide learners with opportunities to gain confidence and practice how they interact and collaborate in online meetings.

- [Canvas Student Guide](#)
- [Zoom Resources](#)

A minimum number of other technical skills are required for success in the online courses. These include accessing course webpages to read text and listen to recorded videos, using word processing tools (MS Word, PowerPoint), downloading/uploading content, submitting online assignments and using a variety of communication tools (Canvas Inbox, Discussions, Zoom Conferences).

Course Communication

Canvas (Inbox tool) will be used as the primary communication tool between the instructor and students. Check daily for new announcements or notifications about course updates. UF email will also be used occasionally for mass communication to the class, so please check your email at least once a day as well. All emails sent out to the entire class will also be posted as an Announcement on Canvas. The instructor will generally respond to student messages within 48 hours.

General questions about course content (e.g., assignments or lectures) or policies should be posted to the course discussion board. We expect students to help each other track down answers as best as possible. Read through all the other posts in the discussion board first before posting to make sure your question has not been addressed/answered already. Please include a clear subject title for your topics to make it clear what your post pertains to. The instructor will generally respond to questions posted on the course discussion board within 48 hours.

Emotions can easily be misinterpreted on a discussion board/emails, so make sure your message is clear before sending it since there are no physical gestures or voice inflections that accompany posts/emails. Any posts/emails deemed inappropriate by the faculty will be dealt with on a case-by-case basis with either the faculty directly or they will be sent on to the Associate Dean for Professional Affairs.

For personal issues/questions, please email your instructor. Be sure to include in your subject line the course listing and then a quick subject (e.g., PHAXXXX – Your Name -). This will allow instructors to quickly identify emails related to the course amongst the many emails that are received each day. Emails not correctly

addressed may get lost in the shuffle and unintentionally deleted or ignored so be sure to follow the guidelines exactly.

Student Privacy

There are federal laws protecting your privacy in terms of grades earned in courses and on individual assignments. For more information, please see the Notification to Students of FERPA Rights.

Recordings of weekly class sessions in Zoom are created for the purpose of course teaching and learning, as well as for use as a resource for students who miss a class session.

The use of video (or web camera) feature in Zoom is not a requirement, but rather is voluntary for meeting participants. For both the audio and video features in Zoom, you will have the option to Start or Stop these functions.

Students who participate with their camera engaged or who utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

- Zoom Software Privacy Statement
- Canvas (by Instructure) Privacy Policies

Security

Online activity in Canvas requires an active UF GatorLink account to log in, as well as enrollment in courses. The Zoom Conference meetings for weekly classes are accessed within Canvas. These meetings have a pass code applied as an additional security setting. Students in the class do not need to enter the passcode, however anyone not enrolled in the course cannot join the meeting without it.

Library Resources

For remote access to UF library resources such as e-journals or other digital collections, use the UF VPN or proxy server to connect.

Additional University Resources

- **U Matter, We Care:** If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.
- **Counseling and Wellness Center**
- **Sexual Assault Recovery Services (SARS):** Student Health Care Center, 392-1161.
- **University Police Department** at 392-1111 (or 9-1-1 for emergencies), or police.ufl.edu
- **E-learning technical support**: 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu.
- **Teaching Center**: Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.
- **Writing Studio**: 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers.
- **Student Complaints**

Appendix: Team Project Grading Rubric

	Excellent	Acceptable	Poor
Introduction/Problem Statement (10 points)			
Title	2 The Title is appropriate, identifying the project as a systematic review, meta-analysis, or both.	1 The Title is acceptable and identifies the project as a systematic review, meta-analysis, or both.	0 The Title is unacceptable—not identifying the project as a systematic review and/or meta-analysis.
Rationale	3 The Introduction describes the rationale for the review in the context of what is already known	2 The Introduction provides acceptable justification for the review	1/0 The explanation for the project is incomplete, flawed, or not discussed in the Introduction.
Objectives	5 Specific questions being addressed are stated regarding participants, intervention, comparisons, outcomes, and study design (i.e., PCOS).	3 Questions that are being addressed are stated but are incomplete regarding the PCOS	1/0 Questions being addressed are reported with a limited context, or the questions are not stated.
Establishment of Eligibility Criteria (5 points)			
Eligibility Criteria	5 Study (e.g., PCOS, length of follow-up) and report (e.g., years considered, language(s), publication status) characteristics are specified and used as eligibility criteria. The rationale for these criteria is stated.	3 Study and report characteristics are incomplete and/or are not linked to eligibility criteria or presented without rationale.	0 Study and report characteristics are not stated or linked to the eligibility criteria.
The Search of the Literature (15 points)			
Information Sources	5 All information sources (e.g., databases with	3 The information sources searched are not entirely	0 The information sources searched are not

	dates of coverage and methods to identify additional sources) used for the search are described, including the date last searched.	described, or the date of the last search is not explicitly stated.	described, and the date of the search is not stated.
Search	5 Full electronic search strategies are presented for at least one database, including limits used so the search could accurately be repeated.	3 Search strategies are incompletely described.	0 The search strategy is not described.
Study Selection	5 The process for selecting studies (i.e., screening, eligibility) is clearly stated.	3 The process for selecting studies is not described, but it is not explicit.	0 The process for selecting studies is not described.
Data Extraction (23 points)			
Data Collection Process	5 The methods used to extract data from reports (e.g., independently, in-duplicate) and any processes for obtaining and confirming data are clearly stated.	3 The methods used to extract data is incomplete.	0 There is no discussion of the methods used to extract data.
Data Items	5 All variables for which data are sought (e.g., PICO, funding sources) are explicitly stated, and any assumptions and simplifications are indicated.	3 Variables sought are listed but incompletely described.	1/0 Variables sought are partially listed or not listed.
Individual Study Results	5 Data items for each study are presented (e.g., table)	3 Data items from studies are incompletely presented.	1/0 Data items are incorrectly presented or not listed.

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Risk of Bias Assessment	5 For each study, an assessment of the risk of bias is done appropriately and presented.	3 An assessment of bias is done, but there are errors.	1/0 An assessment of bias is done incorrectly or not done.
Information included	3 A figure is created including identification (# of records identified through database searching and # of additional records identified via other sources), screening (i.e., # of records after duplicates removed, # of records screened and excluded), eligibility (# of full-text articles assessed for eligibility and excluded, including reasons), and included (#number of studies included in the qualitative synthesis and # of articles included in the quantitative synthesis) reports.	2 A figure presents how information was identified, screened, eligibility determined, and the final number of reports included is presented; however, a figure describing the results of this process is incomplete or has inaccuracies.	0 No figure describes how the final studies included where selected.
Synthesis of Evidence (20 points)			
Summary Measures	5 Results of each meta-analysis, including confidence intervals and measures of consistency, are presented.	3 The results of each meta-analysis are incompletely presented.	1/0 The meta-analysis results are incorrect or not presented.
Heterogeneity	3 Appropriate measures of heterogeneity are	2 Heterogeneity is partially addressed	0 Heterogeneity is not addressed.

	synthesized and related to the methods used		
Sensitivity Analyses	2 When necessary, appropriate sensitivity analyses are done and put into context (e.g., limit analysis to only high-quality studies). If not needed, this is explicitly expressed.	1 Sensitivity analyses are partially addressed.	0 The need for sensitivity analyses is not addressed
Result Tables	5 Tables are effectively used to present results, when necessary.	3 Result tables are incomplete or confusing.	0 No result tables are included when applicable.
Result Figures	5 Figures are effectively used to present results.	3 Figures are ineffective, duplicative, or incorrect.	0 When figures are necessary, they are not included.
Discussion (22 points)			
Summary of Evidence	5 A single paragraph in the Discussion clearly states the most important findings and the clinical implications of these findings.	3 A summary of evidence is included in the Discussion, but it is not concise or emphasize the most important findings.	1/0 A summary is included in the Discussion, but it is inaccurate, or no summary is included.
Potential Effects of Biases	5 Assessments of bias are clearly stated linking the potential implications are presented (e.g., publication bias [funnel plots], selective reporting within studies)	3 There is a limited or incomplete assessment of the possible effects of bias on the results.	0 Bias is not addressed in the Discussion.
Comparison to Existing Evidence	5 The findings of this analysis are compared with the conclusions of	3 The findings of this analysis are incompletely compared to the results	0 There is no comparison to existing evidence.

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	the individual studies and/or any previous systematic reviews and/or meta-analyses.	of the individual studies or previous systematic reviews or meta-analyses.	
Limitations	5 The limitations of the review and analysis are identified and discussed in the Discussion.	3 The limitations of the review and meta-analysis are incompletely addressed in the Discussion.	1/0 The limitations of the review and meta-analysis are incorrect or not addressed in the Discussion.
Implications for Future Research	2 The need for future research to address deficiencies in the existing evidence is stated and justified.	1 The need for future research is addressed but is incomplete.	0 The need for future research is not addressed.
Conclusions (5 points)			
	5 The general interpretation of the results is clearly stated and are justified by the design and execution of the systematic review and meta-analysis	3 The interpretation of the results is stated and are mostly justified by the design and execution of the systematic review and meta-analysis	1 The conclusions are not clearly stated and/or cannot be justified based on the design and execution of the systematic review and meta-analysis
Final Grade (100 points)			Total Points: _____